The Social Organisation of Oral Health in Zaatari Refugee Camp/Jordan

By

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To my family:

My beloved husband (Mohammad)

And my kids (Rand, Ali and Mais)

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Abstract

Objectives: The aim of this study is to explore toothbrushing and sugar consumption as social practices in refugee camps taking Zaatari as a case study.

Methods: This is a qualitative ethnographic study. Fourteen participants were recruited from Zaatari refugee camp in Jordan. The first stage of the study was conducted online using WhatsApp through chatting and visual methods. The fieldwork stage included participant observation, interviews and shadowing. Data were then analysed using social practice theory.

Results: This study found significant 'discordance' between health-promoting and health-damaging environmental conditions for oral health in the camp. On the one hand, toothbrushing happened in challenging 'activity-spaces' (bathrooms or kitchens) within the shelter which conjured changes in bodily movement to accomplish the practice. Water politics, leading to its insufficiency, meant that toothbrushing competed with other water-consuming practices such as cooking and general cleaning. In addition, different school shifts for boys and girls in the camp created different daily routines within the household making it harder for parents to incorporate toothbrushing as a daily habit. People also have to buy oral hygiene products with scarce income that needs to cover other basic necessities including food. On the other hand, sugar consumption took place in multiple contexts within the camp. At home, the constricted form of consumption due to low financial status, pricing of different food items and socialising practices gave children the chance to consume more sugar. Local shops in Zaatari were highly abundant and in close proximity to shelters which prefigured higher access by children independently. At schools, the discontinuation of healthy school meals was linked with higher sugar consumption as sugar-containing foods were the main alternative. Trading practices at school also increased the likelihood that children consume sugar as items were traded for money which can be used in local shops to buy sweets.

Conclusions: Daily activities in Zaatari are shaped by the political context that has significant sociomaterial consequences. Toothbrushing and sugar consumption aggregate with other practices in the camp. This forms a nexus where changes in any of the elements of one practice may affect the course of performing toothbrushing and sugar consumption. The study concludes that toothbrushing and sugar consumption should be considered in the context of other daily practices in the camp to promote healthy practices.

Table of Contents

List of Figures

List of Tables

Declaration

I, the author, confirm that this thesis is my own work. I am aware of the University's Guidance on the Use of Unfair Means. This work has not previously been presented for an award at this, or any other, university.

Chapter 1

Introduction

Oral health is an essential component of general health needed to fulfil better life opportunities. As the determinants of health are not equally distributed, health inequities exist including oral health inequities especially among vulnerable populations such as people residing in refugee camps around the world. However, the current literature does not address this field adequately, resulting in gaps in current research that warrant further investigation. Therefore, this research aims to explore oral health practices in one of largest refugee camps in the world; Zaatari, a camp for Syrian refugees in Jordan. This chapter will provide an introduction to the study by first discussing the background and context, followed by the research problem, the research aims, objectives and questions, the significance and finally, the limitations. It will also provide an overview of the structure of this thesis by giving a brief summary of the content of the following chapters.

In the last decades, various refugee crises have emerged where sporadic conflicts have produced refugees, along with the associated damage and grief. The circumstances that refugees experience throughout their journeys -to resettlement or otherwise- have a significant impact on their psychological as well as physical wellbeing. This is true for those who find themselves living in refugee camps, where refugees live in indeterminate temporariness with respect to almost every aspect of their daily lives. As health is one and inseparable aspect of everyday life experiences and health outcomes are the result of the interplay of complex factors in the wider environment, living in refugee camps carries the risk of bringing about adverse health outcomes. Health has an important social dimension and changes to the social order are capable of producing health outcomes through complex mechanisms.

Oral health is an integral part of general health and wellbeing. As oral health shares common risk factors with general health, adverse social and material living circumstances can affect oral health in the same way they affect general health. It is therefore reasonable to question the impact of living in a refugee camp on oral health. However, the relationships linking adverse living circumstances with unfavourable oral health outcomes are not clear in general. Theories of behaviour change mostly applied in the field of oral health are insufficient to explain these relationships. This study proposes to use social practice theory

as a bridging theory for explaining how distal factors in one's environment can health-related practices. Similarly, applying social practice theory to understand how the sociomateriality of the refugee camp can affect oral health practices and outcomes may open new opportunities to understand this field. If these pathways are examined, subsequent oral health promotion interventions in refugee camps can be developed that may be more efficient and effective. The findings could be used to implement sustainable solutions to oral health in these settings in the future.

Nonetheless, as each setting is unique in regard to the sociomaterial circumstances and the characteristics of the people involved, the empirical research should take into account these specificities. Hence, any research project should set from the start the setting in which it takes place. Zaatari refugee camp in Jordan is the specific case study in this project. This study aims to explore the oral health practices in Zaatari by linking them to the social and material particularities in the camp and the everyday lives and social practices of the people involved. In order to adequately study this setting however the thesis adopts a new and innovative approach to the study of the relationship between the social order and health.

Why social practice theory?

Oral health, as is the case for general health, can be studied through multiple approaches; the aim of each approach is to study factors affecting health outcomes in order to be able to intervene these factors and improve health outcomes. Many models have been applied to achieve this. The original approach adopted was the 'medical model' which sought to look for the pathogenesis in any disease and separate out specific pathogens (as singular causes) that were directly linked to disease. In this sense, in order to prevent initiation of any disease or eliminate an established disease, the route that a pathogen reaches the body must be intercepted. This model has been criticised for its inability to bring about tangible improvement in health at the population level (Allan and Hall 1988).

The behavioural model of health was proposed as a way to replace the medical model. This model focuses on lifestyle as the origin of health or ill-health. This model assumes that choices made by the individual in their everyday life have effects on his/her health and, thus, if improvement in health needs to be achieved, individuals need to change his/her behaviours into healthy ones (Blue et al. 2014; Cohn 2014; Kelly and Barker 2016). This model is widely adopted in oral health research and appeals to governments as it puts the responsibility of ill-health on the individual and renders health systems irresponsible of the increased prevalence of disease or health inequalities in the society (Miettinen et al. 2009; Blue et al. 2014; Cohn 2014). If this is true, then improving public health requires providing

individuals with needed information and training to adopt healthy behaviours. This approach treats individuals as rational enough to analyse information and make appropriate changes accordingly (Blue et al. 2014; Kelly and Barker 2016). This is the basis of behaviour change research.

The problem however is that, despite its popularity, this approach fails to achieve changes in prevalence or patterns of disease distribution (Blue et al. 2014; Kelly and Barker 2016). In addition, the behavioural approach, in its very nature, has been found to carry with it the risk of victim blaming, reducing changes in health status to health-related behaviours which are studied in isolation of context or the wider environment (Watt 2007; Blue et al. 2014; Cohn 2014; Kelly and Barker 2016). This poses both theoretical and moral inadequacies; the approach does not provide a sufficient insight into what people do in everyday life that has consequences for their health, nor does it account for social context. It also tends to adopt a very naive approach that sees agential individuals responsible for their health status and completely in charge of their decisions (Cohn 2014). An alternative approach subsequently developed to explain how health outcomes can be conceptualised at population level and provide a starting point for interventions was subsequently developed.

The social model of health was adopted as a promising one that fills the gap in the behavioural model, as it argues that health is the consequence of wider determinants (referred to as social determinants of health (SDH)) that people do not always have control over. This model was welcomed because it withdraws the responsibility for health outcomes from individuals and transfers it to these social contexts. As mentioned above, this model has been supported by large nationwide studies and many researchers contributed to its theoretical foundations (Sen 2002; Marmot and Bell 2012; Marmot 2017). The ‘wider determinants’ model succeeds in showing that health inequalities follow the distribution of social determinants and, hence, the goal should be to tackle these determinants in order to improve population health. However, although the model accounts for the context as the origin of health or ill-health, and avoids the moral dilemma of victim blaming by calling governments to fairly distribute resources needed to maintain good health (Wilkinson et al. 1998; Sen 2002), it has nonetheless been subject to significant criticism.

Sociologists have some reservations about the degree to which the social determinants approach is able to explain and tackle inequalities in health in the population. First, this approach, despite claiming that the context should be the realm of action, still focuses on how inequalities in social determinants lead to unequal distribution of health-related behaviours (Blue et al. 2014). That is, interventions planned using this approach aim to achieve better health outcomes by changing conditions that affect individuals’ free choice to

adopt healthy behaviours. Through this, the model claims direct causal pathways linking social determinants with health-related behaviours which seems an over-simplistic explanation (Blue et al. 2014). This leads to the second critique of the approach; it is claimed that the wider determinants approach does not provide an adequate explanation of how these determinants affect health outcomes and, thus, cannot provide a clear methodology for studying the model nor for planning effective interventions (Blue et al. 2014). Blue and colleagues (2014) state that this may indicate complexities of the model rather than faulty assumptions. In general, in both the behavioural and the social model, the individual is the target of change by centring behaviours as the unit of analysis and intervention. In this thesis this theoretical gap warrants further clarification.

The thesis starts from the perspective that it is what people actually do in their real lives that renders them vulnerable or resistant to being affected by the socio-material context surrounding them. In attempting to answer these questions, researchers recognise that people's social lives are composed of a number of performances that endure in space-time. Oral health endures through the everyday performances of practices, going to the dentist and monitoring the frequency of sugar intake. These persisting performances are referred to as social practices which are defined in this thesis as "open, temporally unfolding nexuses of actions" (Schatzki 2002, p. 72). Only by unfolding these practices, a comprehensive understanding of what people actually do and how this has outcomes on their health can be achieved (Nicolini 2009; Blue et al. 2014; Cohn 2014; Maller 2015; Hennell et al. 2020). This is the simplified starting point of social practice theory that informs this thesis.

What the thesis does is demonstrate that by applying social practice theory to health research, researchers may well be able to bridge the gap between the social and behavioural models by positioning social practices rather than behaviours as the unit of analysis and intervention (Nicolini 2009; Blue et al. 2014; Maller 2015). Social practices, for example, are always localised in space and time (Nicolini 2009; Blue et al. 2014; Maller 2015); which solves the issue of free floating behaviours or determinants. Social practices are the product of interactions and reactions of practitioners with the context- including other practitioners, other practices and socio-material elements- and they are produced through historical interactions as well as their projections affecting future practices (Nicolini 2009; Blue et al. 2014; Maller 2015). By understanding these interactions and what makes them capable of being reproduced or not, the way the context affects the practice, in both its social and material components, can be seen as a potentially modifiable thing (Blue et al. 2014).

In addition, social practice theory provides an account to theorise issues such as power and agency which previous models fall short of providing any kind of real persuasive

understanding (Cohn 2014; Maller 2015). By doing so, social practice theory dissolves both the moral commitment by avoiding reducing responsibility for health outcomes to individual choices as is the case in behavioural model (Blue et al. 2014; Maller 2015) while at the same time viewing individuals as knowledgeable and rational and what they do in their lives are the product of their involving and interactions with social practices in their context (Nicolini 2009; Kelly and Barker 2016). People do what they do because they have reasons for doing so. This contradicts the social determinants approach which tends to view individuals as passive recipients of wider determinants and changes in the context will simply find a way to affect their attitudes and choices without any real examination of why (Nicolini 2013).

By putting this comparison between different approaches forward, this thesis seeks to establish that social practice theory has the potential to be applied in health research. It can produce an in-depth understanding of what is going on in a complex setting such as a refugee camp and so is a serious candidate for establishing how meaningful upstream change can be best achieved. It is argued that this can be done by studying social practices as the unit of analysis and interventions focused around reshaping the relevant practices through policy interventions. Oral health research is no exception; this field has been widely dominated by the behavioural model which, as discussed earlier, does not provide an insight into how oral health outcomes are mediated in context through social practices associated with them. This is important because there is an urgent need to understand oral health in contexts that are understudied in dental public health and highly atypical sites for public health interventions. Refugee camps cannot simply be treated just like any other kind of setting.

The space-time complex of refugee camps, as we shall see, provides a unique socio-material context that affects the reproduction of oral health-related social practices by either enduring or repressing such practices. Furthermore, by theorising that these practices have historical origin in political discourses that attempt to ensure the continuous presence of refugee camps and at the same time can affect other practices by being mutually dependent on or competing with them, the organisation of oral health in the camp can be unfolded. This is what this thesis seeks to do - provide a deeply nuanced and complex account of how oral care practices are organised in the camp.

By applying the social practice theory as the guiding theory for this project, I arguethat understanding the emergence of oral health practices inside Zaatari camp, as well as their interactions with other practices and actors in the camp, can be most adequately achieved. This in turn paves the road for suggesting appropriate interventions by tackling these practices or their interactions by producing social change conducive to better oral health.

Social practice theory has been previously applied in health research to understand practices related to smoking (Blue et al. 2014), drinking (Hennell et al. 2020), telemedicine (Nicolini 2009) and consumption and sustainability (Maller 2015). However, its application in oral health research is not well established. Durey and colleagues (2021) propose the use of social practice theory as an innovative approach to study preschool poor oral health status. They argue that without using a bridging theory between the behavioural approach and social determinants approach (producing an understanding of poor oral health among preschoolers) is not possible and consequently recommendations for policy action cannot be made efficiently (Durey et al. 2021). Another study (Marshman et al. 2020) explores dental professionals' management of carious lesions among children by relating it to their everyday practice of dentistry. However, the theory remains highly untested in dental health research and empirical studying of oral health practices in natural settings is significantly lacking. This creates the potential to explore the novelty of the approach in oral health and extend its application in health research in general. Applying social practice theory in this field warrants the use of appropriate methodological tools capable of capturing the granularities of oral health practices in the camp and relating these to practices and elements beyond the space of the camp. This warrants a methodology that is well grounded and flexible enough to immerse in the practice and move between associated practices.

Yet, just to complicate matters, we will see that social practice theory is not a single theory, but a set of theories that are complementary to each other and share that social practices are dynamic rather than static in nature (Nicolini 2009 2013; Blue et al. 2014). Starting from this point, Nicolini (2009; 2013) argues that no single account of these theories of practice nor a single methodology is capable of capturing the social realities of practices. Nicolini recommends that the researcher should move between theories and change lenses between methodologies to produce an in-depth understanding of practices. Consequently, Nicolini designed a programmatic eclectic strategy to studying practices by applying a 'toolkit approach' that uses a package of theory-method which he suggests is not fixed, but one in which the researcher chooses whatever best suits his/her research question(s) (Nicolini 2009; Nicolini 2013). In order to apply this strategy, the researcher needs to zoom in on the practice and its specificities and zoom out to understand its positioning in context by making relations with other practices and socio-materialities (Nicolini 2009; Nicolini 2013).

This project adopts Nicolini's strategy of 'zooming in' and 'zooming out' and adds a third dimension recommended by Jarrett and Liu (2018) which they called 'zooming with' which they build on Nicolini's strategy. 'Zooming with', as Jarrett and Liu (2018) argue, most importantly adds reflexivity by engaging participants themselves to express psychological

notions such as motives and intentions. By following recommendations of major researchers using the social practice theory (Miettinen et al. 2009; Nicolini 2009; Jarrett and Liu 2018; Hennell et al. 2020), this thesis uses a qualitative methodology that seeks to allow some flexibility to applying other methodologies as recommended by Nicolini. Ethnography is thought to be the most appropriate methodology as it allows the researcher to observe practices as they naturally occur and from the perspective of their performers (Miettinen et al. 2009). Hence, it can be possible to understand how oral health practices in Zaatari are performed, promoted or inhibited and opens the field for other researchers to build on this knowledge with the common aim of promoting oral health of the camp's residents.

The order of the thesis

This thesis is produced for the purpose of fulfilling the requirements for a PhD degree in Dental Public Health at the University of Sheffield. It involves a cross-disciplinary approach that seeks to draw on the social sciences to inform theory and methods for Dental Public Health. The thesis starts, in Chapter 2, by setting the scene for the project by presenting a comprehensive background of the research area. The background introduces the reader to the situation of refugees worldwide and those in refugee camps in particular by referring to reports released by the United Nations High Commissioner for Refugees (UNHCR). Then, issues of establishing refugee camps in response to mass displacement are presented including a description of shelters and services provided. After that, the situation of refugees in Zaatari camp is described, as this is the setting of this study. The political dimensions of the camp are presented which state the global society's impact on containing refugees in refugee camps as well as the role the Jordanian government plays either to support service provision for refugees or to ensure their encampment.

The second section of Chapter 2 maps the literature in the field. First, it presents the concept of oral health and social determinants of health in a manner that supports health (and oral health) as a basic human right. It also argues that social justice in terms of the distribution of social determinants is necessary to realise higher levels of health equity. This section refers to the bidirectional relationship between oral health and general health making it justifiable to promote oral health per se and as a means to realise better overall health outcomes. Then, it provides a detailed critical overview of the existing literature on the characteristics of refugee camps with a special focus on the social organisation in refugee camps as it is the area from which the research questions of this study stem. Later, the report focuses on the literature that is relevant to the area of health in refugee camps and narrows down the lens on the literature on oral health in refugee camps in general and in Zaatari camp in particular. The

literature review concludes by identifying gaps in the literature in relation to understanding how oral health practices in refugee camps might be theorised and understood.

The research questions this study seeks to address are as follows:

1. How are practices related to oral health performed through the body? What moves and bodily configurations are made to perform these practices? What are the artefacts and tools needed to perform the practices? How are these made available to the scene of action?
2. How do participants describe their oral health practices discursively? What are the symbolic meanings of performing these practices? And what are collective interests maintained through these practices?
3. What are other practices linked to oral health practices? How do these sustain, constrain or conflict with the practices of concern? How are such ‘bundles’ and ‘complexes’ of practices mediated?
4. How are oral health practices in the camp explained within the structural and material limits of the camp?

Moving on from the research questions and literature gaps in the field, Chapter 3 presents the methodology believed to be the most appropriate to answer the research questions. The chapter starts by focusing on social practice theory as the guiding theory for this project. The most notable accounts of the theory are presented and how it can be recruited to the study of oral health practices in the camp. Later, the research paradigm and research design that are adopted in this study are justified. The study is aimed to continue conforming with the principle of constructivist, interpretivist qualitative research. After that, ethnography is introduced as the methodology of the study and this decision is justified with arguments of theorists and researchers of social practices and health research. This is supported by examples of similar studies recruiting social practice theory and ethnography. However, as the Covid-19 pandemic hit in the course of designing this project, the impacts of the pandemic on conducting fieldwork are described and alternatives suggested. It is shown how the pandemic divided the course of data collection into two stages: an online stage where participants were recruited and data was collected virtually via WhatsApp, and a fieldwork stage where the researcher had the opportunity to gain access into the field (Zaatari refugee camp). Next, a study plan is presented describing the recruitment process, methods of data collection and data analysis as well as a data management plan. Concerns of research ethics and integrity are then explained and procedures taken into consideration to overcome these are described.

Chapter 4 discusses toothbrushing as a social practice. It presents the findings collected during both stages of the study supported by extracts from participants' responses. The findings are analysed according to Schatzki's social practice account and an attempt to make sense of the data is made. Performing toothbrushing is described using actual cases referring to bodily movements involved and intelligible decisions made by practitioners. Later, the elements of toothbrushing are discussed including the material elements such as oral hygiene products, water and the material arrangement of the activity-space where the practice is performed listing variable performances that conform to the variability of these material elements in Zaatari. A discussion of how knowledge and competencies of toothbrushing are generated linking it to the practical intelligibility of the performers. a focus is made on the teleoaffective structures related to toothbrushing and other interdependent practices which form the ends that people try to achieve through taking part in these practices. Unfolding the associations between toothbrushing and other practices in the camp is made throughout the chapter.

Chapter 5 discusses the practice of sugar consumption among children in Zaatari. To aid in untangling the complexity of the practice and to simplify the analysis process, sugar is presented in the different contexts that children encounter in the camp. First, sugar consumption practices are discussed within the household presenting various practices that affect higher or lower consumption by linking it to the nexus of competing or strengthening practices such as parenting and general consumption. Sugar is then discussed in relation to the distribution and arrangement of local shops in the camp. Routes of linking these practices together are discussed in depth giving the reader the chance to reproduce such events. Later, the role of schools in the camp as a context where children have access to sugar is presented. Some insight into how sugar consumption is arranged there before and after the pandemic is given and the role of incorporating schools as oral health promoters is highlighted. Finally, supermarket arrangements in the camp which represent the main point of spending monthly allowances are discussed. These arrangements are also linked to the manner in which expenditure is organised taking the form of constricted consumption.

Chapter 6 discusses the main findings within the scope of existing knowledge highlighting what contribution this research adds and how it fits within the discourse of social determinants. This is followed by listing the limitations of the study and measures involved to overcome them. It also presents recommendations for future research and application of the findings in oral health-promoting programmes in refugee camps. The contribution this research made to the current research is then presented from the practical point of view, the theoretical perspective and the research impact in the field of dental public health and on understanding oral health in Zaatari.

This study will contribute to the body of knowledge on oral health practices in refugee camps in general and in Zaatari in particular. It will also contribute to the field of studying oral health 'behaviours' using a radically new approach by studying these behaviours within the context of social practices. This will help address the current shortage of research in this area and provide real value to oral health promotion programmes in refugee camps.

In the end, some limitations are anticipated to encounter during this study. For example, it is thought that the results may not be necessarily generalisable to other settings due to the narrow scope of the study. This may also be related to the qualitative nature of this study which could be argued to be highly subjective. The involvement of innovative research methods is not also predictable whether it can generate sufficient depth of understanding of the research problem. Finally, the time limitation during which data has to be gathered may affect the quality of the findings. All these limitations are discussed and measures to overcome them are presented in the Chapter 6.

Chapter 2
Background and Literature Review

The world witnesses a surge of displaced populations; some of them cross the borders of their homelands seeking safety and security in other countries. This population is known as refugees and their nature and characteristics differ according to the context they come from and the context they are hosted in. In their journey to resettlement or repatriation, refugees face varying difficulties and pass through some phases. One of the transient phases that some refugees experience is being hosted in one of the formalised refugee camps that are present around the world. The everyday life in the camp is very different from anywhere else outside and refugees find themselves establishing a new form of social life. The refugee camp and its components sometimes put residents at higher vulnerability to health problems; one of these is oral health problems. However, as mentioned earlier, each context is unique and, in order to study the dynamics of the organisation of health and disease in refugee camps, a deep understanding of the social context of the space of the camp under study is necessary.

Consequently, this chapter aims to give a thorough understanding of the situation of Zaatari refugee camp in Jordan. The chapter is divided into two sections: first, a background section that covers the global trends of refugees around the world, planning a refugee camp and the situation of Zaatari camp. The second section reviews available literature that explains the concept of oral health in general, the social context of refugee camp and what impact can this have on general and oral health focusing on the case of Zaatari refugee camp in Jordan. By doing this, research gaps will be identified and suggestions of most appropriate theories and methodology will be made.

2.1. Background

2.1.1. The Definition of ‘Refugee’

The United Nations Convention relating to the Status of Refugees was declared in 1951 following World War II and forms the centrepiece of international refugee protection (UNHCR 2010). At its introduction, the convention was limited to people who fled their home countries before 1951 and within Europe. Later, the convention was modified in the 1967 Protocol to

become unlimited by time or place (UNHCR 2010). Since then, 147 states have ratified either the convention or the protocol or both of them and, thus, are obliged to apply the rights of these populations as stated by the convention (UNHCR 2010).

In order to understand the scope for which these populations apply, it is crucial to define who they are and how they are different from other similar populations such as internally displaced people and migrants.

According to the 1951 UN Convention, a refugee is a person who:

> *"owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it." (UNHCR 2010, p. 14)*

The definition has been subject to huge criticism since its introduction. Marx (1990), for example, critiques the bureaucratic nature of the definition and explains that States attempt to narrow down the category to whom a 'refugee' applies in order to limit those who deserve their assistance. This is clear when taking into account the exception of internally displaced populations who, to a high degree, suffer social and political constraints similar to refugees (Marx 1990; Clinton-Davis and Fassil 1992). By giving States and international agencies the opportunity to call some groups of people refugees and others not, one can conclude that refugees and refugee crisis (as referred to by Western terms) represent a phenomenon that is constituted by States (Marx 1990; Stone 2018) and, thus, is not limited to those to whom the definition applies; rather, States can label new categories as 'refugees' as global events continuously unfold (Stone 2018). Critics, also, noticed the tendency for States and other agencies to subsume all other identities once someone is labelled as a refugee (Bun 1991; Stone 2018). Consequently, researchers should view any group of refugees within a wider political and social framework in order to understand the complexities and details of any specific context (Bun 1991). In general, people fleeing their homes to seek refuge elsewhere can be entitled under the umbrella term 'forced migration' that distinguishes those who forcibly leave homes from other categories. Indeed, the UNHCR uses the term 'populations of concern' as an expansive term that new categories of forcibly displaced can be added to.

The United Nations High Commissioner for Refugees (UNHCR) is a United Nations agency that was created in 1950 to lead and coordinate international action to protect forcibly

displaced people and stateless people around the world (UNHCR 2001-2019). It is distinct from the United Nations Relief and Works Agency (UNRWA) as the latter confines its action to Palestinian refugees from the 1948 Arab-Israeli War (UNRWA 2020). Thus, figures and data in this study represent those of UNHCR unless otherwise stated.

According to the Universal Declaration of Human Rights (1948, p. 4), Article 14, "everyone has the right to seek and enjoy in other countries asylum from persecution". The 1951 Convention relating to the Status of Refugees obliges parties to implement certain fundamental principles based on observing human rights, most importantly non-discrimination, non-penalisation and non-refoulement[1].

However, Jordan is not a State party to the 1951 Convention nor its 1967 Protocol (UNHCR 2018a). The Jordanian Constitution treated asylum seekers as foreigners while maintaining at the same time the moral principle of non-refoulement of any political refugee (UNHCR 2018a). The constitution does not explicitly refer to refugees despite the high percentage of refugees in Jordan and they are mentioned as 'visitors', 'guests' or 'Arab brothers' (UNHCR 2018a; Mansour-Ille et al. 2018). Due to the lack of specific policies to deal with refugees and with the UNHCR's need to manage and provide aid to the increasing number of refugees in Jordan, a Memorandum of Understanding (MOU) was signed between the UNHCR and the Jordanian government in 1998 (UNHCR 2018a). According to this MOU, Jordan defines refugees as per the definition provided in the 1951 Convention and respects the principle of non-refoulement (UNHCR 2018a). On the other hand, the UNHCR is responsible for Refugee Status Determination (RSD) during refugees' stay in Jordan which is limited to six months after their registration (UNHCR 2018a). However, Jordan does not enforce the six-month maximum stay limit and welcomes refugees until a more durable solution is available (UNHCR 2018a; Mansour-Ille et al. 2018).

Despite this MOU, it is considered that Jordan still needs much clarification of its policies in the field of managing refugees and the refugee crisis (UNHCR 2018a; Mansour-Ille et al. 2018). This is in terms of defining refugees and stating explicitly their rights and responsibilities during their stay in Jordan in an appropriate legal framework (UNHCR 2018a; Mansour-Ille et al. 2018). Jordan accepts refugees according to the moral principles of hospitality and solidarity but, in order to proceed with refugees' protection and humanitarian aid, critics recommend that Jordan sign the 1951 Convention and set a clear legal framework (UNHCR 2018a).

[1] Non-refoulment provides that "no one shall expel or return ("refouler") a refugee against his or her will, in any manner whatsoever, to a territory where he or she fears threats to life or freedom." (UNHCR 2010, p. 3).

In spite of being supported by UNHCR and other humanitarian and state aid, Jordan still experiences a high economic and social burden which is linked to hosting a huge number of refugees (UNHCR 2020b). This is mainly attributed to being a country with scarce resources and the low financial aid delivered to Jordan from the international community (UNHCR 2020b). UNHCR, for example, estimates that less than one-third of the financial requirements needed to cover expenditures linked to hosting refugees in Jordan in 2020 is funded (UNHCR 2020b). Jordan highlights this issue in many international conferences and calls for a fair share of the crisis which Jordan itself shoulders far more than its estimated fair share (Ministry of Planning and International Cooperation 2020).

2.1.2. Global Trends

By the end of 2022, 108.4 million people were forcibly displaced around the world, which is again a record high as in the previous few years. Of those, 35.3 million refugees including 5.9 million Palestine refugees under the UNRWA's mandate were recorded. An additional 5.4 million people were asylum seekers whose status has not yet been determined (UNHCR 2022a). According to their countries of origin, more than half of the refugees (52%) came from only three countries: Syrian Arab Republic (6.5 million refugees), Ukraine (5.7 million refugees) and Afghanistan (5.7 million refugees) (UNHCR 2022a). Syrians continued to be the largest refugee population in 2022 as they have been since 2014 after the Syrian Civil War which started in 2011 (UNHCR 2022a). The five top refugee-producing countries are the origin of 86% of all refugees worldwide (UNHCR 2022b) and four of these remained on the list throughout the decade 2012-2022 apart from Ukrainian refugees who started fleeing their country after the Russian military action in Ukraine early in 2022 (UNHCR 2022a).

Refugees sought asylum in many countries around the world. However, geographic proximity plays an important role in refugee movements as 70% of displaced populations live in neighbouring countries to their home countries (UNHCR 2022a). In general, thirty-eight per cent (38%) of refugees resided in only five countries; Turkey, Islamic Republic of Iran, Colombia, Germany and Pakistan (UNHCR 2022a). Developing countries continue to host the largest numbers of refugees as low- and middle-income countries host 76% of all refugees and people in need of international protection (the least developed countries provide asylum to 20% of the total numbers) (UNHCR 2022a). These figures mean that the highest burden of refugees is being borne by developing countries with the least gross domestic products. These countries have the least resources and suffer serious barriers to maintaining sustainable development for their people to enjoy (UNHCR 2022a).

Furthermore, most of the countries hosting the vast majority of refugees are not signatories to the 1951 Convention.

Refugees are faced with multiple fates in hosting countries. Approximately, 60% of refugees worldwide live in cities and are referred to as ‘urban refugees’ (USA for UNHCR 2018). The majority of refugees who do not live in cities live in refugee camps that are distributed around the world. The largest refugee camps in the world are located in Bangladesh, Kenya, Jordan and Sudan (USA for UNHCR 2023). Supposedly, after fleeing home countries into countries of first asylum, refugees are considered transiently resident there until another more permanent solution is guaranteed, which could be integration into the hosting community, resettlement in a third country or repatriation if conditions in home countries become favourable. Hence, refugee camps are not meant to be a permanent solution in any situation.

Nonetheless, this is not the case in refugee camps and many camps that were built as an emergency response to a humanitarian crisis end up as a protracted refugee situation. According to UNHCR, a protracted refugee situation is “one in which 25,000 or more refugees from the same nationality have been in exile for at least five consecutive years in a given host country” (UNHCR 2022a, p. 22). By applying this definition, it is estimated that 67% of refugees are in protracted situations at the end of 2022 (UNHCR 2022a); around one third of this figure is represented by the situation of Syrian refugees in Egypt, Jordan, Lebanon and Turkey (UNHCR 2019a).

2.1.3. Refugee Camps

The establishment of internationally organised refugee camps has taken place mainly since the start of the Arab-Israeli War in what is known as ‘Nakba’ (translated as the catastrophe in English) of 1948 (Browning 2012). As a response, in 1949, the United Nations founded a dedicated agency to deal with Palestinian refugees namely the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) (Bartholomeusz 2009). Since then, the world has faced several conflicts and catastrophes that produced refugee outbreaks and the United Nations founded another agency to deal with all other forcibly displaced populations around the world and, hence, the United Nations High Commissioner for Refugees (UNHCR) came into action in 1950. UNHCR was first established to deal with refugees in Europe following World War II but extended, by the 1967 Protocol, to deal with other refugees as the necessity was assessed to be needed (UNHCR 2016).

These two agencies aim to provide humanitarian relief for refugees and forcibly displaced populations to maximise human wellbeing and dignity for those involved. However, it is claimed that although around 60% of refugees live in urban areas, most of the humanitarian response focuses on the establishment of refugee camps and delivering assistance in such settings (Miliband 2016). This is a complex issue and has been a source of tension between states and humanitarian agencies. Building new refugee camps each time there is a new refugee influx, albeit not the most efficient solution (as will be discussed later), still, is still the solution often applied. Wealthy states contribute with the majority of funding to face the refugee crisis by quarantining refugees through large-scale and long-term encampments.

After any case of mass fleeing, UNHCR together with local authorities starts immediate negotiation of what the humanitarian response looks like. In most cases, a decision is made to establish a refugee camp to provide immediate shelter and emergency health services for injured people. UNHCR defines refugee camps as:

> *"any purpose-built, planned and managed location or spontaneous settlement where refugees are accommodated and receive assistance and services from government and humanitarian agencies." (UNHCR 2014, p. 12)*

Planning of refugee camps takes various forms according to the geography of the location and host governments' requirements. However, whenever possible, planning should conform to the UNHCR's policy on Camp Planning Standards (UNHCR 2020e). This policy acknowledges, at its beginning, that formal camp establishment should be avoided, if possible, and encourages other alternatives (UNHCR 2014). As this may not be the case, however, camp planning standards should be applied in order to ensure maximum security and dignity for dwellers. The policy on Camp Planning Standards, in the case of planned settlements, explains in detail shelter characteristics, water supply and distribution, healthcare centres, education, market places and feeding facilities (UNHCR 2020e). Camps should, also, serve as a registration centre for new refugees in order to ensure they receive basic assistance as well as protection against refoulement and future family reunion (USA for UNHCR 2020).

Immediate shelters in refugee camps are, usually, tents and plastic sheets. These cannot be considered adequate if the situation persists for long periods of time such as in protracted refugee situations (UNHCR 2014). Hence, after passing the emergency phase, UNHCR negotiates again with the host government to allow more permanent forms of shelters to be incorporated. This was the case, for example, in Zaatari camp in Jordan when the Jordanian government approved to change tents with prefabricated units (Alshawawreh, Smith and Wood 2017). Internal and external areas of the shelters are, also, taken into consideration as

the policy recognises the effect that crowding has on health status. A minimum of 45 square metres per person should be allocated (UNHCR 2020e).

Water is a vital source of livelihood in refugee camps. As refugee camps are often built distant from urban areas, planning should determine how to guarantee constant access to an adequate supply of water. Camp Planning Standards allocate 20 litres of water per person per day (UNHCR 2020e). However, as infrastructure is not available to deliver water to every shelter, water is usually delivered in tanks to the camp and communal water taps are distributed. Water taps should not be further than a few minutes walk from each shelter (around 200m from any household) and no more than 250 refugees share one water point (UNHCR 2020e). This is especially important as water carriers are frequently children (UNHCR 2020e).

Figure 2.1: Children used to fill jerry cans with water and carry them to their shelters in Zaatari before the introduction of the water network system at the end of 2018. (Copyright: UNICEF 2019).

Emergency medical services start as soon as refugees enter the camp and are delivered usually by nongovernmental organisations (NGOs). However, long-term delivery of healthcare inside the camp is established later and these are mainly primary healthcare facilities. At least, one healthcare centre should be available for every 20,000 residents (UNHCR 2020e). Secondary and tertiary healthcare is usually provided in cooperation with public healthcare organisations in the host country.

Around 41% of refugees are children and this percentage is even higher in refugee camps (UNHCR 2022a). Being forced to live in the camp for protracted periods, realising children's right to education becomes a pressing need. Therefore, the UNHCR's policy recommends establishing one school for every 5,000 children (UNHCR 2020e). Children can usually

continue their high school education but when it comes to university education, which is not available inside the camp, real challenges are faced by refugees mainly as a result of competing with nationals and financial costs.

Having fled their home countries, leaving behind all belongings, providing refugees with food is an important aspect of planning camps. This is especially true as many refugees arrive injured or, as a result of not being allowed to leave the camp, are not able to work. In addition, vulnerable categories to nutritional deficiencies inside refugee camps make up the majority of residents including children, elderly people and women. Consequently, the UNHCR's policy plans to implement feeding centres to distribute food to refugees in the camp (UNHCR 2020e). Efforts should be made to provide a variety of food to cover nutritional needs of these categories.

There are still many other aspects that should be considered when planning refugee camps. To mention some, these include planning marketplaces, socialising centres, youth centres and whether the camp will be covered with electricity, mobile phone services and internet services. These, and other facilities, are usually delayed until the emergency phase passes and refugees come to live a routine day-to-day life (UNHCR 2020e).

What is worth mentioning here is that these standards correspond to constructing planned settlements such as Azraq refugee camp in Jordan (UNHCR 2020b). However, other purpose-built refugee camps such as Zaatari camp in Jordan take the form of emergency response to the mass influx of refugees (UNHCR 2020b). Hence, some of the above-mentioned criteria, albeit not adequate in themselves, are further lacking in purpose-built camps. The case is even much more desperate in spontaneous camps such as Calais refugee camp in France. Spontaneous settlements are unofficial settlements where the involved population lives without permission and without being provided assistance and guidance by the host government or NGOs (UNHCR 2020f). They tend to be located in harsh conditions, close to areas of insecurity, hazardously organised and densely crowded (UNHCR 2020f).

Whilst it is, outside the scope of this study to discuss the circumstances of all kinds of refugee camps it is important to realise that the type of camp that Zaatari represents is officially sanctioned and so may represent more structure than you might find in Calais, France. The focus of this thesis is on describing the situation in the setting where this research took place; that is Zaatari refugee camp in Jordan. Therefore, the next section describes in detail the planning and organisation of Zaatari camp as well as the legal aspects and rights and services provided to the camp's residents.

2.1.4. The Situation of Refugees in Zaatari Camp in Jordan

2.1.4.1. History of Refugees in Jordan

Jordan has long been a refugee-receiving country. The history of refugees in Jordan dates back more than one hundred years, even before the Arab-Israeli war and the fleeing of Palestinians to neighbouring countries (International Labour Organisation Regional Office for Arab States 2015). Jordan was a refuge for the highest number of Palestinians who fled on multiple occasions due to the continuing instability and conflicts in their homeland (International Labour Organisation Regional Office for Arab States 2015; Mansour-Ille et al. 2018). Palestinians who arrived in Jordan were mostly given rights and concessions similar to Jordanian nationals. They were even granted Jordanian citizenship. In fact, it is estimated that half of Jordanian citizens now are of Palestinian origin (Mansour-Ille et al. 2018). As a response to the Palestinian crisis, in 1949, the United Nations founded a specific agency to deal with the situation which is known as the United Nations Relief and Works Agency for Palestine Refugees in Near East (UNRWA) (UNRWA 2020). UNRWA worked with the Jordanian government to establish refugee camps to provide shelter and aid to fleeing people apart from the large number of Palestinians who settled in Jordanian cities (UNRWA 2020). Despite the high percentage of Palestinian refugees who were granted citizenship, Jordan still has 2.1 million Palestinian people registered with UNRWA as refugees (UNRWA 2020). This figure is not included in the statistics of UNHCR, which estimates around 741,450 refugees other than Palestinians residing in Jordan (UNHCR 2023).

As the instability in the Middle East continued, Arab nationals sought asylum in Jordan as it is considered a relatively safe country with an open-border policy for refugees (Ministry of Planning and International Cooperation 2020; Mansour-Ille et al. 2018). However, some conflicts represent landmarks in Jordan’s history with refugees; the second most important one (after the Palestinians fleeing the Arab-Israeli war) is the fleeing of Iraqis before and after the American invasion of Iraq in 2003 (Mansour-Ille et al. 2018). Nevertheless, the Jordanian policies to deal with Iraqis were different from the way Jordan dealt with the Palestinians. Iraqis were allowed to stay and invest in Jordan but were not granted citizenship; neither were other refugees, then, who represent small percentages of the overall refugee populations in Jordan such as Sudanese and Somalis (Mansour-Ille et al. 2018). By virtue of their higher economic status, Iraqis tended to start businesses and own houses and were never encamped in refugee camps (Mansour-Ille et al. 2018).

With the beginning of the Syrian civil conflict in 2011, Syrians started to flee the armed conflicts and prosecution to neighbouring countries. Jordan, with its open borders, then, was one of the main countries that hosted Syrian refugees. UNHCR took immediate action and set an emergency response plan with the Jordanian government in order to register and deliver immediate aid to Syrians crossing the Jordanian borders (UNHCR 2018a; Ministry of Planning and International Cooperation 2020). The influx of Syrians fleeing war continued in large daily numbers until 2014 when the Jordanian government started to apply some restrictions on entry and profile of people crossing the borders (UNHCR 2018a). As of March 2023, 660,000 Syrians were officially registered as refugees with the UNHCR (UNHCR 2023) in Jordan and actual numbers are estimated to be double these official figures as many Syrians maintain an informal status. It is estimated that 10% of Jordan's population today are Syrian refugees (Ministry of Planning and International Cooperation 2020). In response to the Syrian refugee crisis, the Jordanian government issued the Jordan Response Plan in 2015 which aims to extend the resilience of governmental programmes and reduce the vulnerability of both Syrian refugees and vulnerable Jordanians (Ministry of Planning and International Cooperation 2020).

2.1.4.2. Zaatari Refugee Camp in Jordan

A major milestone of the Jordanian response to manage the Syrian refugee crisis was the establishment of refugee camps over a few years since 2012 to provide shelter, food and medical aid to refugees (Mansour-Ille et al. 2018). Three main Syrian refugee camps were established: Zaatari (in 2012), Azraq (in 2014) and Emirati Jordanian camp (in 2013) (UNHCR 2020b). Despite the large number of Syrian refugees residing in camps, the official figures show that only 18% reside in refugee camps and the majority reside in Jordanian cities and rural areas (UNHCR 2023). Indeed, similar to Iraqi refugees, the wealthiest Syrian refugees were allowed to gain a residence permit according to Jordanian law through what is called 'investor status' (Mansour-Ille et al. 2018).

The first Syrian refugee camp built in Jordan was Zaatari camp and is located 10 kilometres east of Mafraq Governorate and close to the Syrian border (UNHCR 2020c). The camp was initially built with a capacity of 60,000 residents; however, the large influx of Syrians fleeing violence led to the camp tripling this number (Ledwith 2014; UNHCR 2013a). In 2013, 171,000 Syrian refugees resided in Zaatari (UNHCR 2013a); the continuing growth of Zaatari's population and of Syrian refugees in Jordan in general pushed the UNHCR in cooperation with the Jordanian government to establish Azraq refugee camp to absorb the increasing numbers of Syrian refugees and lower the burden on Zaatari. In September 2022,

Zaatari was home to around 82,000 refugees (UNHCR 2023b) and around 461,000 refugees have passed through the camp (UNHCR 2017c). Today, Zaatari is considered the largest refugee camp in Jordan and the Middle East and the largest Syrian refugee camp in the world. It was also estimated to be the fourth largest city in Jordan when it reached its highest number of residents (UNHCR 2013b).

The population in Zaatari is considered a young population. Around 54% of residents are under the age of 18 and 17% of residents are under five years old (UNHCR 2023b). Only 2.7% of residents are above 60 years old. About 30% of the camp's residents are female-headed households (UNHCR 2020c). The majority of residents came from Dar'a which is a governorate close to the Syrian-Jordanian borders (UNHCR 2020c).

Zaatari is under the joint administration of the Syrian Refugee Affairs Directorate (SRAD) and UNHCR (UNHCR 2020c). Upon its establishment, it was composed of tents as a temporary type of shelter. UNHCR is responsible for coordinating with other NGOs and the Jordanian government assistance provided to Syrians in the camp. This includes, but is not limited to, shelter, food, health, and basic needs. People fleeing violence in Syria are in urgent need of these services as most arrived without taking anything from their homeland other than identification documents. Indeed, some people arrived without even getting these.

As time proceeds and the situation in Syria is still unpredictable, UNHCR started negotiations with the Jordanian government regarding allowing for a more permanent type of shelter in order to meet residents' needs (Ledwith 2014; Barakat 2016). Zaatari camp is located in a harsh environment that is very cold in winter and quite hot in summer and the tents provided did not protect residents against these conditions as well as other concerns regarding firefighting, security and livelihoods (Ledwith 2014). The Jordanian government approved the establishment of new immobile prefabricated shelters. UNHCR took the responsibility of site planning to create a semi-permanent structure with basic water, sanitation and hygiene (WASH) facilities, kitchens, and necessary infrastructure while, at the same time, establishing some kind of community (Ledwith 2014; Barakat 2016).

UNHCR also coordinates the provision of services to camp residents. Starting from the first day in the camp, residents should register with the UNHCR and are issued an identification card which is necessary for any later benefiting of assistance as well as for the process of Refugee Status Determination (RFD) (Mansour-Ille et al. 2018). Following that, UNHCR works with humanitarian partners and the Jordanian government to provide protection to the camp's residents. Camp's residents should be protected against violence, exploitation and abuse as well as their equal access to services and opportunities are safeguarded (UNHCR

2020b). Community centres and youth clubs are also founded in the camps to provide a space for communication and recreation (UNHCR 2020b).

Other basic needs are provided to the camp's residents mostly in the form of monetary and material assistance (UNHCR 2020b). This includes basic livelihood necessities such as blankets, mattresses, kitchen utensils and other house basics (UNHCR 2020b). In addition, cash is provided for food, gas, baby diapers and other necessities (UNHCR 2020b). Other services that refugees in Zaatari benefit from include the provision of electricity which was extended to thirteen hours a day during the Covid-19 pandemic in order to support families with distance learning (UNHCR 2020c). However, the provision of electricity has dropped back to nine hours a day which was justified as the solar plant which is supposed to provide Zaatari with electricity for twelve hours a day is not running at its full capacity due to the need for maintenance (UNHCR 2022c).

Water was, also, distributed through water points (Figure 2.1) where residents collected water in buckets and stored it at home for cooking, washing and personal use (UNHCR 2020c). In 2015, the United Nations Children's Fund (UNICEF) established three water wells (boreholes) in an attempt to enhance the efficiency and sustainability of water delivery (UNHCR 2020c). Furthermore, the Camp Restructure Project started in 2015; one of its key objectives is to create infrastructure to provide piped water and piped sewage systems to each household in the camp (Barakat 2016). Since late 2018, shelters in the camp have had water delivered to them through this water network system which they store in tanks located outside their shelters (See Figure 4.24). Zaatari refugee camp is also a highly technological refugee camp, especially with the launching of free UNHCR SIM cards in 2018, which are not only distributed to camp residents but to all refugees registered with UNHCR in Jordan (UNHCR 2018b).

As more than half of Zaatari's residents are children under 18 years old (UNHCR 2023b) and with the uncertainty of the Syrian civil war, it was assessed that education should be a priority in order not to create a 'lost generation' (Education Sector Working Group 2014). Since the establishment of the camp, thirty-two schools were founded where 19,243 children are enrolled and attain basic education (UNHCR 2023b). In order to improve attendance and retention at schools as well as enhance children's wellbeing, UNHCR with partners link some service provision to attending schools; one of them is the provision of healthy school meals which is catered mainly by the 'Healthy Kitchen' initiative (UNHCR 2020c). This initiative, in addition to providing healthy meals to children, supports the local community in the camp, especially women as the most involved employees (UNHCR 2020c). Other programmes of vocational training and language teaching are also run in the camp, with the

aim of transforming refugees into self-sufficiency, sustainability and enhancing their future opportunities for resettlement and integration (UNHCR 2020c). Although free school education is provided to refugees in Jordan including camps' residents, some challenges still face admission of students to higher education mainly the high financial cost and competitiveness with Jordanian students (Sherab and Kirk 2016). Nevertheless, multiple initiatives have been introduced recently to provide scholarships for refugees either inside or outside Jordan to ensure refugees are able to continue further study and pursue better job and life opportunities.

The initial provision of health services to new arrivals focused on providing immediate care for armed conflict victims, prevention of communicable diseases as a result of poor sanitation and crowding following leaving home countries and the provision of vaccination for children (WHO Europe Region 2018). However, as the situation of Syrian refugees in Jordan becomes a protracted one, long-term delivery of health services is an important necessity that cannot be neglected in order not to compromise refugees' health any further and to protect the host community's public health. This is an important point in Jordan, as the national health profile does not, generally, include vaccine-preventable communicable diseases and Jordan sees in pride its achievement in eliminating such diseases through vaccination and increasing awareness of sanitation (WHO 2015). Health care in Zaatari is mainly provided in primary health care centres although secondary provision of health services is also available (UNHCR 2017a). Two hospitals with fifty-five-bed capacity and nine primary health care centres are present in the camp. These are supported by fifty-eight full-time clinicians and 150 community health volunteers (UNHCR 2017a). However, not all health services can be administered inside the camp and many patients who require secondary and tertiary treatment are referred to Jordanian public hospitals (UNHCR 2017a).

The delivery of health services in the public sector has witnessed several changes over the course of managing the Syrian refugee crisis. In March 2012, the Jordanian government allowed Syrian refugees registered with the UNHCR to utilise governmental health services in primary healthcare centres and hospitals free of charge (UNHCR 2013b). Nevertheless, as the Jordanian government perceived that the Syrian civil war might take a long time to end this would lead to an increasing burden on health services and the common feeling of prioritising Syrian refugees over non-insured vulnerable Jordanians, this decision was withdrawn (Ministry of Planning and International Cooperation 2020). Syrian refugees are now treated as non-insured Jordanians in the public sector (Ministry of Planning and International Cooperation 2020).

Guidelines on the provision of healthcare services to camp residents, however, do not explicitly mention oral healthcare delivery. The only document that deals directly with oral healthcare is “Oral health care in camps for refugees and displaced persons” which was published by the World Health Organisation (WHO) in conjunction with UNHCR and other NGOs (Htoon and Mickenautsch 2000). The document describes a process that can be adapted to deliver oral healthcare to camp residents in three phases: emergency, stability and repatriation phases. Despite this, the document declares at its beginning that it cannot be considered an official document and that every camp situation is unique and, thus, recommendations cannot be generalised (Htoon and Mickenautsch 2000). In 2020, the World Dental Federation (FDI) issued an advocacy guide on oral health promotion for refugees. Although the document acknowledges that refugees suffer adverse living conditions leading to a negative impact on their oral health, recommendations were limited to the scope of dental healthcare provision (Kateeb et al. 2020).

Finally, work for camp residents is organised through policies of the Jordanian government. In order to gain a job, Syrian refugees in Jordan including those in camps need to have a work permit. The Jordanian government waived fees for getting a work permit for Syrian refugees following the London Donor Conference in 2016 while maintaining some of the documentation requirements (Mansour-Ille et al. 2018; Ministry of Planning and International Cooperation 2020). Amendments to the rights to work for refugees in Jordan are included in the Jordan Compact issued in 2016 where Jordan promises to grant 200,000 work permits to refugees and enhance their work opportunities (Mansour-Ille et al. 2018; International Labour Organisation 2015). The Compact specifies the fields where Syrian refugees are allowed to work while at the same time limiting others to Jordanian citizens such as medical and engineering jobs among others which are already competitive among Jordanians (Mansour-Ille et al. 2018).

Refugees in Zaatari camp benefit from this easing as more opportunities are open to them inside as well as outside the camp. As of June 2020, 13,773 residents in Zaatari have active work permits and around one-quarter of these are held by women (UNHCR 2020c). In addition to enhancing the financial status of refugees and pushing them to self-sufficiency, refugees’ mobility is enhanced as refugees with valid work permits are allowed to leave the camp for up to one month (International Labour Organisation 2015). The majority of working refugees in Zaatari are paid cash through the cash-for-work scheme which is thought to preserve workers’ dignity (UNHCR 2020c). An employment office was launched in Zaatari camp by the joint cooperation between the International Labour Organisation and UNHCR with the objectives of offering jobs that match the skills of camp residents, providing

information regarding training programmes as well as issuing work permits (UNHCR 2017b). However, a survey conducted in Zaatari by the RefuGIS team shows that although women are more educated, they do not prefer to work out of the camp. The survey, also, recommends that a better clarification of the types of jobs open to the camp's residents is needed as well as enhancing their awareness of the rights and laws that regulate enrolling them in the workforce (UNHCR 2017b).

In conclusion, it is clear that refugee camps including Zaatari have a unique form of organisation that is different from other spaces. In order to link how this organisation might have effects on the general and oral health of the camp's residents a step backward to review the key approaches to the social determinants of health is necessary.

2.2. Literature Review

This thesis fits within the overall framework of the social determinants of health, albeit with key modifications to better fit with the very unusual state of social organisation that a refugee camp represents. Before describing the social organisation of refugee camps it is important to introduce what is meant by oral health, alongside an explanation of the social determinants of health. This discussion starts out by being explicitly theoretical before presenting the data on the oral and general health of refugees and in refugee camps.

2.2.1. Oral Health and Social Determinants of Oral Health

In 2016, a new definition of oral health was adopted by FDI (World Dental Federation) (FDI 2019) which states that

> *"oral health is multi-faceted and includes the ability to speak, smile, smell, taste, touch, chew, swallow and convey a range of emotions through facial expressions with confidence and without pain, discomfort and disease of the craniofacial complex." (FDI 2019)*

Alongside, a companion framework (Figure 2.2) was developed that acknowledges the vitality of oral health to general as well as mental health (Glick et al. 2016). In addition, the framework considers oral health as a factor attributable to the overall quality of life (Glick et al. 2016). The framework also links oral health to the wider social determinants of health.

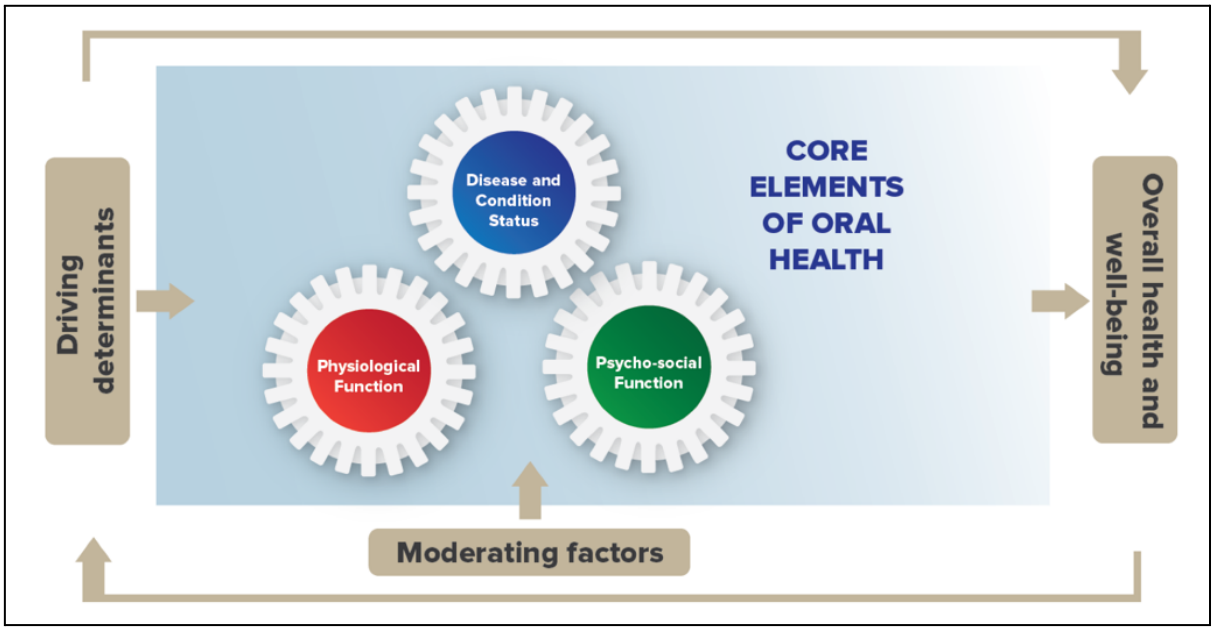


Figure 2.2: Framework for oral health definition according to FDI.
(Copyright: FDI World Dental Federation 2016)

By linking the understanding of oral health to the definition of health, wide crosslines can be noted. The World Health Organisation defines health as “a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity” (WHO 2006). It can be concluded that a state of health cannot be achieved without achieving functional and healthy oral apparatus. Although the definition of health is challenged as being very optimistic, it can still be related to maintaining good oral health.

Health is considered, also, a basic human right that depends on and is necessary to recognise other human rights (United Nations 1948). Therefore, health can be considered an end *per se* and a means to an end. This argument has been largely defended by researchers who look at health inequalities and why some categories are healthier than others. Amartya Sen and Michael Marmot, for example, are pioneers in this field and argue that for one to achieve good health, it is necessary to observe the wider social and environmental conditions that shape and limit his/her choices (Sen 2002; Marmot 2017). Most importantly, these researchers, as well as many others, insist on the point that health cannot be reduced to the provision of healthcare in any situation and to improve health and reduce health inequalities, other components of the environment should be tackled (Sen 2002; Marmot 2017). These include the social, political and material components and are referred to as the social determinants of health. According to the World Health Organisation (WHO), “social determinants of health (SDH) are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life” (WHO 1998).

Large national studies, most notably the Black Report and *The Health Divide* (Black et al. 1992) were released in 1980 and 1987 respectively and formed the strongest evidence, at that time, of the link between the socio-economic environment and health. Subsequent studies followed emphasising this link and attempting to explain the pathways from material and social conditions to health outcomes. Marmot and colleagues conducted the Whitehall II study (Marmot et al. 1991), whose findings supported those of Whitehall I study (Marmot et al. 1978). The findings suggest a combination of pathways that render civil servants in lower grades more likely to develop coronary heart diseases which include processes of social selection, behavioural clustering, materialist explanation and relative deprivation (which Marmot referred to as the 'status syndrome') (Marmot et al. 1991).

Later, Link and Phelan (1995) proposed the theory of fundamental causation by emphasising the importance of contextualising risk factors. Link and Phelan (1995) argue that only by contextualising risk factors, the direction of the relationship between risk factors and ill-health could be made. Moreover, the direction of the relationship sets the responsibility within either the individual or the policies. Failure to contextualise the risk factors ends up with victim blaming and nothing is done to address the roots of the problem. Link and Phelan (1995) argue that there are some factors that are fundamental causes of the relationship between context and health. These fundamental causes are characterised by some attributes. First, fundamental causes determine access to resources that either lower exposure to risk factors or minimise the consequences of diseases (Link and Phelan 1995). Resources, do not only include money; rather, they extend to power, prestige and social networking (Link and Phelan 1995). Second, fundamental causes tend to change over time by changing the risk factors associated with ill-health and knowledge about diseases (Link and Phelan 1995). For example, as lower socioeconomic status was once associated with higher vulnerability for infectious diseases, it is nowadays associated with a series of other diseases; however, the fundamental cause- low socioeconomic status- remained relevant. Third, fundamental causes, by virtue of determining access to broad resources, are associated with multiple risk factors and determine multiple disease outcomes (Link and Phelan 1995). Hence, addressing single risk factors will fail to bring about improvements in health or lower inequalities in disease distribution. Any attempt to address these fundamental causes should address the inequalities associated with the distribution of these fundamental causes (Link and Phelan 1995).

The work of Wilkinson and Pickett (2009) (reviewed also in Wilkinson and Pickett (2017)) is, also, a prominent account of the social determinants of health. They suggest that the social determinants play their role in determining one's health through psychological stress and what matters is not only the degree of absolute deprivation; rather, it is the relative deprivation and where one stands in the social ladder that really determines health

outcomes. Many of these ideas have subsequently informed the World Health Organisation's (WHO) report in 1998.

The World Health Organisation (WHO) in 1998 published a report, Social Determinants of Health: The Solid Facts, to provide up-to-date recommendations based on evidence to feed national and international health policies (Wilkinson et al. 1998). The report was updated to include new evidence (Wilkinson and Marmot 2003). Collectively, such evidence contributes to the theorisation of health in a framework of social determinants of health in which determinants refer to the 'causes of causes' and leave the discussion on risk factors to elaborate on why these risk factors accumulate in the first place.

Solar and Irwin (2010) reviewed different frameworks that attempt to explain the social determinants of health. This forms the basis to guide the Commission on Social Determinants of Health in its task and produce a comprehensive framework that summarises action to be taken at different levels. The most important highlight in Solar and Irwin's report is the vision of health as a social phenomenon; that is the social production of health (Solar and Irwin 2010). Reflecting on this, the social structure and interactions between components of any structure can produce a medium promoting or compromising health. Solar and Irwin (2010) included a comprehensive framework that takes various levels of social determinants of health into account when planning policies and actions (Figure 2.4).

Drawing on the above discussion on SDH, it is justified to argue that Oral health is integral to general health and wellbeing (Petersen 2003). This relationship can be explained by taking into consideration that oral diseases share common risk factors with systemic diseases (Petersen 2003; Watt and Sheiham 2012). Therefore, oral health inequalities are linked to the adverse distribution of social determinants of health in the same manner that general health is (Marmot and Bell 2011; Sheiham 2000; Watt 2007).

Evidence on a bidirectional pathway from oral health to general health and vice versa is supported by strong research. For example, dental caries affects almost half of the population worldwide and untreated dental decay is the most prevalent health condition in the world, despite being entirely preventable (Kassebaum et al. 2015). This condition is proven to be a risk factor for other physical and psychological disorders. Untreated decay and its complications including pain and discomfort are associated with lower weight gain and disturbed growth among children (Sheiham 2006). Lower scores of quality of life and lower self-esteem are also recorded among children with untreated cavities (Moynihan and Petersen 2004; Sheiham 2006). Severe caries can contribute to failure to thrive among children (Sheiham 2006).

Besides, the relationship between dental caries and malnutrition among children is well established. Children who are undernourished have a higher probability of having more severe caries lesions compared to others (Moynihan and Petersen 2004; Sheiham 2006). Early childhood caries among children of lower socioeconomic status has consequences on deteriorating the quality of life even further. These include hospitalisation, emergency dental visits, low school achievement and higher cost for parents who take time off work to accompany their children to the dentist (Sheiham 2006). Seirawan et al. (2012) supports this argument. Results suggest that among disadvantaged elementary and high school children in Los Angeles, USA, children with tooth pain were four times more likely to have low grades; missed school days were more common among children with no access to dental care; and parents had on average missed two and a half days yearly for their children's dental problems (Seirawan et al. 2012).

In addition, strong evidence exists that supports a relationship between maternal oral health and adverse birth outcomes (Teng et al. 2002; Boggess and Edelstein 2006). Periodontal diseases during pregnancy are associated with preterm birth, low birth weight and preeclampsia (Boggess and Edelstein 2006). As maternal oral flora can be transmitted to newborns, unhealthy maternal oral flora puts children at higher risk of developing dental caries (Boggess and Edelstein 2006).

Consequences of dental diseases are also evident among adults. Accumulative evidence suggests an association between dental infections and each of atherosclerosis and thrombosis (Slavkin and Baum 2012; Teng et al. 2002), coronary heart disease (Servidio et al. 2004), diabetes mellitus (Teng et al. 2002), respiratory tract infections (Teng et al. 2002), and chronic obstructive pulmonary disease (Teng et al. 2002). All these relationships confirm the strong association of dental health and general health in a way that favourable oral health can be a goal per se (Boggess and Edelstein 2006) and as a means to fulfil other functions and improve the quality of life for individuals.

Consequently, existing literature realises the importance of oral health as a component of overall general health and wellbeing and that oral health, as is the case of general health, is determined by the physical and social conditions in one's environment. Hence, the argument can proceed to visualise oral health as a social phenomenon in the same way that health is referred to in Solar and Irwin's report (Solar and Irwin 2010). By arriving at this conclusion, it is justified to question what impacts a certain social space also has impacts on oral health, as well as general health. Whether social (dis)organisation and the resultant social order in a specific space can affect oral health outcomes is a research topic that needs to be explored.

So whilst the general consensus exists in relation to the social determinants of health, it is less clear how precisely this works in relation to refugee camps.

This argument is very relevant to the peculiar social situation of refugee camps but there are no detailed studies looking at how these various elements of social structure operate in these situations to influence or shape oral health. People living in refugee camps have their social structure disrupted (as will be discussed later). In addition, any discourse on SDH might be of more importance to camp residents. By discussing the physical and social components in refugee camps and how these can bring about the susceptibility to oral health (or disease), an understanding of the social organisation (or disorganisation) of oral health and disease can be made. This will also have consequent implications for the eventual development and delivery of oral health-promoting programmes for camp residents. It is for this reason that the next section explores the social and organisational characteristics of refugee camps. It is these factors that may primarily explain the oral health status of camp residents. The discussion describes living in a refugee camp as 'a general social determinant' for this category of social organisation that in turn determines the agency of participants (camp residents) and power relations between camp residents and other components of the space in which they reside. The following discussion extends into legislation and global policies that engender powerful vs. powerless and agentic vs. agentless participants. An emphasis is put on Zaatari refugee camp in Jordan as the case study of this project.

2.2.2. Characteristics of Refugee Camps

Refugee camps worldwide share certain defining characteristics that make them unique and different from any other setting. Understanding these peculiar characteristics is important in better understanding how the social determinants of health will operate in these settings. Referring back to the definition of refugee camps stated earlier (UNHCR 2014), the first two defining characteristics are; the spatial and temporal nature of refugee camps. Refugee camps are built on a geographical area decided by the UNHCR and host government during the initial negotiations that take place, usually within the first 72 hours of the start of a mass refugee influx (UNHCR 2020e). The location is determined according to certain factors that are believed to be the best compromise between refugees' safety and wellbeing and states' internal affairs and interests (UNHCR 2020e). UNHCR (2020e) identifies the location as one that corresponds to the geographical, climate and cultural characteristics of the area according to the availability of local skills and construction materials that make it liveable to residents and accessible to humanitarian aid. Other than being established in a predetermined area, the spatial characteristic of refugee camps exceeds merely this simple

definition to involve containment of residents and constraints on moving in or out of this space (Al-Nassir 2016; McConnachie 2016; Turner 2016).

Furthermore, attempts to contain refugees in refugee camps have been justified by both host governments and humanitarian agencies. Refugee camps are claimed to confine refugees in a space so that humanitarian aid can be directed to them (Ramadan 2013). Host governments insist, on the other hand, on containing refugees in a way that they are always visible in order to exclude options that attempt to un-see refugees by global society and, therefore, is beneficial to protect refugees' own interests. This can be partially true; however, by favouring refugee camps as a solution to the refugee crisis, host governments try to protect their own interests as well. Host governments, in this way, prevent troubling internal security and social fabric by excluding categories that are thought to violate these interests (Ramadan 2013). Xenophobic reactions, cultural and social remoteness as well as economic hardship in hosting countries are interdependent and exist mutually. This results in competition between refugees and citizens over resources and values and gives governments the excuse to favour refugee camps over other solutions.

In addition, power imbalances and pressure played by powerful countries encourage adopting refugee camps as a space for controlling undesirable people (Sigona 2015). Powerful states argue that refugees, if not contained and provided aid in refugee camps, try to get asylum in Western countries; a situation which these countries do not want to end up with. Therefore, it can be understood why most financial and other humanitarian aid is directed toward refugee camps, not only from a moral stance but also as a means to convince refugees that if they stay in these camps, they are eligible for a much higher degree of aid (Ramadan 2013). Understanding these tensions, refugee camps turn into spaces of exclusion (from the surrounding cultural, political and normal order of things) and attempts to make these spaces more visible for humanitarian aid tend to make them, at the same time, invisible by making refugees marginalised, liminal categories (Sigona 2015). In addition, containing refugees in camps melts all other individual variations among them and refugees seem to lack all other identities apart from being 'refugees'. They are more visible as a category but invisible as individuals (Sigona 2015; McConnachie 2016).

The second defining characteristic of a refugee camp is its temporal nature. Being established as an emergency response implies being temporary settlements and they are meant to be so (Ramadan 2013; Al-Nassir 2016). Nevertheless, as discussed above, many refugee camps end up as protracted refugee situations and spaces where people once believed to be transient settlements turn to be indefinitely temporary (Ramadan 2013; McConnachie 2016). Residence in refugee camps is temporary and refugees do not know

when this temporality will end and they might move into more permanent situations. This temporariness affects every aspect of the camp starting from planning of the camp, constructing shelters and providing services. Every aspect of daily living becomes temporary; people live awaiting the day they leave the camp and this prevents a stable lifestyle from commencing there. The uncertainty that refugees have regarding their future is considerable and it drives their future behaviours and attitudes. It may well also act as a 'fundamental cause' related to health in general (Link and Phelan 1995) but very little is known about how this actually might work in these contexts.

Other defining characteristics are closely related to the first two and could be considered the outcomes of spatiality and temporality of refugee camps. Refugee camps, as spaces of exclusion and encampment, refrain residents from any political belongings and are the perfect places to play governance over this vulnerable population (McConnachie 2016). The temporality and spatiality of refugee camps produce individuals dependent on humanitarian assistance to preserve daily living and this dependence increases day after day while refugees are contained in this space indefinitely. Consequently, the literature on these camps indicates that this results in 'powerless individuals' lacking agency and losing their original identities (Ramadan 2013; Sigona 2015). Moreover, unlike everywhere else outside the camp, no specific law is enforced there (Ramadan 2013). Instead, what people inside camps are ruled by are legislations and regulations decided upon between host governments, humanitarian agencies and powerful states (Marx 1990). Refugees are powerless subjects, rather than being agents, forced to accept being regulated on simple human rights issues such as mobility, access to water, health services and privacy. This is clearly stated in UNHCR's policy on alternatives to camps; refugee camps imply some degree of human rights violations (UNHCR 2014).

The disrupted social order, once refugees enter the camp, adds to the previously mentioned aspects. Collectively, they create a political medium that deals with a category of the population as a collective body by victimising this category and rendering their utmost priority as one of being safe and secure regardless of other concerns (Sigona 2015; McConnachie 2016). By coercing refugees into this realm, camps can be seen as spaces of exception and containment similar to the way Agamben described- *Homo Sacer*[2] or bare life (Marx 1990; Williams 1990; Ramadan 2013; Sigona 2015; McConnachie 2016). Thus, refugees are seen to possess biological lives and do not qualify to be full political citizens (Ramadan 2013; Sigona 2015).

[2] *Homo Sacer* or sacred man according to Agamben refers to the situation when an individual is perceived as a biological life stripped of all political qualities. The priority is thus given to keeping this individual alive rather than the way he/she lives his/her life.

On the other hand, other researchers have challenged the conception that refugee camps are apolitical spaces (Ramadan 2013; Sigona 2015; Al-Nassir 2016). Being produced through political conflicts, camps can once again give birth to new forms of power and identity (Sigona 2015). Sovereignty and governance that play a major role in the initiation and maintenance of refugee camps result from global politics and tensions. Hence, the camp as a phenomenon is a highly political issue. Refugees recognise attempts to marginalise them from the normal order of things and dehumanise them. They, also, recognise the sovereign powers controlling them and issuing immigration policies whose interests always guarantee maintaining sovereign states' powers that continually place refugees under constant scrutiny (Ramadan 2013). This creates an opportunity for refugees to hyper-politicise their existence once again to call for justice and welfare in a way that citizens enjoy (Ramadan 2013). This is mostly seen in camps whose residents are the product of existential cases such as in the case of Palestinian refugees. Palestinian refugees, regardless of being denied citizenship such as in Lebanon, struggle to spot the light over their case and preserve their right to return (Ramadan 2013). Camps, in this case, become spaces for political action (Ramadan 2013).

Other researchers insist that one cannot deny the role played by humanitarian programmes in refugee camps and such programmes should not always be seen as subjectifying refugees. Rather, through enrolling in humanitarian developmental programmes, especially schools, refugees can be rehabilitated to fit as citizens as soon as a more permanent solution is available (Fresia and Von Känel 2015). In general, refugee camps can be political and apolitical spaces at the same time.

2.2.3. Social Organisation Inside the Camp

The social life inside refugee camps is unique and like nothing outside. The specificity of social organisation in camps originates mainly from the exceptionality of the space. Discourses that attempt to reproduce a description of social life inside the camp almost always start by portraying the camp as a space of exception and refer to Agamben's literature of *Homo Sacer* (Sigona 2015), whereby refugee camps are equated with concentration camps and refugees are described as having been reduced to 'bare life'. However, many academics later challenged Agamben's analysis, arguing that it strips refugees of agency, and supported their position with empirical research in refugee camps around the world.

If an adequate description of social life in refugee camps is to be produced, going back in time to the pre-migration period is necessary as changes happened then on the family and

society level carry a huge impact on any social order organised later (Williams 1990). As the drivers to leave home countries and flee abroad are often related to security and safety such as in the case of wars, consequences are also related to such drivers. Men, for example, are usually involved in wars to defend their lands and beliefs which makes them more vulnerable to injuries, torture or even being killed. This creates a gap in family structure and gradually shifts roles within the family; women start to take more responsibility for providing for households, decision-making as well as their normal role of child-raising (Williams 1990). Furthermore, as the situation persists, extended families which in many cases, form units of society, break down to form multiple nuclear families that in addition to being taken away from usual social life are further burdened by being taken away from other kinship and social supporting networks (Williams 1990). Individuals and families start to flee their home countries to find asylum abroad, or in cases of internal displacement within their home countries. These groups of people usually leave behind everything, from material possessions, friends and family members, to community, culture, history and identity (Marx 1990; Williams 1990; Coker 2004). Refugees can be left with a feeling of being uprooted which is complicated after reaching host countries (Williams 1990).

Once the refugees arrive at the camp, many international and national NGOs and governmental agencies start the emergency response which prioritise medical aid, shelter and food supply (Waldman and Williams 2001). This initial phase, although transient, has an enduring impact of forming a sense of dependence that persists into the post-emergency phase (Williams 1990; Williams 2001; Waldman and Williams 2001). Later, refugees, living in shelters that resemble everything but stable settlements, realise that they lack a community. The social order is heavily disrupted, support networks and power relations are not yet shaped (Williams 1990; Faas et al. 2015; Sigona 2015; Turner 2016). Thereafter, the camp and camp components (refugees, aid agencies and interactions between them) either reproduce original social order and power relations or create an opportunity for new ones to originate (Williams 1990; Ramadan 2013; Faas et al. 2015; Sigona 2015; Turner 2016). Multiple factors interact to determine how the new social organisation looks starting from urban planning of shelters and facilities, presence of family members, availability of job opportunities, and policies of migration and resettlement among others (Clinton-Davis and Fassil 1992).

The nuclear family forms the basic unit of the society in the camp and the nucleus from which a new community can be re-established (Williams 1990). Having separated from their extended families, nuclear families now suffer the stress of raising their children without the buffering effect that older family members used to provide through support and acting as a source of information (Williams 1990). External sources of stress are even more challenging.

Men find it difficult to find jobs within this harsh environment especially in case of limitations on mobility and lack of skills as available limited opportunities might not be consistent with refugees' qualifications or original occupations. Hence, men find themselves coerced into either relying on humanitarian assistance or spending long periods outside the camp, in case they get permission to work in the host society. In many cases, men lack a sense of self-sufficiency (Williams 1990).

Females, on the other hand, keep their original role within the family. They are still responsible for rearing their children. However, studies show that women are more able to cope with the new environment, make new social networks and incorporate them into new jobs (Williams 1990). Consequently, women in camps hold new, usually higher, responsibilities and more families become female-headed (Williams 1990). This is especially true in light of limited facilities inside their shelters such as having to share bathrooms with other families, very basic, or no, kitchens and crowded spaces. Women in Al-Ein refugee camp in Palestine express these difficulties; the privacy of women is compromised (Al-Khatib et al. 2005). Overall, tensions and pressures within families lead to major role shifts (Williams 1990; Clinton-Davis and Fassil 1992; Canefe 2018) as well as a shift in the locus of control of the family from internal to external (Williams 1990).

Hardship within families also forces families to push their children into performing some type of work either as part of the family's household jobs such as carrying water from water units or outside in the hope of gaining some money to support their parents (Williams 1990). Children in Zaatari camp, for example, transfer goods from the market into residents' shelters for money to support their families (Dalal 2015). This is seen mostly in cases where the father is absent (Williams 1990). In addition, the availability of schooling and leisure facilities for children affect the outcomes of being raised in a camp as these mitigate the trauma and difficult memories that children carry throughout their migration journey. Fresia and Von Känel (2015) argue that schools in Nyarugusu refugee camp in Tanzania can act as a starting point where refugee children are reintegrated into national order as they are taught the Congolese curriculum. By this, children are thought to be rehabilitated to be fit for repatriation to their home country and challenge their identity and citizenship rights (Fresia and Von Känel 2015). Resulting from disrupted social orders, people in refugee camps can lack a sense of community and belonging (Marx 1990).

Being under control by policies of the encampment, refugees suffer from being invisible and highly anonymous (Sigona 2015). Global policies, applied directly or indirectly, act to confine refugees into camps. Refugees see the only way to get out into the normal order of things is by being resettled into a third country or integrated into the host society and they spend their

time waiting for this moment. Unfortunately, millions of refugees have to wait for too long, if ever. Many people apply for resettlement many times and their applications are usually rejected. In Jordan, for instance, where hundreds of thousands of refugees are living transiently, a target of only 5,500 cases of all refugees, inside and outside camps, is set for resettlement each year (UNHCR 2020b). Sovereign powers played by major countries in the world, play an important role here (Bun 1991). This is added to the initial selection process that happens before or immediately after leaving home countries as refugees who are more qualified academically or financially do not end up, usually, in refugee camps. The apparent consequence is an ongoing social selection process (Williams 1990) and downward social mobility (Clinton-Davis and Fassil 1992) leaving behind the least qualified, most medically desiring and vulnerable refugees. As stated earlier, the process of social mobility is apparent in Jordan; wealthy refugees from Iraq and Syria can have an 'investor visa' and start businesses (Mansour-Ille et al. 2018). In addition, as Palestinian refugee camps in Jordan were not prohibiting residents from mobilising in and out of the camps, residents with higher economic and educational levels were more likely to move out of the camp in a process of upward social mobility in a direction from the camp outside leaving the most deprived behind (Mansour-Ille et al. 2018).

Consequently, refugees find themselves confined within this spatiality and indeterminate temporality of the camp (Ramadan 2013). Forces that produce refugees in the first place are the same ones that have the power to resolve their struggle (Marx 1990; Bun 1991; Coker 2004; Sigona 2015). Hence, none of future plans and dreams make sense for camp residents and a sense of hopelessness surpasses other positive senses as long as they are confined to camps and are powerless to create other opportunities (Williams 1990; Bun 1991). Camp residents are often disatisfied with their present situation and their future prospects (Williams 1990). Evidence of this can be found through many manifestations in the camp. For example, Palestinian refugees in one of refugee camps in Jordan revealed that they are not willing to spend a significant amount of money on house maintenance as they do not consider these houses to be theirs (Alnsour and Meaton 2014).

This is complicated by dependency and loss of agency that grows as refugees spend longer time inside the camp. Power inequalities and humanitarian programmes play an important role in this regard, attempting to reduce refugees' to biological lives whose most important need is to be kept alive (Williams 1990; Bun 1991). Therefore, exclusion and 'othering'[3] are institutionalised in refugee camps and the situation is worse in unofficial camps where refugees are being marginalised by policies that render residents of these camps undesirable

[3] Othering refers to the practice of excluding a person or a group og people who do not fit within the norms of a specific social group and displacing them to the margins of this society (Staszak 2008).

and dangerous (Marx 1990; Bun 1991; Pavlish et al. 2012; Ramadan 2013; Dhesi et al. 2018). Refugees are denied the right to access facilities and services that are provided based on citizenship (Marx 1990; Dhesi et al. 2018). Nevertheless, sometimes powerlessness and marginalisation are challenged by opposing voices, whether through humanitarian programmes that prioritise sustainable human development or refugees themselves, by highlighting agency rather than victimising, and reincorporation into normal order rather than exclusion (Fresia and Von Känel 2015). Many researchers support this argument and highlight the ability of refugees to self-organise and reproduce a system of their own by gaining agency and refraining from the traditional view of the camp as a space of exception (Ramadan 2013; Sigona 2015; Al-Nassir 2016).

In the case of Zaatari camp, research mainly in the field of social sciences and urban planning, reflects on the agency and power relations among dwellers and between them and administering bodies. As in other refugee camps, at the initial periods following its establishment, planning and management of Zaatari was supposed to conform to UNHCR Policy on Camp Planning. This is evident from early photos of the camp (Dalal 2020) which represent rows of shelters extending in a way similar to military camps. Aid assistance and delivery of services, as discussed earlier, were also emphasising the 'victimisation' of Zaatari's dwellers and reducing them to recipients of aid.

Zaatari's residents, however, challenge this connotation through attitudes and actions that reflect the opposite. The residents moved their shelters and arranged them in a way that conformed to their social and cultural background (Dalal 2015; Dalal 2020; Alshawawreh et al. 2017; Hart et al. 2018). The new layout of the shelters allowed more space for communal interaction and reiterated the nature of extended families lived back in Syria (Alshawawreh et al. 2017; Dalal 2020). Residents abandoned communal facilities as it was not acceptable in their religious and cultural norms (Alshawawreh et al. 2017; Hart et al. 2018; Dalal 2020). Instead, they use the limited resources and materials available in the surrounding environment to make necessary extensions and adjustments to their shelters (Dalal 2015; Dalal 2020; Alshawawreh et al. 2017).

Dalal collected data from several studies in Zaatari camp that highlight the agency of its residents through the urban planning process of the camp. In one study, the establishment of a market inside the camp was seen as a means of rejecting being excluded from the normal order of things (Dalal 2015). Refugees in Zaatari established a market that is now composed of more than 3,000 shops and businesses (UNHCR 2018c). The market provides all kinds of services a city is expected to do such as food catering, barber shops, clothes, etc. (Dalal 2015). The opportunities that the market makes available extend beyond the mere

enhancement of welfare of residents and the provision of a range of commodities to residents. It is, also, a representation of their persistence and willingness to go back to normal life especially as the situation is still uncertain for them.

Another example of the uniqueness of Zaatari's residents is the initiation of a system of informal legislations that regulates their daily lives (Riach and James 2016). These legislations stem from the cultural, religious and moral values that insist on solidarity and commitment to community (Riach and James 2016). This system sometimes competes with the formal legislation system imposed by the State and international system but residents find it a haven to regulate and solve their arising conflicts and issues. Riach and James (2016) argue that this customary system provides greater access and faster resolution of any issue as residents do not need to comply with formal procedure which can take a long time and can imply several cultural barriers to be utilised. However, there is a concern that these legislations can reinforce power imbalances among residents themselves and establish patriarchal dilemmas as well as unequal access to vulnerable categories such as women (Riach and James 2016). The fear of excluding women is very relevant as women are usually the victims of sexual and gender-based violence.

These customary set of legislations are referred to in Dalal's (2015) paper where the establishment of a marketplace does not have any formal property laws. However, when residents were asked how they guarantee their ownership, they denied this possibility and insisted that moral and cultural norms prevent them from doing so. On the other hand, Dalal (2015) raises a concern about the possibility of creating social hierarchies as a result of unequal concessions that some refugees give themselves regarding their capability to launch a business. Some residents rely on other kinship and relationships outside the camp to provide material commodities to traders inside the camp usually through informal pathways such as smuggling (Dalal 2015).

The case of Zaatari, therefore, highlights the uniqueness of every camp situation and the inability to compare different settings regardless of their general similarities. In addition, power is clearly operating in how the camp is shaped socially with different forms of enforcement and resistance characterising the shape of social life. This can be seen from another point of view as maintaining residents under control and applying higher sovereignty over them. Residents in Zaatari were not praised for converting the camp into a more liveable space from their perspectives; rather, the camp was described as highly chaotic in a way similar to 'ghettos' and slums (Dalal 2020). It can be seen, then, that refugees can resist attempts to contain them and exclude them from the normal social order by establishing their own.

Drawing upon the above discussion, it is claimed that living in a refugee camp affects almost every daily practice (Sigona 2015) and any attempt to describe the social life in refugee camps should be put into the wider socio-political context (Marx 1990; Bun 1991; Ramadan 2013; Sigona 2015). Until a more sustainable solution is provided, refugees have to survive these conditions trying to cope and create alternative opportunities for socialisation and making sense of their lives.

By arguing that the planning and social organisation of a refugee camp, Zaatari in our case, affects every aspect of daily life. What this study is interested in is how this links to oral health. The next section reviews literature on health and oral health in refugee camps attempting to grasp points that describe how oral health, which is an integral part of general health, can be (dis)organised by living in a refugee camp.

2.2.4. Health in Refugee Camps

Proceeding from the above discussion, general (and oral) health is determined by a set of social determinants and living in a refugee camp can be the fundamental determinant of populations living there. This section will review literature that describes health and oral health in refugee camps and attempt to support (or debunk) this argument. In addition, pathways from experiencing certain living conditions in refugee camps and health consequences will be identified in existing literature (if any).

2.2.4.1. General Health in Refugee Camps

Refugees suffer a variety of health risks and violations of human rights that render them especially prone to diseases. Steele et al. (2002) state that social determinants are more relevant for migrants' including refugees' health than non-migrants which makes them highly vulnerable to policy changes. The World Health Organisation recognises migration as a social determinant of health (WHO 2019). Many researchers support the inclusion of migration *per se* as a social determinant of health as it is associated with compromising conditions during the migration journey and beyond affecting directly or indirectly migrant health (Davies et al. 2009; Castañeda et al. 2015; IOM 2017; Fortier et al. 2017). The International Organisation for Migration (IOM) argues that migration is not a health risk on its own (Figure 2.3); but conditions surrounding the migration process make migrants, especially forced migrants, particularly vulnerable (IOM 2017; Fortier et al. 2017). Therefore, refugee health is determined by the interaction of a complex interplay of pre-migration and

post-migration circumstances (Davies et al. 2009; Dowling et al. 2019; Pfarrawaller and Suris 2012).

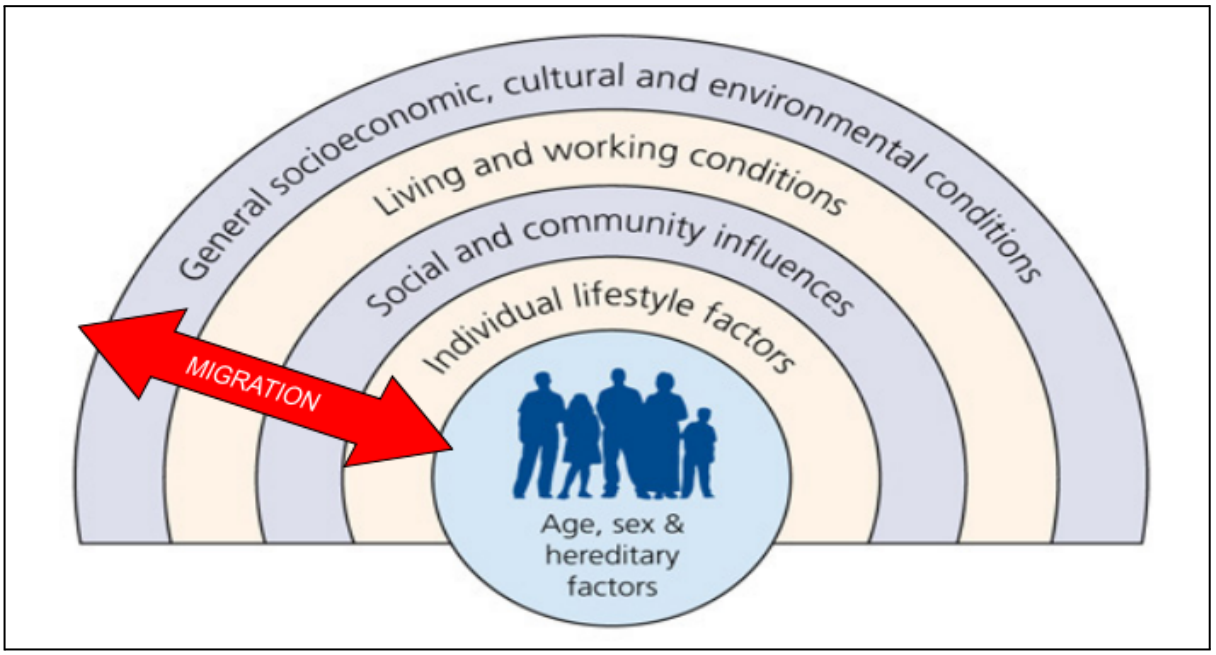


Figure 2.3: Migration cuts across the social determinants of health.
(Copyright: Fortier et al. International organisation for Migration. 2017)

It is important to realise that refugee populations are not homogenous (Burnett and Peel 2001) and that what applies to one refugee in one country and in one context might not do so for another. Nevertheless, portraying refugees' health in the framework of social determinants of health rather than the behavioural framework better explains health outcomes in this population and allows for action to address upstream determinants without the risk of blame being put on refugees (Castañeda et al. 2015).

Similarly, there are specific vulnerabilities that refugees in refugee camps suffer that render them more susceptible to adverse health outcomes. Luxemburger et al. (1998) claim that risk factors for most deaths in refugee camps are preventable. Refugees might stay in refugee camps for protracted periods where basic life necessities do not exist or are far from adequate. Understanding the conditions that are unique to refugee camps, starting from the justification of their construction, planning of the camps and policies that administer the provision of services there, is necessary for better comprehension of the situation.

Studies on urban planning have highlighted the effect the built environment can have on physical as well as psychological and social health. Even in cases where standards of camp planning (UNHCR 2020e) are to be met to their minimum, it is considered inadequate in the long run. It can be understood, then, how these are more deficient in camps where in many cases there are gaps between expected standards and reality (Alshawawreh et al. 2017).

Alshawawreh and colleagues explored the amendments that refugees in Zaatari and Azraq camps in Jordan did to their shelters to make them more culturally appropriate. Amendments such as closing some windows for privacy reasons, introducing drainage pits, and making extensions using sheets, wood and canvas may increase the health risks of residents by worsening the ventilation of the shelters and making shelters more flammable (Alshawawreh et al. 2017). Planning of housing in refugee camps may not, also, correspond to the government's planning standards such as in one of the Palestinian refugee camps in Jordan where, despite the government's regulations to forbid attached houses, they are the most prevalent (Alnsour and Meaton 2014). Alnsour and Meaton (2014) conducted a questionnaire survey in conjunction with fieldwork visits to a refugee camp for Palestinians in Jordan and described housing there as substandard. Refugees suffered adverse housing conditions related to humidity and lack of ventilation (Alnsour and Meaton 2014) that can cause respiratory health problems such as asthma in children (Fisk et al. 2010). People also complained of inadequate provision of services such as water, sewage and electricity as well as poorly insulated houses; factors that add extra burden on families who already suffer economic disparity (Alnsour and Meaton 2014). Furthermore, inadequately met standards on housing area, poor ventilation and small crowded shelters are findings stated in other studies (Al-Khatib et al. 2005; Habib et al. 2006; Alnsour and Meaton 2014; Alshawawreh et al. 2017; Stranges and Wolf 2018; Annunziata and Kadir 2016; IOM 2017).

Al-Khatib and colleagues (2005) conducted a survey in Al-Ein refugee camp in Palestine where the study participants (150 women) stated that their houses were unhealthy and crowded and they suffered very low income. In the same study, 87.4% of married women stated they suffered some physical illness including abortion, pregnancy complications, and anaemia complicated by inadequate ante-natal care (Al-Khatib et al. 2005). The significant association between housing conditions and health and wellbeing was also reported by the vast majority of the study sample (96.7%) (Al-Khatib et al. 2005). Eighty per cent of Palestinian refugees (860 households) in a camp in Lebanon reported poor ventilation while 66% reported humidity problems with 69.5% of the households having at least one member suffering health illnesses (Habib et al. 2006). Poor housing conditions were shown to be significantly positively associated with the presence of illnesses among this population (Habib et al. 2006).

Characteristics of the shelters themselves have consequences for the health and wellbeing of residents such as construction materials, availability of facilities and respect for privacy. For example, Albadra et al. (2018) conducted summer and winter surveys in Azraq and Zaatari refugee camps in Jordan to investigate the thermal performance of the shelters there. Having to live in camps for decades, shelters should be resistant to weather changes

especially when situated in areas of extreme climate. Camp residents consider their shelters to be incapable of protecting them from weather changes and are highly dissatisfied (Albadra et al. 2018). These findings are compatible with Al-Rousan and colleagues (2018) who conducted a mixed-method research study involving Syrian refugees from Zaatari and Azraq camps in Jordan, key informants and healthcare providers. The findings of the study support the argument that respiratory illnesses are exacerbated by the desert environment in both camps (Al-Rousan et al. 2018).

Chambers and colleagues (2018) insist on the importance of considering the outcomes of the camp environment on mental health. The authors recommend taking this into consideration in camp planning and design and favouring designs that reduce stressors rather than provoking them (Chambers et al. 2018). By performing a spatial analysis in Calais refugee camp in France (an informal camp not permitted by the authorities that was demolished in 2016) and Zaatari camp (a formal camp organised by the authorities), Chambers and colleagues argue that Zaatari structure poses high stressful impact on its residents especially to those diagnosed with posttraumatic stress disorder (PTSD). The inability of refugees to gain jobs inside or outside the camp guarantees that refugees continue to suffer low socioeconomic status (Annunziata and Kadir 2016; Habib et al. 2006) which further limits refugees' control over their choices, prevents them from living in dignity and diminishes their agency. A qualitative ethnographic study involving Karen women in refugee camps along the Thai-Burman borders argues that health and livelihood overlap in refugee camps as women linked health to their ability to work and play (Hoffman et al. 2019). The temporary living in the camp with limited future vision impacted behaviours and activities according to the participants who described how the absence of job opportunities left them passive recipients of humanitarian aid (Hoffman et al. 2019). These factors predispose refugees to adverse health outcomes especially those affecting their mental health. Toole (2007) and Williams (1990) report that refugees suffer severe anxiety and depression, especially in cases of high desire for security where refugee camps are located near borders of conflicts. In another example, Al-Hourani and colleagues (2019) report that Syrian refugee youth in Zaatari camp/Jordan express psychological problems that affect their sense of self and gratification. The outcomes of the cross-sectional questionnaire answered by 362 Syrian male refugees (aged 18-32 years) in Zaatari led the authors to conclude that living in the camp is a life crisis in itself (Al-Hourani et al. 2019). Higher levels of psychological stress among refugee children are also reported in Azraq refugee camp/Jordan which is argued to be associated with exposure to war (Betawi 2019). Clinton-Davis and Fassil (1992) notice that despite the higher levels of mental illnesses in refugee camps, residents do not usually receive adequate support. Cultural beliefs regarding mental illnesses and the tendency of

some cultures to somatise such problems make addressing them more difficult (Clinton-Davis and Fassil 1992). Loss of social networks and a sense of community preclude refugees from an important buffering factor to encounter compromised living conditions (Pedersen 2002; Pavlish et al. 2012). On the other hand, Al-Hourani et al. (2019) describe religion as the most common coping mechanism for psychological distress among male youth in Zaatari. Smoking is adopted as a coping mechanism in 68% of participants from Zaatari as a result of high anxiety and depression levels, although psychological problems are claimed by participants to mitigate after arriving at the camp due to a higher level of safety and security compared to when they were in Syria (Al-Fahoum et al. 2015). It is noteworthy that data for this study (Al-Fahoum et al. 2015) were collected in 2013, just after the establishment of the camp, which explains such results and renders the results inapplicable for protracted refugee camps.

The camp environment is also considered conducive to communicable diseases (Clinton-Davis and Fassil 1992). This can be explained by poor sanitation (Clinton-Davis and Fassil 1992; Al-Khatib et al. 2005; Dhesi et al. 2018; Pedersen 2002; IOM 2017), inadequate access to water (Pedersen 2002; Hoffman et al. 2019) and poor sewage infrastructure (Al-Khatib et al. 2005). Dhesi and colleagues (2018) describe the miserable living conditions in Calais refugee camp/France. All water samples collected contained a morbid level of *Enterobacter* Species and residents did not have water to wash fruit and vegetables with a risk of *E-coli* contamination; these bacteria species are linked to health illnesses that range from diarrhoea to potentially fatal illnesses (Dhesi et al. 2018). Shultz et al. (2009) conducted a retrospective study to explore the cholera outbreak that struck Kakuma refugee camp in Kenya in April 2005. The authors found that safe water storage conditions within the shelters were a protective factor against contracting the disease and recommended improving sanitary conditions and providing safe water to residents (Shultz et al. 2009). Children in Zaatari camp mainly seek care for acute infectious diseases which are attributed to living conditions in the camp by the research participants (Abbott et al. 2017).

Moreover, food insecurity is frequently reported in camps (Dhesi et al. 2018; Hoffman et al. 2019) as humanitarian aid during the emergency response is considered inadequate and does not last for long. Dhesi et al. (2018) report that refugees in Calais Camp/France only receive one free meal a day and even these rations cover only two-thirds of the population there. In the questionnaire, participants reported hunger and a lack of fruit and vegetables; findings were also observed during the fieldwork stage of the study (Dhesi et al. 2018). Food insecurity in refugee camps predisposes refugees to nutritional deficiencies and malnutrition, especially vulnerable categories: women, children and the elderly (Pedersen 2002; IOM 2017; Hossain et al. 2016). Surveys to explore the nutritional status among Syrian refugees

in Iraq, Lebanon and Jordan found that acute malnutrition was not common (Hossain et al. 2006). However, the levels of Anoemia in both children and non-pregnant women were highest in Zaatari camp (48.4% and 44.8% respectively) (Hossain et al. 2016). This is complicated by the deprivation that most refugees in camps suffer and which hinders them from providing for their households. Lutfy et al. (2014) conducted surveys among half of refugees resettled in the United States between 2004 and 2010 who were living in 22 refugee camps in eight countries. The results show that half of these refugee camps had global acute malnutrition among 15% of residents and anoemia prevalence in more than 40% of residents (Lutfy et al. 2014).

Many studies also report the higher-than-usual levels of domestic abuse (Toole 2008; Hoffman et al. 2019), sexual abuse (Pedersen 2002) and forced early marriages (Pavlish et al. 2012) that women suffer in refugee camps. As their stay at refugee camps extends for years, access to education, health promotion programmes and health services are also interrupted (Annunziata and Kadir 2016). The availability of health services in refugee camps does not meet the health needs of this population and impairs continuity of care for existing conditions (Davies et al. 2009; Toole 2008). For example, participants in Zaatari report insufficient delivery of healthcare services in the camp (Al-Fahoum et al. 2015; Al-Rousan et al. 2018; Abbott et al. 2017) which is exacerbated by the unavailability of medicines for commonly encountered health conditions in the camp, long waiting times and discrimination by healthcare providers (Al-Rousan et al. 2018). On the other hand, some points are stressed by participants as satisfactory regarding promoting health and access to healthcare. These include the availability of recreational activities for children, availability of mental healthcare clinics, vaccination campaigns and healthcare home visitors (Al-Rousan et al. 2018). Al-Fahoum et al. (2015) state that the delivery of healthcare to residents of the camp is generally acceptable taking into consideration the low resources that Jordan has. An online survey among 64 people working or volunteering in refugee camps in Greece identified areas such as access to primary healthcare, emergency care, secondary healthcare and access to medicines as either being served at a minimum level or nonexistent (Farmakioti et al. 2022).

To sum up, supporting the above-mentioned arguments that global policies make refugees and guarantee the continuation of refugee camps as settings of humanitarian aid and containment, it is, also, claimed that health in refugee camps is institutionalised (Dhesi et al. 2018). As discussed above, all manifestations of disrupted social order can be linked to the compromised health of the population involved. Policies that regulate every aspect of social and material lives in the camp can, in one way or another, contribute to adverse health outcomes among this population. This can be explained by contextualising health into the

broader ecological, political and social frameworks as is the case in interpreting social determinants of health. These arguments are supported by Pedersen (2002) who highlights the importance of redirecting attention to the lived experience of suffering in refugee camps and health outcomes by focusing on political and social determinants of health. Pedersen continues to argue that social epidemiologists and critical social theorists perspectives on health converge on the statement that structural inequalities are the most important determinants of health in a population (Pedersen 2002). Similar conclusions were made by Dhesi and colleagues (2018) whose findings, made by observing the highly miserable living conditions in Calais refugee camp, reflect the significant impact of the politics of exclusion in creating the 'biopolitical othering' that in turn may profoundly affect health.

2.2.4.2. Oral Health in Refugee Camps

The Social Determinants of Oral Health Inequities in Refugee Camps

In order to summarise the social determinants of oral health, the conceptual framework by Solar and Irwin (2010) is utilised (Fig 2.4). Solar and Irwin (2010) made a clear distinction in the accompanying document that social determinants of health inequities play at a higher level than social determinants of health. The former makes the structural determinants of socioeconomic and political context that determine the socioeconomic position, while the latter makes the intermediary determinants that determine the material circumstances in the immediate environment of individuals (Solar and Irwin 2010).

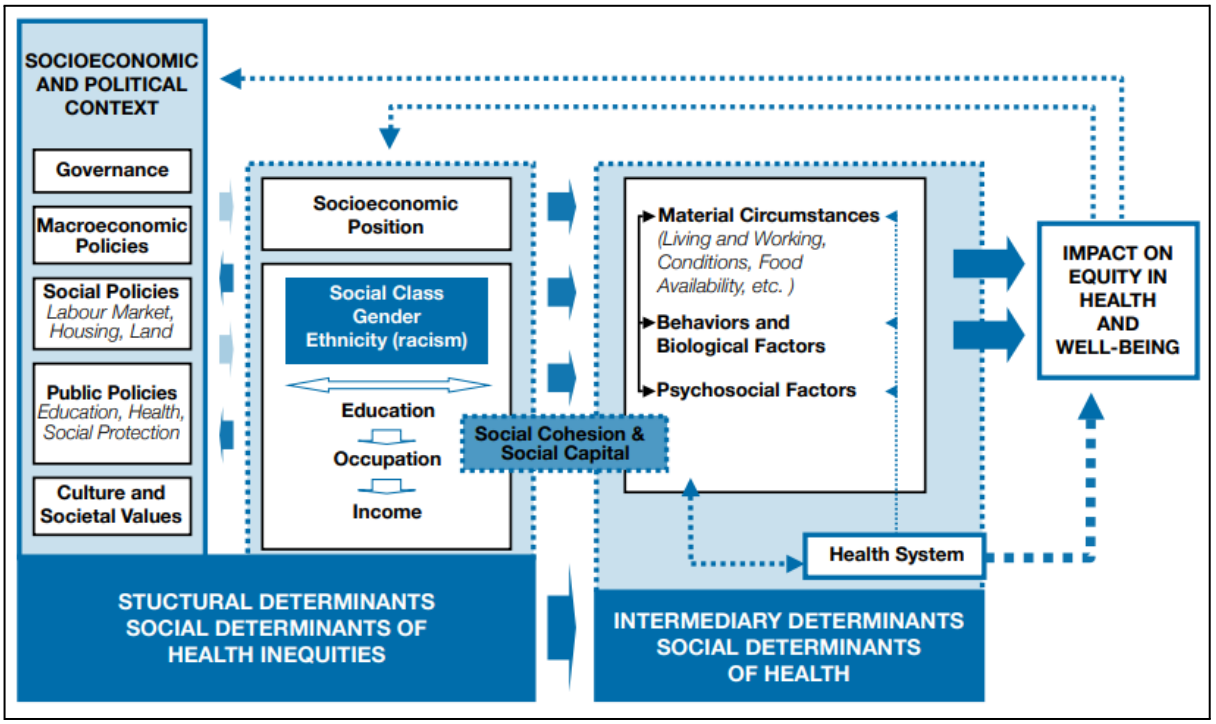


Figure 2.4: A conceptual framework for action on the social determinants of health.
(Copyright: Solar and Irwin. Social Determinants of Health Discussion Paper 2. 2010)

1. Structural Determinants (Social Determinants of Oral Health Inequities)

Socioeconomic and Political Context

Governance (Definition of Need/ Civil Society Participation/ Accountability of Public Administration)

The governance system in Zaatari is regulated on the basis of the temporality of the space. The needs of residents in the camp are defined in accordance with the reductionist position of biologic lives (Sigona 2015; McConnaichie 2016). Therefore, NGOs in the camp offer services and goods that ensure these biologic lives survive to the minimum. Hence, long-term planning of policies that regulate health outcomes in the camp does not exist. These include, for example, urban planning; education system and healthcare system. The impact of such factors is to regulate people's access to life opportunities including health. Another aspect is the right to civil society participation through citizenship. People in the camp are prevented from this right as they are considered transiently not following any state's citizenship system; not even the host country. The result is people not having the power to influence regulations and legislation that affects their own lives such as through elections, for instance, which can direct the resources towards problems that are deemed more important to people. An array of consequences may result such as the availability of

jobs and the nature of the welfare system that may improve people's health through better access to resources for healthy eating for example with subsequent impact on health, including oral health.

Macroeconomic Policies

In the same sense of temporality of refugee camps, the macroeconomics of these spaces is dependent upon funds from global societies and NGOs which are far from being regular or adequate. For example, Jordan received only one-third of the expenditure linked to hosting refugees in 2020 (UNHCR 2020b). All macroeconomic policies in the camp are shaped by being a space out of the normal order that budgeting in the manner that states perform is not feasible with impact on all aspects of living in the camps and resultant health outcomes.

Social Policies (Labour Market/ Housing/ Land)

Even social welfare policies in Zaatari are planned on the basis of the uniqueness of the space as temporal spaces where people should be kept away from the order outside the camp. People in Zaatari do not have access to the jobs they wish to pursue or are skilled at. As the camp was established subsequent to the war in Syria, the global policy associated with refugee camps neglects the opportunities that refugees can carry for host countries. This is complicated by the fact that host countries are usually not willing to include refugees in the labour market as they see them as competitive to their citizens with the potential rise of unwanted trouble and xenophobic reactions. Zaatari is also considered a space of temporality in terms of the lack of civil society planning which makes creating job opportunities not an option. The exclusion of refugees from the official licensing system precludes them from establishing their own opportunities, as well. The cumulative impact is the ongoing perspective of victimising refugees who lack control over their economic status and who should remain dependent on humanitarian, barely adequate aid for survival.

Public Policies (Education/ Health/ Social Protection)

While children in Zaatari are given access to basic education including primary and secondary education through 32 schools present in the camp, access to higher educational opportunities is limited (UNHCR 2023b). This results from the refugee status that children carry which prevents them from being rolled into governmental higher education in Jordan. In addition, refugees in Zaatari camp cannot be enrolled within the Jordanian health system although they were offered some concessions to be treated free of charge for the first few years of being hosted in the country. As they lack citizenship and access to the labour market, refugees in Zaatari also lack a system of social protection such as pensions.

Education, health and social protection policies open opportunities for people to pursue better health. The absence of such public policies enhances the hopelessness among the residents and the sense of lack of control over their lives. The resultant psychological stress may affect the pathway in which these structural determinants manifest in health outcomes which may also accumulate along the lifecourse (Wilkinson and Pickett 2009; Braveman and Gottlieb 2014).

Culture and Societal Values

Solar and Irwin (2010) described these as the values placed on health as a collective social concern. These values are socially constructed through factors related to culture and religion. In Zaatari, the findings of this study suggest that people centre their lives around Islamic religious beliefs and Arab cultural values.

Socioeconomic Position

Education

The level of education of individuals or parental education affects oral health outcomes among people and their children. Paulander et al. (2003) conducted a survey among adults where they found that those who acquired elementary education showed more carious lesions, more missing teeth and higher periodontal attachment loss than those who had higher education. The results were irrespective of dietary habits or toothbrushing frequency which the authors suggest that education per se may not regulate these behaviours (Paulander et al. 2003). Tsakos et al. (2009) conducted a secondary analysis from a randomised controlled trial involving non-disabled people 65 years old and above. Their results indicated that those who had higher educational levels enjoyed better OHRQoL outcomes that were not attributable to the level of income or denture wearing (Tsakos et al. 2009). Chen and colleagues (2020), on the other hand, showed, that higher levels of parental education were associated with better oral health knowledge among parents and better oral hygiene practices among their children. The survey was however self-administered and did not show whether these results translate into better oral health outcomes. Saied-Moallemi et al. (2006) have shown that children of parents with lower levels of education have higher levels of dental caries in both primary and secondary dentition. How education levels affect oral health outcomes may be attributed to the opportunity that education offers in terms of occupation and income (Solar and Irwin 2010). Another plausible explanation is that higher educational levels make people more capable to receive health education and navigate health systems (Solar and Irwin 2010). Schools especially in disadvantaged areas are an

integral component of determining health outcomes (Petersen and Kwan 2011). While the association between general and oral health outcomes is supported in the literature, schools form the main, and maybe the only, setting for delivering health promotion targeted at children. This is however an action directed at the intermediary determinants of health and not at the level of structural determinants of health inequities and will be discussed later.

Income

Income is an indicator of the socioeconomic status of an individual. Many studies have indicated the relationship between low income and adverse health outcomes (WHO 2008) including oral health (Locker 2000). In a study comparing oral health outcomes among disadvantaged children with those among fortunate children in Belgium, disadvantaged children showed higher DMFT and plaque scores and lower caries-free rates (Lambert et al. 2017). Edelstein's (2002) findings also suggest that children from lower socioeconomic status backgrounds have higher caries incidence and severity. Family income determines the subsequent material resources that people may direct towards healthier food options that are lower in sugar content, oral hygiene supplies and access to dental care.

Occupation

Someone's occupation can reflect the social standing of individuals in society by allowing them to have a certain income or access certain social networks (Solar and Irwin 2010).

Collectively, education, income and occupation are closely related and determine one's social class. The centrality of these determinants is that they shape subsequent access to intermediary determinants which are more immediate to impact health as will be discussed now.

2. Intermediary Determinants (Social Determinants of Health)- move to intro or lit review

Material Circumstances

Living Conditions

These conditions are those directly related to the physical space where people live including housing and neighbourhoods. They are also determined by socioeconomic status (a social determinant of health inequities). Dedman et al. (2001) concluded that there was an association between housing conditions in childhood (including the absence of tapped water and ventilation) and mortality from common diseases in adulthood. Solari and Mare (2012)

found that children's wellbeing is affected by house crowding even after adjusting for socioeconomic status with negative impacts that may persist until adulthood. Chuang et al. (2005) and Cummins and Macintyre (2006) found negative impacts on level of tobacco smoking and nutrition, respectively, in disadvantaged neighbourhoods. Living conditions can, thus, directly impact the biological progression of disease or shape individuals' lifestyle by affecting their health-related behaviours.

Food Security

This is directly related to the socioeconomic position of the individual which is, in turn, determined by the macroeconomic and social policies in the camp. These determinants play at varying levels to adversely impact people's capability of affording adequate, nutritious food.

Psychosocial Factors

These are the factors that increase the stress level of the individual. They might be stressors resulting from their refugee status such as fleeing the war, temporality and containment in refugee camps and hopelessness to be resettled and start a life that looks more like a 'normal' life. Stressors may also be generated due to the living circumstances in refugee camps.

Behavioural Factors

As we shall see children in Zaatari do not brush their teeth or they do so very occasionally (Salim et al. 2021a; Salim et al. 2021b; Salim et al. 2022a). Apart from the opportunity to remove dental plaque and food debris during toothbrushing which consequently affects the caries development process, not brushing means also not being exposed to the beneficial effect of fluoride in toothpaste. Furthermore, WHO's (2015) recommendation is to lower daily sugar intake to less than 10% of energy intake for health-related gain with further health benefits of less than 5% of daily energy intake from sugar.

Oral Health Status of Refugees

Before proceeding, two important facts need to be reiterated. First, being a refugee is associated with structural and living conditions that are linked with adverse health conditions according to the literature reviewed in the previous section. Second, refugee camps pose certain characteristics that make concluding comparisons with refugees residing elsewhere inaccurate and unrealistic. This is also applicable to exploring oral health in refugee camps.

Therefore, it is essential to differentiate between literature on oral health among refugees in general and in refugee camps in particular.

Refugees have inadequate oral health literacy (Lamb et al. 2009; Geltman et al. 2013; Geltman et al. 2014; Riggs et al. 2016; Mattila et al. 2016) with higher levels of oral health literacy are associated with better oral health outcomes (Geltman et al. 2013). Riggs and colleagues (2015) report that participants in the study, composed of migrants and refugee caregivers, understand the link between dental caries and dietary risk factors. However, participants have inconsistent knowledge about other risk factors such as the proper timing to initiate toothbrushing as a habit for children (Riggs et al. 2015). In another study, Riggs et al. (2017) argue that disrupted education during the displacement process may have affected the education level of refugees leading to impacts on their oral health literacy and oral health outcomes. Refugees with low levels of education were found to have the highest scores of DMFT (Mahajan 2013; Geltman et al. 2013; Solyman and Schmidt-Westhausen 2018) and worst periodontal disease levels (Solyman and Schmidt-Westhausen 2018).

Furthermore, oral health outcomes among refugees differ according to their country of origin (Smith and Szuster 2000; Cote et al. 2004; Quach et al. 2015; Hoover et al. 2017; Hoyvik et al. 2018). Refugees of African origin had lower caries experience than refugees from other countries (Cote et al. 2004; Quach et al. 2015); whereas refugees from the Middle East in Norway had more decayed teeth and higher oral impacts on daily performances (Hoyvik et al. 2018). Oral health measures are also linked to acculturation levels among refugee populations which may be explained by adopting Western-style oral hygiene practices (Hunter-Adams et al. 2013) and Western-style diet (Geltman et al. 2014; Riggs et al. 2017). Higher content of refined sugar and lack of access to traditional oral hygiene aids render refugee parents living in Australia unable to control their children's oral health practices worsening their oral health status over time (Riggs et al. 2017). The host country’s language proficiency affects refugees’ access to dental care as well. Hunter-Adams and colleagues (2018) report that access to dental care measured by the scores of untreated decay is significantly higher among refugees with lower levels of English proficiency.

Levels of oral hygiene practices among refugees are also invariably reported in the literature. Some studies report once or twice daily toothbrushing (Mahajan 2011; Willis and Bothun 2011; Gelman et al. 2013; Hunter-Adams et al. 2013; Geltman et al. 2014; Ghiabi et al. 2014; Hoyvik et al. 2018), while others report low frequency of toothbrushing (Lamb et al. 2009; Mattila et al. 2016; Moreau et al. 2018; Solyman and Schmidt-Westhausen 2018). The use of traditional oral hygiene aids is reported among some refugee populations such as miswak (Lamb et al. 2009; Gelman et al. 2013; Hunter-Adams et al. 2013; Geltman et al.

2014; Hoyvik et al. 2018). Syrian refugees in a community centre in Turkey explain how their inability to afford new toothbrushes and toothpaste led them to clean their teeth with soap and water or salt water (Pani et al. 2017).

As a result, refugees have high levels of unmet dental treatment needs. Refugees have high scores of untreated decay (Ghiabi et al. 2014; Hoyvik et al. 2018; Hoyvik et al. 2019) which compare poorly to other vulnerable groups such as migrants (Ghiabi et al. 2014), indigenous Australians and special need groups in Australia (Davidson et al. 2006). High levels of periodontal disease are also reported among refugees (Hoover et al. 2017; Ghiabi et al. 2014) except for refugees from African countries who had low levels of the disease (Geltman et al. 2013; Gelman et al. 2014). Some studies evaluate the urgency of receiving dental treatment where a high percentage of participants needed dental care as soon as possible (Singh et al. 2018; Solyman and Schmidt-Westhausen 2018). One study applying a qualitative research design found that refugees and asylum seekers in England suffer various barriers to maintaining their oral health and timely access to dental care (Paisi et al. 2022). Prioritising survival during their mobilisation from war zones to host countries, difficulty navigating the National Health Services (NHS), and lack of culturally appropriate health services were the main themes of this study (Paisi et al. 2022).

Some published literature reviews explored the literature on oral health of refugees (and asylum seekers). Although qualitative research has been adopted as an effective methodology in healthcare research, it is not widely used in literature in this field (Keboa et al. 2016; Riggs et al. 2017). In addition, most studies recruit participants using convenience sampling, which can indicate the difficulty of recruiting this hard-to-reach population (Keboa et al. 2016). Keboa et al. (2016) report that the vast majority of published studies in this field were conducted in high-income countries while most refugees live in low and middle-income countries (UNHCR 2022a). It cannot be neglected, nonetheless, that studies on oral health of refugees offer invaluable information for researchers. However, and as stated earlier, literature on oral health of refugees residing outside refugee camps does not fit the discussion on oral health in refugee camps with all of their peculiarities.

Therefore, the discussion now turns to providing a review of existing literature on oral health from studies conducted particularly in refugee camps. By conducting a quick review on Web

of Science, twenty-four studies were identified[4]; twelve of them were studies conducted in Zaatari refugee camp. Therefore, summarising the findings of these studies is divided into findings from Zaatari camp and findings from other refugee camps around the world. The findings of these studies are included in Table 2.1.

Significantly low levels of oral health literacy among refugees in refugee camps are reported (Noaman et al. 2019; Chowdhury et al. 2022; Michael et al. 2023). In one study, around 46% of adult refugees who answered a structured questionnaire were found to lack basic oral health knowledge (Chowdhury et al. 2022) and, in another study, mothers' knowledge of oral health was assessed to be low (Noaman et al. 2019). Residents of refugee camps were also shown to have high levels of dental caries. Anita and colleagues report 84.8% caries prevalence among adult Rohingya refugees while half of the children had caries in the same study. Noaman et al. (2019) report 63% caries prevalence with dmft scores of 3.55±3.79 for 5-year-old children upon dental examination of 79 preschool children in a refugee camp in Erbil, Iraq. Mean dmft/DMFT scores of 0.48/1.69 among 6-7-year and 11-year-old children respectively in a refugee camp in Western Sahara in Algeria with higher scores significantly associated with a higher degree of dental fluorosis (Almerich-Sila et al. 2008). On the other hand, Bhatt and Gaur (2018) report an overall caries prevalence of 79.5% in a sample of 254 school children in a refugee camp in Tibetan/India with scores significantly higher among girls and those who had visited the dentist before.

Regarding periodontal disease, Anita and colleagues (2022) report all 33 adults examined have some degree of periodontal disease. Studies have also reported variable levels of toothbrushing. Sixty-two per cent of mothers in one study state that their preschool children brush their teeth once a day and the majority are assisted by their mothers. Half of the participants (in a sample of 477 adults across 14 refugee camps in Bangladesh) show poor oral health practices with toothbrushes as the main oral hygiene tool that people use followed by charcoal and miswak (Chowdhury et al. 2023). In a sample of 102 adults (mean age 34 years) residing in Azraq refugee camp in Jordan, 88 participants reported brushing their teeth at least once a day; while 14 participants reported the use of adjunctive oral hygiene aids including mouthwash, toothpicks and miswak. Whether toothpaste is fluoridated or not cannot, nonetheless, be deduced from these studies echoing findings from Zaheer et al. (2022) who report that more than three-quarters of participants who attended

[4] It is not claimed here that these twenty-four studies are the only studies that discuss oral health in refugee camps (although they might be). However, these studies were identified by using search terms such as oral health, dental health, dental caries, dental disease and oral disease combined by refugee camps. Retrieved papers were selected on the basis of the title first, then abstracts of retained studies were read and these 24 studies were retained at the end. Nonetheless, the strategy of performing this literature review does not follow the guidelines for conducting reviews such as systematic or scoping reviews.

an emergency mobile dental clinic were not aware whether the toothpaste they use contained fluoride. Noaman and colleagues (2019) demonstrate that dmft scores were associated with higher sugar consumption in preschool children.

Refugee camps which are the settings of these studies lack adequate dental healthcare with subsequent poor access to dental care for residents. Michael et al. (2023) describe how a refugee camp in Cameron lacked dental care altogether and patients who presented with dental complaints were treated by nurses with medical prescriptions. Similarly, Zaheer and colleagues (2022) report that the vast majority of the research participants (85%) did not have any access to dental care except for a mobile dental clinic. In a field report, people in a refugee camp in Greece had insufficient provision of dental care complicated by limited supplies and a lack of sterilisation facilities for dental instruments (Zaheer et al. 2017). It can therefore be argued that refugees in refugee camps suffer high unmet dental treatment needs that are not adequately supported through the provision of dental care.

Oral health promotion in refugee camps is discussed in some studies (Ogunbodede et al. 2000; Roucka 2011). Ogunbodede et al. (2000) describe a programme where local refugees are trained as Community Oral Health Workers (COHWs) according to the World Health Organisation training modules to provide basic dental treatment to the community. Basic procedures performed included extractions and Atraumatic Restorative Treatment (ART). The programme was assessed to lower the burden on the health system by incorporating culturally appropriate dental treatment and eliminating the need for interpreters. Incorporating it within the primary health care was also shown as a strength point realising a main principle of health promotion along with engaging the community increasing the sustainability of the programme. Roucka (2011) evaluated, through a field trip, a similar programme in two refugee camps in Tanzania where 12 refugees received a two-week training course in emergency dental care and health promotion in 2007. Extractions formed the majority of dental procedures performed (95.5%) with a negligible level of postoperative complications. Roucka suggests undergoing a cost-benefit analysis, incorporating ART and incorporating dental care within primary healthcare in refugee camps. Williams and Infirri (1996), also, recommend applying oral health promotion principles by incorporating oral healthcare in refugee camps within the primary healthcare model and the use of appropriate technology such as adopting the Atraumatic Restorative Technique (ART). In his article, Aggarwal (2018) presents a conceptual scenario to understand factors that affect the oral health of a refugee family from the start of the civil war through to displacement and ending up in a refugee camp. Although he touches on wider social determinants such as economic status, inadequate shelter and psychosocial stress as a result of massive losses and

uprooting, he reduces action to be taken within the provision of oral healthcare and oral hygiene aids. This thesis seeks to explore an alternative approach.

Twelve studies were conducted in Zaatari refugee camp alone highlighting the urgency of the situation of oral health of its residents. All these studies are cross-sectional and apply objectively calibrated tools to measure dental disease among Zaatari's population. For example, DMFT/dmft index and significant caries (SiC) index were applied to measure dental caries. Salim et al. (2021a) report overall DMFT scores of 4.32 among a sample of 606 children aged 7-19 attending a dental clinic in Zaatari with 40% of them having at least DMFT score of 5. In another study, children examined demonstrated comparable DMFT/dmft scores with decayed teeth comprising the main component of the score as caries prevalence of 96.1% was reported (Salim et al. 2021b). In a sample of 125 children attending a school in Zaatari, more than half of the children showed high caries risk and most of DMFT/dmft scores were contributed by decayed and missing teeth (Makan et al. 2019). Caries prevalence among adults in Zaatari does not show any superior outcomes to those among children. Indeed, caries prevalence of 96.1% was reported with mean DMFT score of 10.19 and more than three quarters of them had 4-17 carious lesions (Salim et al. 2021c). Mean number of decayed teeth was 5.4 with 94.1% of the 547 adults examined had untreated caries and these scores were higher among those affected by chronic illnesses (Salim et al. 2021d).

On the other hand, Makan and colleagues (2019) report that almost all children examined had gingivitis. Other studies report high levels of malocclusion (83.8%) (Salim et al. 2021e) and dental fluorosis (44.8%) (Makan et al. 2019) among children. The frequency of toothbrushing was also reported in many of these studies and it was measure mainly through questionnaires that children or parents have to fill or answer to in case of face-to-face questionnaire. The vast majority of children who took part in these studies report they do not brush their teeth or brush occasionally; the percentages reported were 96% (Salim et al. 2021a) and 88% (Salim et al. 2021b). In another study only 21% of children report brushing once or twice daily (Salim et al. 2022a). Figures among adults were comparable; around 88% of adults do not brush regularly (Salim et al. 2021c) and around three quarters have a toothbrushing frequency of less than twice daily (Salim et al. 2021d). In both children and adults, females had better oral hygiene practices (Salim et al. 2021a; Salim et al. 2021c) although this was not reflected in their oral hygiene index scores as both groups show high scores and no significant association with gender (Salim et al. 2021a; Salim et al. 2021c; Salim et al. 2021d).

Almost all these studies report the significantly high unmet dental treatment needs; for which pain was the main driver to seek dental care among this population (Salim et al. 2020; Salim et al. 2021b; Salim et al. 2021c; Salim et al. 2021d). Extraction mainly due to caries or irrestorability was the main procedure performed in dental settings in the camp Salim et al. 2020; Salim et al. 2022a; Salim et al. 2022b) with significantly higher number of teeth extracted among males, smokers, older patients, and those with lower lvels of education in adults (2022b); and among children with lower frequency of toothbrushing (2022a). The satisfaction rate of dental services in the camp was reported to be 72.5% with participants highlighting some areas that need improvements such as the availability of and access to dental services, issuing a referral system to hospitals for further treatment and improving the follow-up system (Salim et al. 2021g). On the other hand, Mehdi et al. (2020) report that around 62% of the study sample (200 adult refugees attending a hospital in Zaatari) suffer from odontophobia with levels significantly associated with the time spent in Syria during the war and post-traumatic stress disorder (PTSD).

Despite the fact that these studies shape the dental health profile of refugees in general and people in Zaatari in particular, some shortcomings were recorded. These shortcomings are related to the applied methodology or conceptual framework to understand factors and determinants of oral health in refugee camps. First, the vast majority of studies use cross-sectional design applying epidemiological principles. All twelve studies conducted in Zaatari applied cross-sectional studies either through questionnaires or clinical examination. Critics of epidemiology argue that this approach can be implemented to study the association of certain risk factors with health problems but is incapable of exploring determinants of health in a society (Savitz et al. 1999; Pearce 1996). Applying epidemiological approaches threatens to adopt reductionist, highly paternalistic solutions that claim the ability of healthcare provision to improve population health. Consequently, such approaches adopt the biomedical and behavioural definitions of health (oral health in this case) and end up with inefficient downstream solutions and even potentially victim-blaming (Watt 2007; Sabbah et al. 2009). This is apparent in reviewed literature on oral health in refugee camps. Almost all studies accuse inadequate oral hygiene practices and inadequate provision of dental care in refugee camps as the primary cause of poor oral health status of camps' residents (Makan et al. 2019; Noaman et al. 2019; Abu-Awwad et al. 2020; Salim et al. 2020a; Salim et al. 2020b). These studies, also, claim that to bring about better oral health outcomes, these factors need to be addressed. Even studies that did not apply cross-sectional design recommend higher provision of dental care to these populations to improve their oral health (Ogunbodede et al. 2000; Aggarwal 2018; Williams and Infirri 1996). This might reflect shortcomings in the understanding of oral health within the social

definition of health among oral healthcare providers in refugee camps which can be attributed to the way the dental curriculum is presented framing it in a very biomedical context. Failure to understand the broader social context guarantees ineffective and unsustainable outcomes.

Some of the studies applied the principles of oral health promotion (Ogunbodede et al. 2000; Roucka 2011; Williams and Infirri1 996), consistent with the recommendations of the Ottawa Charter for Health Promotion (WHO 1986). Nevertheless, these studies reduce action to improve these populations' oral health to the provision of dental care and do not address the wider social determinants of health. These findings support the claim of the inadequacy of understanding oral health as a social phenomenon in refugee camps. Refugee camps are unique social organisations and living there implies being subjected to structural and political aspects that may have an impact on daily activities with consequences on health outcomes including oral health. However, none of studies in refugee camps spot on these living conditions in this specific space from a health-promotion gaze. For example, none of studies explored the impact of water shortage or quality on oral health nor did they explore patterns of sugar consumption, income or food security in such spaces. Furthermore, pathways from such factors to oral health outcomes were not made in any study and referral to social determinants of oral health was limited to suggestions and recommendations in a manner that these factors are 'black-boxed' and vague. This makes any future oral health-promoting attempts subject to failure as they may not be able to address the unique characteristics of refugee camps.

The second shortcoming is that all studies that involve the examination of patients (or their records) recruit a convenience sample of attendees to dental healthcare services. This may indicate the difficulty of recruiting a representative sample in refugee camp settings. Moreover, this indicates that the findings of these studies cannot be generalised to all populations in refugee camps as differential utilisation of dental care may reflect differences in characteristics between those who attend and those who do not attend dental care. Access to healthcare services, including dental care, is a social determinant of health (Wilkinson and Marmot 2003) which, albeit is not a major determinant, still an important one especially among vulnerable populations (Whitehead and Dahlgren 2006). Refugees have limited access to dental services in refugee camps and barriers to accessing dental services may reflect other social vulnerabilities. Therefore, involving participants representative of the general population is important to understand their perspectives on oral health and access to dental care.

Third, the available literature does not make any links between the policies that create the camp and organise the social and physical conditions of its residents from one side and their overall oral health on the other. In other words it is not guided by a conceptual framework such as that developed by Solar and Irwin (2010). As previously discussed the camp has certain characteristics that make it a unique social space and that affect every aspect of the daily life of the dwellers. An important aspect, for example, is creating dependency on humanitarian aid which limits residents' control over life choices presumably including choices to maintain favourable oral health practices such as maintaining good oral hygiene and limiting the intake of non-milk intrinsic sugar. Critics of behavioural change refer to the importance of contextualising any behaviour to understand how it is adopted and the consequences it has in order to intervene successfully and empower individuals to adopt healthy ones (Wilkinson and Marmot 2003; Baum and Fisher 2014). This is supported by evidence in wider research on oral health. For example, Kay and Locker (1996) reviewed the effectiveness of dental health education on oral health and suggested that it is responsible for limited and temporary effects on plaque accumulation but no noticeable effects on caries levels. Sanders et al. (2006) found evidence among Australian adults to support that although oral behaviours including self-care and dental visiting could contribute to better oral health outcomes, they account for only little, if any, of the oral health disparities in this population. Furthermore, Guarnizo-Herreño et al. (2019) suggest that the effects of behaviours on oral health inequalities are not universal in 21 European countries indicating the role of social welfare policies and other contextual factors.

Furthermore, reviewed studies do not discuss the effect of disrupting the social order in refugee camps within and outside the family level. It can be hypothesised, for instance, that the changing role of women in the camps, as discussed above, may affect their ability to supervise and maintain favourable oral health practices for their children. In addition, power relations that manage the movement of commodities from and to refugee camps may affect the variability of commodities inside the camp with subsequent effects on food choices that residents can make. Such possibilities and many others that are created by the social environment in the camp are not adequately explored.

Literature on oral health in Zaatari refugee camp does not differ from the formerly stated discussion. Although studies conducted in Zaatari refer to the high unmet dental treatment needs, none of them attempt to explain these outcomes. It seems like the research effort on oral health in Zaatari is doing more of the same thing, wasting resources that could be directed to understand the adverse oral health status in Zaatari or plan some kind of intervention to improve the current situation.

To sum up, the available literature falls short of providing a comprehensive picture of the status of oral health in refugee camps, in general, and in Zaatari, in particular. Gaps in the literature highlight the need to perform rigorous research involving qualitative and mixed methods approaches. Involving the wider community of lay families, humanitarian aid workers and stakeholders is necessary to understand how the oral health of Zaatari's residents is shaped and how they come up to adopt certain oral health practices. Moreover, contextualisation of such practices within the unique socio-material context in the camp is crucial to comprehend the interactions between oral health practices and other practices within the camp and between these practices and agents and materials that mediate them. This may warrant tracking of the practices and factors affecting them beyond the space of the camp because, as discussed earlier, the presence and continuation of the camp start actually from outside involving humanitarian response, host governments and even global policies. However, what is lacking is an appropriate methodology and theory that can enable a more comprehensive answer to these questions. This is the subject of the next chapter.

Table 2.1: Key findings in published articles on oral health in refugee camps.

	Authors	Year of Publication	Research Design	Sample/Setting	Key Findings
1	Anita et al	2022	Cross-sectional (questionnaire)	33 adults and 34 children in a refugee camp in Kelambakkam, Chenni	1. Caries prevalence among adults:84.8% 2. Caries prevalence among children:50% 3. Periodontal disease in all adults 4. Other dental diseases: enamel fluorosis, enamel erosion and dentinal erosion
2	Chowdhury et al	2023	Cross-sectional (questionnaire)	477 participants 18-82 years old residing in 14 refugee camps in Cox's Bazar, Bangladesh	1. 46.12% did not have basic oral health knowledge 2. 53.67% were in need of dental care 3. Around half demonstrated poor oral health practices 4. Toothbrush is the main tool for oral hygiene followed by charcoal and miswak 5. Most participants considered dental treatment only for pain or trouble rather than regular check-ups
3	Michael et al	2023	Cross-sectional (questionnaire and data from healthcare workers)	716 refugees from the Central African Republic (6-81 years old) in Gado-Badzere refugee camp in Cameron	1. Significantly poor oral health knowledge 2. 42.6% of those consulted healthcare for dental treatment were not satisfied 3. 89.5% experienced toothache 4. 83% needed restorative treatment 5. 99% needed periodontal treatment 6. 30% needed urgent treatment like extraction 7. No oral healthcare in the camp 8. In general, 82.54% needed dental treatment

4	Noaman et al	2019	Cross-sectional (questionnaire answered by mothers followed by dental examination of children)	79 preschool children living in a refugee camp in Erbil, Iraq	1. dmft scores: 3.55±3.79 2. Caries prevalence: 77.8% 3. In total, 63% of children had dental caries 4. Mothers' knowledge of oral health was low 5. 62% brushed their teeth once a day 6. 61% of mothers assisted children in toothbrushing 7. Sweet consumption associated with higher dmft 8. 46% visited the dentist before
5	Zaheer et al	2022	Cross-sectional (self-reported survey)	156 participants at an emergency mobile dental clinic in settlements in Northern Greece	1. 76% rated their oral health as fair or poor 2. 85% had no access to dental care without the mobile clinic 3. Smoking reported by 46.6% 4. 76.6% did not know whether toothpaste contained fluoride 5. 48.3% reported pain as the most common problem for seeking dental care followed by having cavities or missing teeth
6	Puertes-Fernandez et al	2010	Cross-sectional (clinical examination)	248 Sahrawi children in a refugee camp in Tindouf, Algeria	Orthodontic treatment needs similar to those reported by many studies in European and Sub-Saharan countries

7	Roucka	2011	Cross-sectional (retrospective using patients' log books from two refugee camps in Tanzania and field notes)	1961 patients visits to dental clinic	1. Extraction accounted for 95.5% of procedures performed 2. Reported incidence of postoperative complications was negligible 3. Health promotion sessions were held in both camps twice a week for waiting patients and their companions; the sessions discussed oral hygiene, a healthy diet and demonstrated toothbrushing. 4. Health promotion sessions were held for the community and camp schools.
8	Bhatt and Gaur	2018	Cross-sectional (dental examination and structured questionnaire)	254 school children (6-18 years old) in Tibetan settlement in Paonta Sahib/India	1. Overall caries prevalence was 79.5%. The dental caries experience was greater in the mixed dentition (84%) than secondary dentition (77.3%). 2. Mean DMFT was associated with sex (girls had significantly higher mean DMFT than boys) and dental visiting patterns (significantly higher DMFT in children who had visited the dentist before than children who had not). 3. About 60% of children had never visited the dentist before. Among those who had visited the dentist, the main reason was extraction (43%).

9	Zaheer et al	2017	Field report	A refugee camp in Athens	1. The high burden of oral disease among this group may be attributable to lack of access to oral healthcare, poor oral hygiene and high-sugar diet. 2. Many challenges faced by refugees and providers of dental care in refugee camps such as limited access to oral hygiene aids, limited dental supplies to provide dental care, sterilization of dental instruments and changing circumstances of refugees. 3. Refugees in this area desperately need help and are stuck in relatively poor and desperate conditions despite aid provided by NGOs.
10	Almerich-Silla et al	2008	Cross-sectional (clinical examination)	360 children aged 6-7 years and 212 children aged 11-13 years in four refugee camps in the vicinity of Tindouf (southern Algeria).	1. The dmft/DMFT score was 0.48 in the 6-7-year-old children and 1.69 in the 11-13-year-old children, with a caries prevalence of 47.2% and 63.2% respectively. 2. Among the 6-7-year-old children, 36.9% were free of fluorosis, 15.6% presented moderate fluorosis, and 7.8% presented severe fluorosis. 3. Among the 11-13-year-old children, only 4.2% were free of fluorosis, 30.2% exhibited moderate fluorosis, and 27.4% presented severe fluorosis. 4. The mean DMFT scores were significantly higher among children affected by severe fluorosis, suggesting that severe fluorosis might increase the susceptibility to dental caries.

11	Ogunbodede et al	2000	Field report	A refugee camp in Ghana where 12 refugees trained and became qualified as Community Oral Health Workers (COHW).	1. COHWs provide primary dental care activities at the refugee camp including surveying, basic oral health care, Atraumatic Restorative Treatment (ART) and oral health education. 2. The programme contributed to raising knowledge and awareness among refugees about oral health in addition to breastfeeding and prevention of HIV/AIDS. 3. The programme was believed to be effective in engaging the community by raising its acceptability through employing individuals who share the same cultural background. This enabled COHWs to provide culturally responsive care and eliminate the need for interpreters.
12	Abu-Awwad et al	2020	Cross-sectional (survey)	102 refugees (mean age: 34 years) attending a dental clinic at Azraq refugee camp/Jordan	1. 12.7% did not brush their teeth and 86.3% did not use adjunctive dental cleaning methods 2. OHRQoL mean score was 56.55 3. OHRQoL scores significantly associated with age (P = 0.048), toothbrushing frequency (P = 0.001) and attending a dental clinic in the last year (P = 0.004)
13	Salim et al	2021e	Cross-sectional (clinical examination)	606 children/adolescents (mean age: 11.84±2.1) attending a dental clinic in Zaatari	1. Prevalence of malocclusion: 83.8% 2. Prevalence of moderate to severe orthodontic treatment needs: 67%

14	Salim et al	2022b	Cross-sectional (semi-structured survey)	626 adult refugees attending a dental clinic in Zaatari	1. Mean number of teeth needed extraction: 1.46±0.84; and significantly higher in males, smokers, older patients, and those with no or basic education. 2. Most common cause of extraction was caries (54.8%) followed by tooth fraction/being unrestorable (38.5%).
15	Salim et al	2021a	Cross-sectional (questionnaire and clinical examination)	606 children/adolescents (aged 7-19 years) attending a dental clinic in Zaatari	1. Overall DMFT: 4.32 2. Overall OHI-S: 1.33; no significant difference between males and females 3. Around 40% have DMFT scores of 5 or more. 4. 96.1% either do not brush their teeth or brush occasionally 5. Females showed better oral hygiene practices than males
16	Salim et al	2021b	Cross-sectional (questionnaire and clinical examination)	484 children (aged 5-13 years) attending a dental clinic in Zaatari	1. Caries prevalence: 96.1% 2. Mean dmft/DMFT: 3.65/1.15; D is the main component of dmft/DMFT (89%/88%) 3. Pain is the most common complaint (98.3%) 4. 88% do not brush their teeth/brush occasionally 5. 79.5 have 3 or more carious lesions and up to 18 carious lesions 6. SiC (dmft/DMFT): 6.65/2.75
17	Salim et al	2020	Cross-sectional (retrospective using clinical records)	Records of 259 children (aged 3-7 years, all born in Zaatari)	1. 66% presented because of dental pain and/or dental infection 2. Dental extraction was the most common procedure (55%) followed by fillings (25%) 3. Most children received only one dental procedure (75.3%)

18	Salim et al	2021g	Cross-sectional (self-administered questionnaire)	500 adult participants attending dental clinics in Zaatari and those accompanying them	1. Satisfaction rate was 72.5% 2. Some areas that need further service improvement according to the participants were difficulty accessing care, difficulty being referred to hospital, lack of follow-up, and lack of dental services.
19	Salim et al	2021c	Cross-sectional (clinical examination)	505 refugees (aged 18-60 years) attending dental clinics in Zaatari	1. Caries prevalence: 96.1%, of which 76.09% had 4-17 carious lesions 2. Mean DMFT: 10.19 3. Mean OHI-S: 2.18 4. Paim was the most presenting complaint (92.7%) 5. SiC: 17.09 6. 100% had DMFT>0 7. Around half (45.7%) were smokers 8. Negative association between level of education and oral health 9. 87.5% did not brush/brush occasionally with females showing better oral hygiene practices than males
20	Salim et al	2021d	Cross-sectional (face-to-face questionnaire and clinical examination)	547 adult refugees attending dental clinics in Zaatari	1. 75.3% reported toothbrushing less than twice daily 2. 9.5% reported using dental floss 3. Toothbrushing frequency significantly associated with gender (females>males) and smoking (nonsmokers> smokers) 4. Untreated caries: 94.1% 5. Mean number of decayed teeth: 5.4 and higher in those who have chronic diseases 6. Mean DMFT:11.8 7. Mean OHI-S: 2.2 8. Most presenting complaint was pain 9. Only 1.1% visited the dentist for checkups

21	Salim et al	2021f	Cross-sectional (survey)	565 adult refugees attending a dental clinic in Zaatari	1. 81.8% had missing teeth, only 26.2% replaced them 2. 16.6% never/hardly heard about dental implants 3. Highly educated participants showed higher knowledge about dental implants
22	Salim et al	2022a	Cross-sectional (semi-structured survey)	322 children (aged 4-16 years) treated in a dental clinic in Zaatari	1. Total number of teeth extracted was 397%, 6.3% permanent teeth and 93.5% primary teeth 2. Higher level of parental education was significantly associated with lower number of teeth extracted 3. Higher frequency of toothbrushing was significantly associated with lower number of teeth extracted 4. Dental caries and pulp disease were the main causes of tooth extraction 5. Only 21% brushed their teeth once or twice daily
23	Makan et al	2019	Cross-sectional (clinical examination)	125 children (aged 6-12 years) attending a school in Zaatari	1. Mean DMFT:3.64±9.83 2. Mean dmft: 2.98±4.7 3. More than half have high caries risk 4. Most DMFT scores were contributed by decayed and missing teeth 5. Around half of children (44.8%) showed fluorosis 6. Almost all had gingivitis 7. 55.2% needed dental treatment during their stay in Zaatari 8. 52% received dental extraction or prescription 9. Only 6.4% received restorations

24	Mehdi et al	2020	Cross-sectional (questionnaire)	200 participants (aged 6-60 years) attending a hospital in Zaatari	62.5% of participants had odontophobia with scores significantly higher in females, those who spent longer time in Syria during the war, and those who demonstrated symptoms of posttraumatic stress disorder.

Toothbrushing and Sugar Intake vs. Dental Caries

Toothbrushing and sugar are strongly associated with dental caries. Levine and colleagues (2007) conducted a longitudinal study in West Yorkshire/England where 608 children aged 7-11 years were followed for four years. The results suggested that there is a strong inverse association between developing dental caries and claimed toothbrushing. Reisini and Poster (2001) concluded in their review that there is evidence, albeit weak, that toothbrushing is preventive against dental caries but it was uncertain whether this was due to the mechanical effect on plaque accumulation or fluoride content in toothpaste. In another systematic review, Kumar et al. (2016) showed that children who brushed their teeth frequently had lower incidence and increment of dental caries than those who did not brush frequently with the association being more prominent in primary dentition. Nonetheless, toothbrushing can reduce the development of dental caries not only by the mechanical removal of dental plaque but also by the widespread use of fluoride in toothpaste. Fluoridated toothpaste was shown to reduce dental caries by 24% DMF(S) scores (Marinho 2009) with varying concentrations of fluoride in toothpaste being associated with different levels of prevention against dental caries. Walsh et al. (2010) concluded that a concentration of 1,000-1,250 ppm of fluoride in toothpaste was associated with a 23% reduction of DMF(S) scores while a concentration of 2,400-2,800 ppm was associated with a 36% reduction in DMF(S) scores. The results confirmed Twetman et al.'s (2003) systematic review findings of strong evidence of preventive daily brushing with fluoridated toothpaste on caries development in young permanent teeth with an even stronger association in deciduous teeth. The results supported the use of 1,500 ppm fluoride in toothpaste is superior to 1,000 ppm strength (Twetman et al. 2003). Twetman et al. (2003) added that there is strong evidence that the reduction in caries when children performed toothbrushing under supervision was higher than in unsupervised children.

On the other hand, a wreath of research findings supports the strong association between sugar intake and dental caries development. Hong et al. (2018) concluded, by retrospectively analysing Children's Dental Health Survey 2013 data, that low socioeconomic status was associated with higher consumption of added sugar among children who, in turn, were shown to develop higher levels of dental caries. Sheiham and James (2014) revealed that there is a linear relationship between dental caries and sugar intake (measured by percentage of daily energy intake) in the range of 0% and 10% energy intake from sugar. The authors called for public health action to limit sugar intake to less than 3% of daily energy intake even with the widespread use of fluoride (Sheiham and James 2014). Moynihan and Kelly (2014) reviewed evidence of the preventative role of lowering sugar intake on caries reduction from 55 eligible

studies. The outcome of the systematic review was that sugar intake of less than 10% of daily energy intake was associated with lower caries levels with significant association when sugar intake was limited to less than 5% (Moynihan and Kelly 2014). The results also suggest the role of sugar on caries development along the lifecourse (Moynihan and Kelly 2014).

Chapter Summary

Oral health is an integral part of general health and wellbeing and realising optimum oral health is a basic human right. The majority of oral health illnesses are widely preventable and their prevalence in a population corresponds to the distribution of the wider social determinants of health. Structural inequalities are related to adverse health outcomes by shaping individual's choices and driving their actions. Therefore, health and oral health are socially constructed albeit the pathways from social disparity and suffering to producing ill-health are not clearly understood. This is still more relevant in unique social organisations such as refugee camps where every aspect of lived experience is related in one way or another to the politics of the camp. Such relations produce power differentials in which refugees are reduced to powerless bodies whose lives depend on humanitarian aid for survival depriving them of agency and dignity.

Refugee camps are spatial containment spaces where aid is provided. They are also indefinitely temporal spaces provoking a sense of hopelessness and loss of control. All these characteristics create a space of exclusion, marginalisation and othering where refugees are victimised and reduced to sparse lives. This section has argued that living in a refugee camp is a fundamental cause of health outcomes; it is an umbrella determinant under which all everyday activities and practices are taking place.

My argument is supported by the literature on general and oral health in refugee camps that link it to characteristics of the built and social environments. Certain aspects of refugee camps place vulnerabilities on the residents such as urban planning, shelter materials and quality, sanitation, availability and quality of water, climate, and cultural considerations. These adversely affect the physical health of refugees including respiratory problems related to ventilation and humidity, maternal and children diseases, and chronic conditions. The sanitary conditions, water insufficiency and crowding increase the risk of communicable diseases in refugee camps. In addition, food insecurity in the camps increases the likelihood of malnutrition and nutritional deficiencies.

Residents of refugee camps have been shown to have high levels of psychological distress especially since they have been forcibly displaced as a result of war. After arriving at the camps, people are faced with adverse living conditions including the low availability of life opportunities such as jobs. People in refugee camps are reported to suffer from post-traumatic stress disorder, anxiety and depression. These psychological problems are not adequately buffered with mechanisms such as social networking given that the social order is disrupted. The poor health profile of residents is complicated by inadequate access to healthcare.

In terms of oral health, residents of refugee camps report low levels of oral health literacy and poor oral hygiene practices. People suffer high levels of untreated dental caries and periodontal disease and most studies report the significantly high unmet dental treatment needs. However, dental healthcare is not adequately provided nor are there sufficient oral health promotion programmes to counteract the impact of living conditions on oral health. Despite providing invaluable insight into oral health in refugee camps, the reviewed studies fall short of providing an analytical account of the links between living in refugee camps and oral health outcomes. This results from adopting the epidemiological approach and lacking theoretical orientation in most studies which form the rationale for this study.

2.3. Rationale

As it becomes clear by reviewing the literature on oral health in refugee camps, major research gaps are found. Research in this realm is not guided by a theory which prevents a comprehensive understanding of how oral health is organised and what factors affect its organisation in order to inform interventional programmes. In addition, to theorise oral health in the camp (Zaatari in this project), appropriate methodologies should be applied, mainly qualitative research, that existing literature does not provide an adequate account of. By drawing on an appropriate theory through appropriate methodologies, the conceptualisation of oral health as it occurs in the space-time of the camp can be achieved. Qualitative research methods will be capable of carrying out such projects, filling the research gap by engaging the wider community in the camp, rather than limiting the research to the perspectives of oral health professionals and the provision of dental care as was done in previous studies. By involving camp residents and organisers, oral health-related social practices can be observed as they occur and from the perspective of those affected. This is where the real social determinants can be found, through direct engagement with residents and the camp itself. Some of the existing literature on the health and oral health of camp residents highlights that refugees suffer desperate social and material conditions but this

work does not articulate how these conditions are organised and more importantly how oral health itself is organised in the camps. There remains a detailed and comprehensive exploration of how various ‘conditions’ create pathways to impact oral health outcomes. Therefore, a gap is present that needs to be filled through empirical research to understand these pathways rather than just being framed as very wide, unclear boxes and arrows as in frameworks of social determinants of health (and oral health).

2.4. Aims and Objectives of the Study

2.4.1. Aim of the study

The aim of this project is to explore how the oral health (or disease) of refugee children in Zaatari refugee camp is organised (or disorganised).

2.4.2. Objectives

1. To find a suitable theoretical paradigm to explore oral health practices among refugee children in camps.
2. To collect data through thick ethnographic data collected through online methods and participant observation through actual fieldwork with parents and children around oral health practices enacted in the camp.
3. To apply the theoretical paradigm to investigate how oral health practices in the camp are learnt, mediated, affected by other people (in the community) and associated with other practices (entangled as a nexus of practices).
4. To investigate how these practices extend in both space (refugee camp and beyond) and time (historical context).
5. To produce a thick textual representation of oral health practices and how these are institutionalised in the camp.

Chapter 3

Methodology

3.1. Introduction

As discussed in the previous chapter, the oral health of refugees in refugee camps around the world is still an under-researched topic. This section seeks to examine the two dominant approaches to understanding patterns of oral health in refugee populations in general. The behavioural model tends to reduce the responsibility of oral health to the individual level who should receive the information, analyse it using his/her intellectual endowment and react accordingly rationally (Blue et al. 2014; Cohn 2014; Kelly and Barker 2016). This is appealing to the research community and governments as it meets common sense and withdraws responsibility of the governments to go beyond raising awareness of oral health to the population (Sanders et al. 2006; Watt and Sheiham 1999; Watt 2007; 2002). Nevertheless, researchers such as Sanders and colleagues (2006) argue against the potential of behavioural models to explain the socioeconomic gradient of oral health. The study reveals that patterns of missing teeth and OHIP-14 scores do not follow the pattern of oral health behaviours such as attending dental care and oral self-care practices among a representative sample of adult Australians (Sanders et al. 2006). Watt (2002) states that dental health education dominated dental public health research which is based on psychological theories heavily dependent on lifestyle impact on oral health outcomes. On the other hand, the social determinants model looks wider at the context where the individual lives and which shapes his/her attitudes and choices toward adopting (un)healthy behaviours (Baker and Gibson 2014; Chaves and Vieira-da-Silva 2008; Sanders et al. 2006; Watt and Sheiham 1999; Watt 2007; 2002). The model suggests that in order to bring about effective change, these wider determinants need to be tackled. Therefore, dental public health research needs to be reoriented from “public health behaviourism” (Basu 2003 cited in Watt 2007) to the overarching wider determinants at the psychosocial, economic, environmental and political levels (Watt 2007). However, researchers criticised the social determinants model as, despite introducing the locus of change starts by changing the context, tending to plan change by enhancing the facilitators and removing the barriers toward adopting healthy behaviours (Blue et al. 2014). It seems as, in both cases, the topic

of study and intervention is the same; behaviours, and the target of action is the individual. While the behavioural model treats individuals as rational decision makers (Cohn 2014; Blue et al. 2014; Kelly and Barker 2016), the social determinants model treats them as irrational who make their choices according to what conforms with the context (Blue et al. 2014). Each one of these two models lies on one extreme and, therefore, neither of them is capable of explaining the constitutive, mutually transforming nature of both extremes (Nicolini 2009; Shove et al. 2012). This has led to a key problem for researchers; that is the dualism of structure and agency (Nicolini 2009; Shove et al. 2012; Maller 2015).

This dilemma, the dualism of structure and agency, is claimed to be resolved by adopting another sociologically oriented account afforded through Social Practice Theory (SPT). The theory states that, in order to study and change the social world, the unit of analysis needs to change (Nicolini 2009; Blue et al. 2014; Maller 2015). Rather than adopting the individual and behaviours as the unit of analysis, the researcher needs to go back to explain the social world through mundane everyday routine performances (termed practices as will be discussed later), that people do and that can have effects on their health outcomes (Kelly and Barker 2016). Moving away from the highly reductionist approach of the behavioural model while at the same time accounting for the characteristics of the social space, not in a simplistic causal pathway but in mutually reproducing interaction, SPT can find its way to describing and explaining the social reality and at the same time as a basis for transformation (Blue at al. 2014; Kelly and Barker 2014; Maller 2015). In this way, SPT claims to resolve the dilemma at the heart of the structure/agency debate, and the problem of subject and object (Maller 2015). Indeed, the social practice approach offers a promising approach to bridging the gap between social determinants and health outcomes in dental public health research as referred to by (Durey et al. 2021). As Baker and Gibson (2014) argue, there is a need to move beyond describing oral health outcomes that are undoubtedly shown to follow the social gradient in the population, according to research in the field, to explain such patterns. Baker and Gibson (2014) continue to criticise the black boxing of the social determinants and call to stimulate creative thinking of theoretical approaches to explain oral health outcomes. Such approaches may be what is meant by “middle-range theories” (McNeil et al. 2022, p. 620) in the “Consensus Statement on Future Directions for the Behavioral and Social Sciences in Oral Health” (McNeil et al. 2022). We respond to these calls to build on previous research efforts in dental public health and move beyond by testing the social practice approach in this field with a vision that this approach may be the missing link that researchers referred to.

As the social space in refugee camps, Zaatari in our case, is unique, it is expected, also, to be a space for unique social interactions and material conditions. As discussed in the

previous chapter, refugees, finding themselves in a space-time void when entering the camp for the first time, start to interact with the social and material world around them. In this way, new practices emerge while those that refugees could keep tacitly or explicitly can find their way to evolve, change or disappear. This is the very question of this research which seeks to understand how the sociomateriality of the camp affects oral health practices for camp residents and, as this is the case, we argue that the SPT has a potential answer to this question.

3.2. Guiding theory- social practice theory

This section begins with a brief overview of the background to practice theory. Here it is shown that practice theory is not a unified philosophical approach but is rather formed of several tendencies within social theory. These tendencies however have something of a 'family resemblance'. In this section, the theory is introduced in its most general form before the way it has been used to inform the empirical work in this thesis is introduced. It then goes on to give a detailed account of the justification for applying the theory to study oral health in refugee camps. This is followed by justifying the research paradigm applied and the methodological orientation of applying qualitative ethnography to capture the peculiarities of oral health social practices in the context of Zaatari.

3.2.1. The Background to social practice theory

SPT stems from the idea that neither activities nor the structure they are held within is exclusively shaping one another, rather they are co-existent and reproducible. Social structure is the space where activities take place and it is reshaped and reproduced by the durability of these activities. In Nicolini's (2013) words:

> *"From this perspective the social world appears as a vast array or assemblage of performances made durable by being inscribed in human bodies and minds, objects and texts, and knotted together in such a way that the results of one performance become the resource for another." (Nicolini 2013*, p. 2*)*

Hence, as the social world is produced and reproduced by multiple repetitive performances, to gain an insight into what is going on in the social world, these performances and their linkages need to be unfolded. While the social world allows or constrains certain performances, it is shaped by the performances going on now, their historical origins and

their future projections in such a way it becomes impossible to say which comes first, the structure or the performances (Shove et al. 2012).

This argument is the basis of the SPT which does not appear to date back to a specific point of time as some philosophers had the idea although not explicitly referring to using the 'practice' idiom. Many sociologists suggest that the roots of the theory could be linked back to Heidegger and Wittgenstein (Shove et al. 2012; Nicolini 2013). These philosophers adopt an ontological position and try to explain the social world starting from the 'being in the world' as such being is always social as it implies being with others. This means that looking at the activities that people perform by being in the world is, therefore, the correct location field of where to begin to explain the world (Nicolini 2013). Practices are at the core of Heidegger's and Wittgenstein's work which are produced through the intelligibility of its performers at the time of action (Nicolini 2013). Other writers have been said to also fit with the practice theory approach, even though they were starting from different places.

Anthony Giddens developed structuration theory specifically to deal directly with the long standing problem associated with the dualism of structure and agency in social theory (Shove et al. 2012; Nicolini 2013). Giddens argues that the social structure and its components influence what people do in their lives whose actions, simultaneously, develop and reproduce the social structure. Giddens presents an account that deals with this dilemma in common sense logic that is theoretically grounded. Therefore, Giddens seeks to dissolve the dualism of structure-agency by proposing the *duality* of structure and agency rather than *dualism.* Although Giddens does not use the term 'Social Practice Theory', his work conforms highly with the SPT and it can be deduced that for Giddens practices are referred to as "regularised types of activity" (Nicolini 2013, p. 46).

In addition, Giddens puts forward certain characteristics that justify referring to some activities as practices while others do not. First, Giddens highlights the role of the knowledgeability of actors in such a way that those actors can describe discursively what they do and what practical reasons they have to do whatever they do (Nicolini 2013). Actors do not act unconsciously responding to surrounding structure and, thus, are not structural dupes. Second, practices exhibit themselves in routine day-to-day activities. Consequently, they are present in time-space structure and performed within the limits of the body (Nicolini 2013). Third, practices interact interdependently and reciprocally with each other to establish the unique social order in which they are situated (Nicolini 2013). These interdependencies are the source of durability and change of the social order through available resources for enacting the practice or handling of these resources by the knowledgeable individual.

Groves and colleagues (2011) applied Giddens' structuration theory to review the patients' safety structure in hospitals as reported in the literature. The authors argue that safety structure and healthcare workers especially nurses have equally important roles in the durability of the social structure of concern. Both components act mutually to affect the nature/activities of the other. For example, Groves and colleagues describe some scenario where long-employed nurses affect the organisationa policy placed to report safety incidents for the purpose of learning and auditing. This group of healthcare workers undermine such policies through their ongoing discourse and communication affecting beliefs regarding the policy among newer nurses (Grove et al. 2011). The outcome is that safety incident reports are still seen with caution as they are linked to blaming those involved (Grove et al. 2011). The authors reflect on the agency of healthcare workers to implement or weaken safety structures while on the same time such structures form the rules that nurses need to follow in their everyday practising of patient care (Grove et al. 2011). The knowledgability of these workers enables them to describe their position towards safety structure (Grove et al. 2011).

Despite presenting a rich theory of structuration, some researchers have criticised Giddens work and claim having theoretical and practical fallacies. Although Giddens presents a theory of structuration, his critics see that he overemphasised the knowledgeability of individuals (Nicolini 2013). Rather than dissolving the duality of structure and agency, Giddens skews toward agency at the expense of explaining and theorising the role of the materiality of the structure. From the practical point of view, critics argue that Giddens sets a highly theoretical account and does not provide satisfactory prescriptions to test the theory empirically (Nicolini 2013).

Pierre Bourdieu's work is usually linked to Giddens work because it is very similar. Bourdieu includes the study of practices in his *habitus* notion to refer theoretically to everyday activities of people (Nicolini 2013). Bourdieu's habitus deals with the dilemma of objectivism vs. subjectivism by theorising that practices emerge from the interaction between habitus, social capital and the field (Nicolini 2013). Habitus, here, refers to the dispositions that an individual has that guide his/her performances and create agency for the individual. As habitus is created through being in the social world, practices that evolve are always socially constructed. In this sense, habitus can be defined as "a set of mental dispositions, bodily schemas, and know-how operating at a pre-conscious level, that once activated by events (fields) generates practices" (Nicolini 2013, p. 55). From this definition, it can be understood that practices are situated in time-space and do not always play consciously, rather they can be performed through the internalised understandings of the individual in such a way that routine and habits are created. The regularity of these habits determines the subsequent behaviours and is the foundation of the social order.

Nicolinin (2013) attempted to explain telemedicine practice applied in some parts of Italy to monitor and care for patients. The field of concern is healthcare and the capital of healthcare workers involved can be identified as cultural capital referring to the knowledge production opportunity, social capital by being members of professional populations and symbolic capital of the prestige associated with being part of this population and involving in telemedicine provision (Nicolini 2013). The habitus involved here is mainly related to caring for patients. However, aspects related to hierarchial differences between nurses and doctors act at an unspoken and unconcious level to emphasise the power of doctors over nurses (part of symbolic capital) (Nicolini 2013). This set of habitus and capital in healthcare field inform subsequent actions of nurses working in telemedicine facilities who, although being part of telemedicine offered them an opportunity to resist the power differential between them and doctors, did not do so (Nicolini 2013). Telemedicine could shape the cultural capital of nurses by elevating the level of knowledge of caring for patients in a manner that they can work more independently and autonomously. The symbolic capital, however, played a more impactful role in shaping the habitus of healthcare workers (Nicolini 2013).

As in Giddens' work, critics argue that Bourdieu's work overplays the role dedicated to the individual in the empirical analysis and neglects the role of structure. This, in turn, carries the risk of situating the responsibility of change within the individual similar to the behavioural model's argument. Exclusion of non-human components tends to lead the theory towards falling short of fulfilling empirically what it sets to deal with from the start, that is the objectivism-subjectivism duality (Nicolini 2013).

Theodore Schatzki is one of the most influential philosophers in the turn of the practice theory whose work is largely influenced by Heidegger and Wittgenstein (Nicolini 2013). Schatzki supports these philosophers' argument that people always do what it makes sense for them to do and, hence, practices are a way of expressing the intelligibility of practitioners. Schatzki's proposal of social phenomena centralises practices as the unit of analysis. In Schatzki's own words: "the site of the social life is composed of a nexus of human practices and material arrangements" (Schatzki 2005, p. 465). This centrality of practices can be understood by referring to Schatzki's definition of practices as "open-ended spatial-temporal manifolds of actions" (Schatzki 2005, p. 471). By this definition, practices are enacted in a specific space-time point and are open to possibilities according to an individual interpretation which is determined by his/her understanding and social memories. Practices are composed of actions that can be "sayings or doings" and are linked together at the point of enactment through four mechanisms: practical understandings, rules, teleoaffective structures and general understanding (Schatzki 2012).

Practical understanding includes the practical know-how of the practice which participants have for the practice to take place. Participants know that the practice should be performed in a certain way that they can explain from a practical point of view. Practices take place by conforming to the rules in the specific social space and which, in turn, are enforced by those who possess the power to do so (Schatzki 2012). Rules govern practices by allowing certain practices to take place while others do not or by governing the way a practice is performed by participants with less power. Teleoaffective structures refer to the ends and mental states that participants aim to pursue when performing the practice (Schatzki 2012). Finally, general understanding implies that participants act reflexively to the context in which they are present (Schatzki 2012). In this way, Schatzki makes it explicit that practices are always social as they depend on the active participation of participants who come together to achieve the requirements of the practice. Thus, practices are justified to be regarded as the site of the social.

Furthermore, by considering practices as “a set of sayings and doings”, the role of the body is highlighted as the practices express themselves as bodily manifestations (Schatzki 2012). Discourse is considered as a practice as it uses the intelligibility of the individual and is manifested through the body. Indeed, the intelligibility of human actors is at the core of Schatzki’s account which gives humans exclusively their agency that cannot be attributed to nonhuman elements of the practice (Nicolini 2013). Schatzki explains this by the ability of humans to perform activities through intentionality and affectivity, which nonhumans do not have (Schatzki 2012). Humans, for Schatzki, are the actors of practices who utilise and interact with the materiality of the social space in order to fulfil such practices. Humans can, also, react to material changes to make certain practices endure, change or die. In this sense, Schatzki conflicts with other theorists who argue that nonhuman elements should be assigned agency as is the case for humans. Latour, for example, through his account of the actor-network theory claims that practices cannot be enacted without the dynamic role of the material elements of the scene (Latour 2005). Finally, Schatzki’s account also highlights the relationships between practices. Practices interact and form a ‘nexus’ of practices that coexist and depend on each other (Schatzki 2005).

In his book, Schatzki (2002) offered a detailed account of his theory of practices through an example of the Shakers’ medicinal herb business that thrived in the late 1700s and 1800s. To sum up, Shatzki described how this massive practice consisted of many practices such as herb processing, medicinal production and trading of the products in the United States and Europe. These practices were performed regularly in a way that it constituted the centre of people living in villages where the practice was established. The production practice, for instance, was comprised of many interrelated practical understandings such as grinding,

drying, storing, labelling and packing. The herb production was governed by a set of rules such as hiding of actual prices paid for supplies and received for medicines, herb gardens should be orgainised in square shapes and workhouses should be cleaned of rubbish regularly. On the other hand, people involved in herb production did so to realise some teleological ends such as making profit and ensuring that the machinery was functional. People also connected a set of affective structures when doing so such as anxiety when the industry is behind and satisfaction when it is working efficiently. All this is related to certain general understandings of communitarian dedication to the industry and the Christian religious perspective of labour.

Nicolini (2013) argues that Schatzki's account is too complex from the theoretical point of view while also being short in providing an empirical prescription. Loscher et al. (2019) support Nicolini's critique stating that 'the empirical application of the site ontology is still in its infancy'. Actor-network theory claims to resolve the empirical shortcoming of Schatzki's account by introducing 'follow the actor' principle (Latour 2005) rather than merely prescribing participant observation and not providing instructions as to what to observe and where to go (this will be discussed further below). The dispute between Schatzki's account and posthumanists such as Nicolini and Latour is, nonetheless, on the basis of humanist nature of Schatzki's account. Posthumanists' critique may not be valid as Schatzki offered a detailed empirical application of his theory of the Shakers' medicinal herb production and, in this study, we relied heavily on Schatzki's theory to explore toothbrushing and sugar consumption in Zaatari as well be laid down later.

Andreas Reckwitz, a cultural sociologist, provides the most frequently cited definition of a practice. For Reckwitz, a practice is "a routinized type of behaviour" (Reckwitz 2002, p. 249) which should not be comprehended as habits and behaviours; rather, it is a 'block' where multiple actions can fit (Reckwitz 2002; Shove et al. 2012). Reckwitz adds details to his definition of practice in order to understand how a practice emerges and stabilises by exploring the various elements that a practice consists of, and hence, becomes the first theorist to refer explicitly to the elements of practice. From Reckwitz' perspective, a practice

> *"consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge." (Reckwitz 2002*, p. 249*)*

Reckwitz (2002) differentiates practice theory from other types of cultural theories; which makes it not a distinctive theory on its own but a subset of cultural theory similar to mentalism, textualism and intersubjectivism. However, for Reckwitz, what differentiates

practice theory from other subtypes is where the theory places the ‘social’. The practice theory places the social in practices not in mental qualities (as in mentalism), discourses (as in textualism) or interactions (as in intersubjectivism) (Reckwitz 2002).

The individual’s contribution, in Reckwitz's account, is not only the bodily performances but also the mental activities of ‘understanding, knowing how and desiring’ (Reckwitz 2002, p. 250). In this sense, these routinised mental activities are considered the property of the practice instead of the individual. Furthermore, practices involve mental activities in such a way they are understandable to the individual and to the observer, not necessarily by being all the time aware of, for example, why a practice is performed in a specific way or the actions that compose a practice. Rather, the practicality of the practice is, explicitly or tacitly, relevant to the participant and he/she can describe and justify his/her performances. What is worth mentioning here is that Reckwitz incorporated feelings and desires into practice theory by proposing that these are created through the collective engagement in the practice. This engagement makes people perceive some practices positively while others negatively and not exclusively emerging from the internal mentality of the individual (Reckwitz 2017). Reckwitz refers to the psychological dimension of the practice as ‘affects’ and highlights the difference between these and emotions in a sense similar to the difference between practice and behaviour; that is, affects should be seen as socially constructed (Reckwitz 2017). Reckwitz here agrees with Schatzki when the latter describes ‘teloaffective structures’ where *telos* represent the ends and *affects* represent the mental status and associated feelings.

In his paper, Reckwitz (2002) sets the essential elements of a practice and how these are seen differently in different cultural theory subtypes. First, the *body* contributes to the practice through routinised bodily performances. However, Reckwitz contradicts researchers who see the body as an instrument that the ‘individual’ uses to perform an activity by explaining that it is not only the bodily movements that matter. Instead, the individual intellectualises his/her role in the practice through mental activities and uses his/her social memory to reflect on certain practices and ‘desire’ to engage in some, but not all, practices (Reckwitz 2002). For example, a child performing toothbrushing not only ‘uses’ his/her body as the instrument to hold the toothbrush; rather, he/she needs to ‘want to’ perform toothbrushing by ‘understanding’ what it means to do the practice.

Second, the *mind* is central for a practice to take place. As mentioned above, performing a practice requires the individual to routinely interpret things according to the collective social context which, consequently, results in routinised bodily performance. Any practice carries certain know-how, understanding and emotions that are processed through the mind. This makes practice theory unique in addressing the individual (body and mind) as an intellectual

and reflexive actor (Reckwitz 2017). In the toothbrushing example, the role of the mind is to link the intellectual engagement with the emotional aftermaths of toothbrushing and issue the corresponding know-how of the practice such as where the toothbrush and toothpaste are placed, which side of the mouth to start toothbrushing, what fluoride concentration to use and so on.

Third, *things* refer to objects and artefacts and are an indispensable part of the practice as any practice requires individuals to handle certain objects in certain ways to perform actions within the practice. Reckwitz argues that no priority should be given to subjects or objects in the reproduction of the social order (Reckwitz 2002). Things can enable or constrain performing a practice and, thus, can act mutually with individuals to reproduce the social order. By this, Reckwitz (2002) contradicts intersubjectivism which places the social in human interactions and ignores the core role objects have. Reckwitz, also, contributes to theorising sociomateriality within the post-human practice theory where his account deals with materiality as an essential element of the practice conforming with the argument presented by Gherardi (2017). Simply put, to perform toothbrushing, one needs a toothbrush and toothpaste as well as a space to do so such as above the sink in the toilet.

Fourth, at the heart of practising is the *knowledge* associated with the practice. That is, for an individual to ‘carry’ a practice, he/she must have an implicit understanding of that practice that is created collectively and is sensitive to the specificities of the historical and cultural context (Reckwitz 2002). Through this historical-cultural context, a participant understands the practical particularities of the practice within the specific interpretation system. Performing toothbrushing, for example, is linked to the collectively linked understandings of twice-daily toothbrushing habit. Doing so moves the person performing the practice to the population of people conforming to the norm as well as the direct benefit to his/her oral health status.

Fifth, *discourse* forms a controversial element in social and cultural theories. While textualism, for example, places the social in discursive activities, practice theory deals with discourse as an element of the practice as it is a way to express everyday activities in a meaningful way (Reckwitz 2002). Practice theory, also, considers discourse as a practice on its own; using Reckwitz terminology, for any discursive practice to take place, an ‘individual’ utilises the routinised ‘mental activities’ and ‘knowledge’ that are manifested through patterned ‘bodily activities’ (talking); in doing so, he/she has to use some ‘objects’ to make this possible including sound, microphones or computers. Thus, language as it is used routinely through the course of any practice becomes an element of that practice. This may be represented in the example of toothbrushing with the language that parents use to ‘make’

their children brush their teeth which could be of order or motivational nature for example. It can also include the language used in oral health promotion messages in TV advertisements or health education sessions in schools.

Sixth, Reckwitz considers *structure* as an element of any practice. However, he argues that structure does not exist before the social order is stabilised and both are maintained through the routinised performance of practices (Reckwitz 2002). These routinely undergoing practices are the basis of institutionalisation and the origin of structure which in turn affects the durability of practices by limiting or facilitating their reproduction. Hence, structure and practices are mutually constitutive supporting other researchers' theorisation of structure. The structure in the toothbrushing example includes social structures such as parental or oral health-promoting structures and material structures such as the characteristics of houses and economic structures.

Seventh and finally, all previously listed elements of practice need to join together for the practice to take place and what does so is the *individual/agent*. Here, Reckwitz draws himself away from considering the individual within neither the homo economicus nor the homo sociologicus dualism (Reckwitz 2002). Agents are neither autonomous and the social world is composed of the collection of single decisions (as in homo economicus) nor are they structural dupes whose actions conform to a set of previously determined rules (as in homo sociologicus). Individuals act intelligibly to interpret knowledge within the specific historical-cultural context and perform practices accordingly. This means that individuals are agential actors; in Reckwitz's own words, 'agents are body/minds who 'carry' and 'carry out' social practices' (Reckwitz 2002, p. 256). The role of the agent is apparent in toothbrushing as the person performing the practice is the agent who possesses (or does not) the genuine economic, bodily and mental ability to do toothbrushing.

Later, Shove and colleagues (2012) contributed to the understanding and theorising of social practice theory through their simply-put element-based theory (Figure 3.1). Shove and colleagues (2012) see any practice as consisting of three elements: materials, competencies and meanings. Materials represent anything that is utilised to perform a practice including objects, infrastructures and the body. This may contradict Reckwitz and Schatzki's theorisation of the body which rejects that the body is considered a tool to enact an activity. Rather, bodily movements are the outcome of the long processing of knowledge through the mind which the agential actor translates into acting in a certain way. Competencies refer to the practical knowledge associated with the practice. Competences can take the form of skills, understandings and knowledge required by the practitioner to perform the practice.

Meanings, on the other hand, represent “the social and symbolic significance of participation at any one moment” (Shove et al. 2012, p. 23).

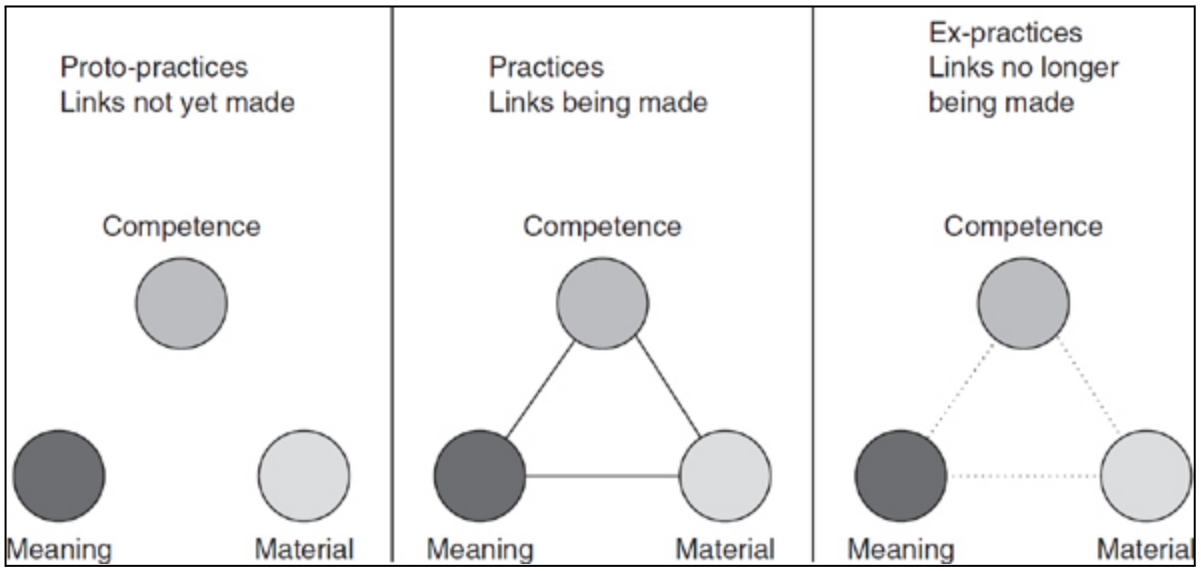


Figure 3.1: The element-based model of practices as proposed by Shove and colleagues (2012). (Copyright: Shove et al. 2012)

Shove and colleagues (2012) attempt to simplify the elements of any practice in a way more understandable and less confusing for researchers. Such simplification not only enhances understanding of the practice but also contributes to conceiving relationships between practices to form bundles and complexes as well as their emergence, stabilisation and defection. By viewing any practice this way, Shove and colleagues (2012) argue that understanding social change becomes a simpler task and, more importantly, planning policies that aim to bring about tangible outcomes in terms of, for example, sustainability and health becomes a clearer and more productive activity.

A summary of the element-based model of practice (Shove et al. 2012) can be listed as follows. For any practice to take place, an active integration between the three elements of the practice should occur (Shove et al. 2012). This active integration allows the practice to be carried out as a performance (Shove et al. 2012). By imagining any practice as a triangle which requires three angles to be referred to as a triangle, the integration of the elements at the time of enactment contributes to filling these three angles and completing the picture of the triangle as an entity (Reckwitz referred to as a ‘block’). Thus, the co-existence of the three elements of any practice is not enough, their active integration is necessary to create a practice that can be figured as an entity that can be referred to and described meaningfully (Shove et al. 2012).

These three elements are the core points to understanding practice change. Either elements are substituted with new ones or they are linked differently (Shove et al. 2012). This is an important point regarding the relationship between practices and their elements; while elements are combined to form a practice, they are simultaneously shaped by the dynamic evolution of the practice which can be a result of a distal factor (practices are related to each other in space and time, see below). Furthermore, elements of any practice are themselves interdependent and transformative (Shove et al. 2012). From this, it can be drawn that the dynamic relationship between the elements themselves and between the elements and practices implies that some elements are abandoned. Also, as elements can be shared among different practices, changes to any element imply changes to the set of practices it is involved in (with further changes to the elements of other practices as they are transformative). The relationships between the elements are not always collaborative; for instance, introducing new artefacts can compete with existing ones, breaking old links between elements and initiating new ones (Shove et al. 2012). By imagining the role of elements and their circulation between different practices, Shove and colleagues argue that elements "have somewhat independent lives of their own" (Shove et al. 2012, p. 120).

Moreover, as accomplishing the practice is a processual activity, it should be performed by sufficient actors repetitively for it to endure. Shove et al. (2012) refer to this process as recruitment. Therefore, any practice should recruit populations of "faithful carriers or practitioners" (Shove et al. 2012, p. 63) and for its reproduction over time, this needs to be a continuous process involving new generations. This implies that new carriers need to understand the practical knowledge of the practice and have the motivation to perform, which means that the symbolic significance of the practice is relevant also to them. As this is a continuous process, carriers should continuously engage in practices that make sense to them; once this is no longer the case, individuals may choose to withdraw from the practice which Shove et al. (2012, p. 74) refer to as defection. This may occur not only as individuals lose motivation to carry the practice for a longer time, but also because one individual carries multiple practices which compete for the time of the practitioner. Hence, the practitioner chooses to continue with practices that make more sense to them.

However, as elements of the practice are not equally distributed, so is the recruitment process. The sociomaterial resources of an individual's environment make him/her more or less susceptible to encountering the elements of the practice and having the opportunity to perform it (Shove et al. 2012). On the other hand, involvement in any practice carries consequences on individuals' lives creating a vicious circle which, to be interrupted, the elements of the practice and their links need to be addressed. Needless to say, encountering the elements of the practice does not necessitate performing it. As discussed earlier, the

practice theory deals with individuals as agential actors who use their body/mind and knowledge to make decisions. Shove et al. (2012), by these arguments, contribute to understanding inequalities and power relations, and the duality of structure and agency conforming to Giddens' structuration theory.

Practices are, also, linked to each other to form "bundles and complexes" (Shove et al. 2012, p. 81). When a practice co-exists with others, it is affected by and affects other practices. However, the mere co-existence of practices forms bundles that are loosely connected as their coexistence contributes to higher chances of their encountering and transformation but are not dependent on their presence. Coexistence does not only encompass the spatial dimension (co-location); it also implies the synchronisation and sequencing of practices. Coexistence can be the first step toward initiating interdependencies between practices that become tightly bound together in complexes. Outcomes of one practice, for example, can be resources for another. Complexes of practices are not always formed through collaboration as the relationships between practices could be competitive; practices can compete for elements or recruits.

The element-based approach of Shove et al. (2012) allows a simple understanding of how a practice takes place, reproduces and changes. It offers a simple framework for researchers and policymakers to approach practices of concern, and act to stabilise them or change them. Viewing practices, rather than behaviours, as the unit of analysis and change offers an effective basis for planning policies away from the abstract ABC approach which Shove (2010) refers to as Attitudes that drive Behaviours and individual Choices. Shove et al. (2012) conclude by arguing that adopting such a biassed approach (ABC) is a political position more than a theoretical position that governments favour in order to downplay their responsibilities and blame individuals for the conditions of their daily lives (Shove 2010).

Durey and colleagues (2021) applied Shove's and colleagues' element-based approach to understanding preschool children's oral health. Oral health among this group is centred around routinely performed activities; one example of these activities is feeding children. Feeding is a practice performed by parents that consists of material elements such as bottles and the content of milk or juice that needs to taste good and be effective which are the meanings of the practice. The competencies needed to accomplish the practice of feeding is the actual drinking by children. In turn, feeding is linked to other practices through the shared material elements. For example, juice is bought from supermarkets and when mothers go shopping, they have a meaning of saving money when doing so. Therefore, this meaning is affected by the intentional organisation of supermarkets to sell a specific brand of juice such as offers of 'buy one, get one' which direct mothers' subsequent practices. In

addition, feeding is linked to resting practices as effective feeding ensures children can sleep well and parents can rest. Consequently, feeding, resting and parenting can bundle together as well as feeding, shopping and selling, and these bundles as well as others form constellations that are linked to preschool children's oral health by impacting their sugar consumption and predisposition to dental caries.

Listed above are the main accounts that adopt the practice approach. However, there are other theoretical and methodological approaches that fit the practice discussion although not directly present themselves as practice-based approaches. Most relevant are actor-network theory (Latour 2005) and ethnomethodology (Garfinkel 1991). A detailed discussion of these two approaches is not provided in this section; however, they will be referred to where relevant.

Listing accounts of various practice-based approaches is necessary in order to understand their similarities and differences. Up to now, it becomes clear that there is no unified approach to the practice theory, but different approaches that all share some commonalities enough to be considered together. All practice theories insist on the significance of performance for the creation of the social structure. It should be noted that the relationship between performances and structure is recursively reproduced and is unique to the specific space-time point of enactment. Therefore, practices are sociomaterial accomplishments where neither the performers nor the structure exists before the point of interaction. Practice theory contributes to understanding sociomateriality beyond the inadequately theorised account of Giddens and Bourdieu to claim that the latest accounts take a post-human position to highlight the entanglement of the material and social worlds. Many sociologists such as Gherardi (2017) argue that even nonhuman elements of the practice possess agency.

Furthermore, a practice-based approach is open to discourses of inequalities and power differentials. As resources (elements) of a practice are not evenly distributed, this creates social inequalities that take the form of not only material power differentials, but also differences in practical knowledge, meanings and competencies as elements of the practice, not properties of the individual. As these are, in the same way, not evenly distributed, this renders some individuals to have higher authoritative power than others. Having said this, practice theory lends itself to the political interpretation of inequalities (Nicolini 2013). Thus, all human activities should be, in one way or another, linked to the political projections of systems of policies and organisations. However, the view of inequalities in practice theory is different from that of the social determinants approach; while the latter attempts to fit proximal inequalities to distal factors in a top-down manner, the practice theory takes a

wholly different approach by starting from bottom-up zooming in on the particularities of human activities and extending the lens.

As a consequence, it can be argued that the social practice theory has the potential to be applied in empirical research in many fields. Systems and organisations are composed of subsets of human activities that lend themselves to be studied by exploring what practitioners in these settings do in their everyday lives. Building on this comprehensive exploration of the practice theory, it is possible that the theory may well be really useful when applied in health research in general including oral health research. This is especially true in cases where health outcomes are highly institutionalised as is the case of refugee camps. The next section presents how social practice theory can be employed to study oral health in refugee camps.

3.2.2. Practice Theory and the Oral Health of Refugees in the Camps

This research project aims to understand the social organisation of oral health in refugee camps. As stated earlier current approaches either focus on individual behaviours or over-emphasise the social determinants of health. The former approach ignores the social context and the latter approach downplays the agency of individual actors. As we shall see, drawing on social practice theory enables a carefully nuanced examination of both the constraints of the camp and how newly formed practices develop. A closer look at the social organisation of the camp including daily social order (seen as routinised practices related to oral health) is necessary in order to understand how oral health practices in the camp are shaped. As discussed earlier, the social structure and social order are created and co-constituted by social practices. Therefore, in order to understand why people at refugee camps adopt certain health practices (including oral health practices), scrutiny on daily lives and activities, which are at the core of practice-based research, is required. Taking into account that people do what makes sense for them to do, it can be proposed that everyday activities are not haphazardly regulated. Instead, daily activities are organised through pathways connecting structural factors with human agency and vice versa. It is a central proposition of this thesis that oral health practices are no exception; people do (or do not) choose to practice. For instance, according to the element-based approach (Shove et al. 2012), looking at daily toothbrushing as a behaviour that can be measured (such as the proportion of people performing daily toothbrushing) would be seen as naive. Toothbrushing is instead a complex process linking material components necessary to perform toothbrushing (water, toothpaste, toothbrushes), competencies to do so (including hand

dexterity, muscle tension and practical know-how of toothbrushing), and meanings of the practice which encompass their symbolic significance of what it is to brush ones teeth (maintaining function, beauty or body hygiene).

Social practice theory can be extended to understand other oral health practices such as the consumption of cariogenic food and attending dental healthcare settings. This approach has only recently been adopted in oral and dental research stated in the example of Durey and colleagues (2021) explained above. Durey et al. (2021) draw on the approach of Shove et al. (2012) to understand the interconnections of everyday activities and their material elements and social meanings in the constitution of the current status of oral health among preschool children in Australia. Apart from this study, dental public health research is dominated by the behavioural approach. As stated in many occasions in this thesis, the behavioural approach adopts context-less methodologies reducing oral health outcomes to individual choices and behaviours, whereas the social determinants of health approach assumes passive reception by individuals of changes happening upstream. Durey et al. (2021), however, offered empirical evidence that the social practice approach could act as a “mid-range theory” (Durey et al. 2021, p. 312) corresponding to the call by (McNeil et al. 2022)

The practice-based approach can be seen as an alternative approach seeking to acknowledge the effects of structural and material factors at the same time as routine daily activity achieved through mental abilities and agency, which, in turn, reshape the structure where they are enacted (actually, effects may take place in other locations or times as practices extend in space and time). Therefore, the empirical application of practice theory necessitates a closer look at daily activities as these are embedded in space and time.

Moving closely to the situation in refugee camps and in light of the SPT, any change to elements of one practice, relationships within the practice or among practices, or time required by the individual to fit together different practices, eventually implies changes to the practice itself, associated practices and social order. This approach is promising for the study of how refugee camps are formed and structured and allows for the careful unpicking of the relationship between structure and agency. As refugees enter the camp for the first time, as we have seen, they enter a space-time void. This does not imply that refugee camps do not have space as it is located in a specific location, and neither does it imply that they are devoid of time as time is always present and is filled by human activities. Instead, it refers to the transient stage that refugees enter between their life back at home and their supposed-to-be life in hosting countries. Practice theory enables a flexible and nuanced approach to examine how social order in such a transient state is accomplished. Moreover, the social order is highly disrupted during the initial stay at the camp, which needs to be

re-established and stabilised through human practices. Indeed, the social order can be partly restored shortly after entering the refugee camp if refugees from tightly knit groups carry traces of the social order that existed in their homeland.

Practice theory enables the study of how the temporal and disrupted social order starts to be filled with human activities within the limits of material and regulatory conditions in the camp. It enables the close study of how all of these elements are related to each other. After a while of being in the camp, daily lives become routinised once again, people start to perform new (or restore older) activities which according to Reckwitz' (2002) definition can be referred to as practices. These practices which are formed through human performances and interactions are also affected by rules, regulations and material resources inside the camp and political governance outside the camp that may extend to global policies. The practical knowledge and skills required to perform a practice inside the camp are not the same as outside. For example, as mentioned in the previous chapter, refugees in Zaatari camp did not have water taps in their shelters during the early years of establishing the camp. Water is a material resource for toothbrushing. Families were required to bring water from water distribution points as a material element for family life to one place in order for the practices that form family life to take place. This activity alone should illustrate just how important the modified structure of daily life can be shaped by material elements of the camp environment. The meanings of the practice may change in the camp to conform to the new 'version' of the practice or the social perception of it, changing how it is understood. The next section outlines how social practice theory was applied in this thesis.

3.3. Empirical Application of the Social Practice Theory to Study Oral Health Practices in Zaatari Refugee Camp

3.3.1. Research Paradigm

In light of the previous discussion on the situation in Zaatari refugee camp guided by SPT, this research adopts a qualitative research paradigm meaning that it aims to study oral health practices in Zaatari in a naturalistic setting. It does not aim to objectively measure these practices, rather, it aims to understand and interpret what, how, and why such practices are enacted in the camp. However, in order to link the methodology and methods adopted, it is necessary first to explain the epistemological and ontological affiliations underpinning this research.

This research supports the idea that there is no single reality that is present out there independent of the individuals and the researcher existing in the context (Gray 2013). By this, this research contradicts the positivist paradigm whose main ontological and epistemological underpinnings can be summarised as there is one reality that can be measured by applying valid and reliable research tools such as surveys or clinical trials (Gray 2013; Yilmaz 2013). The positivist approach tends to study phenomena by abstracting certain aspects of these phenomena (those under study) from the context where it is naturally present (Silverman 2009; Yilmaz 2013). This is achieved irrespective of the people whose bodies and minds shape these phenomena by interacting actively with the material and social context and irrespective of the researcher whose cognitive, social and political dispositions interpret the phenomena by directing interpretations towards one, but not another, direction. Through this value-free position, positivist researchers believe that facts can be drawn from data objectively by testing a previously stated hypothesis (Silverman 2009; Yilmaz 2013; Rossman and Rallis 2017). Information is, thus, generated deductively by conforming data gathered in the research process to this hypothesis.

Contrary to the positivist paradigm, this research adopts a constructivist approach; that is there are multiple realities according to various understandings of these realities by the individuals and the researcher (Gray 2013; Yilmaz 2013; Robson and McCartan 2016). Multiple realities are formed through the interaction of individuals with the sociomaterial structure surrounding them and, hence, they are not features composed solely by an individual's cognitive understanding (Gray 2013; Robson and McCartan 2016). Individuals make sense of their surroundings and give meanings according to the social beliefs and norms which are, in turn, constructed through their active integration with the sociomateriality in which they are present along the time-space location. Consequently, these realities lend themselves to empirical studies which further complicates the form that these realities are presented as they are subject to the specific interpretation by the researcher who cannot do so in a value-free manner but is shaped by his/her social, economic, religious, political, etc., affiliations. Therefore, the reality is socially constructed and the role of the researcher is to unfold the way that it is constructed in the context and in light of the individuals' own understandings (Gray 2013; Robson and McCartan 2016).

This research, in addition, adopts an interpretive approach to reality by not only observing social phenomena but also trying to interpret them. This is achieved through a naturalistic system of inquiry; that is, interpreting social phenomena, in this case, oral health in Zaatari camp, in their natural setting (real-world research). By conforming to these underpinnings, it does not make sense to set an a priori hypothesis to be tested along the research process as data gathered are utilised to find patterns and themes (or theories) (Gray 2013; Rossman

and Rallis 2017). As this is the case, it is also logical that the research design will be a flexible one where decisions will be made through the course of the projects and the design adapted iteratively.

3.3.2. Research Design

As mentioned above, this research aims to understand the social organisation of oral health practices in Zaatari refugee camp. As it seeks to do so in a naturalistic setting, in order to explore how such practices are constructed and maintained in the sociomateriality of the camp, it adopts a qualitative research design. A qualitative research design is justified over the quantitative design as the epistemological dispositions of the project conform with the qualitative design.

A qualitative research design attempts to explore the natural world of participants by affording the centrality of the context in knowledge generation which could be captured through the senses of the researcher (Silverman 2009; Yilmaz 2013; Robson and McCartan 2016; Rossman and Rallis 2017). This context cannot be controlled as in quantitative design since it is believed that social phenomena and structure are mutually constructed and one cannot make sense of either without paying careful attention to the other. The messiness and complexities of the structure have direct and indirect implications on human practices which in turn affect their surroundings creating the lived order which is integral in studies exploring social practices. This is believed to be the case regarding oral health practices in the camp as the lived order in the camp shaped through the active interaction between camp residents and the wider environment there allows them to perform (or adapt) some oral health practices while inhibiting others.

Capturing the messiness of the lived order warrants meticulous attention by the researcher who should try to exploit his/her senses to do so as details are not necessarily always seeable, some can be heard or smelt for example (Pink 2015; Rossman and Rallis 2017). In addition, methods utilised by the researcher to gather data may not suit the participants involved or might suit some but not others. Hence, a qualitative research design should not be always confined to a single method of data collection; rather the researcher can use different methods in the same project that ensure data is as deep as possible which is an important feature of the qualitative design (Silverman 2009; Robson and McCartan 2016; Rossman and Rallis 2017). Depth is favoured over breadth of data and efforts should be made to ensure this (Rossman and Rallis 2017). Achieving this can be made possible by adopting a flexible research design from the start of planning the project which implies that decision-making is a continuous process of adjustment in order to ensure the best fulfilment

of the research question. Besides designing a flexible design using multiple methods to collect deep data, the trustworthiness of the qualitative research is enhanced as triangulation of research techniques (interviews, observations, photo-elicitation) allows comparison of the outcomes of different methods.

Furthermore, a qualitative design distances itself from setting a priori hypothesis as it considers knowledge generation a mutual process whose particularities cannot be predetermined before going to the field and observing or asking questions (Silverman 2009; Yilmaz 2013; Robson and McCartan 2016; Rossman and Rallis 2017). Data is thus generated on an inductive basis and the next steps are planned accordingly which requires simultaneous data collection and analysis. This is different from a quantitative design which collects data deductively according to a pre-set hypothesis. However, Rossman and Rallis (2017) argue that data collection in qualitative research cannot be purely inductive as the researcher enters the field carrying his/her own biography and theoretical perspectives. The ultimate goal is to draw a holistic picture of the settings and people in regards to the research question which enables the researcher to interpret data and use it for some benefit at the academic level or for the people involved.

The role of the researcher is very different in qualitative research from that in quantitative research. The researcher in qualitative research is the tool through which the research is conducted (Silverman 2009; Robson and McCartan 2016; Rossman and Rallis 2017). Therefore, the background of the researcher and his/her own social and political affiliations contribute to the process of knowledge generation along with the research participants and the context. As mentioned above, the epistemological paradigm underpinning qualitative research is not value-free and the researcher cannot process data gathered without being framed within his/her own normative disposition (Silverman 2009; Robson and McCartan 2016; Rossman and Rallis 2017). That is why the researcher should spell out from the very beginning his/her dispositions that he/she thinks would affect the data collection and analysis process. This is reiterated in the research course by the researcher being reflexive and subjective as sense-making is constructed in the complexities of the setting and its social and value system and presented through the lens of the researcher (Silverman 2009; Robson and McCartan 2016; Rossman and Rallis 2017).

From the above discussion, this research project proceeded as a qualitative research aiming to capture and interpret the social organisation of oral health practices in Zaatari in a natural setting. Every effort was made to apply the characteristics of qualitative design to generate deep insight into the complexities of these practices and draw a holistic picture from which subsequent research and policy planning can proceed.

3.3.3. Research Methodology

Taking into account the general aim of this research, to understand the social organisation of oral health practices in Zaatari, adopting a proper methodology that can best achieve this aim was necessary. Any research project that seeks to develop an account of people's practices warrants an understanding of their everyday activities that make these practices possible to achieve by providing the elements necessary for the practice. Building upon the simple element-based approach of Shove et al. (2012), the three umbrella elements of any practice (materials, meanings and competencies) are present or co-constituted through the structure in which the practice is taking place. Exploring these elements requires the researcher to dig deeply into the everyday life of practitioners to understand, from their perspectives, in a natural setting, what is going on and how practices are shaped.

From this basic assumption of a practice-based approach and its intersecting concepts with qualitative research, it can be deduced that a qualitative design was the most appropriate for such projects. Nevertheless, within qualitative research, several methodologies exist and each provides promising routes to study practices from one angle or another. However, it remains that ethnographic methodology is the gold standard of qualitative research. Many researchers and theorists of social practice defend ethnography as the method of choice if the researcher needs to build a holistic view of the practice under study (Schatzki 2012; Nicolini 2013). Ethnography provides the opportunity to experience first-hand the sociomateriality of the practice by spending long periods of time with those practising it.

According to Schatzki (2012), any attempt to study practices should involve ethnography and basically participant observation. Although Schatzki (2012) does not rule out interviews, he sees them as complementary to participant observation and not a stand-alone methodology. This perspective is shared widely with other researchers; for example, Martens and colleagues (2014) draw on the basic assumption of social practice theory of diverting attention from the individual toward the sociomateriality of the structure which individuals translate through their embodiment and represent as the mundane daily activities. By endorsing this principle, Martens et al. (2014) continue to argue that these very details of mundane activities do not necessarily lend themselves to being expressed through language and, hence, can only be captured by the researchers 'being there' and immersing themselves in the field. Martens (2012) refers to the inadequacy of qualitative interviews to gain depth into the activity itself. Martens (2012) conducted ethnographic research combining observation through visual methods (will be discussed later) with interviews on dishwashing practices. The interviews were conducted before observation and at a six-month interval which enabled Martens to make conclusions and set comparisons

between these two methods. Martens (2012) argues that only by observing can a researcher capture details of a practice that the practitioner assumes are irrelevant, unnecessary or subconsciously performing and thus not mentioned in an interview. Observation also allowed Martens (2012) to explore the interaction between the practitioner and the materiality of the setting in which dishwashing is taking place and which interviews are unlikely to capture especially if the interviews were conducted in an unfamiliar setting to the practitioner. Interviews, according to Martens (2012), allow for exploring the teleoaffective structures of the practice but are insufficient to understand the activity itself.

This argument is supported by other researchers conducting practice-based projects such as Miettinen and colleagues (2009) who afford 'an empirical programme, ethnographic in its sensibility' (Miettinen et al., p. 1312), to understand from the participant's point of view their practices. Miettinen et al. (2009) support their argument theoretically, as any practice is the outcome of the duality between structure and agency. Consequently, this implies physical interaction with material artefacts that cannot be captured or, ethnographically written about, without living side by side with the research participant in the context where the practice is taking place and observing the details of the practice (Miettinen et al. 2009). Hargreaves (2011), in studying pro-environmental behaviour change, adopts a constructivist research paradigm and argues that studying practices should involve an ethnographic approach. Furthermore, Hargreaves (2011) criticises the way some practice-based projects are conducted by concentrating on a single practice and neglecting the collaborating and competing practices associated with the practice which shape the way the practice is enacted. Hargreaves (2011), also, insists on the importance of taking social and power relations between practices and how the practice is moulded by the identities of people performing it into account during the analysis of any specific practice or collection of practices.

Moreover, along with Hargreaves (2011) defending the social constructivist paradigm, Halkier and Jensen (2011) adopt the same paradigm and argue for its appropriateness as it offers the capability to bring to the fore the social organisation of any practice by exploring its entanglement as a web of practices that are reproduced and changed dynamically. Although Halkier and Jensen's (2011) project on food consumption practices among ethnic Pakistani-Danes utilises an ethnographic approach, it does not rely on participant observation solely. Rather, the researchers combine observation with in-depth interviews and auto-photography. Halkier and Jensen (2011) support their argument with that of Atkinson and Coffey (2001) of the misleading preference of participant observation over interviewing and the ability and capability to enhance research findings and trustworthiness through their combination which is known as triangulation of methods. Halkier and Jensen

(2011) and Atkinson and Coffey (2001) argue that by observation alone, the ethnographer might not understand certain details that can further be elaborated through the linguistic discourse generated during interviews. While observation allows the ethnographer to spotlight some details of the activity, interviews can continue the process of understanding social practices by drawing attention to other aspects and unearthing details that can be spoken of but not seen. Both methods can be seen as parts of the whole of the enactment of the practice and, hence, should be explored.

Many other researchers adopt the ethnographic design in their practice-based projects. Among the most frequently cited is Nicolini (2009) who studied the application of telemedicine in some parts of Italy. Nicolini (2009) refers to his project as having an ethnographic methodology despite that he utilised various methodologies and defended his 'programmatic eclecticism' to exploit the sensibilities of different methodologies to study practices (this approach will be discussed in detail later in this chapter). Jarrett and Liu (2018) also applied a specific type of ethnography by using videotaping to study actors' practices in two organisations as practice-based research is thriving in management studies in general. Sarah Pink, a well-known anthropologist and methodologist in the field of social practices, utilised an ethnographic methodology in many of her projects and projects she collaborated in. However, Pink tries to utilise an innovative approach to dig into the mundane activities that people do indoors such as laundry and encourages researchers to manipulate their methods and exploit the flexibility of qualitative research design to gain better access to such practices (See Pink 2015; Pink et al. 2013; Pink et al. 2015).

An ethnographic research approach is basically introduced to study a culture from the inside through natives' perspectives (Robson and McCartan 2016; Baszanger and Dodier 2004; Delamont 2004; Silverman 2009; Rossman and Rallis 2017). Ethnography has its roots in anthropological studies to study exotic cultures, but it was later adopted by sociological qualitative academics who adapted it to study phenomena or settings from a naturalistic point of view (Robson and McCartan 2016; Baszanger and Dodier 2004; Delamont 2004). What is essential to this methodology is to produce thick observational *in situ* data that is capable of being reproduced through ethnographic writing to transform to the reader what is really going on and how people native to the research setting are thinking and acting (Robson and McCartan 2016; Baszanger and Dodier 2004; Delamont 2004; Silverman 2009; Rossman and Rallis 2017).

To do so, the researcher should immerse him/herself in the field for a prolonged period of time. During this, he/she is able to capture the lived order and understand first-hand the phenomena under study. Being obliged to understand and analyse these data from the

perspective of people experiencing it, the researcher should, from the outset of the study, set his/her personal affiliations and how these might affect the data collected or the analysis process. As mentioned above and in conformity with the principles of qualitative research in general, this does not mean that the researcher should lead a value-free project. Rather, the research process cannot be argued to be totally value-free, and hence the researcher should be honest by stating how he/she, as the research tool, affects the progress of the study by being reflexive throughout.

In addition, the researcher should remain open to elements that emerge from the field (Silverman 2009). This means that the researcher should distance him/herself from setting any priori propositions or theories as there is always a possibility for unpredictable findings to emerge taking into consideration the uniqueness of every setting and the difficulty of generalising values from one setting to another. This is vital to understand as it has a huge effect on the data collection and data analysis process as the researcher should follow an essentially inductive approach rather than deductive.

Another important aspect of ethnographic research is its interconnections with past and present theories and phenomena (Silverman 2009). As data is generated through the research process, patterns are searched, and attempts to interpret these within the framework of past work in the field. This does not contradict the previous point of openness of ethnographic research but acknowledges the cumulative nature of knowledge; one research finding can feed and complement another. However, theories are grounded in the data produced in a bottom-up rather than top-down fashion and data analysis progresses side-by-side with data collection as results from the analysis of a set of data can affect the manner in which data is collected (Delamont 2004). By the end of this process, the researcher should be able to produce a thick description of the field using terms and values specific to the setting to wipe out any presumptions or prejudices formed in the minds of readers about the research setting (Robson and McCartan 2016).

Many variants of ethnography have been developed but the traditional variant, also referred to interchangeably as fieldwork or participant observation, is the hallmark of ethnography and of qualitative research in general (Rossman and Rallis 2017; Delamont 2004). Other researchers point out that data cannot be always seen and the researcher should be able to utilise all his/her senses to capture the practice as it is performed (Pink 2015). Thus, other techniques can be applied. This is true, especially in practice-based research where the details of everyday life are the core enquiry of such research projects. This is the basis of visual ethnography and sensory ethnography where researchers argue that the researcher

should remain open to all details in the scene and utilise the technologies available now to enhance this process.

In this study, ethnography was justified to be the most appropriate methodology to adopt, especially in light of the lack of such studies in the field of oral health of refugees in general and in refugee camps in particular (as outlined in the previous chapter). Ethnography can aid in understanding oral health practices in Zaatari camp by spending a long time with families and individuals in the camp and gaining insider insight into the elements (or lack of) of such practices. Only by living and participating in these practices, the ethnographer can produce such knowledge where to proceed into further research or action. However, as outlined above, practices taking place ‘here and now’ are the product of other practices ‘there and then’ in such a way they are entangled as a web of practices that are co-constitutive and transformative of each other and the social and material world they are present in.

It is inappropriate to set a single universal method to capture these connections and the researcher should plan for a flexible approach where various methods can be applied according to the appropriateness of the setting or preference of research participants. In addition, different methods are capable of capturing different details of the practice. For example, as discussed earlier, while participant observation can capture details of the activity itself, interviews can shed light on accounts of the participants regarding the activity. Similarly, diaries gathered by the researcher could be used to reflect on the experience of performing the activity and allow the researcher to go back to the field and explore certain aspects further. Video recording has been recently incorporated into ethnography and allows the ethnographer to see details that he/she is not able to do while in the field as he/she might be busy observing others.

The incorporation of a multi-method approach is widely recognised in practice-based research. In fact, theorists of practice argue for the use of multiple methods in order to study social practices. Schatzki (2012), while supporting an ethnographic methodology, criticises reducing it to participant observation which, despite being the gold standard technique and necessary one, can be combined with other methods such as interviews and videotaping. These other methods are considered part of an ethnographic design and are not differentiated methodologies (Schatzki 2012). As mentioned above, Martens et al. (2014) consider practices as the outcome of multiple smaller activities and experiences that are embodied by the practitioners' minds and bodily choreography and to be able to study them, the researcher should explore data that are visualised, embodied, sensed or talked about. This means that in order to achieve novel insight into the practice, a selection of multiple methods and an innovative approach by the researcher are required (Martens et al. 2014;

Martens 2012). Various examples are present for research combining methods to explore practices. For instance, Martens (2012) combined observation and interviews in studying dishwashing and Halkier and Jensen (2011) combined in-depth interviewing, auto-photography and participant observation in consumption research. Nicolini (2013), in his book, explains the multiple accounts of social practice theories and how different methodologies can be utilised in practice-based studies. Nicolini, then, introduces his own approach which he personally applied to study telemedicine in Italy. Nicolini refers to his approach as a 'programmatic eclecticism' incorporating a 'theory-method' toolkit. By this, Nicolini recommends the researcher go back and forth and switch theories of practice and incorporate methods that suit each step of the study (this will be discussed later).

Furthermore, going back to the characteristics of social practices as a practice taking place 'here and now' is entangled in a web of practices taking place 'there and then', any practice cannot be studied in a single locale if a holistic picture of the practice is to be drawn. This directs attention to what is called 'multi-sited ethnography' which suggests that the ethnographer might find him/herself obliged to move between settings in order to understand the topic under study. The same applies to studying practices, as to understand what people do and why, the researcher should unearth the relationship between the practice under study and other practices taking part somewhere else by following any of the elements of the practice. Marcus (1995) argues that for the ethnographer to understand a specific culture, he/she should expand the ethnographic picture rather than simply add peripheral perspectives. Marcus, also, suggests that this can be achieved through tracing complex phenomena by following their components. This can be applied by following the people; the thing; the metaphor; the plot, story or allegory; the life or biography or the conflict (Marcus 1995). This principle forms the basis of Latour's (2005) approach to study practices which argues that in order to follow practices in the social and material worlds, the researcher should follow the actor. The actors here may be humans, objects or other components of the arrangement in which the practice takes place. In this study, these techniques were applied to follow the participants (through shadowing for example) through their everyday management of water, shopping or gaining knowledge about oral health. Similarly, following sugar was identified as a productive approach by following its consumption within the family, sharing it during celebrations, its sources within the camp and the regulations that organise its movement to and out of the camp. Again, many studies on social practices applied a multi-sited approach such as Nicolini (2009) and Hennell et al. (2020).

At the end of this discussion, it can be justified that the research paradigm and research design of this project can best answer the research question through a qualitative ethnographic study. However, due to the situation of the Covid-19 pandemic which hit the

world in the middle of planning this study, field-based research activity was affected. The pandemic placed extremely hard barriers to the ability of the ethnographers to immerse themselves in the field due to the risks they juxtapose themselves and the research participants and in conformity with the guidelines and restrictions on mobility and travel, this research project was not possible to proceed as intended previously. Therefore, I should state at this point that the broad approach is ethnography but I have not done a full ethnography because of time and the COVID pandemic. However, I have used numerous recognised 'ethnographic approaches' from virtual methods to focused ethnography that will be described in detail below.

Every effort was made to ensure that the project could still meet its research question with the highest possible degree of trustworthiness. This originated as a moral and ethical stance to explore genuinely what affects the social organisation of oral health in Zaatari camp. According to Rossman and Rallis (2016), the aim of any qualitative research should be learning and the researcher is situated as the learner whose very first value should be an ethical one. This is achieved by generating information that can be further translated into better knowledge about the research topic or feeding policies that are in place for the research participants. In the next section, a brief discussion of the impact of the pandemic will be presented as well as academics' reactions to it by providing recommendations and alternatives to proceeding with research projects; some of which were implemented in this study.

3.3.4. The Impact of the Covid-19 Pandemic on Fieldwork

The Covid-19 pandemic placed unprecedented challenges on people’s everyday lives. This included the self-isolation for vulnerable groups, working from home, limited mobility and socialisation. Similarly, it affected largely the ability of researchers to continue or begin a fieldwork project. This was through the regulations put in place to limit almost all people’s movement and travel around the world and most importantly as an ethical issue to limit participants’ exposure to risks of contracting the virus who might at times be considered as high-risk groups.

Researchers were aware of the impact that Covid-19 pandemic has on field-based research and started individually or in contribution with each other to find possible alternatives. The impossibility of undergoing conventional ethnographic research meant that novel methods should be applied if the researcher is to gain insight into the everyday lives of participants so as not to jeopardise the quality of the research (Góralska 2020; Günel et al. 2020; Ghosh 2020). Academics recommended making use of the innovations that are present and

constitute an important part of everyone's daily life. These innovations are already in use in anthropological and sociological research; however, these unprecedented conditions presented them to the fore as an alternative to continue or start a qualitative study. For example, Sarah Pink uses various videotaping gadgets throughout her research (Center for Global Ethnography 2020). She, also, states that she has already been working remotely for seven years even before the pandemic started. Pink (Center for Global Ethnography 2020) appreciates the value video recording by the participants has on giving the researcher a sense of being in the field as well as being invited to scenes not otherwise practical or thought of. This is particularly true when the practicality of filming by the researcher is compromised as in one of Pink's projects on cycling commuters where the researchers do not have the capacity to cycle along with more professional cyclists. Pink also argues that the motivation of the participants is an important factor as if the participant already has a passion for self-tracking. In addition, the participants might generate videos for situations or activities not recognised by the researcher as they understand with higher clarity the research question and can guide the researcher for relevant materials (Center for Global Ethnography 2020). Pink highlights the importance of viewing videos as shared material to be viewed and discussed along with the participants. Moreover, she emphasises the opportunity digital media offers while at the same time not being the centre of attention.

Since the pandemic, Pink along with her colleagues continued their already established research projects on urban mobility in Sweden where they developed and sent ethnographic packs for participants with details on how to record diaries and attend online interviews. Another project on intelligent home solutions for independent living by the elderly uses videos generated by the participants which provides the researchers with an idea of the spatial environment in which research participants live (Center for Global Ethnography 2020). A new project designed to study the effect of social distancing on social work during the pandemic was also under progress (Center for Global Ethnography 2020).

Góralska (2020), also, has been undergoing anthropological studies remotely before the pandemic started. Although, unlike Pink, Góralska's concern is ongoing health communication on social media such as Facebook, some advice can be stated for digital ethnography in general. The term 'digital ethnography' might be misleading as some researchers regard the 'digital' as the setting of the research itself, while others consider it as the media through which the researcher can gain access to the research setting. Nonetheless, Góralska argues that, during the pandemic, the 'digital' was the most reliable medium for ethnography acting as a "window onto a whole universe of human sociality and cultural creativity" (Góralska 2020, p. 50).

Realising the inalienability of digital devices for a growing number of people every day, Ghosh (2020) calls on researchers to utilise the opportunity this provides. Long and sustained communication between researchers and research participants can be established through digital media. Digital media can also facilitate conversation by conducting online interviews and overcoming the challenge of travelling which has financial and time-wise implications for the research process. Stronger rapport was more likely created between the researcher and research participants during the pandemic when many people around the world were locked in their homes (Ghosh 2020). However, this should not be at the expense of jeopardising the mental health of participants, as the researcher should be sensitive to the stresses the pandemic had on people and not take as granted that people then had more time available for communication and taking part in the research (Ghosh 2020). Furthermore, Ghosh draws attention to the possibility that digital media can facilitate a multi-sited project where the researcher can collect data from multiple sites and be able to generate a clearer, more holistic picture of the research topic.

A co-constituted document was shared at the start of the pandemic (Lupton 2020). Academics were invited to feed the document with their insights and recommendations as well as reflect on their own experience of incorporating innovative techniques to undergo fieldwork research. The document includes various methods such as video recording, digital diaries, online interviews and online discussion platforms.

Regarding this research project and in line with the impracticality of undergoing fieldwork research immediately as recommended by public health institutions, the project continued as a ‘virtual ethnography’. In other words, this is qualitative research utilising various synchronous and asynchronous digital methods to study oral health practices among refugees in Zaatari camp. Regardless of the terminology (whether digital or virtual), Pink et al. (2015) list five key principles for conducting a digital ethnographic study. First, the multiplicity of research methods as interactions are mediated through digital media; hence, the selection of methods is interdependent on the research setting such as participants’ preferences, the research question and the existing infrastructure. The availability of internet services or accessibility to social media which is sometimes controlled through social and political power differentials are important factors as to which methods to use and on which platforms to communicate. Considering the case of Zaatari camp, 89% of refugees have their own mobile phones with 69% connecting to the internet only through them (Xu and Maitland 2016). With expectations that these figures have risen since then, using mobile phones as the medium of communication seemed possible.

Second, the digital is de-centred as it is viewed as the means by which the researcher gains access into the field and daily routines of participants rather than being the focus of the study. Third, digital ethnography is an open event. And here, Pink et al. (2015) introduce the term ‘event’ rather than places as data, gathered through various methods and from different sites or groups of people, are used to recreate a sense of ‘place’. Therefore, the study as an event is open to different methods and to collaboration from different sectors that might be involved or can benefit from knowledge co-produced in this event (Pink et al. 2015). Fourth, the researcher should pay meticulous attention to being reflexive during data collection and analysis as the world consists of material and sensory elements that are to be captured through virtual methods (Pink et al. 2015). Finally, as the goal of any qualitative research is to understand how social reality is produced, the researcher should follow an unorthodox approach to gaining access and producing knowledge (Pink et al. 2015). This meant that, as the researcher, I should adopt more exploratory and collaborative approaches to knowledge production (Pink et al. 2015).

Ahlin and Li (2019) incorporated these principles into their studies where Li examined food practices among young Chinese migrants in rural Malaysia and Ahlin studied transnational families of nurses in South India and Oman. Although Ahlin and Li designed their studies to conduct face-to-face interviews and observation, they found themselves coerced into communicating with individuals thousands of miles away and following them through varying time zones. Ahlin and Li (2019) highlight the need to create a ‘field event’ in order to comprehensively understand their research topics. Field events, according to Ahlin and Li (2019) are co-created through the practices of researchers, study participants and the digital methods of communication utilised through this process. Therefore, it cannot be denied that technologies play an important role in reproducing the spatial and social environment of the research setting and this effect should be reflexively incorporated into the data collection and data analysis. By this, Ahlin and Li support the actor-network theory’s proposition of the agency of material elements as without these technologies, the study cannot take place in the same way and hence research findings could be different.

By acknowledging the role of research participants in reproducing the field event, it is also apparent that they are an important part of knowledge production. Similar to any qualitative study, data are collected from the perspectives of research participants in natural settings. However, research participants’ role in studies that ask them, for example, to produce films or photos or create a diary, is more than observing them performing a practice or asking them about their meanings. Knowledge produced this way is different as research participants are actively engaged in each step of the study process and can shape and guide the researcher into methods and scenes ensuring higher productivity and less time wasting.

As research participants understand the research question more clearly and as they are actual data collectors, it can be argued that the research in such a case has a participatory design.

Bergold and Thomas (2012) argue that in order to study the social world of participants and their habituated practices, participatory research is a fruitful design. In this way, the researcher steps back 'cognitively' from the setting that is familiar to the participants and from the power imbalance between him/herself and the research participants and allows them to spotlight things that are relevant and meaningful (Bergold and Thomas 2012). This is clearer in health research when the aim of the research is to explore and understand health practices rather than changing them during the course of the study (Bergold and Thomas 2012). This makes a clear distinction between participatory research and action research where the former implies incorporating people in knowledge creation whereas the latter mandates action made during the research process (Bergold and Thomas 2012; Cornwall and Jewkes 1995).

Consequently, the methodology that is described in detail below follows principles of focused ethnographic research incorporating digital methods for data collection. At the same time, as these methods involved people as data collectors, a participatory approach was applied. These measures were developed in an attempt to overcome the challenges of conducting fieldwork research during the Covid-19 pandemic and optimise the credibility and trustworthiness of the research findings. In the next section, Nicolini's programmatic eclecticism approach to studying practices is discussed which was applied in this project.

3.3.5. Nicolini's Theory-Method Package

Nicolini (2013) argues that as there are different versions of practice theories that share common elements, it is justified to study practices using an eclectic strategy. This adds value to the study as it exploits the sensitivities and strengths of theories of social practice in order to capture the particularities that shape any practice and its interconnection within a nexus of practices (Nicolini 2013). Nicolini excludes the need to introduce a new theory and, instead, he sets an approach that can be utilised iteratively by researchers willing to study practices. This approach, as it incorporates various versions of practice theory, also incorporates various methodologies and methods. Nicolini refers to his approach by different terms including programmatic eclecticism, theory-method package or toolkit approach.

The toolkit approach, in general, consists of two main movements: 'zooming in' on the accomplishment of the practice itself and 'zooming out' to study its interconnections in space

and time. However, these are not discrete movements that have to be undergone in order. Rather, these movements can be conducted at the same time, and the findings of one movement can be incorporated iteratively into the other. In addition, the data analysis process should start early during data collection and feed it. Hence, the researcher may find him/herself moving back and forth between zooming in, zooming out and data analysis (Nicolini 2013). In the following, a general preview of the toolkit approach is provided.

3.3.5.1. Zooming In: In The Beginning Was The Deed

This movement focuses on the practice as the object of enquiry. It is intended to study how and why participants perform the practice and emphasises the local social and material elements of these performances. Nicolini suggests utilising certain methodologies such as ethnomethodology and micro-ethnography to gain adequate insight into the accomplishment of the practice. In this movement, multiple particularities can be addressed which the researcher should attempt to explore and understand. Nicolini gathers what can be looked for by zooming in as a palette (Nicolini 2013, p. 220) where he recommends the researcher to use whatever is relevant to his/her study with the possibility of being innovative and adding more to this palette.

Put simply, according to Shove et al. (2012), elements of the practice need to be explored. These include the materials, competencies and meanings of the practice. Schatzki (2002) refers to these as the basic doings and sayings of the practice in the activity-space where it is performed. Regarding the oral health practices in Zaatari, these elements and how they combine in place to make such practices possible were the objects of inquiry.

3.3.5.2. Zooming Out

This movement intends to study how one practice is interconnected to other practices and to the wider sociomateriality of the environment in space and time. This can be done if the researcher attempts to answer three questions (Nicolini 2013). First, what are other practices related to the practice of concern? These could act in a collaborative, enabling or conflicting manner and can form bundles and complexes of practices. Second, what effect does the practice under consideration have on the wider picture of the setting? Any practice could contribute to reproducing the social order or conflict with the existing arrangements. These relationships need to be explored as well as their effects on people performing the practice. Third, how do the existing practices and their interconnections shape the world as it is and how could the world be otherwise? By answering this question, the emergence and evolution of the practice which are the product or power differentials over time are a topic of inquiry in

order to draw projections of how the practice could evolve further and how any intervention can be incorporated.

To achieve these goals, Nicolini suggests utilising methodologies such as the sociology of translation and actor-network theory. The main aim in zooming out is to follow the elements of the practice, which according to Shove et al. (2012), could be accomplished by following either the material prerequisites of the practice, competencies needed by the practitioners to perform the practice or the symbolic meanings of performing it.

In the case of studying the oral health practices in Zaatari camp, this movement can be achieved by following the material elements of sugar consumption and oral hygiene practices. These can include following sugar-containing products, how families come to have these, the food-retail markets in the camp and policies that regulate their entrance into the camp. Alternatively, oral hygiene products can be followed and any other material elements needed to accomplish the practice such as water and basins inside shelters. Furthermore, enabling and competing practices need to be explored such as child-caring.

As this project proceeded with major contributions from the participants themselves in a participatory manner, I thought that their participation in data analysis was very important. Researchers cannot analyse the practices and what every activity means to participants by merely looking at videos and pictures or by observing participants performing the practice. Therefore, I spent time referring back to these materials with the participants, asking questions or using some elements in these visual materials as prompts to generate further depth into my understanding of the practice and what it meant to them. Jarrett and Liu (2018) recognise these benefits in their video ethnographic study where they incorporate a participatory approach by viewing videos recorded in meetings in an organisational setting along with participants. Jarrett and Liu's (2018) approach aims to establish trust and rapport between participants and researchers in order to facilitate a constructive discussion and gain the participant's perspective of what was going on during the meeting. Jarrett and Liu (2018) call their third movement (in addition to Nicolini's zooming in and zooming out movements) 'zooming with'. By zooming with, Jarrett and Liu (2018) argue that, through three important aspects, zooming with adds value to their research, which are recollections, reflections and reflexivity with the latter having the most powerful impact.

It is worth mentioning at the end of this section that Nicolini emphasises that his toolkit approach is not a fixed one. The researcher can adapt and add methods that he/she believes best serve his/her research question. To this end, this project responded to Nicolini's call to utilise the toolkit approach with the incorporation of participatory methods of zooming with as described by Jarrett and Liu (2018). The next section in this chapter

describes the methods that were adopted with the emphasis that a flexible approach is in place as these methods have not been applied before in the scope of studying oral health practices in refugee camps.

3.4. Materials and methods

3.4.1. Stage 1: Zooming In

3.4.1.1. Sampling

As the project started virtually due to Covid-19 pandemic, the sampling technique adopted here was also virtual. Besides, starting with no existing contacts from within the camp, the sampling strategy had to locate and recruit eligible participants. To overcome this challenge, a snowball sampling technique was adopted, also referred to as chain referral sampling, where I recruited a number of participants who in turn referred me to others in their social network (Biernacki and Waldorf 1981). This technique is widely used in sociology especially when the community from which a sample is to be drawn is hard to reach due, for example, to be low in number or adopting stigmatised behaviours (Baltar and Brunet 2012; Sadler et al. 2010). Sadler et al. (2010) and Baltar and Brunet (2012) adapt snowball sampling into virtual networks and call their strategy the ‘virtual snowball sampling method’ where they use Facebook as the media for recruiting Argentinean immigrant entrepreneurs in Spain. Baltar and Brunet (2012) argue that their method has the potential to expand the geographical scope and enhance the representativeness of the sample. In addition, trust can be enhanced between the researcher and the participant as they are able to see profiles of each other (Baltar and Brunet 2012). Snowball sampling can, also, save money and time compared to other sampling techniques (Sadler et al. 2010).

Nonetheless, the technique carries the risk of sampling bias and over-representativeness of participants with similar characteristics to those recruited at the first stage of the sampling process (Magnani et al. 2005). Several modifications can be made to ensure this is not the case. Magnani et al. (2005) suggest the application of another technique called ‘respondent-driven sampling’ where the initial informants (called seeds) can only recruit a small number of participants who in turn should have a pre-existing relationship with the seeds.

In this project, snowball sampling with some modifications from respondent-driven sampling was incorporated. First, initial participants were invited to join. These initial participants were located using the pre-existing social networks of family friends and neighbours. After the

Syrian civil war, many refugees lived in urban areas in Jordan where they were incorporated with the Jordanian community. Due to the cultural and religious backgrounds of both Syrians and Jordanians, they were able to build relationships straight forward and social networking practices were established. Therefore, since these Syrians had relationships with people in Zaatari, they were asked to nominate some to take part in this project. However, after first contact with a few of the potential participants, some of them expressed apprehension about being contacted because they were afraid of the risk of scamming that they experience regularly regarding funding, for example. So, a decision was made to change the way participants were contacted which originated as an ethical issue not to jeopardise these vulnerable people. The members from the social networks who nominated potential participants were asked to make the first contact themselves as there were personal relationships connecting them. They explained to the participants the purpose of the study and gave them the primary researcher's name and mobile number.

Later, these potential participants were contacted by the researcher via WhatsApp where they were sent the participant information sheet (See Appendix 2) both as a written message and as a voice message to allow for varying levels of literacy. Indeed, the modification to the manner participants were first contacted was productive as they anticipated this contact. Moreover, the role of personal social networks in pushing the process of recruitment cannot be ignored. This may reflect less of a power differential perceived between participants and these contacts than between participants and myself as the researcher. It may also be related to the language of communication as it was less formal and used a closer taxonomy. After initial communication, possible informants were determined who also needed to be as varied as possible to lower the risk of bias. At the second stage of recruitment, these potential 'seeds' were contacted to refer to other participants in their social networks and so on until an appropriate number of participants was employed. Twelve participants were recruited virtually at this stage and an additional two were recruited during fieldwork as data collection proceeded side by side with recruitment.

These participants were then asked to sign a consent form (See Appendix 1) which also took place virtually via WhatsApp. To simplify this, participants were asked to record a voice message or type directly their consent to proceed in this study. Consent was an ongoing process throughout the study where, at different points, participants were asked whether they approved the use of photos and videos, observing some parts of their shelters, asking their children about their oral hygiene practices, and so on. For example, one participant did not want to send photos and videos as she justified that her family is very conservative and sending any material that may expose her identity may put her in trouble. In order to preserve anonymity and as this particular participant gave highly informative responses, all

communication with her proceeded exclusively virtually without incorporating any visual materials.

Due to the conservative structure of social networks in Arab countries generally, participants recruited were women (specifically mothers). This was thought to enhance trust and rapport between participants and the researcher. This does not mean that data cannot be gathered from male members as the unit of recruitment was the family and in the later stages of the project when each family was scrutinised individually, all family members were welcome to add information or take photos or record videos. This was actually the case as many responses in this study were gathered from children themselves. However, as the target of this study was to research oral health practices among children in the camp, they were studied within their families.

Guidelines for research *with* children insist on the importance of defining clear objectives for children to understand and explaining to them their right to withdraw at any point from the research process (Shaw et al. 2011). Shaw and colleagues (2011) also emphasised that consent should be gained from children as well as their parents and should be an ongoing process. During the data collection process, researchers should make sure the setting is comfortable for children and that he/she is actively listening to them (Shaw et al. 2011). When analysing the data, the researcher should retain children's voices while at the same time trying to validate their responses (Shaw et al. 2011). Shaw and colleagues (2011) proposed that some creative data collection methods can be incorporated in research with children such as drawing pictures, taking photos, diaries and map-making. Marshman and Hall (2008) provided a contemporary approach to oral health research *with* children. In this article, Marshman and Hall (2008) highlighted the power differential between children and researchers and proposed approaches to counteract this in order to ensure the research findings' integrity and enrich the depth of data collected. Marshman and Hall (2008), for example, emphasised the importance of a comfortable setting of data collection where schools and dental settings can be implemented while the home remains the most comfortable setting to gather rich data from children. In addition, Marshman and Hall (2008) advised against the overly 'adultist' view imposed upon the data analysis process by foregrounding children's voices.

In our study, although children were not the main recruits, they were still part of the unit of recruitment as stated earlier. In addition, as this study explores oral health practices adopted by children in Zaatari, we believed that children should be part of the participatory nature of data collection as they were the main practitioners of toothbrushing and sugar consumption. Therefore, we insisted on including them as part of the observations made as well as

including their voices in the narrative summarising the findings and supporting this by including some of in-text quotes from children themselves. The consent itself was processed throughout their parents with children were asked in simple language whether they agreed to be filmed or taken photos of with utmost care not to feel patriarchal enforcement from me, as the researcher, or their parents. During interviews, as these were in an open environment where many of family members could have been in the same setting including themselves, children were the ones who expressed their interest to take part in answering the questions or commenting on them. This formed the point of turning to them and starting a conversation with them (although I intended to ask children, this strategy was the best in my opinion to ensure that children voluntarily took part and gave the best responses). As will be discussed later, filming (or taking photos) and observing children were of paramount importance to gain insight into the practical understandings of oral health practices. On the other hand, conversations with children highlighted their teleo-affective structures of engaging in such activities.

At the end of the recruitment process, the aim of the communication over WhatsApp, in addition to locating key informants and participants, was also to start a dialogue by asking members to talk about their everyday routines in general and the oral health practices of their children and how these practices were situated within the daily routine. Participants were also asked to post photos of their shelters, the oral hygiene aids they get or the type of food they get either from the humanitarian aid or from other resources. These, in turn, were used as prompts to facilitate communication and later on during fieldwork. Once the snowball started to get larger by recruiting more members, the actual research methods were applied as discussed below.

3.4.1.2. Video Recording

Video recording has been recently incorporated into anthropological and sociological studies as part of visual and sensory materials for doing ethnography. Although most studies that use videos as study material present the researcher as the one holding the camera and filming, there are examples where participants themselves are recruited as filmmakers (Center for Global Ethnography 2020). Indeed, Sarah Pink not only incorporates participants as data collectors but also highlights the importance of the technique if everyday routines are to be explored (Center for Global Ethnography 2020). In this case, the researcher gains an insight into the sensory context of the environment where participants are and can build a view of the sociomateriality of this environment. As the topic of study are social practices and

as these are organised socially and materially, understanding the sociomateriality of the context is crucial in order to understand the orderliness of such practices. This is appreciated in ethnomethodology where the ethno-methods are the centre of focus and individuals act and react to their environment. Ball and Smith (2020) emphasise the importance of the visual dimension of the setting in the study of social practices as both photos and videos provide access to the actuality of the practices and how these are viewed by the participants who perform them.

To develop informative and reliable visual materials (photos and videos), Pink (2011) suggests that the researcher needs first to find informants willing to be photographed or videotaped and establish some contact before introducing the camera. Pink (2011) also stresses the collaborative approach in the course of the study where participants are involved in the decision-making process regarding what and where to record videos or take photographs. At the same time, the researcher should be reflexive in relation to the knowledge produced through visual methods (Pink 2011).

Materials produced through visual methods have also practical advantages to the researcher and the research. By being available at any time, the researcher can go back and revise these materials during data collection and data analysis (Pink 2011; Ball and Smith 2020). Videotapes have the additional advantage of providing the researcher with the ability to play back to capture details not readily noted during face-to-face encounters (Ball and Smith 2020). Moreover, by engaging the visual material in the research, through publications for example, the reader/viewer is invited to review these materials him/herself and produce knowledge through his/her own subjectivities by referring back to the words and performances of the participants themselves (Pink and Mackley 2012; Ball and Smith 2020). On the other hand, unlike participant observation, the researcher might not be able to immerse him/herself completely in the field. Moreover, the researcher needs to pay attention to what is omitted in visual methods as the camera captures only the scene from one or some of the angles leaving others not explored (Ball and Smith 2020).

In this study, video recording was incorporated after initial contact was made with the participants through WhatsApp and some trust was established. The participants were asked to record videos during their everyday life activities, especially during times when oral health practices are being performed. These videos focused on activities within the family during the zooming-in stage. Activities such as toothbrushing, snacking, planning for shopping and preparing meals are primarily of interest. Videos also recorded the arrangements of the shelters and the surroundings, how people managed to get water into their shelters and stored it, and other related activities such as laundry and bathroom cleaning.

The cameras used in this stage were the mobile phone cameras as they were readily available with the participants throughout the day and, hence, no planning was needed to record videos. Participants were asked to send the videos to the researcher through WhatsApp and were made aware of the attention given to ensuring the privacy of family members. The privacy of the participants was the utmost priority here. As mentioned above, the conservative nature of the society made some participants reluctant to share videos and photographs of their indoor life events. This was overcome by reassuring the participants that these materials could not be shared with anyone without their consent. In addition, the videos were revised together with the participant to ensure his/her genuine consent to use it as data and if the participant was uncomfortable with sharing a specific moment in the video, this was to be deleted. Options regarding disguising the participants' or any family members' faces in the video were offered such as covering the faces if the participant was concerned with the anonymity of the videos.

3.4.1.3. Digital Diaries

The methodological application of photographs is very similar to videos as both provide the ability to engage the researcher with the visual and sensory elements of the research setting. However, as photos provide a static representation of the practice, videos enable the researcher to be on the move as the practice is performed. Digital diaries can be valuable in the course of studying social practices remotely, as is the case with videos, as they can elicit a sense of space and sequence of the activity. This method is described with multiple terms such as photo elicitation and it generally implies that the participant takes photographs of their everyday activities and shares them with the researcher to help him/her better understand the question and find prompts to facilitate further communication with the participant.

Participants in this research were asked to take frequent photos using their mobile phone cameras and send them to the researcher through WhatsApp. The researcher, in turn, analysed these photographs and asked the participant for further details regarding certain performances or to provide explanations of why it was performed the way it were. Issues of privacy and anonymity were dealt with in the same way described in the videos.

3.4.1.4. In-depth Virtual Interviews

Interviews have been widely used in qualitative studies either as a stand-alone method or in conjunction with other methods. It is also very common to combine interviews in ethnographic studies along with participant observation. Extended discussions are found in

the literature comparing participant observation and interviews. However, Atkinson and Coffey (2001) emphasise that language should not be given privilege over actions. Indeed, Atkinson and Coffey (2001) argue that social life itself consists of a set of actions and talk and what makes actions understandable is the fact that they can be explained through talk. Hence, to understand social life, narratives around the activities performed should be explored and viewed complementary to observing the activity itself. Rapley (2011) supports Atkinson and Coffey (2001) by arguing that interviews provide access to the interviewee's account of their actions, feelings and thoughts.

As many authors suggest, as interviews are social encounters, they should be viewed as a site of knowledge production (Atkinson and Coffey 2001; Holstein and Gubrium 1995). Nevertheless, this does not mean that interviewees are to be viewed as a treasure of information. Rather, the interactional nature of the interview between the interviewer and the interviewee is what paves the way for this knowledge to be produced (Holstein and Gubrium 1995). Thus, every interview is unique and dependent on the context where it is held as well as the intersubjectivities of people involved. The knowledge produced carries a collaborative nature and cannot be reduced to objective interpretations. Therefore, Holstein and Gubrium (1995) argue that every interview is an active interview due to the interactional and interpretive nature embedded within the interview.

The space where the interview is held can vary and holding virtual interviews has been introduced early after using the internet was publicly feasible. Mann and Stewart (2003) discuss Internet interviewing and list the advantages and disadvantages of using the Internet as a medium for qualitative interviewing. Virtual interviewing allows the researcher to interview participants widely dispersed and not limited to one or two research settings. Geographical limitations are not the only restrictions for participants to take part in face-to-face interviews. Rather, there are political difficulties, social marginalisation of the research community due to physical restrictions such as in case of disabilities, language and financial barriers or being grouped as stigmatised communities. In case of political restrictions on participation or studying stigmatised communities, internet interviewing offers the ability to take part anonymously as the interviewee can hide his/her original identity. Furthermore, as the interviews are held virtually, issues of cost of travel and time-consuming planning and undergoing the interview are mitigated as well as the need to find a safe and comfortable place for face-to-face interviews (Mann and Stewart 2003).

On the other hand, holding virtual interviews can be possible if and only if research participants have the infrastructure needed to communicate via the Internet as well as the technical skills required to utilise online communication programmes (Mann and Stewart

2003). This is crucially important in case the researcher wants to study communities that already suffer social disadvantage. As mentioned above, the situation in Zaatari camp was favourable for holding virtual interviews as the use of mobile phones (through which interviews can be conducted) and availability of internet services are available to the majority of families. However, judgment was made early in this stage that holding virtual interviews in the form of a pre-planned, scheduled setting was not feasible for the majority of participants.

Factors affecting this judgment included the busy schedule of mothers (as they were the main participants) doing household chores and taking care of their children. Furthermore, the nature of electricity and internet services in Zaatari was unreliable and thus choosing a fixed time for the interviews was not practical. Consequently, we agreed to engage in virtual interviewing as an ongoing practice where I would send questions as voice messages via WhatsApp and participants replied at a time that suited them. This gave them flexibility and enhanced their interaction in the study as they did not feel coerced to reply in times when they were not able to. Indeed, participants in this study appreciated this and, sometimes, when they could not respond directly, they sent a message telling the expected time they could reply. On the other hand, this form of interviewing allowed flexibility for the researcher too as it gave the opportunity to revise previous responses and use them as prompts for the next questions especially since many of them included visual materials. The choice of WhatsApp as the application of choice for conducting the virtual stage was due to its being the most used chatting application for the participants and they all were familiar with how to use it for sending visual materials, text messages and voice messages. In addition, WhatsApp is supported by end-to-end encryption which enhances the privacy of participants' sensitive data.

The content of the questions sent to the participants was centred on the oral health practices performed by children within the family namely toothbrushing and I also asked about their sugar consumption. Elaborating on the links between the material arrangement of Zaatari as a refugee camp on these practices was also a central goal at this stage. Issues such as how families get oral hygiene products, water availability for toothbrushing, bathroom arrangement, sugar consumption among children and the daily routine for them were among the major themes of questions asked. However, exact questions were not determined as it depended on the discussions created during the previous conversation with each participant per se as well as data analysed through participants' photos and videos in the previous methods. Furthermore, the nature of this study was exploratory as this field has not been studied before and the application of the social practice theory in dental public health research is yet to begin. In general, the questions were guided by Nicolini's palette for zooming in without being structured in advance. It is worth noting that the utilisation of

interviews was not limited to the virtual stage of the study. In fact, during fieldwork, interviews were conducted with all participants which took the form of on-the-move interviewing. The application of interviews allowed the researcher to gain an insight into fields that were not possible to access during this study such as schools in Zaatari where an in-depth understanding of sugar consumption was made through these interviews. All data collected from the interviews (whether through chatting on WhatsApp or during the fieldwork) were transcribed and translated into English by the primary researcher (who speaks Arabic and English). These transcripts were then transferred into a Google Drive folder that was protected by a password and encrypted by a Virtual Private Network (VPN) supported by the University of Sheffield.

It is important to emphasise here impact spoken language and translation have on the process of knowledge production in cross-language research. Spoken Arabic has many dialects that differ from one Arab country to another and sometimes among different territories within the same country. It was thus important that whoever does the translation process is aware of the Arabic language in general and the dialect spoken by people in Zaatari. As the main researcher, I originate from a city that is geographically extended to the city where the vast majority of Zaatari's residents came from. Therefore, communicating with people was not a problem at all. In addition, as I speak English, I was also able to perform the translation process myself. Nonetheless, as language is a means to express meaning and at the same time influences how meaning is generated, translation involves some interpretive act (Temple and Young 2004; Van Nes et al. 2010). Van Nes et al. (2010) recommend that findings are presented so the reader understands the meaning as closely as possible to the meanings in the original language. Temple and Young (2004), on the other hand, see that the researcher can act as the translator if he/she keeps a neutral objective position when performing the translation. In this study, I tried to implement these recommendations as much as possible. The key goal was to transmit meanings through language that best describes the lived experience and meanings of the participants themselves. When translating quotes, I followed the same principle so the readers could form a picture in their minds in a way they are translocated to the setting of the data collection and hearing from participants themselves.

The initial virtual stage of data collection lasted between January 2022 and June 2022 and had a significant benefit on the fieldwork stage later. It paved the way for accessing the field and having an in-depth understanding of the structure of the camp and of single shelters. This desensitised the researcher who anticipated the situation in advance. The virtual stage also provided an opportunity for the researcher to build rapport and establish trust with the participants. Therefore, I formed somewhat of an insider perspective instead of a complete

outsider view. This allowed the researcher to preserve time, money and effort during fieldwork as well as alleviate stress and anxiety, focusing on aspects of data collection related to answering the research questions.

3.4.2. Stage 2: Zooming Out

As discussed earlier, the goal of this movement is to locate the practice of interest within the surrounding sociomateriality of the environment and within the nexus of practices to which it belongs. Links between oral health practices with other practices within one family with other practices beyond the family level are to be explored. Referring back to Shove and colleagues' (2012) element-based approach, this can be achieved by following one of the elements of the practices: materials, competencies or meanings. Practically, this can be achieved through participant observation or shadowing of the research participants. Participants can be observed or shadowed through their everyday activities and journeys they make that have an effect to either facilitate or restrict the possibility of bringing together all three elements of the practice in one place at the same time.

Participant Observation

Indeed, as discussed above, as participant observation is the hallmark method for conducting ethnography, the use of the term participant observation is widely mixed with ethnography or fieldwork. Therefore, the methodological justification for applying an ethnographic methodology in this research project can be used to justify the appropriateness of participant observation to study practices in general and oral health practices in this case. Due to the use of participant observation as a second stage of this study and for the limitation of time and mobility as a result of Covid-19 pandemic, it was thought that an adapted form of ethnography may be suitable that was, in this case, short-term ethnography.

Short-term ethnography is also known as focused ethnography or compressed ethnography. Any of these terms imply the intensive nature of the research process which is the most remarkable feature of the approach. Scholars highlight that the short-term nature of the methodology should not be interpreted as lower quality than conventional ethnography as the researcher applies techniques that ensure the utmost possible quality (Knoblauch and Tuma 2020; Pink and Morgan 2013). The approach requires the researcher to collect data in an immense manner over a short period of time (Knoblauch and Tuma 2020; Pink and Morgan 2013). This comes as a response to the challenges and limitations associated with conducting a conventional ethnography in terms of time and resources (Knoblauch and Tuma 2020; Rossman and Rallis 2017).

Rossman and Rallis (2017) state three conditions that need to be taken into account before a decision is made to proceed with short-term ethnography. First, the researcher needs to be familiar with the research setting and the language spoken (Rossman and Rallis 2017; Knoblauch and Tuma 2020). In this study, methods applied during the zooming-in movement acted to desensitise the researcher and research participants and establish rapport and trust among them. In addition, the researcher could draw a picture of the sociomateriality of living in the camp through videos and photos sent by the participants. The researcher also speaks the same language (Arabic) and shares a similar cultural and religious background with the participants. Second, due to the limitation in time, the ethnographer needs to focus on specific aspects of the culture (Rossman and Rallis 2017). This was achieved by focusing on the elements of oral health practices in the camp and trying to follow these elements across the camp and beyond when possible. Third, collaboration with local members is necessary (Rossman and Rallis 2017) in order to guide the ethnographer into what and where to focus and not to waste his/her valuable time. This was achieved by identifying a key informant during the virtual stage who voluntarily offered to provide help and guidance throughout the fieldwork stage. This was referred to as the ‘gatekeeper’ and what enhanced this job for both the gatekeeper and the researcher was that her shelter was located close to the main gate of the camp. Hence, short-term ethnography seemed logical as a research approach applied at this stage of the study.

To compensate for the intensive nature of data collection in short-term ethnography, scholars recommend getting the benefit of the technological advances to enhance this process (Knoblauch and Tuma 2020; Pink and Morgan 2013). These include recording audio or videos or taking photos to be revised and looked at later. Knoblauch and Tuma (2020) recommend the application of video ethnography in short-term ethnography and suggest that in addition to saving these materials for the researcher to go back at any time, they also offer the opportunity to enhance the trustworthiness of the data collected by making these materials available for validity and comparison. Furthermore, Pink and Morgan (2013) call for researchers to be innovative in this route in terms of methods applied in order to collect data that best answers the research question and not to be confined to rigid designs and a limited number of methods.

In this study, participant observation took the form of focused ethnography utilising the available technology to enhance data collection including audio recording, videotaping and taking photographs. The focus was on following the elements of toothbrushing and sugar consumption within Zaatari and among the nexus of interconnected practices. Moreover, policies that regulate the availability of these elements in the camp were followed such as the humanitarian food programmes in the camp, water distribution and business licensing.

Issues of mobility in and out of the camp were also explored and related to oral hygiene practices among children. Toothbrushing and sugar consumption were positioned in relation to other contingent and competing practices such as parenting, education, household cleaning and body hygiene. The knowledge associated with these two practices and the set of skills that are required to perform the practices were untangled. In addition, the ends as to why practitioners perform the practice in a certain way were shed light on. Any other themes for exploration that emerged through the research course either during zooming in or zooming out were also explored as much as possible.

As mentioned above, as this study aims to engage participants in the data collection and data analysis process, materials collected during zooming in and zooming out were discussed with the research participants. Participants were welcome to comment, add information or validate the data analysed. This is called ‘zooming with’ and was performed during both stages of the study. In addition, in the same manner that the main participants contributed to this study as data collectors, some children did so too. For example, a girl (15 years old) was asked to map local shops within one district while she was having a walk with her friends (See Figure 5.6). Children were also involved in the conversations held during the fieldwork and responses collected from children were sometimes contrary to those collected from their parents. This highlights the agency of children and their role as decision makers which is vital in the course of building interventions. Involving children responded to the current trend of child-centred oral health research of conducting research with children rather than on them (Marshman and Hall 2008).

In combination with participant observation, other methods were utilised. The gatekeeper was shadowed during her grocery shopping at two supermarkets in the camp and children were also shadowed during their journeys to local shops to get sweets. In addition, interviews were conducted with two shop owners in the camp and a journey was made to one of the water wells in the camp to understand how water is distributed to the residents’ shelters. As the permit to access the camp was limited between 9:00 am and 3:00 pm, it was also not possible to observe children performing toothbrushing during normal routines. Therefore, re-enactment techniques were applied where children were asked to perform toothbrushing the way they would normally do and were observed and videotaped.

According to Nicolini’s toolkit approach, zooming in and zooming out (and zooming with) were taking place simultaneously together with the data analysis process as they are interdependent. Data collected in zooming-in guided the zooming-out process and directed the lens toward areas for further exploration. Nicolini, also, emphasises the iterative nature of the research process as the researcher needs to go back and forth between zooming in

and zooming out and switch lenses into different sites to collect comprehensive data. The end of this process depends on many factors such as time limitations, financial issues or saturation of the data. In this study, fieldwork continued for one month. This duration was determined by the time limitations of the researcher within the course of the PhD programme and the time limit applied on access permits to the camp which is limited to one month. In addition, it was thought that data was saturated and areas to be covered in regard to the oral health practices in the camp were unfolded. Any further action would have involved collecting data outside the camp or with Zaatari's administrators which both needed some other approvals and bureaucratic arrangements that were not feasible in this study.

3.4.3. Data Analysis

Data collected were analysed using the thematic analysis method. The analysis process started early in the data collection as mentioned above to guide further data collection and highlight areas of interest. Thematic analysis is widely used in qualitative research. However, as Braun and Clarke (2006) state, thematic analysis is poorly demarcated and therefore they set a strategy to guide researchers throughout the data analysis process. Robson and McCartan (2016) follow Braun and Clarke's strategy of thematic analysis in their book with more elaboration into some of the phases. In 2019, Braun and Clarke revised their thematic analysis approach and they referred to their approach as 'reflexive thematic analysis' to highlight the role of reflexivity in data interpretation and knowledge generation. Braun and Clarke (2019) call researchers to position themselves and be explicit about their assumptions and whether these assumptions affect the way researchers interrogate their data. In addition, researchers should be aware of what they are doing, why they are doing that, and what measures they apply to ensure the highest possible quality of their data analysis (Braun and Clarke 2019). In this study, the thematic analysis strategy recommended by Braun and Clarke (2006; 2019) and Robson and McCartan (2016) was adopted and processed in five phases. To aid the data analysis process, all data gathered were transferred to NVIVO data analysis software.

Phase 1: Familiarising yourself with your data

In this phase, as the primary researcher, after initial data collection, I immersed myself in these data, read and reread the data looking for patterns and meanings. I kept on writing down my own memos in order to jot down any ideas coming into mind for me to refer back to in the next phases. During this phase, I kept in mind that I was looking for potential codes and themes. As this is an iterative process, these were adjusted later on.

Phase 2: Generating initial codes

In this phase, I started giving meanings and patterns I noticed from the ‘codes’ generated during phase 1. Codes are the basic segment of data analysis and it is advisable to give as many codes as possible while reading the raw data. While coding the data, I thought about possible themes and how these codes can be grouped together. The coding process can take two paths depending on the research question and the paradigm adopted in the project. Coding can be data-driven (inductive) when the researcher generates themes from the raw data collected throughout the course of the study (Braun and Clarke 2019). Alternatively, it can be theory-driven (deductive) when the researcher approaches the data analysis guided by a specific theory (Braun and Clarke 2019). However, this process is not mutually exclusive as coding can be both inductive and deductive at the same time. In this study, coding proceeded mainly in an inductive manner where each piece of data was coded as to what it was representing. The role of the guiding theory came later in the data analysis process where the emerging codes and themes fit within the framework of the social practice theory.

Phase 3: Searching for themes

The main task in this phase was to sort all codes into potential themes and then put all data extracts coded during the previous phase into relevant themes. Attempting to organise the themes visually was highly beneficial to the researcher as he/she would be able to make links and think of the data meaningfully, getting ready for the interpretation of the data. Visual organisation took the form of thematic maps where different themes and subthemes were placed in boxes that enable whoever views them to make sense of the data. I then refined the themes by reading coded data extracts and making sure they fit coherently with the themes. I kept in mind that this was an iterative process where I had to move from the data to the analysis and vice versa until I was satisfied.

Phase 4: Constructing thematic networks and making comparisons

In this phase, I organised the themes into thematic networks. Thematic networks represented how themes were linked to each other and the researcher’s view of his/her understanding of the data. Once again, I reread the data extracts to make sure that “the themes reflect the data and the data support the themes” (Robson and McCartan 2016, p. 476).

Phase 5: Integration and interpretation

This was the actual data analysis phase as I, in this phase, tried to find out what my data tells and what meanings can be generated. To do this, I established links between the themes, through different tactics such as contrast and comparison, clustering, making logical connections, and linking the themes to theories and conceptual frameworks. By the end of this phase, I was able to tell a story of her data by viewing the thematic maps. In addition, I was able to justify the trustworthiness of my data analysis process by assessing the quality of data analysis.

Assessing the quality of qualitative data analysis should take into account the representativeness of the data to the culture or setting under study. The effects of the researcher on the data collection and data analysis. The researcher's impact as a result of the interaction with the case and with the data also needs to be addressed. Furthermore, the researcher should be able to show consistency of the findings of different data collection methods in his/her study and, if this is not the case, he/she should be able to justify inconsistencies. This is known as the triangulation of data analysis and has a massive effect on the trustworthiness of the study in general. Finally, the researcher should be aware of the discrepancies between different weights given to the findings as some evidence weighs more than others and hence should be emphasised in drawing conclusions from the data. For example, data collected first-hand, data collected when the participant is alone rather than in groups or repeated responses should be given higher values on the outcomes of the study. These measures for ensuring the quality of the data analysis process were applied in this study. In addition, the supervisors of this PhD thesis were involved in the data analysis process which further supported the quality and rigour of the findings as they triangulated those generated by the primary researcher (myself).

As the data in this study included videos and photos, the thematic analysis process was modified in order to analyse these materials. As stated by Knoblauch and Tuma (2020), when doing video ethnography, the researcher employs 'sequential analysis' where he/she tries to capture the visual elements from the videos; a process referred to as elicitation. Later, the researcher approaches the participants to explain the intentions and meanings of the activities or the material components in the videos. The researcher attempts to build up the sequence of the activity depending on his/her observations from the videotapes as well as the participants' explanations (maybe similar to the idea explained by Ahlin and Li (2019) of field events).

Therefore, the videotapes and photos collected were meticulously visualised as if the researcher underwent participant observation and all notes were written down along with the researcher's memos and participants' comments. These in turn were analysed thematically following the process described above. Data collected during interviews and participant observation (in the zooming out stage) were directly analysed thematically. It is worth mentioning here that these phases of data analysis were not performed in order; rather, there was a major intersection among all of them. This was due to the different stages of data collection and the need to build subsequent stages on findings from the data analysed. This conformed with the toolkit approach by Nicolini (2009) as he recommends that the stages of data collection and analysis not be mutually exclusive. The handling of the data is described in the next section.

3.4.4. Data Management

All data collected from interviews, participant observation and descriptions of the videos and photos were saved as text on a Google document. Another copy was saved as a PDF file and attached with a README file (readme.txt) where any abbreviations were included to make it easier for future referrals. Data were backed up to a university account to be stored on centrally provisioned University of Sheffield research data storage infrastructure throughout the lifetime of the project. In addition, data were saved on an encrypted laptop. Data from each method were saved in a separate file and all files were included in one folder. Data were backed up every time a new set of data was transcribed. At the end of the study, all data collected from the interviews in addition to the videotapes and photos were archived in the University of Sheffield online research data repository (ORDA) for ten years. The main researcher is the only one who has access to the archive for privacy and security purposes.

During the course of the study, data collected during interviews, videotapes and photographs were considered sensitive personal data and any future intention to use the data requires permission if they are to be used outside the course of research. For publishing purposes, the faces of the participants will be covered, or, otherwise, written consent from the participants is required. However, no copyright from the participants is necessary. Furthermore, the real names of the participants were not shared with anyone and all identities were anonymously represented by giving the participants fake names for the purpose of illustration or including data extracts in the thesis or any published paper. A separate file contained the real names of the participants and their fake identities and this file was saved along with other files of the data collected and was handled with confidentiality as

the file was also encrypted. All written consents from the participants were stored in the same way too. As mentioned above, consent was obtained from participants over WhatsApp. However, later on, during the fieldwork, each participant was asked to sign a printed copy of the consent. The supervisors were the only people allowed to access the data and this was explained for the participants. For any reason, if the participants did not wish to share their photos and videos even with the supervisors, choices of hiding their identities such as face-covering were offered. This data management plan is liable to modification according to the principles of the General Data Protection Regulation (GDPR) in the United Kingdom. A formal data management plan was presented to the ethics board committee at the University of Sheffield which approved the study based on this plan.

3.5. Ethical challenges

As this research project required a high degree of subject involvement, many ethical questions were raised in order to ensure the utmost handling of human dignity and beneficence. It was maintained that, throughout the research process, knowledge production did not jeopardise the moral responsibility of the researcher towards the research participants (Ryen 2011). Qualitative research, in general, shares some principles with quantitative research summarised mainly in the four principles of research ethics: beneficence, nonmaleficence, social justice and respect of autonomy. However, due to the nature of qualitative research with it being potentially intrusive and triggering of emotional feelings, special care needs to be given to overcome the many ethical dilemmas raised in such research.

The research ethics issues most frequently handled in qualitative research are codes and consent, confidentiality and trust (Ryen 2011). Codes and consent mainly refer to the informed consent of the participants to take part in the study. This involves participants' genuine knowledge and approval of being researched, the nature of the research and their right to withdraw at any time during the research process (Ryen 2011). Pink and Morgan (2013) recommend that obtaining informed consent in research involving visual methods is an ongoing process as this enhances trust in case the researcher wants to use the images for research purposes.

Confidentiality refers to the obligation of the researcher to protect the true identities of research participants and the location of the research (Ryen 2011). This can be achieved by giving research participants fake names for presentation purposes such as using data extracts within publications or disseminating the findings. It should be highlighted here that research involving visual methods faces special challenges regarding protecting participants'

privacy and anonymisation (Ball and Smith 2020). This can be due to the use of photos and videos involving participants' faces. Techniques to overcome displaying faces have been implemented such as the generation of drawings which can be achieved automatically or the blurring of participants' faces using computer programmes (Ball and Smith 2020). However, in sensitive research such as studies that trigger political conflict or social stigmatisation, these techniques might not be sufficient as clues can be drawn from the physical appearance, dress and voice of the speaker (Ball and Smith 2020).

Trust, on the other hand, refers to the relationship between the researcher and the research participants. Trust should be maintained throughout the research process in order to establish a productive and informative rapport and this can be enhanced through openness about the purpose and the process of the research (Mann and Stewart 2003). Establishing a good relationship with the research participants enhances the smoothness of the research process, saves time and effort and enables the researcher to gain depth and breadth of the data collected necessary for the adequate description of the research topic and credibility of the findings.

Indeed, it should be noted that these principles usually refer to the Western version of research ethics. Taking into consideration that the field of ethics is socially constructed (Ryen 2011); the researcher should be sensitive to the variations between cultures in terms of ethical principles. In addition, the requirements of confidentiality and consent might differ from one country to another and therefore the researcher should respect the rules of the country in which the research will take place as well as the country of his/her affiliation. Finally, the researcher should act morally and ethically which might warrant him/her to go beyond the principles of research conduct and integrity that are institutionally situated (Shaw 2008).

Apart from the general principles of research ethics, some studies carry higher risks of engendering breaches of the morality of research activity. Studying vulnerable groups is one example of such research. Vulnerability in a research context refers to the limited capacity to protect participants' interests (Eckenwiler et al. 2008; Rogers and Lange 2013). Some practical considerations should be kept in mind whenever the research project involves vulnerable communities mainly in health research. Often, culturally and linguistically diverse populations including refugees are asked to sign consent forms written in a foreign language (most frequently English) (Woodward-Korn et al. 2016). In addition, engaging as a genuinely voluntary choice is limited by their usually lower literacy of the concepts of medical research, cultural variations and power differences between them and researchers (Eckenwiler et al. 2008; Woodward-Korn et al. 2016). Researchers should act not to perpetuate the

vulnerabilities of participants and where possible should act as advocates to ameliorate these vulnerabilities (Rogers and Lange 2013).

Maillet and colleagues (2016) investigate the ethical dilemmas of researching refugees and asylum seekers and report that these populations, especially in refugee settings, often face limitations for participation in research. These ethical dilemmas include the inability of the researcher to access relevant data, refugees' sense of risking their safety and affecting their refugee determination process as a result of information given to researchers (Maillet et al. 2016). Maillet et al. (2016) also report that the autonomy of refugees and asylum seekers in waiting zones and detention centres is often jeopardised by officers who mandate their close proximity to participants during interviews. This is of special concern when refugees who survive torture and trauma in their home countries or on their way to new destinations are also subjected to maltreatment and abuse in the hosting countries. Researchers should also recognise that vulnerability could be sometimes socially constructed due to the lack of social and economic capital which, in turn, affects their agency (von Benzon and van Blerk 2017). Therefore, researchers should be aware of these and other tragic experiences and, therefore, approach refugees in a culturally competent and refugee-sensitive manner so as not to provoke emotional distress or deteriorate their mental health status.

In this study, every effort was made to meet the principles of research ethics discussed above. First of all, it was believed that the research topic of this study (studying the social organisation of oral health in Zaatari refugee camp) did not provoke special emotional distress. The study did not involve any interventional practice and aimed to study the everyday routine of refugees in Zaatari centred around their oral health practices. The nature of the research and what is going to be studied were explained thoroughly to research participants and informed consent was gained thereafter. The informed consent was obtained via chatting on WhatsApp written consent was later obtained during the fieldwork. As the methodology involved a participatory approach where the research participants themselves took photos and recorded videos and sent them to the main researcher, it was assumed that this implied their ongoing consent to use these materials in the research. However, this did not necessarily imply their consent to share these materials with other researchers or include them in publications and, therefore, their consent will be sought before doing so. Techniques of disguising faces will be discussed with the research participants if they would like to display their faces. Data anonymisation was achieved by giving the participants fake names and storing their real identities in a separate file on an encrypted laptop which was not shared beyond the researchers. Furthermore, participants were told of their right to withdraw at any point during the research course with no obligation to give logical reasons.

During the research process, care was taken to be close enough but not to engender uncomfortable intrusion that jeopardises participants' privacy. The materials obtained throughout the study were discussed with the research participants and viewed together to make sure they gave permission for utilising them. Cultural and religious considerations were respected in this regard. This was enhanced by the fact that the primary researcher came from a similar cultural and religious background and speaks the same language (Arabic). Anyway, any ethical issues that were raised during the study were discussed between the main researcher and the supervisors and the interests of the participants were given priority. In general, ethics was considered an ongoing iterative process throughout the study.

For example, early during the recruitment process, some participants expressed wariness about the way they were contacted (sending a message directly on WhatsApp). They linked this to scam contacts made to them by people trying to exploit their vulnerability as refugees. As a research team, we decided to step back and make the first contact through someone from the social network of the initial 'seeds' and those referred by those initial 'seeds' were contacted first by them. Another concern was the monetary incentive that participants received. Upon discussion, we decided not to introduce this early in the recruitment process in order not to put pressure on participants to take part in this study or not. This was to ensure their genuine interest in giving consent. This would have affected the trustworthiness of the data collected. Indeed, participants were reimbursed on the last visit made to the field as a real appreciation and compensation for their efforts during the study. All participants were reimbursed with 50 JOD (around 53 sterling pounds) and were thanked for their participation and invaluable input to the study. I also expressed thanks for their hospitality for having me in their homes, especially the gatekeeper who accompanied me in all fieldwork and alleviated the stress of navigating the camp and accessing people's shelters. Indeed, the gatekeeper did this as a sole action of kindness as she did not know about the monetary incentives from the start. For her big effort, the gatekeeper was reimbursed 100 JOD instead of 50 JOD. The incentives were funded by the University of Sheffield which also funded the expenses of my fieldwork such as the flight fees and car hire to and from the camp. Another example is when one participant also chose not to make any face-to-face contact or engage in visual materials. Her wish was respected and data collected by other methods from this participant was appreciated and so we remained in contact by text.

Some challenges were encountered that are related to accessing the camp. The approval process involved many layers and I felt so anxious making the first access to the camp. Accessing the camp itself and subsequent visits were surrounded by constant scrutiny. Sometimes, accessing the camp was simple as soon as I showed the police guards the

permit I had for me, the car driver and the car itself. On the other hand, at other times, they needed to contact the main police office at the base camp and make a series of calls to make sure we were not intruders. At one time, we were faced by a police car in the camp market when we were travelling from one participant's shelter to another which was far and not possible to walk to. The policemen took our IDs and asked us to go to the base camp at the end of the day to get them back. Another time, some people reported our car to the police (according to the police) and we were shocked by some policemen knocking hard on the metal shelters calling my name. When I got out, they explained what had happened and wanted to check our permits and then left. I was with the gatekeepers at the time who kindly explained that this happens regularly when strangers are in the camp. These were some examples of the sensitivities of research with vulnerable people especially those enclosed by political aspects such as in refugee camps. They also demonstrate the bounded nature of the camp and just how much people's lives in the camp are controlled by the authorities. This will become increasingly important in my findings as I give many examples of how the temporality and containment in the camp may affect the way social determinants operate and, subsequently, affect the routinised accomplishing of oral health practices.

Ethical issues anticipated throughout the study were included in the ethical application form (Reference Number 039931) that was presented to the ethics board at the University of Sheffield. An approval letter was obtained on the 1st of October, 2021 along with approval obtained from the ethics board in the primary researcher's sponsor in Jordan (The Jordanian University of Science and Technology). As this study correlates with health-related research, approval was also warranted from the Jordanian Ministry of Health ethics committee. Furthermore, as the camp is administered by a highly bureaucratic administration, accessing the camp for the fieldwork required a long process of investigations and obtaining approvals and finally an official permit to access the camp was granted based on these requirements. All these approvals and the official permit are included in an appendix at the end of this thesis (See Appendix 3 and Appendix 4).

3.6. The Quality of Qualitative Research

Unlike the measures used to assess the quality of quantitative research in terms of validity and reliability, the quality of qualitative research is assessed differently. This stems from the very nature of qualitative research of studying phenomena in their natural settings from the perspective of those experiencing them. Therefore, every qualitative research study is specific as it is context-dependent. In addition, as the findings of the qualitative research are mainly obtained through an interpretative approach, the input that the researcher has on the

data cannot be ignored. Consequently, to ensure that the research maintains concepts of research conduct and integrity, it is necessary to set guidelines and criteria to be used in assessing the quality of a qualitative study. In terms of qualitative research, these criteria include:

1. Trustworthiness: The researcher should make available all procedural and methodological decisions starting from the planning of the research up to writing the research conclusions. This includes a transparent explanation of sampling, robust research methods, and how data are collected and analysed. The reader should be able to logically follow the research course (Hammarberg et al. 2016).

2. Credibility: This criterion is equivalent to validity in quantitative research and refers to the degree of accuracy of the findings (in the context of the research setting) (Hammarberg et al. 2016). The researcher enhances the credibility of the research by applying a set of measures. First, the researcher should maintain reflexivity throughout the research course. Reflexivity can be defined as the impact of what the researcher knows and his/her own biography and theoretical background on the research process and the impact of the research setting on the researcher (Pollner and Emerson 2001). To ensure this, researchers should make explicit their dispositions, social and political affiliation and any background features that might influence the data collection, analysis and interpretation (Yilmaz 2013). Allen (2004) summarises three elements of reflexivity in qualitative research: how the field is described through the lens of the researcher, acknowledging that the researcher has an impact on the field by actively interacting with the components and members in the field, and acknowledging that the field has an impact on the researcher.

   Second, the credibility of the research outcomes can be enhanced by triangulation of methods to ensure that the findings of one research method are comparable to those obtained through another method ((Hammarberg et al. 2016; Ball and Smith 2020). Third, the researcher should include verbatim data extracts so that the reader can compare these extracts with the conclusions made by the researcher (Hammarberg et al. 2016; Ball and Smith 2020).

   In terms of reflexivity, I referred many times that I share a very similar cultural and religious background with the population in Zaatari. I came from a geographically extending territory and speak the same language in a very similar dialect. In addition, although I may have relatively higher socioeconomic status (at least at the time of the study), I understand very well the way that people in Zaatari live as a result of low

socioeconomic status and the changes they made to their everyday activities as a result. This is because I have access to many people from my close social network who suffer financial hardship and mediate their living accordingly. I do not also belong to any political party that could have affected my data collection and interpretation.

Regarding my professional background, I am originally a dentist who was trained in the biomedical approach to dentistry. Later, I pursued a Master's degree in dental public health where I came across the discourse on social determinants of health to acknowledge the patterning of health and disease in populations. However, when I started my PhD degree and as my research topic involved the determinants of health in a unique social organisation of refugee camps, I questioned the way social determinants may operate in such spaces. This led me, supported by my supervisors (a medical sociologist and a lecturer in sociological studies of refugees), to move beyond the scope of public health to study the social organisation of health and ill health. I did so by engaging in social studies of theorising behaviour and sociological studies in refugee camps. By broadening the scope of my knowledge, I could pay attention to details that were not possible by focusing on the public health aspect of the camp. I tried as much as I could to avoid bias in data collection and interpretation by having an open mind and trying to capture the picture from many angles. However, I reiterate the fact that the researcher in qualitative research cannot eliminate bias, so it is important to raise the reader's attention to the possible bias in handling the data by me, the main researcher.

3. Applicability: This measures the degree to which the research findings are transferable to other settings and are thus meaningful outside the setting of the study. This is enhanced by gaining more depth into the data until data collected are saturated and no new themes arise from the data (Hammarberg et al. 2016).

4. Consistency: Also referred to as dependability, consistency is equivalent to reliability in quantitative research. Consistency seeks to assess whether researchers, given the same data set, arrive at similar conclusions. This criterion can be achieved by following robust methods, collecting data from multiple sources, looking for negative cases and auditing the data analysis by another team. Referring back to the research participants for reviewing the findings is also helpful(Hammarberg et al. 2016).

By assessing the quality of this study against these criteria, the research findings can be rendered more applicable for adopting in policy change, planning future research and

publication. To ensure the highest possible quality, quality assessment was an ongoing process and reiterated throughout the research process.

Chapter Summary

In summary, this chapter started by providing an in-depth overview of the social practice theory as the guiding theory of this study. The theory foregrounds the role of routinised activities in constituting practices and accounts for both structure and agency in the arrangement of any practice and their power to transform them. By highlighting the multitude of factors that act to shape the practice at the moment of enactment, a description of the elements of any practice was provided. Later, a justification of the empirical application of social practice theory to study what people do in a naturalistic setting is given. Launching from this justification, this study was believed to best proceed as a qualitative ethnographic study. The Covid-19 pandemic had a significant impact on the progress of this study due to the risk of spreading the virus through conventional fieldwork. Therefore, an alternative plan was forwarded above which mixed both online and face-to-face data collection methods. The snowball sampling technique was adopted and justifications for its use to recruit hard-to-reach communities were made. The methods that were incorporated in this study were then listed which can be classified broadly as methods in the online stage including video recording, photo elicitation (digital diaries) and interviewing and fieldwork stage consisting mainly of participant observation.

This is followed by the strategy adopted for data analysis which conformed with reflexive data analysis suggested by Braun and Clarke (2019). To ensure data integrity, a comprehensive plan is provided including how data was handled throughout the study and how data will be handled after the end of this study. In compliance with the ethical principles of health research, ethics-related points were described in detail. It was highlighted that participants were the centre of concern when conducting the study and every effort was made to protect their anonymity and confidentiality as well as ensure that they did not encounter any risk of emotional distress or harm during data collection and beyond. Finally, to optimise the findings of this study as much as possible, principles of research integrity and quality of trustworthiness, credibility, applicability and consistency were described and committed to being followed to the best of. Throughout the chapter, the role of the researcher as the instrument of data collection in qualitative research was emphasised by acting reflexively and pointing to the role he/she has on knowledge generation. Moreover, a commitment was made that research ethics such as consent from the participants and the decision-making process were an ongoing activity.

Chapter 4

The Practice of Toothbrushing

In the previous chapter, a comprehensive justification has been given for the statement that social practices are the unit of study. In addition, I demonstrated that different accounts of Social Practice Theory are present. Some of these share similarities such as the interdependent and co-constitutive nature of the relation between structure and agency, despite having some conflicts in areas such as who possesses agency. The potential of the theory to shed light on and untangle what people do in their everyday routine that may impact their health outcomes could be utilised.

In this project, oral health practices will be analysed according to the SPT approach. I link the practice of two main oral health practices, namely toothbrushing and sugar consumption, to Schatzki's (2002) account of SPT. This is in terms of unfolding the details of the particularities of each of these practices, what entities are involved in bringing about the practice, and how these entities interact with each other to shape the practice the way it is. Moreover, as mentioned in the previous chapter, Shove et al. (2010) simplified the notion of practice into an element-based framework. This helps researchers and policymakers study practices and search for pathways to maintain or interfere with when these are producing negative impacts. Their framework also makes it an easier task to untangle the connections between practices and the structure in which they are situated, which Nicolini (2013) refers to as the 'zooming-out' move.

The strategy adopted to achieve the best possible comprehension of oral health practices in Zaatari refugee camp is adapted from Nicolini (2013). Nicolini set a programmatic eclectic approach that entails alternating between theories of social practice and methods to study them in a way that the researcher could capture the sensitivities of the theory or method he/she chooses in every step of the research project. Nicolini divides his programmatic eclecticism (or toolkit approach) into two subsequent, though overlapping and iterative, moves. According to Nicolini, the researcher should begin by 'zooming in' on the practice by immersing him/herself in the details of everyday activities and the socio-materiality of the space where the practice is performed. Once the researcher has an initial image of how the practice is undergone, he/she starts to widen the lens gradually to grasp the interactions

between the practice of concern and other practices, and the wider environment which can altogether form nexuses of co-constitutive and interdependent practices. This second move is called ‘zooming out’.

This chapter, therefore, focuses on the practice of toothbrushing in Zaatari by utilising Schatzki’s account of social practices along with Shove and colleagues' element-based framework. To achieve this, Nicolini’s theory-method eclectic approach is applied.

4.1. Toothbrushing as performed

4.1.1. Describe the practice as it occurs in detail

In this section, real examples of the process of toothbrushing performed by children in Zaatari are presented and described in detail. These examples are supported by photos and shots from videos taken either by the participants themselves and sent via WhatsApp or taken directly during the fieldwork stage of the project.

Example 1: Aisha’s daughter (Figure 4.1)

Figure 4.1 shows the process of toothbrushing performed by Aisha’s daughter which takes place in the bathroom. A girl (10 years old) approached the shelves where toothbrushes and toothpaste were placed. She took the toothpaste and her toothbrush. She removed the lid of the toothpaste and put the lid down on the floor. She squeezed some toothpaste on her toothbrush and then leaned down to the floor to put the toothpaste beside the lid. Then, the girl started toothbrushing while standing up without using water at this stage. The girl leaned down again next to the tap that is fixed to the wall without a washbasin connected to it. She continued toothbrushing while she was squatting for a while before she opened the tap, put some water in her mouth and gargled. The tap is to the side and front of the toilet. The girl closed the tap and had to walk two steps forward while she was still squatting to spit water out to the toilet. The girl went back beside the tap, put some water in her mouth to gargle, and repeated the same steps. She started brushing again then she put some water in her mouth and spat it on the floor where water from the tap also went. She washed her toothbrush, took the toothpaste tube from the floor, put its lid on and put the toothpaste and toothbrush back where they were.

Figure 4.1: Aisha’s daughter (10 years old) performing toothbrushing.

Example 2: Aisha's son (Figure 4.2)

A small boy (5 years old) holding a toothbrush that already had toothpaste on. The child is barefoot holding the water pipe which is running across the wall with his left hand. He brushed for seventeen seconds before he handed the toothbrush to his mother (Aisha) who was filming. He opened the tap and gargled directly to the floor twice and a third time to the toilet. The boy can be seen getting his mouth very close to the tap to get water inside to gargle.

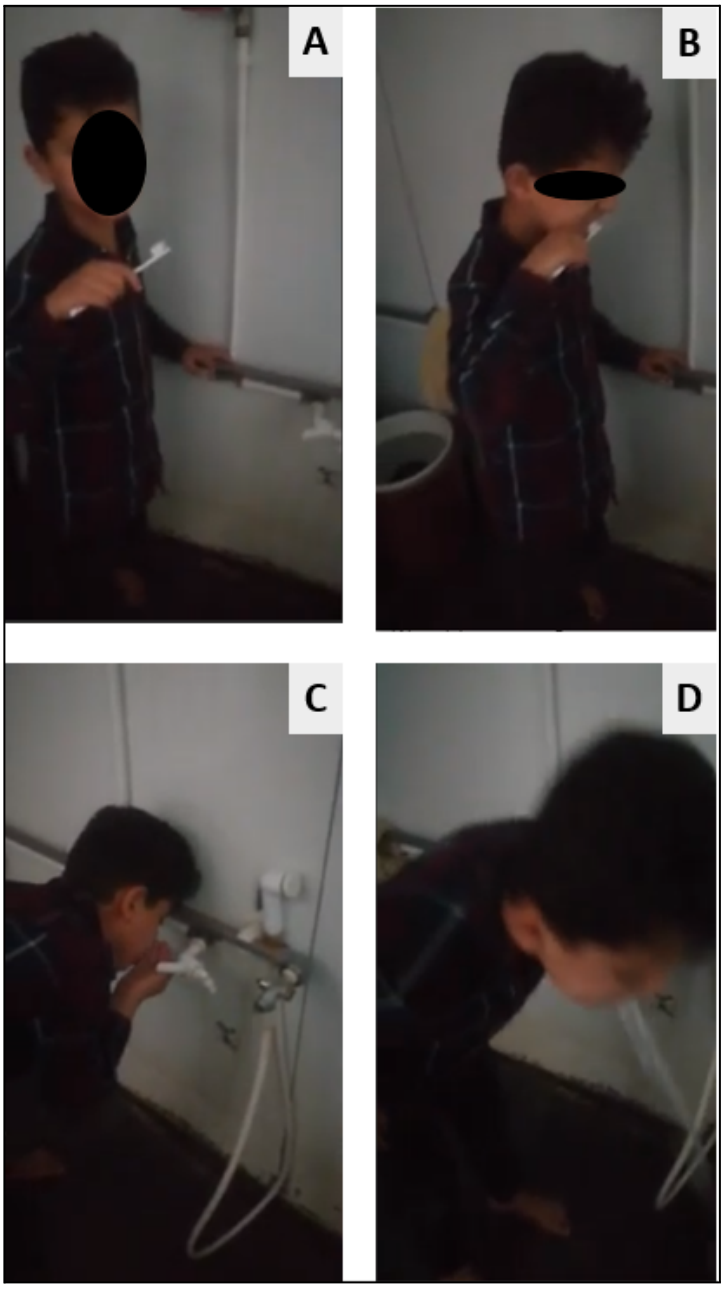


Figure 4.2: Aisha's son (5 years old) performing toothbrushing.

Example 3: Fatin's son (Figure 4.3)

This video shows Fatin's son (8 years old) brushing his teeth. The boy picked his toothbrush and toothpaste from the mirror above him, squeezed some paste and rubbed it with his finger on the toothbrush and started brushing. The boy went from the right side to the left side and repeated this many times. Then the boy washed his toothbrush and rinsed his mouth with water. The boy rinsed directly to the bathroom floor where all the water and foam go leaving the floor dirty.

Figure 4.3: Fatin's son (8 years old) performing toothbrushing.

Example 4: Haifa's son (Figure 4.4)

In the video, the boy (10 years old) picked up his toothbrush and toothpaste from the caddy in the corner of the bathroom. The caddy is a bit high for his height. He squeezed some toothpaste and put the lid back on the toothpaste and put it away. Then he turned to the water tap which now has a washbasin underneath as it was installed recently according to Haifa (the earlier photos that were sent showed there was no washbasin). The boy turned the water on and put some on the toothbrush and turned it off immediately. He then started rubbing his teeth with the toothbrush from right to left and from up to down. Then he turned

the water on and rinsed his mouth with water and spat into the washbasin and washed his toothbrush before turning off the water. He then turned to the caddy and put away his toothbrush. There is a bucket of water where a hose runs from the washbasin drains to collect the dirty water. This washbasin was installed at their own cost. Haifa commented that washing and toothbrushing are much easier now. The actual toothbrushing time lasted for around 35 seconds.

Example 5: Fidaa's daughter (Figure 4.5)

Fidaa's daughter (16 years old) was asked to perform toothbrushing in the way she usually does it. She went to the living room where she kept the toothbrush and toothpaste in a cupboard there, put some toothpaste on and leaned down (squatted), opened the tab at the bottom of the barrel, started rubbing her teeth with the toothbrush, and rinsed during the process. When she finished she rinsed again. She kept the tab on while brushing. After she finished, she washed her toothbrush and rinsed her mouth, put the toothbrush away on top of one barrel, and started bathroom cleaning to mop water mixed with foam spilled on the floor. She filled a bucket of water from the barrel, poured it on the floor and used a broom and a squeegee that she got from the kitchen to wipe extra water into the toilet seat as there is no plug hole. The girl was barefoot throughout. There was much more water used in the whole process than water used for toothbrushing alone.

Example 6: Noor's daughters (Figure 4.6)

The video shows two of Noor's daughters brushing their teeth; one aged 3 years old and the other aged 9 years old. They brushed into a bowl. The little girl used a children's toothbrush that is colourful and small in size, and the other used an adult toothbrush. Noor squeezed toothpaste for both girls along the toothbrush. Once Noor put the toothpaste on the toothbrush, the little girl became excited. Both girls started brushing their teeth, they spat multiple times into the bowl throughout. The little girl tried to navigate what to do, whereas the older one started toothbrushing immediately. The whole process took place in the bathroom and the washing machine and many water buckets can be seen in the background. The children sat on the floor while toothbrushing. Photos sent by Noor and fieldwork observations confirmed that the bathroom in Noor's shelter does not have a washbasin.

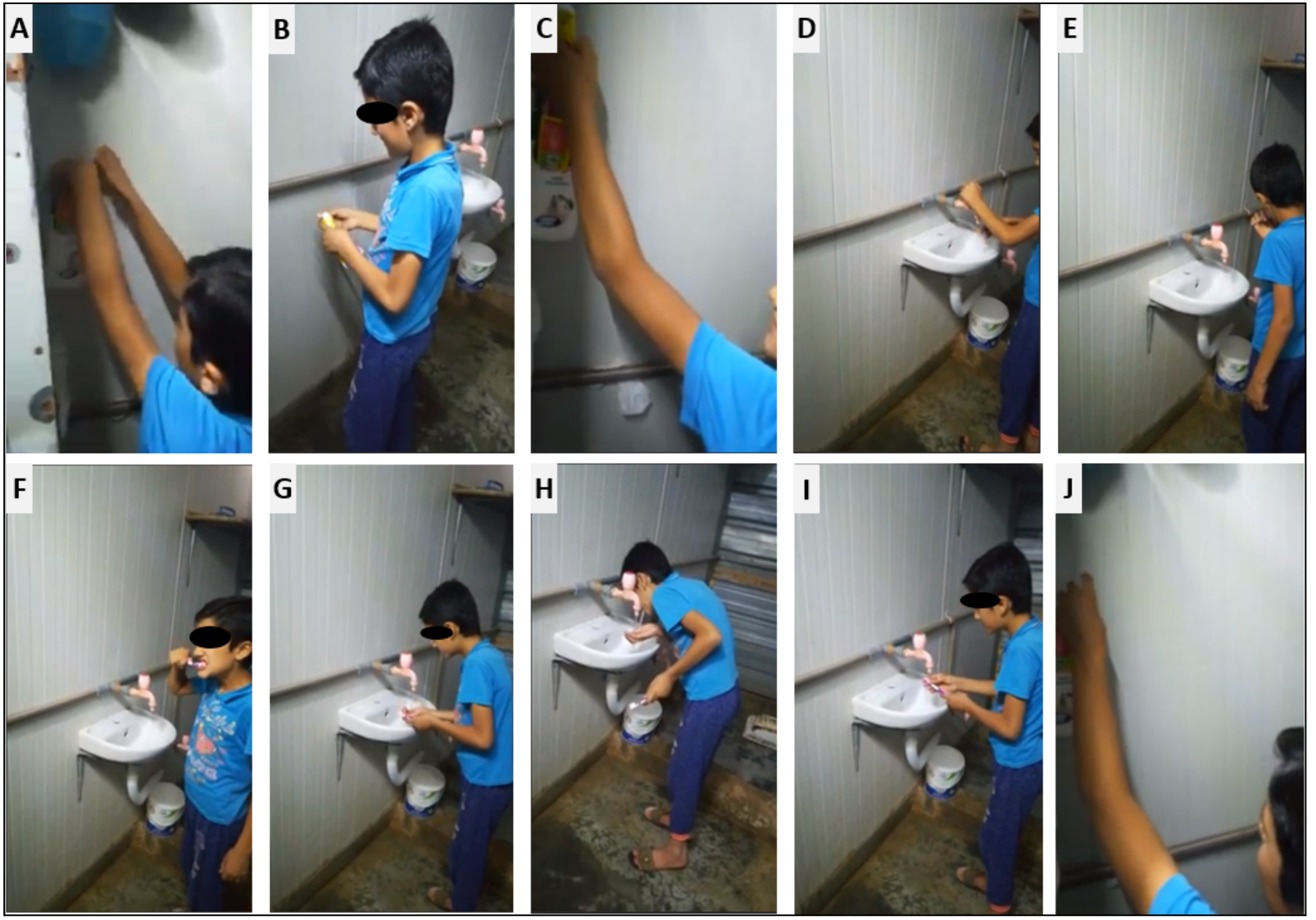


Figure 4.4: Haifa's son (10 years old) performing toothbrushing.

Figure 4.5: Fidaa's daughter (16 years old) performing toothbrushing.

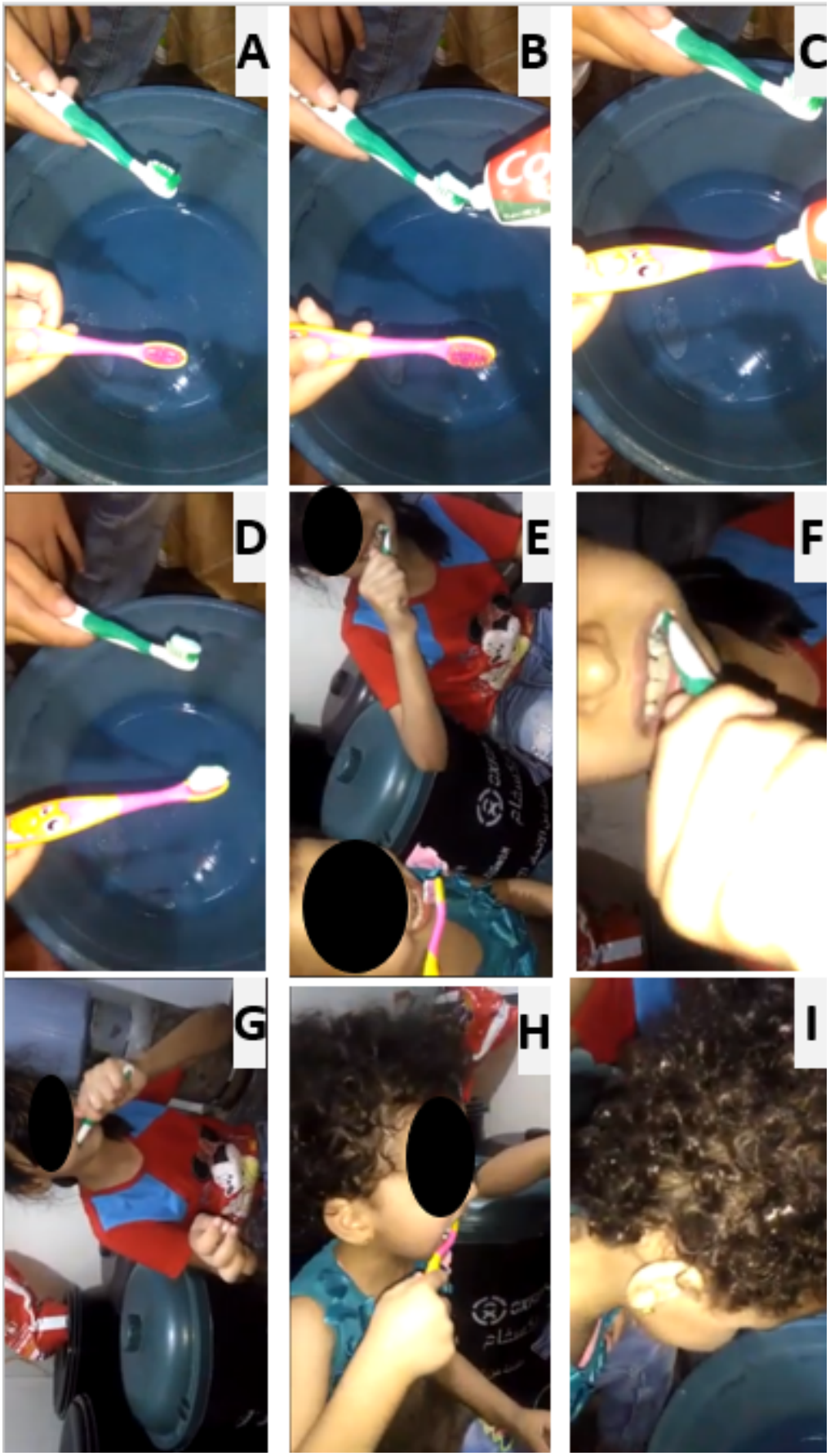


Figure 4.6: Noor's daughters (3 and 9 years old) performing toothbrushing.

4.1.2. Analytical points related to practising toothbrushing

All the above-mentioned examples show the activities that represent, at the basic level, the 'doings and sayings' involved in carrying out the practice of toothbrushing. Doings and sayings according to Schatzki (2002) are actions performed directly by participants that do not endeavour to achieve something else. Examples of doings and sayings are grabbing the toothbrush and toothpaste, turning on the water tap, taking off the lid of the toothpaste tube, moving the toothbrush along the teeth, squatting to the level of the water tap, turning to the toilet seat and spitting out the foam. These are the basic actions performed through the body through certain bodily movements and manipulating the bodily choreography to perform these specific actions. A child raising up his/her feet to reach the caddy where oral hygiene products are kept or squatting down to the level of the water tap are forms of manipulating the body for the sake of performing these doings and sayings. Reckwitz (2002) argues that practices are routinised bodily performances that people are trained to do while learning to practise. However, this does not entail, in any sense, that the body is an instrument used to perform the practice. Rather, it is handling the body in a certain way to achieve the practice that the practitioner, in doing so, has to handle other objects and learn to use them (Reckwitz 2002). For example, children in the cases stated above learn to use their bodies and to use objects in the surroundings such as oral hygiene products, toilets, water taps and water itself.

In turn, these doings and sayings constitute even higher-level actions which Schatzki (2002) refers to as 'tasks'. Examples of these include loading the toothbrush with toothpaste, gargling during and after toothbrushing, cleaning the teeth with the toothbrush, filling a water bucket, and wiping out extra water spilled on the floor. Again, a group of tasks collectively act to constitute higher-order actions referred to as 'projects' (Schatzki 2002). For example, filling a bucket with water and wiping away dirt and water resulting from toothbrushing are part of bathroom floor cleaning.

These 'hierarchically organized doings/sayings, tasks, and projects' (Schatzki 2002, pg 73) form the 'practice'. Schatzki also argues that at any point in time, a participant may perform a set of all three types of actions. All these varying order actions are directed toward specific 'ends' that is the goal, aim or 'telos' of these actions that prompt their initiation and perpetuation. These sets of actions aggregate in constellations, bundles or nexuses to form blocks that can be described and referred to collectively; that is the practice. This is similar to Reckwitz's use of the term 'blocks' (Reckwitz 2002) or what Shove and colleagues refer to as 'practice as an entity' (Shove et al. 2012).

In the examples presented above, despite all children performing the practice of toothbrushing (or the doings/sayings, tasks and projects carried out in the process of fulfilling the practice of toothbrushing), considerable variation can be observed in actions performed. Children produce unique versions of performing toothbrushing that reflect the unique nature of the material context they perform toothbrushing. These versions also depend on the individualised intelligibility of each child of what is to be done in the specific time-space they are in. What, then, governs which actions the participant chooses to perform should be what makes sense for them to do, taking into consideration the material elements of the space as well as the social dimensions that interrupt the course of the activity. Schatzki calls 'what makes sense to a person to do' (Schatzki 2002, p. 75) at a certain place and time the practical intelligibility of the practice. Schatzki, moreover, argues that 'practical intelligibility' is an individual phenomenon as it is up to the individual to decide what action makes sense to proceed with and not otherwise.

Practical intelligibility, furthermore, governs the course of human activity. Participants in any practice analyse the context in which the practice takes place, bearing in mind specific ends that the practice aims to achieve and decide what actions need to be performed next in the course of the hierarchy of doings/sayings, tasks and projects. Practical intelligibility, as Schatzki argues, is mostly practical and neither a rational nor normative activity. It is not equivalent to rationality as what people choose to do and what makes sense for them to do is not necessarily a rational decision. Similarly, practical intelligibility does not arise from normativity in the sense of oughtness and acceptability, as what makes sense for participants to do is not necessarily the correct or appropriate action to do. However, Shatzki still believes that practical intelligibility could be partially driven by normativity but not intrinsically so.

Aisha's daughter, for example, leaned down so she would be closer to the water tap and could turn it on and off easily. She did not think of this activity as a rational decision; instead, this seemed to her to be a practical decision. The same applies to her action when she put the toothpaste on the floor throughout the process of toothbrushing. This is not a normative decision as it does not conform with the correct and appropriate action. However, it is still a practical decision for the girl instead of turning around to the shelf and putting the toothpaste tube away, and then going back and leaning down beside the water tap; this looks impractical compared to just putting the tube on the floor. Other examples include Aisha's son getting his mouth close to the water tap to rinse, Fatin's son spitting the foam on the floor and Fidaa's daughter keeping the toothbrush and toothpaste in the living room.

Some examples reveal how practical intelligibility is partially normative. Haifa's son, for instance, turned off the water tap immediately after washing his toothbrush. It is normative taking into consideration that water is a valuable resource in the camp, as will be illustrated later. Fidaa's daughter, on the other hand, started cleaning the bathroom floor after she finished toothbrushing. She is a teenager which places her in a position where she holds more responsibility than her siblings, especially since her mother had a job at the time. The girl intellectualised that cleaning the floor is the normative action to do at that point of performing the practice. Nonetheless, Fidaa's daughter's decision was in the first place practical; she was trained to do so and saw her mother doing so. In all these examples, the practical intelligibility is shaped as an individual phenomenon. It also unfolds when the participant starts to carry out the practice, as he/she decides what makes sense to do as a momentary activity. Hence, Schatzki (2002, p.72) defines the practice as 'open-ended, temporally unfolding nexuses of actions'. At any moment these children decide to brush their teeth, there are a multitude of possible actions that they can pursue and these are never definitive until they perform the practice.

It has been justified in the previous chapter how sociologists treat practices as the site of the social that is the site where social order transpires. Once the social order is established, it has, in turn, some impact on social practices carried out in this social order in a manner that both exert transformative and mutative power on each other. Consequently, social practices are the context in which all human activity takes place. It is said to be a context as, first, it consists of a variety of entities. Entities of a certain context (or arrangement) take the form of humans, other living things, artefacts and things.

Humans carry out practices by virtue of their intellectual and sensitive abilities. They are to whom mental abilities and identities are ascribed (Reckwitz 2002; Schatzki 2002). Humans, in the same sense, are the agential bodies in the course of any practice; they are the entity in any arrangement that possesses agency. Human agency is paramount in the study of social practices as they link the individual to the structure he/she lives in. In the examples provided earlier, children possess decisive capacity that derives from their understanding; they can (or cannot) perform toothbrushing after some kind of analysis is processed in their minds. This analysis includes whether or not they can accomplish the bodily movements of the actions that toothbrushing is composed of, whether or not they have the material elements required to do so and whether or not they want to do so. Agency, is thus, shaped by the practice or constellation of practices a participant chooses to be part of, or withdraw from. As social life is the combined constellation of practices that human activity occupies, it is the niche for human agency (Schatzki 2002). It is impossible to think of human agency

without being linked to human activities and thus practices. So, the locus of the agency is social practices.

Artefacts are the products of human activity. Children, if they recruit themselves to the practice of toothbrushing, need the very essential elements of toothbrushing; a toothbrush and toothpaste. Furthermore, they need water carried out to the space where toothbrushing is performed through pipes or in buckets or barrels. They, also, need a place where foam is to be spat out of their mouth such as a washbasin or toilet, and another place to keep their oral hygiene products whether this is a shelf in the bathroom or a cupboard in the living room. Children need a source of lighting if they are to perform toothbrushing at bedtime as well.

“Things” are other nonliving things that are not the product of human activity. The most prominent example, in this case, is the water itself. Finally, other living organisms may interfere with the practice and in some cases be an integral component of the arrangement where a practice is accomplished. Families in Zaatari planted trees around their shelters and some have pets. These trees and animals are precisely chosen to serve people some benefit. Trees planted are, usually, those that grow fruit such as olives, peaches and prickly pears in addition to herbs such as mint and sage. Though, some ornamental plants are also planted. Animals found in the camp are mainly donkeys that are used to carry things and move goods and sometimes people from one point to another. Chicken, sheep and even cows are present in the camp, and families who raise them do so to benefit from their products of eggs, milk, and meat. Despite being not directly involved in the practice of toothbrushing, these animals and plants require water to grow and, hence, compete with people in the camp for this scarce resource and indirectly affect the capacity of people to perform toothbrushing. It is worth noting that these animals and plants were not existent prior to the camp construction. From that time on, the influx of people started to stabilise and features of human habitation were created. People carried out residues of practices performed in the homeland, and modifications of these practices, along with newly established practices. Together, these practices have established the social order in the camp. Entities of all forms play a role in stabilising the newly established social order by creating a mesh of interdependent practices and order. These entities will be described in detail in the following sections.

A context has a power of determination (Schatzki 2002) in terms of what entities and phenomena it consists of. For example, bathrooms as a context entail having a source of water for body hygiene practices performed there. Hygiene products are also brought to bathrooms as they are material elements required for these practices. Similarly, refrigerators

and stoves are devices present in the kitchen as it is this context that determines their existence there. Furthermore, a context determines the meanings and identities of these entities once they enter the realm of the practice. Not only this, a context has a causal and prefigurational effect on things happening within them (Schatzki, 2002). In the examples above, the toilet seat acquires some meaning of the place where ‘dirt’ produced goes, a bowl is the place where the main part of toothbrushing takes place (in Noor’s daughter's example), and a bucket is the place where dirty water is collected before being disposed of as there is no sewage pipe under the washbasin (in Haifa’s son example). Similarly, water is the material required to rinse during and after toothbrushing and to clean the bathroom floor after that. On the other hand, participants, as well as acquiring meaning, once they carry out the practice, carry an identity attached to being that meaning. Identity, according to Schatzki, is a property of humans as it warrants entities having a meaning and being aware of that meaning. Children are the carriers of toothbrushing and sometimes the ones who perform bathroom cleaning after that. Their mothers are participants in the practice when they handle the toothbrush and toothpaste for young children and take care of the dirty water collected in the bucket. The whole arrangement of the bathroom with associated activities taking place before, during and after toothbrushing plays a causal role in how the practice proceeds. It also prefigures (enables or constrains) the course of activity going on.

Moreover, a context has a composition of entities and phenomena forming a fabric or tapestry to which these entities and phenomena are threaded (Schatzki 2002). These three features of context happen under the umbrella of practical intelligibility which governs human activity and determines what makes sense for participants to do. The practice is the context in which these entities act to bring about the set of doings and sayings of which it is composed. It is the site where these entities exist physically (although not necessarily co-located) and events happen.

Needless to say that the doings and sayings of any practice do not take place individually and there are some linkages among them. The links that connect these doings and sayings take four shapes; namely practical understandings, rules, teleoaffective structures and general understandings. A brief description of each one of these is presented here and these will be referred to in the next sections where appropriate.

Practical understandings are the ‘know-how’ of the practice. They are the set of skills and knowledge associated with the actions within a practice. Novice participants gain these practical understandings through training and knowledge dissemination until they become professional participants. They, in turn, pass these skills and capacities to new generations of practitioners so the practice can perpetuate (of course, other types of links need to still be

relevant to new practitioners if the practice is to live). The way teeth are rubbed with the toothbrush, making sure water is not wasted by turning the tap off throughout the process and getting rid of ‘dirt’ produced are actions linked together through practical understandings of toothbrushing. Practical understandings are not the same as practical intelligibility as the latter comes first in determining what makes sense for practitioners to do and, therefore, singles out a set of practical understandings as actions to be accomplished (Schatzki 2002).

Rules are the instructions or principles that direct, order or restrain the participants to do certain actions. Participants, throughout the course of accomplishing the practice, need to take into consideration these rules in their activities. Young kids need to be supervised by adults (or older siblings) when they brush their teeth, the dirty water needs to be collected in a bucket, and the floor needs to be left clean after toothbrushing; these are examples of rules connecting the actions performed during the process.

Teleoaffective structures are defined by Schatzki as ‘a range of normativized and hierarchically ordered ends, projects, and tasks, to varying degrees allied with normativized emotions and even moods’ (Schatzki 2002, p. 80). These sets of varying-order actions and the ends that drive these actions along with the emotional status associated with them are normatively formed. That is they exhibit properties of being what is correct and acceptable to do. Teleoaffective structures are twofold phenomena that contain the ‘telos’ (ends) of the practice and ‘affects’ (emotions) associated with pursuing these ends. Teleoaffective structures could prefigure what actions are to be performed. Nevertheless, they do not have the power of determination as to which of these actions are actually performed. This is a task ascribed to practical intelligibility through the mental conditions of the practitioner as described earlier. In addition, teleoaffective structures are indeterminate or open-ended at, first, they are highly complex and there are always an array of actions that are correct and acceptable to choose from. And, second, they are tied to rules issued by those who possess higher authority than the practitioner and these are subject to change over time, which change subsequently the array of correct and acceptable actions. Teleoaffective structures associated with toothbrushing vary from maintaining healthy teeth, creating a good-looking smile, and getting rid of toothache with the associated feelings of satisfaction and relief.

Finally, a set of actions in a practice are linked through general understandings if practitioners, while pursuing these actions, take account of religious beliefs and guidelines and communitarian understandings. For instance, some of the children in the previous examples were keen to turn off the water tap during toothbrushing which stems from the understanding that water is very limited for the household and wasting it results in running out of water. This, in turn, means no water for drinking and cooking. Similarly, it means no

water for other body hygiene practices such as handwashing, using the bidet sprayer to wash after using the toilet, and making wodou. Some of these practices are derived from the Islamic religion which the vast majority (if not all) people in the camp share. People would prioritise such activities over others as they are linked to strong religious guidelines of keeping a clean immaculate body.

The next section describes some other observations experienced throughout the virtual and fieldwork stages of the project or reported by children and their parents that are linked to toothbrushing. Referral to aspects of the social practice theory will be made where appropriate.

4.1.3. Observations related to the practice of toothbrushing

a. Bodily movements during toothbrushing

One noticeable observation of children performing toothbrushing is the way they manipulate their bodies to accomplish the actions within the practice. Some children need to raise their feet to grab their toothbrush and toothpaste from a shelf and lean down to the water tap that is fixed at a low level on the wall. They squat to be near the water tap during toothbrushing which eases turning it on and off when required, rinsing their mouths with water and spitting the foam on the floor, into the toilet or into a washbasin when present. Children rub their teeth in whatever manner they do (e.g. from right to left, up and down, or otherwise).

An interesting observation is one girl who kept looking at the mirror during and after toothbrushing. This girl seems to look for shiny or white teeth as an immediate result of toothbrushing. Many other examples are present at the scene of toothbrushing. The bodily choreography that manipulates bodily movements to perform the practice through the body are a set of practical understandings singled out by the practical intelligibility of what makes sense for these children to do in that specific time and space. They are also attached through the teleoaffective structures of the practice that play a causal, intentional or prefigurational role in terms of leading to some actions, actions performed toward normativised ends or enabling/constraining certain activities. Practices are, in the very essence, the routinised bodily activities (Reckwitz 2002).

b. Gargling during and after toothbrushing

In almost all the cases observed, children tend to rinse their mouths during and after toothbrushing. This is inconsistent with the dental professional advice of ‘Spit-Do not rinse’. Rinsing teeth during or after brushing is not recommended in order for the fluoride in the toothpaste to stay in contact with the teeth as long as possible and effectively act to enhance the remineralisation process and suppress the demineralisation process (fighting tooth decay). However, the children gargle many times during and after toothbrushing. This might have some consequences; some related to oral health such as reducing the efficiency of toothbrushing to fight dental caries, and others related to the amount of water wasted during toothbrushing (if the children do not gargle, they would save some water).

As stated earlier, practical intelligibility is what governs the course of the practice and is essentially based on ‘practical’ decisions rather than normative or rational decisions. Practical intelligibility is shaped during the process of learning the practice, and determines the practical understandings required to perform the practice. This also supports the idea that practical understandings are taught or trained throughout the process of raising professional practitioners. Children were not taught to follow the dental professional advice in this respect. In addition, the practical intelligibility of rinsing their mouths as stated earlier is not the normative action as, in this case, rinsing is not the correct thing to do. Instead, it is practical and unfolds as the action takes place. In this case, practical intelligibility is not based on professional intelligibility or some teleoaffectice structures (ends or emotions that need to be realised when doing the activity), although it can conform to them.

c. Inconsistent ways of toothbrushing

In a similar way to rinsing during toothbrushing, the children do not follow the professional recommendation of adopting a systematic pattern of toothbrushing. Dentists usually ask their patients to start from one side (right or left) on the upper jaw and brush the outer surface of the teeth up to the other side where they need to start the process again to brush the inner surface of the teeth before proceeding to the lower jaw and repeating the process for the lower teeth. Patients (or ordinary people) need to stick to this systematic pattern time after time until the process starts to be routinised and people perform it as a mechanical process without much consciousness put into it. Toothbrushing is then said to be performed through the routine bodily movements of individuals performing it. Again, children brush their teeth in a way that is not the normative or rational but the practical manner for them that originates from the practical intelligibility of the practice. As stated above, this may or may not comply with the professional (normative in this case) intelligibility of toothbrushing.

d. Opening and closing the water tap

Many of the children observed were committed to turning the water tap off after each use and not keeping it on throughout toothbrushing. This is linked to the general understanding that water is scarce in the camp and efforts need to be made to save this precious resource for household use other than toothbrushing. In Jordan, in general, citizens know exactly that using water in this way (not wasting water and opening the tap just when you need it and closing it directly after) is rooted in the fact that Jordan is a water-scarce country. Posters and advertisements on TV to raise awareness of water use are very common. One specific piece of information that people are taught (through posters and TV advertisements or school books) is that, during toothbrushing, they should not keep the tap running throughout. The camp residents have even lower amounts of water than the general Jordanian population, and awareness programmes like this are run in the camp (Figure 4.7). The brochures, that are posted on Facebook Zaatari Camp's page, explicitly state that people need to turn off the water tap during toothbrushing (Figure 4.7.A), and closely observe children when using water (Figure 4.7.A and B). On the other hand, people realise the situation through the experience they shape throughout the period they lived in the camp and they understand that they should limit their water usage in any practice to the lowest amount needed so they save it for other water-consuming activities.

This shows that toothbrushing practice intersects with a wider practice- that of conserving water. There is an opportunity, however, for oral health-promoting programmes to raise practitioners (children and other people) who adopt toothbrushing as a daily habit; yet, conserve water as much as they can by complying with professional advice. After all, it is advised not to rinse after toothbrushing, and not rinsing would save water. Water in the camp will have an extensive discussion later in this chapter.

Figure 4.7: Brochures promoted to Zaatari residents on social media to restrict water consumption.

e. Frequency of toothbrushing

This was an area of considerable variation between families, different age groups and different genders. Upon asking mothers and children, it was revealed that younger children are least likely to brush their teeth regularly. It does not, sometimes, take effort to come up with this conclusion. For example, Aisha said that the toothbrushes and toothpaste they have at home were distributed to them by UNHCR two years ago. A careful look at these items shows how the bristles of the toothbrush are still straight and the toothpaste tube still has plenty in it (Figure 4.8). Despite the fact that young children do not brush their teeth, Aisha still keeps their toothbrushes and toothpaste. Oral hygiene products are kept to maintain an open opportunity for children to start brushing their teeth one day. If Aisha keeps the oral hygiene products at home, there might be a point in time when circumstances change and toothbrushing starts to be a habit children are capable of initiating. Otherwise, children themselves may know in the future that toothbrushing is a good thing to do and decide to start the habit. Both are possibilities that if they turn out to be true in the future, keeping the material elements for toothbrushing in hand makes the possibility of pursuing it more likely. This might indicate the role that objects play in prefiguring future actions or in the evolution of new practices.

Furthermore, Aisha's oldest daughter brushes her teeth more often than her siblings as she hates getting stains on them. Another participant (Alaa) stated that her young children (4, 3 and 1 year old) do not brush at all as they are still too young for it. Fatin's family members, on the other hand, vary considerably in terms of the frequency of toothbrushing. Fatin has seven children; the three young ones (7, 3 and 2-years old) brush their teeth every two or three days. The three oldest girls (16, 14 and 13-year olds) brush more often. Fatin commented that this might be because they are older so they can understand the importance of toothbrushing better than the others and because they look after their appearance. Her middle son (8-years old) said that he brushes every 7 or 8 days. When asked about the reason, he said:

> *'I do not like toothbrushing..sometimes the toothpaste is too hot for me and if there is a washbasin, it would be easier to brush my teeth.'*

The age variation in the frequency of toothbrushing was also reported by other participants (Fidaa, Haifa, Noor and Kifaya). Moreover, most cases confirmed the gender variation with older girls tending to brush their teeth more often than their younger male siblings. This indicates that different age groups and genders have different motives to brush their teeth, and if a toothbrushing habit is to be incorporated into the daily routine of children, it is essential to understand what it means to them. Any actions to promote toothbrushing need to make sense to them. As discussed above, practical intelligibility needs to come first in the course of the practice organisation and that is something that is not equivalent to rationality nor normativity. This is a paramount difference between practice theory and the behavioural model.

Actions that people do are not those that they decide to do out of rationality nor those that they think are the normative ones (correct and acceptable). Otherwise, all people who receive health advice that they need to brush their teeth twice a day, stop smoking, lower sugar intake, etc. would do this. This is far from reality as people do things that have meaning for them, regardless of whether it makes sense to other individuals. From the cases above, older girls brush their teeth more regularly not because they know it is good for their teeth but because they want to look good by having a clean, stain-free smile. Teenagers, whether girls or boys, start to look after their appearance at this age as part of the grooming practices linked to moving toward adulthood.

In addition, role models played by parents were a point raised by some participants. Huda, for instance, reported that some of her children do not brush their teeth at all and that their father has not brushed for years referring to the possibility that parents' habits may have an impact on their children. This might cut the linkage between the doings and sayings of

toothbrushing practice as the practical understandings (that is the knowledge and skills) are not effective. Practical understandings need to be transmitted from one generation of faithful practitioners to the next. Cutting this cycle leads to a possibility that the practice decays (dies) and no longer exists as the carriers of the practice disappear (not in the literal meaning of disappearance but it means practitioners no longer carry the practice).

Pain was also a motive for some of the children to brush their teeth as some do not brush their teeth unless they have toothache. Conversely, bleeding gums were a reason for some children to stop brushing their teeth. Hajar's daughter (8 years old) said:

> *'I don't like the taste of the toothpaste and there is blood coming out from the teeth when I brush.'*

Hajar added about her other daughter:

> *'She loves to brush her teeth but she almost throws up every time she brushes.'*

This shows how natural events, pain and bleeding gums in this case, may execute powers on participants in terms of causing or prefiguring actions.

Figure 4.8: Example of a toothbrush and toothpaste distributed to Zaatari's residents.

f. Time duration of toothbrushing

Most children observed both through videos sent by their mothers, or during the fieldwork, had actual toothbrushing times that lasted between 15 and 35 seconds. This is inconsistent with the dental professional advice to brush for two minutes. Children do not have this piece of information, nor were they trained to perform the practice for this long. This is also part of the practical understanding that needs to be taught to new practitioners. The fact that toothbrushing is not an established practice for parents, and is not included in health-promoting programmes nor in school curriculum (as will be discussed below) cuts the cycle of training amateur practitioners to develop the set of competencies associated with toothbrushing. This manipulates the manner in which toothbrushing is performed (e.g. rinsing after toothbrushing or inadequate time of toothbrushing) with the potential that the practice may defect in the long term if it is not intervened by changes in other elements.

4.2. Elements of toothbrushing as a practice

4.2.1. Material Elements

4.2.1.1. Oral Hygiene Products

The main, and in fact the only witnessed, oral hygiene products used in the camp are toothbrushes and toothpaste. The sources of these supplies varied over time and vary from one family to another. For example, most families mentioned that they used to get free supplies from NGOs in the camp earlier and especially at the early stage of Zaatari's establishment. Families were dependent on these supplies for toothbrushing (if performed). As the camp entered the protracted refugee situation, humanitarian aid could not meet the continuous needs of people there as the current funds are considered insufficient and attention is drawn away from Zaatari. That is why much of this aid that was distributed to people earlier such as sanitary products, food, blankets and oral hygiene products was discontinued.

People have to rely on their monthly allowances to provide for all that they need for living, this means they have to buy oral hygiene supplies with their own money. Most participants in this study expressed frustration about this as this means lower money left for basic necessities. Indeed, Reem had an opinion regarding discontinuing this kind of aid. She said:

'Sometimes, the harm they end up with these aids is more than the benefit. These organisations start helping the families at the beginning, but later they stop leaving the families dependent on something they do not afford.'

In addition, to understand toothbrushing as a practice that needs to be maintained, the historical events are relevant to the current situation of the practice. Other than these products being free earlier, their characteristics affected performing toothbrushing then and may have effects on the outcome of the practice nowadays. Toothbrushes and toothpaste distributed by NGOs were of limited types and people did not have the option to choose a toothbrush that is soft or hard, or that is of a specific design. They could not also choose a specific branded toothpaste, its fluoride content or its flavour. In this regard, participants focused on the taste of the toothpaste rather than other characteristics. Children either did not like the taste or found it too strong which made another reason for abandoning toothbrushing. For instance, Suad commented:

'The types that we used to get from these organisations were not suitable for children as for example the toothpaste is mint-flavoured which kids find too hot to tolerate.'

These examples exhibit how authorities, sometimes, preclude people from performing their agency by treating them as passive recipients of rules and policies. As discussed in the previous chapter, one of the major drawbacks of the social determinants approach is its assumption that changes in distal factors in one's environment have an impact on what that person does. The risk with this is the potential for people to appear as though they are "structural dupes" and little attention is paid to their being agents that make decisions based on a complex analysis of what is in their environment and what it makes sense for them to do. Suad's youngest daughter, for instance, chose not to use the mint-flavoured toothpaste - her practical intelligibility did not single out that using this toothpaste made sense for her. Hence, her practical understanding of toothbrushing was to withdraw from the practice as there were no other alternatives. This confirms that people can remonstrate against authoritative rules through agency. Despite that authorities can restrain the limits of agency people have, it is up to people to submit to or oppose these powers.

The UNHCR and most NGOs in Zaatari stopped distributing free oral hygiene products generally, there are some NGOs that still get supplies to people in the camp (See Figure 4.9 and Table 4.1). However, the distribution of these is not for all; only families of large numbers are prioritised. Some of the participants said these are for families of eight people and others said for nine people. Anyway, large families still get free toothbrushes and toothpaste albeit

not as often as before. People have some reservations about these supplies. For example, Fatin said:

> *'A year ago, an organisation provided families of 9 members or more with toothpaste and toothbrushes. The toothpaste was of very bad quality; its taste is disgusting and its consistency is similar to the plaster as if it was expired. But, the toothbrushes were good.'*

Other participants argued the basis on which such NGOs use to select families prioritised for free supplies. Haifa commented:

> *'Families of 1-5 members usually do not get any aid. It should be the opposite; families of large numbers are expected to have more members who can get a job and increase the family income unlike small families whose members are mostly young children.'*

Huda supported Haifa's point of view and suggested that individual family member income is taken into account when aid is distributed. The inefficient management of resources was also referred to by participants even earlier when all camp residents got free supplies. NGOs, then, seemed to have massive aid supplies that they distributed to people on a more frequent basis than actually needed by people. A point was highlighted by one participant who said that they used to change their toothbrushes and toothpaste more frequently than they needed. As UNHCR and NGOs could not, at the early times of the camp establishment, foresee the duration of time Zaatari was to last, long-term resource management may not have been on the list then. These extra supplies could have been preserved for longer if proper planning was performed.

Figure 4.9: These photos show some of the oral hygiene products distributed by some NGOs for selective families.

As practices are interrelated in a mesh of interdependence and co-transformation, changes to one practice could have effects that spill to the constellation of practices of which it is a part (Shatzki 2002; Shove et al. 2012). Discontinuing the free oral hygiene supplies to people in the camp led to the evolution of new practices and mutations in old ones. For example, businesses in the camp started a new supply chain for oral health products as they were no longer available from other sources and people still needed them for toothbrushing. Participants stated in different places they can get oral hygiene products from nowadays. Local shops are mainly the new source of these supplies (Figure 4.10). People can go to the shop in their neighbourhood and buy a toothbrush or toothpaste. According to participants, these are made available at shops at a cheaper price than elsewhere in the camp. A toothbrush can cost 25 piasters (almost 22 pence) and a toothpaste tube costs on average 1 JOD (almost 88 pence). Even with these relatively cheap prices, people struggle to buy basic oral hygiene products sometimes. This is because directing some of their monthly allowances, which are considered by most families to be insufficient for basic needs, towards buying toothbrushes and toothpaste for all family members means cutting down on other stuff. Therefore, people can find themselves having to choose between buying oral hygiene products or baby diapers, for instance. Upon asking Fidaa about her priorities for managing their monthly allowances, she said:

> *'I wish they were still giving us free toothbrushes and toothpaste. The situation in the camp now is miserable. For example, I have 6 daughters and two sons living in the same house. So, I need to prioritise things over others. For example, I might prioritise sanitary pads for my daughters over buying them toothbrushes and toothpaste…I can't afford both, so I prioritise the sanitary pads as I see they are more important. This is what I can do… I am working but my husband has a medical condition that prevents him from having a job. It's very tight financially.'*

Figure 4.10: Various oral hygiene products sold in a local shop in Zaatari.

Another source of oral hygiene products in the camp is accessory shops that sell girl accessories and homeware. Suad prefers these places to buy their toothpaste from as these tend to be air-conditioned during summer and hence toothpaste is not likely to get ruined by high temperatures and direct sunlight as is the case in local shops. Other participants get their supplies from pharmacies in the camp. There are two pharmacies currently in the camp and their organisation lies under the Jordanian Food and Drug Administration; thus, the prices in these two pharmacies are subject to the pricing in pharmacies elsewhere outside Zaatari. Therefore, the prices in pharmacies are considered to be relatively expensive for camp residents.

Indeed, the launch of pharmacies inside Zaatari represents another example of how people can act collectively against powerful authorities. As the situation in Zaatari extended for a long duration and healthcare service in the camp could not meet people's needs, people put pressure on the administrative bodies in Zaatari to allow for the initiation of pharmacies where they can get immediate help until they can see a doctor (or dentist). This was due to most importantly the lack of emergency services outside working hours for many health conditions including dental pain. Moreover, the containment status that people live inside the camp as they cannot leave the camp without a valid leave, which they apply for during working hours, also, made people feel the urge for a system to manage health emergencies. The rejection that the camp administration responded with has more deep reasons than a mere rejection of people's demands. Initiating professional business in the camp was seen as a sign of permanent settlement as such businesses need to be licensed under the Jordanian government regulations. In addition, to do so, they need to be owned by

Jordanian professional personnel as refugees are not allowed to own a business. After long negotiations, Zaatari's administration approved the launch of two pharmacies. However, they need to be owned by Jordanian pharmacists and get a licence as all other pharmacies elsewhere. Syrian pharmacists in Zaatari can still work in these pharmacies under a contract made between them and the owners.

Anyway, whatever the source of toothbrushes and toothpaste in the camp, people still consider the prices to be expensive compared to free charge as was the situation earlier. For example, Suad commented on the prices of toothbrushes and toothpaste as being a bit costly if someone would compare it to the income they have and the number of family members. A point that was also raised by Sujood as she said that sometimes they have money to buy oral hygiene products but other times they do not. In addition, Hajar's family is only able to buy very basic food for their living and they sometimes even borrow money for this. This makes any extra supplies they want to buy a burden and unnecessary luxury; this includes oral hygiene products. Consequently, it can be concluded that the availability of oral hygiene products is an important factor in the maintenance of the practice of toothbrushing. However, it is crucial to understand what role these objects have in the practice.

An area of major conflict among practice theorists is the relationship between objects and activities. For theories that adopt a posthumanist stance such as Actor-Network Theory (ANT), agency is not limited to humans alone and the effect that things have on the course of any practice determines how the practice proceeds by prefiguring and causing other things and events to happen. Hence, human activity is constitutively bound to objects as objects can make activities possible or activities are, sometimes, directed towards objects (Latour 2005). Gherardi (2017) defends a posthuman practice theory and argues that things and practitioners are entangled in the practice and none of them exists before their interaction. Gherardi, also, suggests the use of the term 'sociomateriality' (Gherardi 2017, p. 40) as an integral feature of any practice that refers to the interaction between matter, including the materiality of the body itself, and culture. Therefore, for Gherardi, both humans and objects acquire agency by their entanglement within the practice.

Nevertheless, Schatzki (2002) has a strong opposition to the posthuman perspective of practice theory. Schatzki argues that objects receive attention due to their being an entity in any practice and they cannot exert power on practitioners to force them to be utilised. Rather, it is the 'ends' towards which tasks and projects in a practice are directed which give objects their attention. Objects, Schatzki continues, do not have the capacity to issue meanings of themselves and they acquire their meaning by taking part in a practice. Even in cases of natural disasters, objects come to attain higher power of changing the course of

existing practices, giving birth to new practices, or playing a strong role in other practices' death. Still, humans hold the lead in giving these events their significance in human activity. So, objects play an important role in mediating human activity rather than being central to sociality (Schatzki 2002). Consequently, according to Schatzki, agency is limited to humans alone as they are the entity that decides how a practice is performed due to them holding intellectual property. It enables them to think, feel and respond to events happening in other entities in any organisation (artefacts, things and other living organisms).

In this study, Schatzki's perspective of agency is thought to be more appropriate. As Schatzki says objects cannot institute their meaning unless taking part in a practice organisation. Similarly, oral hygiene products have their meaning by being part of toothbrushing. The same object, a toothbrush, can have multiple meanings according to the practice of which it is a part. For example, in toothbrushing, the toothbrush is the thing that people hold and load with toothpaste to rub their teeth in order to clean them. In case someone is cleaning a window, he/she can use the toothbrush to clean the window's narrow grooves. Or, a toothbrush can be used to clean grout between tiles in bathrooms. Moreover, the availability of oral hygiene products on the shelf in the bathroom does not mean performing toothbrushing is inevitable as it is up to the person to decide whether or not he/she wants to proceed which is not a simple decision. Rather, a complex analysis is initiated linking the teleoaffective structures of performing toothbrushing and its practical intelligibility of what makes sense along with rules and general understandings. Examples of the analysis that takes place can be comprehended by what these two participants said.

> *'Even though we can buy toothbrushes and toothpaste, we will still be worried that water will run out…. We don't have toothbrushes and toothpaste at home currently.'* (Khadijah, mother of six children)

> *'If my young son wants to brush, he will do so at the toilet seat as we don't have a washbasin. I'll be worried he drops the toothbrush on the toilet seat and becomes dirty. That's why, I sometimes prevent him from brushing his teeth.'* (Fidaa, mother of five children)

It is obvious that the meaning varies dramatically for the practice and practices are performed according to their practical intelligibility. Khadijah decided to stop buying oral hygiene products as she saw this as a waste if they do not have a sufficient amount of water for this supposedly daily habit. On the other hand, Fidaa asked her son not to brush his teeth because this might result in more harm for the boy as the toothbrush becomes contaminated and for herself as a mother because she may need to clean the dirty toothbrush, discard it and buy another one or clean her son. All this requires time and effort which might be

directed towards other chores at the time of toothbrushing. This is, of course, also because of the bathroom arrangement which is something people in the camp are not in control of. Still, it can affect the decisions they made which may impact other material elements involved in toothbrushing.

After this discussion on sources of oral hygiene products in the camp and the conversations held with participants in this study, as well as direct observations made during fieldwork, one striking finding was revealed. Inside Zaatari, there are two main supermarkets whose administrations are directly linked to the administrative body of the camp, namely UNICEF. These are the official markets where camp residents can exchange their monthly allowances, distributed as coupons, for all that they need for living in the camp. Literally, anyone can go to these markets and buy their necessities from A to Z including meat, chicken, other food items, cleaning products and self-care products (Figure 4.11 and Figure 4.12). Yet, no oral hygiene products are available at these markets for people to buy. If this means anything, it means that oral health in the camp is neglected. It is not considered part of basic needs nor even part of self-care products. Indeed, hair conditioners seem to be more important than a toothbrush. Thus, discontinuing free supplies of oral hygiene products and not making them available for people in the markets that are supposed to sell everything to people in the camp shows the degree to which oral health promotion is “not on the table of Zaatari’s authorities”.

People in the camp have a feeling they are more left alone. Funds to the camp are not sufficient, the media focus is not as it was before and public figures and donors seem like they do not see the camp anymore. During the fieldwork, many people talked about what they used to get before and how almost none is provided nowadays. By taking into consideration the cost of hygiene products in general, people tend to cut down on things that they can live without. As toothbrushing does not seem to be a rooted practice of everyday life in the camp, it is very likely that parents do not want to buy things that their kids would not use. Money needed to buy oral hygiene products is a competitive resource among a bundle of practices and due to its being a limited resource, people should make rational decisions as to where to spend their money.

Figure 4.11: Cleaning supplies sold at one of the supermarkets in the camp.

Figure 4.12: Body hygiene products such as hair shampoo bottles, hand soap along with other cleaning products.

4.2.1.2. Space where toothbrushing is performed

Before proceeding to discuss the actual arrangement of toothbrushing in Zaatari, it is necessary to introduce the concept of ‘activity space’. According to Schatzki (2002), as entities of any arrangement have, among other features, physical properties, they occupy physical space. Moreover, as these entities are entangled in any practice by virtue of being means to perform the practice or the practice is directed toward these entities, activities associated with these entities occupy physical space as well. Activity space, hence, is the space where activities are performed and is tied to locations in the physical space where these actions take place (Schatzki 2002). Activity space does not only include locations where direct activities within the practice take place; rather, it embraces any distal location whose products or by-products are sources of the practice of concern or one in which its

events affect the course of the practice. As activities of a constellation of interrelated practices are interdependent or sequenced, so are the locations constituting the activity space of these practices.

In the case of Zaatari, the activity spaces of toothbrushing vary; some of them are considered ‘normal’ as they are where most people would perform toothbrushing (according to collective norms), and others are considered ‘out of normal spaces. The nomination does not imply prejudice in people’s choices of what makes sense for them to do. It is, instead, for the purpose of analysis associated with this study. Below is a description of the normal space for toothbrushing (the bathroom) followed by examples from Zaatari where participants choose other spaces to perform the practice.

A. ‘ Normal’ activity-space of toothbrushing

If anyone thinks of the process of toothbrushing, they end up with a logical conclusion. That is: to perform toothbrushing, an individual needs a source of water to clean his/her toothbrush after being used at least (if he/she does not need to rinse during or after toothbrushing) and a place to spit the foam out of his/her mouth. In most housing arrangements, no matter how different they are, these two conditions are available in the bathroom. Presumably, that is why bathrooms are considered the normal space to perform toothbrushing in general.

Bathrooms are linked to dirt in any house arrangement. They are the space where most household-produced dirt goes and is got rid of. For example, human waste and excretions are discarded in the bathroom as direct waste either goes into the sewage system through the toilet or during bathing to freshen up the sweaty body. Also, laundry is still linked to the bathroom in many houses as clothes are being washed manually there or the washing machine is installed in the bathroom or adjacent to it. The centrality of the bathroom as a space of cleanliness is associated with its being a place with a water source. Water is, therefore, the heart of purity. That is why, then, kitchens are also considered a space linked to cleaning and purifying. However, the type of cleaning linked to bathrooms is different from that performed in kitchens. The most noticeable difference is using the toilet.

Therefore, what makes, first, bathrooms and kitchens the space of purity in any form of housing and, second, why some forms of cleaning are considered normal in bathrooms but not in kitchens is not haphazardly organised. To understand this, clear comprehension of what it is to be cleaned is necessary. Here, citing Mary Douglas’s definition of dirt might help. In Purity and Danger (Douglas 2002), first published in 1966, Douglas defines dirt as *matter out of place,* referring to materials that cross the boundaries of where they are supposed to

be. For example, a pair of shoes is not considered ‘dirt’ when they are organised in a cabinet or just left at the entryway of a house but when a pair of shoes are left on the kitchen countertop, they are considered dirt as this is not the normal place for them. The definition of ‘dirt’ extends beyond material elements or things and it is challenged by many scholars. Disagreements include the relationship between power, danger and dirt on one side and between order and dirt on the other side. However, for the purpose of this discussion, Douglas's general definition of dirt is adopted.

Now, another point should be clarified; the different cultural hygiene practices. Different cultures have different perspectives on what dirt vs. purity comprises which have an association with religious regulations and objective science. Taking the Zaatari population as the case here, this population is, in the first place, part of the Arab nations with Islam as the religion for almost all people in Zaatari. So, to speak about hygiene practices for this group without referring to these backgrounds is pointless.

Islam is a religion that is concerned with maintaining the body and mind and one essential means to achieve this is through purity. Purity in Islam is not only physical but is linked to emotional and spiritual cleanliness. From this point of view, explicit regulations are given to Muslims in order to keep their bodies and souls pure that are, in many cases, not just recommendations; rather, they become obligatory as they are the rules of practice in these cases. Recommendations and rules of purity in Islam include body washing, toilet hygiene, oral hygiene, nails and hair hygiene, house cleanliness, road and environment cleanliness, etc. Some of the Quraan and Hadith verses in this respect are:

> *‘Cleanliness is half of faith.’*
>
> *‘Allah loves those who are constantly repentant and loves those who purify themselves’ (Quran 2:222).*
>
> *"Were it not that I might overburden my followers, I would have commanded them to use the miswak before every prayer.’ (Al-Bukhari and Muslim)*

Therefore, to be a good Muslim, one should observe as much as he/she can the rituals of Islamic hygiene. Consequences of this are reflected in their appearance, their house arrangement and cleanliness and their practices in general. This is mentioned by participants. However, being a Muslim, myself, I was taught these principles early in my life by my parents and through the school curriculum. If trajectories of these hygiene practices are applied in Zaatari, one can notice how people modified their shelters, designed their bathrooms and arranged their daily activities according to Islamic hygienic practices. For

instance, at the early stages of camp establishment, common bathrooms were installed for a number of shelters. As this is something that people could not tolerate because of their Muslim background and as it would have made their hygiene practices very hard to perform, they opposed these arrangements and made their own. People started by making a small extension to their shelters to serve as a bathroom (in addition to another extension for a kitchen). These shelter modifications were described by (Alshawawreh et al. 2017; Dalal 2015). By having their own bathroom, however primitive it was, people could then make wodou (ablution) five times a day while maintaining their privacy. Some Islam regulations include having a full bath in certain cases and it can be imagined how hard and impractical it would be if they were to be performed in a common bathroom. So, the first modification people in Zaatari made to their shelters as a result of their Islamic culture is having a private bathroom for the household.

Then, people also realised the need to introduce elements within their shelters to make their hygiene practices more practical. Within the bathroom, for example, a source of water needs to be available that is not for flushing the toilet but for washing body parts after using the toilet. This is an obligatory requirement in Islamic hygiene practices and is performed either by having a bidet sprayer or a jug filled with water. This practice should be taught to children as young as they start to use the toilet so it becomes a habit when they turn into teenagers. Washing body parts that come in contact with sources of impurity or filth is associated with better hygiene and fewer infections in the area. These findings were described by participants themselves when asked about the source of water and how they get it inside their shelters.

Similarly, for wodou, there needs to be a source of water to wash peripheral body parts before each prayer (face, head, arms and feet). Water needed for wodou in shelters in Zaatari may come through taps that have a washbasin underneath for the water to flow out to the sewage system. If there is no washbasin, water is spilled on the bathroom floor to be mopped later through a plughole or the toilet base (as it is mostly Arabic style toilet). The other possibility is that there is no water tap in the toilet as pipes are not installed to transfer water from water tanks outside the shelter to the bathroom. In this case, people fill buckets or barrels with water to be used for all activities that need water. These were findings collected during the fieldwork; bathrooms with and without water taps were encountered and participants described the way they perform wodou in each one.

What applies to wodou also applies to toothbrushing in terms of source of water and where it is performed in most cases. To perform toothbrushing in Zaatari, an individual usually goes to the bathroom, grabs his/her toothbrush and toothpaste (which are usually organised on a

shelf there to make it practically accessible) and uses water either through the tap or the barrel to rinse after. The discussion, now, needs to turn to describe how children in the camp situate themselves in the activity space of toothbrushing before returning to the idea of 'dirt' and Islamic hygiene practices. First, a few examples of bathroom arrangements in some Zaatari shelters are listed below.

Example 1: Aisha's shelter (Figure Aisha's bathroom)

Figure 4.13: The bathroom in Aisha's shelter.

The bathroom has a toilet bowl (Arabic-style toilet). There is a handheld bidet sprayer to rinse after using the toilet. Immediately beside the sprayer is a water tap that is used for handwashing, toothbrushing and making wodou that they need to lean down in order to perform these activities as there is no washbasin attached to it (See Figure 4.1). Aisha complained that her children wet their clothes if they want to wash their hands or brush their teeth because there is no washbasin. There are also some bathroom cleaning tools as well. Behind the door, there is a shelf where shower and toothbrushing products are organised. The arrangement of the bathroom shows how it contains the minimum facilities required in a bathroom as the toilet bowl and a tap. No shower is available as this is performed using a bucket of water or a jug filled from the tap.

Example 2: Alaa's shelter (Figure 4.14)

Figure 4.14: The bathroom in Alaa's shelter.

The bathroom in Alaa's shelter represents one of the best-looking ones among the shelters that were visited during fieldwork. It contains both Arabic-style and Western-style toilet seats with a water tap in the middle of the distance between them to be used in either case. There is a bucket full of water just beneath the water tap and another smaller one that is used to fill water in from the larger one for flushing and rinsing after using the toilet. Water is already filled in the larger bucket to be ready whenever someone needs the toilet. Cleaning tools are put in the corner next to the Western-style toilet. The other picture shows the other side of the toilet where there is a water tap with a washbasin underneath. There are also plastic shelves where cleaning products and body sponges are put. However, no oral hygiene products can be seen which is consistent with what Alaa said that her children do not brush their teeth as they are still too young for it. Another thing seen in the picture is a pipe that extends to the washbasin in a simple manner. This is to transform hot water from the water heater to be used during bathing. The bathroom flooring consists of tiles and is relatively clean.

Example 3: Fatin's shelter (Figure 4.15)

Figure 4.15: The bathroom in Fatin's shelter.

The picture on the left shows part of the bathroom. There is an Arabic-style toilet seat and a large bucket full of water with a smaller one to be used in flushing and washing the body after using the toilet. There is another plastic jug that can be used for the same purpose and some tools that are used for cleaning the toilet seat. The other picture shows the mirror in the bathroom. It is a very simple, plastic-framed, cheap-looking one. It has some place to put things. The toothbrushes are put on one side of the mirror while the toothpaste is on the other. A bar of soap is placed on the small shelf in the mirror frame. The water tap can be seen under the mirror. So, anyone who wants to wash their hands or brush their teeth, they can pick whatever they want and open the tap and do washing or toothbrushing (See Figure 4.1). Dirty water is spilled directly to the floor and has to be wiped away to a plughole.

Example 4: Haifa's shelter (Figure 4.16)

Figure 4.16: The bathroom in Haifa's shelter.

These pictures are shots from a video sent by Haifa for their bathroom. There is an Arabic-style toilet seat. There are two taps. The lower one is for toilet use and the upper tap is for handwashing, toothbrushing and wodou. In the corner of the bathroom, there are toothbrushes and toothpaste put in a small caddy, made by cutting a plastic container similar to the ones used for cleaning, and hung high and far from the toilet to be kept clean. At the far end of the bathroom, there is an area for bathing, there is a shower head for this purpose. It is the only house that has a showerhead among all the houses that were visited.

Example 5: Suad's shelter (Figure 4.17)

Figure 4.17: The bathroom in Suad's shelter.

These photos were taken from the bathroom in Suad's shelter. The first one shows the toilet seat (Arabic-style) and a hose beside the bidet sprayer as shown in the second photo. The water tap can, also, be seen with the pipes extending along the wall. The third photo shows the water tap and the sink underneath as well as the plughole on the floor (very simple; only a hole in the floor with no lid). The final photo shows the washing machine in the bathroom as many people in the camp put their washing machines in the bathroom to be closer to a water source, especially in light of small shelters, the need to extend water pipes and the need to drain dirty water.

Example 6: Hajar's shelter (Figure 4.18)

Figure 4.18: The bathroom in Hajar's shelter.

This photo shows the bathroom in Hajar's house. There is an Arabic-style toilet and a water hose on the floor that is used to rinse and flush after using the toilet. The hose is connected to a barrel that is used to fill extra water. There are other water buckets in the bathroom; some have names or logos of NGOs. There is a washbasin with a water tap. There is a trash bin underneath the wash basin. The arrangement looks very simple and things are upcycled to serve other purposes in the bathroom such as wood boards, buckets and sheets.

Example 7: Sujood's shelter (Figure 4.19)

Figure 4.19: The bathroom in Sujood's shelter.

This bathroom has both Arabic-style and Western-style toilets with a water hose next to both. There is also a water tap with a washbasin underneath that looks relatively clean. There are bars of soap on the sink but no oral hygiene products can be seen and no mirror above the sink. The flooring is made of concrete. Despite inequalities in the camp taking a different path to those outside the camp, some areas in Zaatari can be referred to as neighbourhoods having a higher economic status than others. For example, Sujood's shelter is relatively bigger and its arrangement reflects a somewhat higher economic status than many other shelters visited during the fieldwork. However, this arrangement of the bathroom which may be corresponded with more regular toothbrushing among family members is hindered by the scarcity of other elements of the practice. Sujood stated that they do not brush their teeth regularly as she is not able to afford to buy oral hygiene products, nor is there a supply of water to support this. Sujood said:

‘I don’t always have money to buy toothbrushes and toothpaste. Occasionally, some organisations provide these products. Also, if we don’t have enough water, toothbrushing won’t be a priority.’

Variations of bathroom arrangements on structuring different performances of toothbrushing

All these examples show how the bathrooms in Zaatari shelters are arranged to serve the minimum requirements that a bathroom should. And regardless of the differences among them, they almost always share common designs. The presence of the Arabic-style toilet seat is seen in all houses being visited. Even the two examples (Alaa and Sujood) mentioned above that show Western-style toilets still have Arabic-style toilets as well. The tendency to use this style of toilets reflects the simplicity of installation in the camp compared to the Western-style one and the lower maintenance needed. People prefer this style as ease of installation and lower maintenance mean lower cost and the ability to do it by themselves without the need for a plumber. Despite its wide use in the past, people in Jordan tend to use Western-style toilets nowadays whenever they build a new house and if an Arabic-style toilet is to be installed, it is done as an adjunct as there might be some family members or guests who still prefer it. The presence of an Arabic-style toilet can also help with drainage as there is no need for a plughole as water can be directly wiped into the toilet (this is, however, not applicable to all cases).

Different cultures have different cleaning styles that are dependent on their cultural beliefs about ‘dirt’ and the architectural features of building systems. In the Middle East, for instance, the bathroom needs to be cleaned with water; water (usually mixed with other cleaning products for disinfection and deodourising) is spilled on the floor, the floor is rubbed with a broom and then water is wiped with a squeegee. That is why a plughole is necessary in designing a bathroom in this part of the world. The need to do it this way depends on the cultural (which mostly stems from religious) beliefs of what ‘dirt’ is. As the bathroom is the place where body waste is excreted and these forms of body waste are considered filthy, they need to be cleaned properly. As the heart of purity is water, it is used for this purpose according to Muslim regulations. For the same reason, tools used to clean the bathroom are usually limited for this purpose and are not shared to clean other places in the house.

In addition, as body waste that goes in the bathroom is ‘filthy’, the body parts which come in contact with it should be cleaned to get rid of ‘dirt’ and restore ‘purity’. Again, this is performed using water. In the examples mentioned earlier, it can be seen how this is purposefully engaged in the bathrooms in all cases. Either a bidet sprayer is installed, a

hose is attached to a water tap or simply a bucket of water put beside the toilet is used to clean the body after toilet use.

Another point that needs to be mentioned is the lack of washbasin in many of the houses visited. Washbasins serve to drain away extra water and dirty water used to wash hands or brush teeth. If there is no washbasin, this means that this water goes directly into the floor or sometimes people put a bucket to collect the dirty water. Dirty water spilled into the floor needs to be cleaned which requires more water to clean it. Many participants highlighted the impact of the washbasin in sparing them from another task of cleaning the bathroom after their children which requires time and effort competed upon among their household chores and jobs. They also linked the presence of washbasin with toothbrushing as children are more motivated if there is a washbasin. For instance, Fatin said:

> *'If we have a washbasin, it would be better. So, kids won't get dirty and the floor stays clean. Sometimes, I put a bucket of water underneath the tap and use this water to water the plants. But, sometimes I just spill it in the toilet.'*

Fatin linked the absence of a washbasin to dirtier bathrooms which is in turn linked to more water consumption to restore its cleanliness. In another case, Fidaa said:

> *'The bathroom does not have a washbasin. If kids have to wash their hands or brush their teeth, they need to squat to use a water tap at the bottom of a water barrel that we keep water in. Then, they will spit on the floor or the toilet bowl. You see, it's difficult. If there is a washbasin, this will encourage them to brush their teeth…..Also, If my young son wants to brush his teeth, I'll be afraid he drops the toothbrush into the toilet as he brushes just above to spit the foam there. This makes it dirty.'*

Fidaa refers to bodily movements during toothbrushing. The person who wants to brush their teeth needs to manipulate their body in a certain way. Bodily movements including squatting require a degree of fitness to do so. For older people, performing tasks such as handwashing, making wodou or toothbrushing is harder. But even for children, the more practical and less effort needed for an activity, the more likely people can accomplish it. Therefore, the absence of washbasins is linked to harder bodily movements and more water consumed to clean the floor after using the water tap for any purpose. This material arrangement, hence, prefigures the course of subsequent activities and renders them easier or harder to perform toothbrushing. It also highlights the co-transformative and mutually dependent nature of structure and agency; of how objects interact with practices by shaping the agency of practitioners while performing the practice and vice versa.

Kifaya supports Fidaa's argument and she added:

> *'There is no washbasin in the bathroom so toothbrushing is more difficult. If my little daughter wants to brush her teeth, this means somebody has to pass her the toothbrush and toothpaste and supervise her.'*

Kifaya highlights the need for supervising young children performing toothbrushing due to the absence of washbasin. Children's clothes might get wet or dirty while toothbrushing as water and foam splash into them or they may drop the toothbrush into the floor or the toilet seat. An adult or an older sibling can help them throughout the process. However, this means that they need to stop doing other chores and spare some time and effort to supervise young children during toothbrushing. It can be shown how an element of a practice, the presence of a washbasin here, can link practices together which sometimes take a competitive nature such as between toothbrushing, parenting and taking care of siblings.

The bathroom arrangement, in general, being pleasant and good-looking was something that some participants linked to toothbrushing as well as other grooming practices. Some mothers stated that their children are not motivated to brush their teeth in their very basic, bad-looking bathrooms. This is specifically among teenagers and girls, as Kifaya's daughter (14 years old) said:

> *'I don't brush my teeth at all. I don't like to brush my teeth at the kitchen sink or in the bathroom. It is not pleasing… I want a mirror to see myself while brushing. I need a washbasin too.'*

The girl refers to the activity space of toothbrushing, the bathroom, as not pleasant to do toothbrushing in. She also explicitly mentions the need for a mirror to see the direct result of toothbrushing. As discussed earlier, the teleoaffective structure of toothbrushing might differ according to age group and gender. For this girl, for example, she thinks of toothbrushing as a grooming practice not a health-related practice.

The points highlighted so far in this discussion reveals how the activity space determines and is determined by the constellation of interrelated practices. These practices either take place in the same activity space or they have consequences affecting this activity space. According to Schatzki (2002), activity space is a representation of the spatial site that a context could be. A context can take many forms namely texture, contexture and site. A site, in turn, can be the activity space, the wider scene or occupying a site that is more physical than a rarefied site. All these forms of context have the power of determination of entities

and phenomena tied to them which can be thought of as prefiguration (enablement and constraint). For the purpose of discussing bathrooms in Zaatari, many examples reveal how the space determines related entities and activities. The presence of an Arabic-style toilet and the absence of a washbasin or a shower head determines the bodily movements a practitioner should master in order to perform practices such as using the toilet, toothbrushing and bathing. It also determines the artefacts needed to be brought to this space to perform the practices. For example, when a family does not have a bidet sprayer in the bathroom, a bucket of water or a jug is put for the purpose of rinsing after using the toilet. Oral hygiene products as well as soaps and other body hygiene products are put on a floating shelf, a shelf attached to a mirror or placed on the washbasin if there is one. Some people keep oral hygiene products outside the bathroom as there is no space specifically suitable for this purpose.

Likewise, the activity space is determined by practices linked to it. Practices are the site where human activity takes place and human activity is the realm of agency. Therefore, the prefiguration of the context in general, and the activity space of the bathroom here, is not limited to the context or structure alone. Agency, too, plays a role in the enablement and constraint of entities and phenomena captured in a particular context. All of the bathrooms described above have the material elements required to perform rinsing after toilet use. They do, also, have cleaning tools specified for bathroom cleaning that are separate from those used in other household chores which reflects the religious beliefs regarding getting rid of filth. These artefacts are caught in the space because of human activity associated with them.

In terms of toothbrushing, the bathroom arrangement determines the manner the practice is performed. As stated above by some participants, the absence of a washbasin makes toothbrushing more difficult and lowers the motivation of children to perform it. It requires harder bodily movements that in turn require a certain level of fitness. In addition, the absence of a washbasin leaves the floor dirty and children's clothes wet or dirty. This means that the floor needs to be cleaned subsequently and the children either supervised or their clothes got changed after toothbrushing. Hence, a new array of practices are initiated subsequent to toothbrushing. On the contrary, toothbrushing has a determining power on the space it is linked to. People have to install shelves, for example, to place their toothbrushes and toothpaste that sometimes need to be accessible to children (installed at a height suitable for children). They need to install a mirror to see themselves while performing toothbrushing. There needs to be a source of water that is accessible for family members who want to brush their teeth including children. And, there needs to be a squeegee, at least, to wipe water and foam away after toothbrushing if there is no washbasin. So, the

material features of the bathroom arrangement are not 'causes' in the strictest sense of the term. They 'may or may not' lead to the performance of the practice. In this sense, there are tight and loose bindings between the practice and its context that are determined by where the practice is situated in the hierarchy of teleoaffective structures.

Furthermore, the bathroom as an activity space linked to toothbrushing is part of the wider scene that is the camp. Water scarcity in the camp, as will be discussed in another section, is reflected in the arrangement of bathrooms and practices taking part there. Some people collect water that is used during handwashing, toothbrushing and making wodou to be used in plant irrigation around their shelters. The water pressure in the pipes is low which lowers the flow of water and hence the amount of water consumed for any of these activities, as Huda, one of the participants, said. People, also, fill extra barrels and buckets of water and keep them in the bathrooms, and in the kitchen, to be used if the tank outside their shelter runs out of water. So, even for those who have a bidet sprayer or a water tap and washbasin in their bathrooms, once they run out of water, which happens frequently, they change the manner in which these activities are performed as they start to squat next to water buckets to use water from there and then clean the floor.

It can be seen how a single practice, toothbrushing, can change the hierarchy of activities, tasks and projects linked to it. The changes are determined according to the material elements in the wider environment and according to the nexuses of practices associated with it. Changes in the manner toothbrushing is performed entail changes to the practical intelligibility of the practice and the subsequent practical understandings. However, the teleoaffective structures do not change so abruptly. People still have the telos or ends that are maintaining a clean body, maintaining healthy teeth or beautiful smiles while at the same time using the lowest amount of water to do so. This is consistent with Schatzki's (2002) argument that changes to practical understandings are more continued and abrupt while changes to teleoaffective structures, rules and general understandings are more occasional and intentional. Within teleoaffective structures, changes to ends are slower than changes to tasks and projects associated with them. Hence, human activity can change; yet, the different actions involved are still directed to the same ends. For a practice to live (maintained), changes to the organisation of the practice or the tasks and projects involved in it tend to be gradual amid the continuity of other components. When the changes are subtle or the tasks and projects are no longer performed, which is usually linked to the evolution of objects associated with them, the practice dies (no longer performed).

The examples above show another noticeable observation in terms of priorities people give to practices they involve in. In all shelters visited, some examples are stated above, people

have the arrangement necessary for rinsing after toilet use and making wodou but not all have the arrangement for toothbrushing. Some bathrooms do not have any oral hygiene products and when people were asked they did not seem to bother a lot. Exploring the factors leading to this is more complex than explaining it according to having the material elements for or even the knowledge about toothbrushing. That is because if toothbrushing is not performed due to water scarcity, why would other water-consuming practices persist (e.g. wodou)? And, if they do not brush their teeth because they do not have toothbrushes and toothpaste, what about people who have these and yet do not perform the practice? Are time and effort needed to supervise a child a justification to stop their children from toothbrushing? The answer to these questions and more is they all come to play a role in the outcome and it is very complex to state what has a higher impact.

One important point that needs to be understood is the difference between a rule and a recommendation in Islam. Prayers are compulsory for each Muslim when they reach puberty and there are no exemptions. All Muslims have to practise wodou and prayers even if they are sick or do not have water. In such cases (and other cases where proper wodou and prayers cannot be performed in a classic way), modifications are made to make it easier for people. For example, they can perform prayers while sitting or laying down. People on travel can perform two prayers at a time and can perform a shorter prayer but they still have to do it. People who do not find water to make wodou, can perform another practice called Tayammum which does not require water. The outcome of these rules is that people do not think twice about whether they do them or not. However, they think about how to perform them and how to make necessary modifications to make them possible.

On the contrary, Islam has a recommendation for people to clean their teeth which was traditionally performed using Miswak. They are also encouraged to do so at certain times like before prayers in order to set a time so people can link it to their daily routines and not forget about it. Yet, teeth cleaning in Islam is not a rule; it is not something that people have to do similar to prayers. That is why, people, Muslims in general and people in Zaatari in particular, keep on performing prayers no matter what their living conditions are but tend to skip recommendations such as toothbrushing whether there is a reason or not to do so. As generations of people who do not stick to toothbrushing as a daily habit pass, toothbrushing becomes not an activity that is rooted in the daily routine similar to prayers or rinsing after toilet use for example. All other factors mentioned above including material elements, knowledge and skills come secondary to this.

Consequently, it can be argued that the doings and sayings in practices are linked via the rules linked to such practices (Schatzki 2002). For the practices performed in the bathroom,

these rules are linked to Islam's rules of purity. The instructions and precepts (i.e. rules) have the capacity to enjoin or direct human activity by virtue of the authority of the issuing body which can be government, community or religion. Moreover, general understandings link activities of a practice (Schatzki 2002). People in Zaatari, in pursuing practices of purity, have a general understanding that water is limited and they should perform these practices with the least amount of water. These general understandings originate from religious principles (not to waste water) and a communitarian understanding of the status of water availability in the camp. This applies also to toothbrushing. However, certain practices, such as wodou and body hygiene, are 'tightly' linked to Islamic beliefs that, in turn, anchor these practices. Whereas oral health care practices such as toothbrushing are not linked to Islamic beliefs via such ‘tight’ connections (rules vs. recommendation) and this is why they are sometimes not followed.

B. Toothbrushing out of the ‘normal’ space

Apart from all the examples mentioned in the previous section which describe the bathroom as the ‘normal’ space for toothbrushing, some families perform this practice out of this space (Figure 4.20). It is described as ‘out of normal’ space because participants who do this, themselves, understand that this is not the ‘normal 'space to do toothbrushing. Even without requiring a justification, they started to describe how they decided to perform toothbrushing above the kitchen sink.

Suad, for example, keeps oral hygiene products in a caddy in the kitchen. Not only this, she keeps them along with the cutlery on the countertop (Figure 4.21) and on the sink itself when in use (Figure 4.22). According to Suad, she does so because she thinks it would be cleaner than in the bathroom. In her own words, Suad said:

> *‘Honestly, we had a bathroom in the caravan with a toilet and a space for bathing. But, when kids want to brush their teeth, I make sure the kitchen sink is clean and all dishwashing is done in order to be able to brush at the sink. And I wouldn’t tell you that they always brush their teeth, especially that sometimes we run out of water.’*

Taking a look at the bathroom in Suad’s shelter (Figure 4.17), and linking this to the perspectives of participants and their children mentioned earlier, it can be understood why some people may find this bathroom unappealing to do toothbrushing. Suad has five daughters at ages between 17 and 5 years old, which might explain why they find the kitchen a better place to brush their teeth. The teleoaffective structures of toothbrushing vary

among genders and age groups with female teenagers linking it to looking after their appearance. So, they want to perform the practice in a more appealing and cleaner place.

Fidaa's daughter (Figure 4.23) presumed the kitchen as a place that can potentially be used to perform toothbrushing as there is a sink and a water source. However, she explained that due to the leak underneath the sink, they can't brush their teeth there and she prefers to do this in the bathroom where she needs to use a water tap at the bottom of a barrel (Figure 4.5). The girl weighs the practical intelligibility of performing toothbrushing at the kitchen sink where she might get wet and needs to clean the floor later against the harder bodily movements of squatting next to a barrel and cleaning the bathroom floor. She chooses the second option and this does not need to be a rational or normative decision as explained earlier, it is the practical thing to do from her point of view and it makes sense at least for her. This practical intelligibility is up to the individual to decide. For example, Kifaya's daughter, in an earlier example, stated that she does not prefer to brush her teeth at the kitchen sink as she wants a mirror in front of her to look at throughout the process.

Figure 4.20: Suad's daughter performing toothbrushing in the kitchen.

Figure 4.21: Toothbrushes kept along with cutlery in the kitchen.

Figure 4.22: Toothbrushes at the kitchen sink.

Figure 4.23: Kitchen sink leaking making it inappropriate for toothbrushing.

C. Temperature and lighting of the shelter

The ambient temperature and lighting of the shelters in general and of bathrooms in particular are important factors to be discussed amidst discussing the practice of toothbrushing. Zaatari lies in the middle of desert with temperatures that tend to range considerably between day and night and summer and winter. Some insulation is installed by NGOs to the caravans but according to participants, this is not sufficient due to the extreme temperatures and caravans being made of metal. Combined with limited hours of electricity people get everyday, people cannot use cooling devices such as air conditioners, heating devices or even fans. The use of cooling and heating devices is not only impractical because of limited hours of electricity but also because they are costly. People in Zaatari suffer financial hardship which makes using such devices not an option.

In winter, people use stoves operated by gas cylinders; they get the cost of two cylinders per month from the UNHCR during winter months. Most people, however, end up using more than two gas cylinders a month and so they need to buy these with their own money. This adds a burden to families in winter as they need some heating for the shelter as well as for water which is mostly limited to water needed for bathing only. Anyway, as this is not central heating and due to the high cost, only the room that most family members sit in is heated leaving the rest of the shelter chilling. Some people use the stove to heat water as Noor stated that they keep a pot of water on top of the stove to be used for any purpose such as bathing.

In addition, no electricity at evening hours means no light in the bathroom. Some families use light bulbs powered by solar energy and others use an electricity generator (also powered by solar energy) to light the shelter during the night. This is, however, not available to all families in the camp. So, children need to brush their teeth in unlit freezing bathrooms using very cold water. In light of the discussion in previous sections, the tasks and projects associated with toothbrushing change as a result of changes to the material elements of toothbrushing. Consequently, children tend to skip toothbrushing more in winter as teleoaffective structures (tasks, projects, and even ends) change. The practical intelligibility singles out to the individual that staying warm is worth more than oral hygiene. Fidaa said:

> *‘In winter, it is too cold. We barely leave our spots to go to the toilet or make wodou. I wouldn’t think of toothbrushing.’*

Huda added:

> *'My kids didn't like to go to the bathroom at night as it is dark. We installed a bulb so they can. It's difficult to ask them to brush their teeth in a dark bathroom… they will be scared and they can't see well.'*

4.2.1.3. Water

Water provision for Zaatari's residents has changed since its opening. As the camp sits in the middle of a previously uninhabited desert, the Jordanian public water network system does not extend to the camp. Therefore, during the emergency phase of Zaatari's establishment, water trucks were used to carry water from outside the camp to communal tanks in the camp where each family got its allotment. However, as the camp overtook the emergency phase, a more sustainable solution was necessary. The United Nations Children's Fund (UNICEF) took the initiative for planning and executing Water, Sanitation and Hygiene (WASH) facilities in the camp using funds directed to Zaatari and with cooperation with the Jordanian government (Ledwith 2014; Barakat 2016). This was particularly important to provide children who compose half of Zaatari's residents with clean water necessary for their livelihood along with their families. The decision took into consideration that children were mainly the family members who were responsible to queue for water and transfer water jerry cans from communal tanks to their shelters. Other than the hardship that children had to suffer at the time to carry water, they also had less time to play and have fun.

Since 2019, Zaatari shelters have been connected to the water network as well as the sewage network in the camp. Three wells were dug in three different districts in the camp and a water network consisting of underground water pipes that connect the wells to the water tanks in each shelter. People now have water that arrives to their shelters where they have the chance to fill water tanks provided by the project that is placed just outside each shelter. UNICEF is the responsible party for the administration and running of water networks in the camp and they calculate the amount of water for every household. The total amount of each neighbourhood is then added; the neighbourhood is connected to a main switch that is controlled by staff members from UNICEF (water guards). For a neighbourhood, water is turned on a certain day every week (however, this could vary between seasons) for a limited number of hours depending on the amount calculated for that neighbourhood. After this time, the water is turned off again until the next 'water turn'. The

water guards are those who turn the main neighbourhood water switch on and off and they also aid to watch the water tanks outside the shelters during this time and turn off those that are already filled up to prevent water waste. These data were provided by a member of staff working in one of the water wells (boreholes) in Zaatari during a field visit to the site as well as data from Zaatari fact sheets published regularly (UNHCR 2022c) and UNICEF website (UNICEF 2019).

This system has some drawbacks that participants have referred to. First, as the amount of water is calculated per neighbourhood and there is now no control over the amount of water each family gets, this means that some families get more than the amount allocated for them and others get less. All families have a water tank that fits two cubic metres of water (2000 litres) regardless of the number of family members. Large families can apply for a second tank but this is the exception rather than the common case. With the ability to fill extra containers with water, this sometimes worsens the situation further. The result is that inequalities of water provision are now higher than before and with no action on the part of UNICEF, it is unlikely to change. Second, water guards who are supposed to stay around the neighbourhood during the time water is on are, sometimes, away. When water tanks are full and the family is busy inside the house with other chores, there is no one to turn off the water switch for that water tank (there is a switch for each tank). Overfilled water spills on the ground and is wasted (Figure 4.24). This is complicated by the fact that each water tank is supplied with a floater whose function is to prevent overfilling. Due to lack of maintenance, these floaters are frequently not functional anymore. Or, in some cases, people themselves damage the floater to ensure the flow of water is still going for their shelter so they can fill water containers and continue with water-consuming chores. Regardless of the reason, the result is the same; water is wasted that is not supposed to and is highly precious in the camp.

Moreover, participants complained about arranging water turns. They believed that it leads to most people in the neighbourhood performing major cleaning chores at the same time. In this case, people nearer the main switch have water at a higher flow than those further away and so get the chance to fill their tanks earlier. As they don’t stop at this point and start to fill extra containers, people further away are likely to get less water. In addition, water waste due to water tanks overfilling decreases theoretically if the duration of water supply for the neighbourhood is arranged on two different days of the week. According to one of the participants who commented on the absence of water metres for shelters in the camp:

> *‘If there is a water metre, there will be control on the amount of water each family gets and so each family will take the amount consistent with the number of its*

members. This is fairer than the current situation. We told them (the administration) this many times, but they did not respond. I, personally, attended some meetings to listen to our concerns and raised this…still, nothing happens.'
(Suad)

Suad suggested practical solutions, however, its application in the camp is not clear. Another thing that can be concluded from Suad's quote is the importance of listening to people affected by decisions made by stakeholders. Not because they know more, but they know better the impact of any decision on various aspects of their activities as they have the chance to experience first-hand. Also, in situations which lack clear legislation and hierarchical systems of administration, people can act accountable to connect lay people's concerns to stakeholders. In conclusion, the system needs some modifications to ensure just provision of water in the camp and to supervise acts of wasting water and its unaccountable use.

Figure 4.24: Overfillid water tanks lead to water being wasted.

On the other hand, the water network has a significant impact on people's lives in the camp and changed their daily activities. People now get water through pipes to the inside of their shelters where they install water taps for cooking, dishwashing and to be used in the bathroom. Their lives are much easier currently than how it was before the water network according to all participants in this study. Other than that, most household chores and activities are now centred around the water turns. People attempt to do the chores that

consume most water on the day they get their water turn including laundry, cleaning around the house and even bathing. If they have the chance after this and the water is still on for the neighbourhood and their tanks are full, they fill extra buckets with water and store them aside in the kitchen or the bathroom. So, they are more unlikely to run out of water for the next water turn.

Consequently, the rhythm of water provision sets the rhythm of daily routine activities. This also occurs within the milieu of practices. First and foremost, people act through the sociomateriality of the context of the camp. Both agency and structural arrangements are taken into consideration to shape the practical intelligibility of positioning water-consuming practices within the day and in between water cycles. This practical intelligibility, that need not be rational nor normative, issues a set of practical understandings that are performed throughout the body-mind of practitioners. In this case, these include filling the water tank, filling extra tanks, doing the laundry, performing deep cleaning chores and bathing among others. To perform these activities, the practitioner needs to learn to use their bodies and routinise their mental actions in a certain way to accomplish the practice. While performing these activities, practitioners at the same time endeavour to pursue some teleoaffective structures such as maintaining a clean house and having as much water as possible to not run out of water.

While these activities and others take place in the mind and through the body, they come to be routinised over time. In order for this nexus of practices to endure, the active integration of its constituent elements need to be linked whenever the practice takes place. A number of faithful practitioners need also to be engaged in the practice to ensure its perpetuation. This happens in Zaatari in cases of household chores, for example. Even though the material arrangements of the camp is different from what camp residents had back in their homeland, they managed to manipulate the arrangement to fit new versions of performing household chores. People were able to do so in light of the material constraint in the camp because other elements of the practice play a strong impact in this. According to Shove and colleagues (2012), a practice needs, along with material elements, certain competences and meanings. People in Zaatari perform cleaning chores because it represents a strong symbolic meaning for them, that is maintaining and restoring cleanliness as well as the satisfaction accompanying the feeling of accomplishment and being in a clean, tidy place. These meanings are tightly bound to their religious and cultural backgrounds that were and are still making sense for people. Due to the strong connection these meanings have in the everyday life of people, the requisite competencies are taught and passed from one

generation to the next, so that, at any moment, there is a sufficient number of people performing the practice and the practice endures.

While people in the camp continue to perform household cleaning practices so they are established in their daily routine, they withdraw from other practices such as toothbrushing. The material arrangements as discussed throughout the chapter are not adequately provided including oral hygiene products, bathroom arrangement and water. Not only this, the practice is not rooted in the daily routine as it does not conjure meanings that practitioners incur to sustain. Toothbrushing is not tightly bound to the religious and cultural practices, nor is it associated with a strong will to maintain oral health. As such, parents (and possibly other parties such as health promoters and teachers) do not teach their children the skills and knowledge required to perform toothbrushing. They do so without even being aware of it. The result is that more and more people defect from the practice and the practice is no longer able to retain a sufficient number of faithful practitioners. With the inadequacy on all levels of practice elements as well as the continuous defection of practitioners, linkages between necessary elements are no longer possible and the practice dies.

The two examples mentioned, household chores and toothbrushing, it is clear how elements of a practice are co-constitutive. Changes in any one element changes other elements and the elements of associated practices. While the teleoaffective structures of house cleaning do not change abruptly, the material elements undergo subtle changes that continue to occur in the camp (such as the manner water is provided; from water trucks to piped system). Competences change accordingly. In any moment, the practice is performed by the active integration of all elements resulting in the practice-as-performance (Shove at al 2012). Its endurance over time makes it possible to refer to it as a block (Reckwitz 2002) or practice-as-entity (Shove et al. 2012). While some links between the elements are competitive, others are contingent and synergistic. On the other hand, the links between toothbrushing while being contingent on weak symbolic meanings, they tend to be competitive and weakening.

In addition to changing the system of water distribution in the camp, the amount has also changed over time in Zaatari. In the early days of its opening, families in Zaatari were allocated 20 litres of water per person per day. This amount has been raised to 35 litres and, during the pandemic, it was raised to 60 litres to aid in sanitation and hygiene in order to control the spread of the virus. Now, the amount of water is stabilised at 50 litres per person per day which is still lower than the amount of water Jordanian people get outside the camp (60-80 litres per person per day). Even after people started to get more water, around 30 per cent of households still complain they do not have sufficient water for domestic use (Carlisle

2022). In this study, almost all participants complained about water insufficiency and signs to support this were observed during the fieldwork stage within the household and beyond. Water was a topic of popular discourse that people had in their visits, walking in the streets, and waiting for the bus to go shopping.

Inside the shelter, water is used for cooking, cleaning, hygiene, and bathing. These are in addition to the first and foremost need of drinking; albeit many participants mentioned that they are not satisfied with the quality of water they get as they have negative consequences on their hair and skin. That is why, according to participants and observations from fieldwork, most households now install water filters in their kitchens to filter drinking water.

Toothbrushing is another practice that requires water to be performed, if it is to be performed the traditional way where people need water for rinsing after toothbrushing (as they do not comply with the professional dental advice of not rinsing) and to clean foam off the face and wash the toothbrush afterward. In the camp and as discussed earlier when describing bathrooms, many bathrooms do not have a washbasin that can be used during toothbrushing which initiates a subsequent practice where practitioners must clean the floor of foam and water. This means more water is needed if toothbrushing is performed. Therefore, toothbrushing intersects with other water-consuming practices as they all share the material element; that is water.

Zaatari's arid environment adds pressure on the limited amount of water people get. During summer, the weather is very dry and being in the middle of the desert means that households work to clean dust as well as sand that accumulates during sand storms. In winter, people encounter muddy roads as these are not paved and the mud makes its way indoors as children and their parents go in and out for school, shopping or other purposes. Therefore, the environment where the camp lies warrants extra cleaning to keep shelters clean which in turn is mostly accomplished using water. So, apart from the water insufficiency that people face, the structure itself promotes further water consumption. These responses from some of the participants summarise this:

> *'We have to be on top of cleaning all the time because it's very dusty in the camp during summer.'* (Sujood)

> *'In winter, we still run out of water because we need more water to clean the mud that comes from the unpaved roads.'* (Alaa)

> *'We suffer in summer; our turn can take up to 11 days to get water. It is also harder because they cut electricity and the weather is too hot. So, we use water to cool our bodies.'* (Khadijah)

Consequently, water needs in the camp are higher due to the environment while at the same time, water provision is not sufficient to cover the needs. Water is provided for each neighbourhood every 6 or 7 days; however, water provision may delay up to 13 or 14 days in summer. As it is already insufficient as people describe, delaying water supply for the neighbourhood leads to further insufficiency to the limit that many households run out of water, sometimes for days, before their next water turn comes. Therefore, priorities for water use have to be set wisely to save water for more important practices as Aisha referred to by saying:

> *'we use water with a dropper'*.

The structural factors, therefore, play a paramount role in defining subsequent actions by implicating people' agency to either conform their practices within the sociomateriality of the context or improvise their own manipulations of the practice arrangement. Taking into consideration the practical intelligibility and teleoaffective structures of the hierarchy of practices and ends in the camp, continuous mutations are accomplished to keep those practices that people deem more important alive. In doing so, they diminish the availability of some elements required for toothbrushing such as water, time and effort. The structure of the camp, hence, is constraining the ability of its residents to perform toothbrushing.

In addition, people in the camp realised the necessity to modify the performance of some practices to minimise water consumption. In terms of major cleaning practices, some people prefer carpets as they do not need water for mopping. People also benefit from water filters in the kitchen not only to get clean drinking water but also as these reduce the water flow and hence the amount of water consumed. Some families do dishwashing in a bucket of water instead of turning the water tap throughout the dishwashing. This is especially performed in case they recognise that the amount of water remaining until the next water turn is insufficient. Water that is used for dishwashing, handwashing or making wodou is recycled by some families for other activities around the house such as yard floor cleaning or watering trees and plants.

Eating and cooking practices are also modified if the remaining water is estimated to be insufficient for the next water turn. Some mothers said that they take some decisions that are aimed at reducing water use such as they do not cook at home and buy food from

restaurants in the camp so they do not have to do dishwashing. Others said that they make an announcement at home that the only food family members can get these days is sandwiches because this results in less dishwashing. In addition, hospitality practices are modified. For example, one participant (Suad) stated that whenever they have guests at home, they serve tea and coffee in disposable cups that do not need dishwashing. For toothbrushing, some mothers mentioned that they ask their children to brush their teeth using a cup of water instead of turning on the water tap. However, most mothers ask their children not to brush their teeth altogether to save water for other more important activities. As toothbrushing is not linked with strong teleoaffective structures and lies short in terms of its material elements, water saved from the above mentioned measures is not directed towards enhancing the ability of people to brush their teeth.

Despite these measures people follow to lower water consumption, water is still insufficient. People always feel the urge to prioritise this precious resource according to the importance of the practice in their everyday lives. When Fidaa was asked about their priorities in terms of water usage in the household, she said:

> *'Of course, we prioritise some activities over others. For me, the most important things that I need water for are cooking, dishwashing and the toilet. During the last days before we refill the tank, I don't even cook; I buy food from restaurants in the camp so I can spare water that can be used in cooking and later in dishwashing for more important things.'*

Most participants agree with Fidaa in terms of what activities need to be prioritised within the limits of water they get. No one mentioned toothbrushing as an essential practice that they need to spare water for not even when asked about their body hygiene practices. People keep on making wodou, handwashing and rinsing after toilet use; they modify bathing by limiting the number of times they bathe in a week and limiting the amount of water used during bathing; but they skip toothbrushing altogether. Indeed, participants expressed this when asked explicitly about toothbrushing and water consumption. These are some of the responses during fieldwork:

> *'Hhhhh (laughing)...what's toothbrushing? It's not even a part of the game…we can hardly wash our faces.' (Fidaa)*

> *'I keep yelling at my children if they go to brush their teeth because I know we don't have enough water. In summer, they may even start playing with water after*

toothbrushing. I know that we may run out of water and have hard time, so I prefer they don't brush their teeth.' (Fatin)

'I prefer my children not to brush their teeth than run out of water.' (Kifaya)

If people run out of water, they either borrow water from their neighbours if they have some or buy water from water filtering businesses in the camp. Buying water means money is cut from the already low income they get and extra burden on the household. Therefore, understanding that water is a common commodity among many practices explains the competition among these practices for water. The set of rules, general understandings and teleoaffective structures associated with water consumption reveals the hierarchically ordered nature of daily tasks that require water. Not only does water affect toothbrushing by being needed for many practices; but also by linking it to other practices for which money is a common element, in case people need to buy water when they run out of it.

To apply the social practice theory in understanding water as an element for toothbrushing, some analysis is needed. During toothbrushing, water is used for rinsing the mouth and washing the toothbrush afterward. As people assume water is needed for rinsing because of their unawareness of the dental professional advice (spit, do not rinse), they do not have the practical understanding expressed in this piece of knowledge. Therefore, their practical intelligibility singles out these water-consuming activities while at the same time introducing others that control these activities or modify them. For example, some children close the water tap immediately after use to limit the amount of water consumed. Others make sure that water used is collected in a bucket to be used for other purposes. In case there is no washbasin in the bathroom and the foam and water are spilled into the floor, the practical intelligibility singles out another array of activities that aim to keep the bathroom clean. This teleoaffective structure links activities of toothbrushing practice with that of bathroom cleaning. In addition, if young children are expected to get dirty or wet while toothbrushing and because it is likely they do not have sufficient cognitive awareness to limit water consumption, some parents decide to supervise them or ask older siblings to do so. Parents might be busy doing other activities around the house and so toothbrushing competes with their parenting responsibilities by competing over the time and effort required. The set of general understandings of limiting water use and rules that come into action by limiting the amount of water every household gets acts to link activities of toothbrushing with parenting, cooking and cleaning practices. The same practitioners have to achieve these activities for the practices to be performed. Hence, practitioners may decide to continue with some practices that they justify as of higher priority and withdraw from lower-priority practices as is the case with toothbrushing.

Other general understandings come to the scene and affect water-consuming practices. According to Schatzki (2002), general understandings are determined by religious and communal affairs. In Zaatari, Islamic hygiene practices are the top priority in terms of all hygiene practices. As discussed earlier in this chapter, people choose to retain the rules and skip the recommendations so practices such as wodou continue to live and evolve while others such as toothbrushing decay and may eventually die. Rules can enjoin activities that recommendations cannot urge. The communal understanding of water scarcity in the camp also determines which practices are prioritised and as toothbrushing is not a culturally rooted habit, even before people left their homeland, it is likely that people withdraw from practising toothbrushing.

The priorities set for water consumption and the way people deal with water scarcity highlight the role individuals play. The variations in water-consuming practices performed and modifications people make to limit water consumption are co-determined by the agency of the practitioners along with the structural factors described in this section. It is up to the individuals to choose what makes sense to them to do within the context of all other elements within the camp. However, as Schatzki argues that in some cases such as natural disasters, the role of objects is more prominent and impactful in the actions that people do. It is still applicable to say that individuals have the upper hand in this but they encounter more constraining elements. The role played by objects, water here, is prefigurational rather than causal; the availability of water enables or constrains subsequent doings and sayings associated with toothbrushing but does not make them inevitable. Same applies to other material elements such as oral hygiene supplies and bathroom arrangements. The centrality of water in everyday life makes people make their decisions meticulously that they are even reluctant to introduce toothbrushing as a habit for children as they are concerned that they might run out of water if they do so as expressed by one participant (Khadijah).

The role water plays in toothbrushing is, consequently, paramount. Efforts to incorporate toothbrushing as a daily habit are inevitably failures if they do not consider water scarcity in the camp. However, it is not as simple as this and many other sociomaterial and political aspects, as discussed in previous sections and will be discussed later, shape and reshape the practice of toothbrushing in conjunction with water availability.

4.2.2. Skills and Knowledge of Toothbrushing

By July, 2022, over 20,000 births were recorded in Zaatari, that is almost half of all children in the camp (Carlisle 2022). The number of children aged up to 11 years old (the age of Zaatari itself) is around 32,000 (UNHCR 2022c). These figures suggest that a large number of children in the camp have no experience of life outside the camp even for older children as most of them were at a young age and they do not remember anything back in Syria. Everything they know, experience or do has to do with their presence in the camp including the knowledge and skills they acquire. Oral health is no exception; all oral health knowledge of the majority of children is formed while they were in the camp.

Taking into consideration that knowledge is context-dependent, the type of knowledge that Zaatari children have is formed by the interaction of the sociomaterial elements there. By skills and knowledge of oral health, it is meant the set of practical understandings that are conjured by the practical intelligibility of toothbrushing (in addition to other practices such as sugar consumption and accessing dental care). The arrangement of the activity-space of toothbrushing, for example, warrants certain knowledge and presupposes certain bodily movements. Children have to know where and how to get water from, where to brush their teeth, where to get their toothbrush and toothpaste from and where to spit the foam. They also have to know what to do after toothbrushing such as where to keep their toothbrush and how to maintain the cleanliness of the space afterward. If they are old enough, they can clean the space themselves and interact with another practice, bathroom cleaning. Whereas for younger children, they need help from their parents or older siblings.

Water has a huge impact on the practice of toothbrushing due to its scarcity in the camp as shown in the previous section. Children are required to take part in minimising water consumption including during toothbrushing. Children need to keep in mind, and are reminded of, the importance of turning off the water tap after use. If there is no tap water, they need to know where to get it from which may require some bodily movements such as squatting to the level of a water tap fixed on the bottom of a water barrel.

The basic doings of toothbrushing itself and associated practices need to pass on to the new generation of novice practitioners (children in this case) by older generations of practitioners (their parents, teachers or dental care professionals). With the neglect of oral health in the school curriculum and the lack of oral health-promoting programmes in the camp, parents are the main source of this knowledge and those who teach toothbrushing skills of toothbrushing to their children. Some parents in this study accused themselves of the ignorance that their children suffer regarding toothbrushing. They justified that they are busy

with other chores and that they do not have the time to talk to their children about toothbrushing. However, according to the practice theory, practical understandings are passed through practical types of knowledge. That is through the routines parents set at home, oral hygiene products that are available at home and used by older practitioners and space that is arranged so that oral hygiene products, water and cleaning utensils are within reach of children.

Toothbrushing needs also to be incorporated into other hygiene practices that children need to master as they grow up. This can be achieved as part of Islamic hygiene practices or simply among general body hygiene. In addition, sleep time and wake-up routines need to be arranged so that toothbrushing has a place to be performed. Therefore, these practical understandings link activities within practices of toothbrushing, parenting, hygiene, water consumption, cleaning and potentially others.

4.2.3. The Teleoaffective structure of toothbrushing

To recall, according to Schatzki (2002), teleoaffective structures are a set of normativised actions, arranged in a hierarchy of tasks and projects, that endeavour to achieve normativised ends. They are also associated with normativised mental dispositions in the form of emotions and moods. Normativity in this sense means conforming to acceptable and mandatory norms (Schatzki 2002). Teleoaffective structures connect doings and sayings in one practice and those among practices by sharing common normative actions, ends and feelings. They do so by being contained in the practice of which they are part instead of being properties of the individual. However, they are at the same time not equivalent to collectively-formed ends and they do not govern the practice as stated earlier; practical intelligibility is what governs the practice (Schatzki 2002).

In order to analyse teleoaffective structures associated with toothbrushing that are common among people, it is necessary to understand the ends and mental dispositions linked to toothbrushing. Most people brush their teeth to recognise some health-related benefits in terms of maintaining a healthy oral apparatus that is capable of functioning properly. Maintaining decay-free dentition is the utmost goal to achieve this. And most people conduct daily toothbrushing as a habit to achieve this goal. This is the end they attempt to achieve and they undergo some tasks and projects in the pursuit of this end. For example, they buy oral hygiene products (the project) and in doing this they ensure they buy a toothbrush that is capable of reaching all areas of the teeth, buy fluoridated toothpaste or buy dental floss to

clean between teeth (the tasks). Another project is the actual bodily activities and maneuvering that take place during toothbrushing to end up with clean teeth; that is removing plaque and food debris from the teeth. Adopting a systematic approach from one side of the jaw to the other and from one jaw to the other in order not to miss a part that is cleaned is one task associated with this project. Other tasks include loading the toothbrush with the appropriate amount of toothpaste, and toothbrushing in circular movements and for two minutes.

Another end associated with toothbrushing is to get rid of the bad odour of the mouth. Many of the tasks and projects related to maintaining healthy teeth are also linked to this end. However, they also include selecting certain types of food that enhance good odour or even using chewing gum and avoiding others associated with bad odour such as garlic. Rubbing the tongue after toothbrushing using the toothbrush itself, a tool specific for this purpose or even the finger is aimed at achieving better mouth odour as well. Here, teleoaffective structures can link activities within the practice of toothbrushing with those of maintaining good mouth odour.

Toothbrushing can also be performed for purposes associated with appearance. This is achieved by maintaining clean teeth. Indeed the marketing of white smiles especially in the last few decades made this end have higher importance and changed the order of goals linked to toothbrushing. More and more people nowadays brush their teeth to get closer to this stereotype of smiling. The impact of this is apparent on the widespread use of whitening toothpaste and tooth whitening home kits, and the increasing demand on professional tooth whitening. Teleoaffective structures of enhancing the appearance link toothbrushing to maintaining a white smile which is at the same time associated with practices such as avoiding tooth-staining food such as coffee, tea, dye-rich juice and berries.

One last purpose of toothbrushing that most people try to achieve is to avoid dental professional intervention. Many dental procedures are linked to dental anxiety; indeed even routine dental check up can invoke anxiety among some people. The result is that some people brush their teeth to avoid the anxiety associated with dental visits. In the pursuit of this end, they undergo other activities such as using fluoridated toothpaste, having fluoride gel professionally applied and assuring routine dental checkups to detect problems at an early stage and avoid more extensive interventions. Another source of dental anxiety is aving toothache which may motivate people to perform toothbrushing. It is also linked, in turn, to other pain-relieving activities such as taking painkillers and seeing the dentist.

All these teleoaffective structures can be comprehended as normativised. That is they are, firstly, acceptable to the majority of people and they are capable of understanding them and

situating them within the norms of the culture and context they live in. Secondly, they are the correct thing to do; no one can argue against the oughtness of maintaining healthy, clean teeth, for instance. The mental dispositions associated with these teleoaffective structures are also normativised. It is normal for people to feel satisfaction and happiness if they perform toothbrushing.

Apart from the common situation that is linked to the manner in which toothbrushing is performed, some situations are completely different. The case in Zaatari represents one of these awkward situations where teleoaffective structures of toothbrushing may share some of the above-mentioned ones but mostly are related to the sociomaterial aspects in the camp. For example, some children brush their teeth to look after their appearance. This is especially true among teenage girls in the camp. In this study, Fatin, Fidaa and Kifaya have children of varying ages between teenagers and toddlers. When they were asked about the frequency their children brush their teeth, they all stated that their older daughters (all teenagers) are the ones who brush their teeth most frequently, that is once every day or every other day. And they justified that as a part of taking care of their appearance as this age group tends to do. Fidaa said:

> *'Mmmm, I think they [her daughters] brush their teeth to look beautiful and elegant.'*

Other children in Zaatari brush their teeth if they have toothache only as reported by Suad's daughters. On the other hand, Noor's daughter brushes her teeth because she has an orthodontic appliance to correct teeth malalignment. If she does not brush her teeth daily, they will look unclean as the food is stuck on the braces and because the orthodontist asked her to do so. She is also a teenager, so the tendency to place higher importance on her appearance cannot be excluded. Only one boy (Haifa's son, 11 years old) stated that he brushes his teeth because he wants to look after them.

What is more important than understanding the teleoaffective structures of toothbrushing is to understand those of withdrawal from toothbrushing. That is because children in Zaatari do not brush their teeth regularly according to studies conducted in the camp and according to participants' responses from this study. First, water scarcity as discussed earlier affects the performance of many practices in the camp. When people reach a point where they have to choose between toothbrushing, drinking, cooking, hygiene or general cleaning, toothbrushing is at the end of their priorities. This situation happens so often that it is almost always the case that on a daily basis, people prioritise other practices. Discontinuing oral hygiene products as part of the humanitarian aid people get make them reluctant to pay for these supplies from the limited income they have. The teleoaffective structures of parenting,

expenditure and food sufficiency among other practices withdraw people from performing toothbrushing. According to their practical intelligibility, toothbrushing is no longer the practical thing to do, nor is it normative within this context. The activity-space where toothbrushing is performed is also linked to certain teleoaffective structures. For example, people aim to maintain a clean bathroom which, in order to be realised, the practical intelligibility of the actors singles out some activities and excludes others. Among those excluded is toothbrushing as it acts the opposite when children spit the foam into the floor leaving it dirty.

It can be seen in these examples that teleoaffective structures are important in the course of any practice. They make the activities, ends and feelings of one practice meaningful in the course of other practices. However, teleoaffective structures do not govern subsequent activities but the practical intelligibility does. Teleoaffective structures may have an impact on how actors understand their position in a practice and consequently how their practical intelligibility is formed. In conclusion, understanding teleoaffective structures of participants being recruited into or withdrawn from toothbrushing is paramount in order to plan oral health-promoting programmes.

An example of oral health-promoting messages dessiminated in Zaatari was noticed during the fieldwork is a street art that links toothbrushing as a ‘good’ habit for children with cleaning their hands and attending school (Figure 4.25). This street art directly puts these three practices as being contained in the same constellation of practices that share teleoaffective structures of being clean, educated children. However, messages like this are not expected to have significant impact on these practices as they do not take into account the lived experience of practices and practices elements discussed in this chapter. They are limited to dental health education concepts that lies short of invoking sustainable outcomes (Kay and Locker 1996). As Shove (2010) argues interventions that follow the ABC rule (Attitudes change Behaviours and induce Change) are not associated with long-term consequences apart from being appealing to stakeholders and policies.

Figure 4.25: A street art in Zaatari encouraging children to brush their teeth, wash their hands and attend school.

4.2.4. Toothbrushing within a daily routine (time element)

In Zaatari, boys and girls attend school at different times. The school day is arranged in two periods; the morning period starts at 8:00 am till 12:00 pm and the afternoon period starts at 12:00 pm till 4:00 pm. Girls attend the morning period and boys attend the afternoon period. This is because of the limited number of schools in the camp compared to the number of children of school age. The latest figures show that around 54 per cent of the population in Zaatari are children less than 18 years old (around 45,000 children) and 37 per cent of the population in the camp are children at school age between 5 and 17 years old (around 30,800 children) (UNHCR 2022c). There are currently 32 schools in Zaatari and 7 operating kindergarten facilities (with additional 6 facilities expected to open between 2022 and 2023). The structure of schools in the camp is basic and aims mainly to include children in mainstream education. UNICEF is the party responsible for planning and supervising the educational system in Zaatari with a belief that early childhood affects the future and

wellbeing of children. Therefore, providing children with a better early childhood start in the camp is likely to lower the misery that children live in n terms of other life aspects. So, to fit the high number of children in Zaatari into these schools, a decision was made to operate the school in a shift-based manner.

Apart from the positive outcomes that schools have on the wellbeing of children, the organisation of schools in Zaatari impacts the daily routines of families. As the family operates as a unit, varying school times for children of both genders affect the daily activities of the family as a whole. Different wake-up and sleep times are reported by participants in the study. Girls wake up earlier for their morning shifts, they rush their morning routine activities and skip some that they do not have time to do. Among the morning activities that children skip is morning toothbrushing. Again at night, girls go to bed earlier because they wake up earlier. On the other hand, boys wake up later than girls when they have the time to dress up, have breakfast and brush their teeth if they want to. They go to bed at night also later than girls which increases the probability that they have their bedtime routine at the time of the day when electricity is not provided. This affects, in turn, toothbrushing as children do not like to brush their teeth in dark bathrooms as mentioned earlier.

The varying wake-up and sleep times lead to varying routines for family members in the same household. This adds messiness to the already unorganised daily routine as one of the mothers described. School shifts are not the only factor accused of the unorganised routine. The intermittent availability of jobs for people in the camp also affects the daily activities within the family especially when the mother is working. The mother as the main person in the family to look after her children and do most of the household chores is part of the culture of Zaatari's residents. Whenever the mother is occupied with a job outside the house, this means that all her jobs within the household are affected. This is in addition to the time-managing role that she plays within the household.

The temporality of the camp adds to the messiness of daily routines in the camp. People used to organise their activities keeping in mind that their stay in the camp is meant to be temporary. So, they do not try to put effort into time management and planning that people in normal situations (outside the camp) do. The camp has entered its second decade and the same idea remains; people still look forward to the day they get out of the camp for resettlement or to go back home. People avoid long-term plans due to the uncertainty of their situations and this affects the daily routine activities as they are part of the cumulative efforts to achieve long-term goals.

> *'We are unorganised…we don't have fixed routines. Sometimes I have a job, while sometimes I don't. The same applies to my husband. So, our income is not*

fixed. Our children also go to school at different times. All this leaves me confused especially when I get a job because I don't know how to do all the tasks that I need to do.' (Kifaya)

The practice theory acknowledges the role time has in the organisation of any practice. It is another dimension taken into account whenever an individual enters the institution of practice. Actions need time to be performed; they also need to be performed at certain times along a timeline that connects past historical events with future projections. This means that past events may tacitly presuppose other actions or have byproducts that the next actions along the line require. These actions in turn conjure a new array of actions.

If a daily routine of what is promoted as that of a normal family is inspected, similar actions can be noticed as common among families of similar social and economic backgrounds. Children wake up to their schools, have their breakfast, wear their uniforms, brush their teeth and leave for school (although these actions are not all necessary to be in this order). At night, children have to some degree a unified sleep time within the same household. They brush their teeth, may read a story or have a little bedtime activity and sleep. These sets of actions are not always the same for families and may differ from one day to the next for the same family but still there is some commonality that can be predicted. The case in Zaatari is different, the set of actions that toothbrushing is part of are arranged differently between boys and girls and between families in the camp and families outside. The difference depends on the way Zaatari is organised in the first place where the sociomaterial and political aspects from electricity, schools, and availability of jobs to the funding of the camp itself to all the powers that acted to establish the camp and still act to keep it running.

Consequently, the camp's temporality and unorganised daily activities add further damaging effects on oral health promotion by the discordance it creates during the day. Parents find it a harder task to incorporate toothbrushing within a messy daily routine taking into consideration all other factors. Of course, as discussed in this chapter, this is not the only reason that children do not brush their teeth but it contributes to the outcome.

Chapter Summary

The political context of the camp creates a unique sociomaterial environment affecting oral health practices such as toothbrushing. Drawing on the theory of social practice opens opportunities for a novel revolutionary movement in the science of habits in dental research. The theory refrains from accusing either the structure of Zaatari or its residents of the situation of oral health practices there. It does so by proposing the co-constitutive, mutually

transforming nature of both. Evidence has been shown throughout the chapter to support this argument by conforming to the account of one of the major scholars in the field; Theodore Schatzki, with adjunct analytical points conforming to others such as Reckwitz and Shove and colleagues. The study responds to Nicolini's (2009) call for researchers to test and adjust his programmatic eclecticism (or toolkit approach as he refers to it) of zooming in and zooming out.

Toothbrushing is a social practice as it is the direct product of the collective activity of a group of people in space-time. By collective activity, it is meant not only the child who performs toothbrushing; rather, it extends to parents who supervise him/her, siblings who clean after, family members who buy oral hygiene products, UNICEF staff members who organise water provision system, merchants who manage the supply chain of oral hygiene products among others. All these actors have identities that are determined by being engaged in the practice rather than a characteristic of the individuals themselves. Furthermore, to perform toothbrushing, a set of material elements need to be made available in the activity-space of the practice. These materials include oral hygiene products, water, and certain bathroom arrangements such as washbasins and water taps. Other objects enter the realm of toothbrushing practice by virtue of the practice being bound to and mediated by them (Schatzki 2002). These other objects include water tanks, piped water systems, shops and supermarkets in the camp, and electricity and plumbing materials. Objects in toothbrushing have meanings that are also granted by being involved in the practice as all objects mentioned carry meanings that are discursively described as being part of toothbrushing by having something to do with toothbrushing. Objects are integral to performing toothbrushing as they anchor the practice and prefigure subsequent activities that make toothbrushing more or less likely to be performed.

At the moment of performing toothbrushing, specific intelligible activities take place in the actors' minds to acknowledge the sociomateriality of the activity-space and determine the course of subsequent activities. For activities to take place in toothbrushing, they should make sense for practitioners and can be comprehended by observers who share similar backgrounds. Schatzki refers to this as the practical intelligibility of the practice and this comprises a major difference between the social practice theory and behavioural change models. The behavioural approach is prevailing in dental health research and argues that individuals are capable of making rational decisions if they acquire the necessary knowledge to adopt healthy behaviours. Rational intelligibility rather than practical intelligibility is what governs human activity according to the behavioural approach. With the shortcomings of the behavioural approach to making changes, a move beyond the ABC (attitudes, behaviours and change) according to Shove (2010) is warranted. Social practice theory resolves this

dilemma by arguing that what governs the course of human activity is fundamentally practical rather than rational or normative. People need to achieve the practice by performing definitive and functional actions that make the practice possible. They are not concerned with fulfilling rational or correct decisions although they can conform to these. Furthermore, for toothbrushing to be performed by children in Zaatari, certain teleoaffective structures should be associated with the activities within the practice. These are the ends that all human activity endeavours to pursue. However, the ends that people aim to achieve when taking part in multiple practices at the same time are hierarchically organised making some of them associated with stronger ends and others with weaker ends. This has the implication that people choose to be recruited to some practices while withdrawing from others. Practices such as Islamic hygiene practices and house cleaning are associated with stronger teleoaffective structures than toothbrushing. This explains why these practices perpetuate while toothbrushing decays.

Toothbrushing is linked to other practices in Zaatari and beyond. These form loosely tied bundles that depend on the co-location and co-existence of these practices. Others form strongly bound complexes through the interdependencies these practices have (Shove et al. 2012). Some elements of toothbrushing are common among multiple practices such as water which is shared with cleaning, cooking and hospitality creating in most cases competitive relations in favour of these practices rather than toothbrushing. Water is an element that is produced by water-serving practices such as water recycling and dishwashing in a bucket. However, when the potential to create synergistic relations between these practices and toothbrushing by directing water saved to perform toothbrushing, this is not the case. Indeed, other elements of these practices take place in transforming water as a material element shared among them; namely the meanings of the practices. As toothbrushing is not anchored by strong symbolic justifications for practitioners (meanings or teleoaffective structures), it is not maintained. Parenting practices are also important in shaping these constellations of practices. Shared elements between parenting and toothbrushing include material elements such as time, effort and money, as well as meanings associated with maintaining children's oral health. Similarly, in this case, elements play a competitive, contingent or synergistic impact leading to stabilising or compromising toothbrushing.

Elements of toothbrushing as well as of associated practices within the bundles and complexes are shaping and reshaping each other. As the meanings of toothbrushing are not well established in the social space of the camp, subsequent competencies disappear over time as the skills and knowledge of toothbrushing are not passed to new generations of faithful practitioners. This, in turn, reshapes the material elements of toothbrushing. People

prioritise water for other practices and are not concerned about having oral hygiene products breaking the links between the elements of toothbrushing even further and subsequently leading to the practice dissolution. Subsequently, these changes transform elements of other practices and so on.

After discussing the elements of toothbrushing and the linkages to other practices, positioning the individual amidst these nexuses is an essential bedrock for the social practice theory. People are the carriers of practices (Reckwitz 2002). Human activity is contained in practices and people are those who make the link between the elements of a practice to bring about the practice. They possess this privilege by virtue of possessing agency. The practice theory treats agency as something that is tightly knitted to practices; it is nonsense to think of the genuine capability of individuals to make decisions without correlating these decisions with actual human activity represented in practices. However, as discussed previously, practices also account for structural factors that either make them more or less likely to happen. Hence, agency, while being formed within practices, takes account of these structural elements and leads to activities that in turn may change the structure and the constellation of practices performed there. It is, then, justified to argue that agency and structure are transformative and reproduce each other in space and time. Therefore, individuals are not structural dupes who passively receive input from their surroundings and act without having their own contribution to the final product of their actions.

Applying this to toothbrushing, the context of the camp is saturated with elements that compromise people's agency to adopt health-promoting behaviours. However, people while manipulating these structural elements take account of other elements such as the teleoaffective structures and the practicality of performing toothbrushing as well as the nexus of other practices associated with it. Whether or not they do toothbrushing depends on whether or not it makes sense for them and what ends they wish to achieve by performing the practice. When analysing these data within the constraints of the context, most children in Zaatari withdraw from toothbrushing. To avoid victim-blaming these children or their parents, the practice theory foregrounds the practice as an entity that is related to so many elements in the proximal and distal context. More importantly, these elements are strongly associated with the politics of initiating the camp in the first stance and ensuring its persistence. Therefore, the sociomaterial and political arrangements of Zaatrai have a huge impact on shaping people's agency to perform activities conducive to performing toothbrushing. While, as said before, agency and structure are transformative, they do not have equal power on the practices they are contained in. The structure of Zaatari seems to outweigh the power of individuals to initiate change by suppressing their agency.

A final notice to explicate the agency of individuals in Zaatari needs to be made. Unlike posthumanist accounts of practice theory which argue that objects have agency and may provoke actions, this study leans to the side of Schatzki (2002). Schatzki argues that objects mediate actions and actions are directed towards objects but they are not able to make something happen; they are not causal to the practices. The availability of oral hygiene products, water, proper arrangement of the activity-space, and the introduction of a water network in the camp do not force individuals to perform toothbrushing. It is up to individuals' intelligibility, which considers other elements, to issue further actions that make toothbrushing happen.

Gherardi (2017) introduced the concept of sociomateriality to argue that actors and things do not precede each other and they interact at the time of performing the practice in a manner they become entangled. She uses this to defend her posthumanist stance that considers the body as one material element of the practice. Activities, then, are embodied as they incur using body parts in accomplishing them. Maller (2015) supports the implementation of posthumanist practice theory in health research by arguing the role socio-technical constructions of health have on health practices. In accounting for the socio-technical constructions, Maller suggests that interventions are directed to promote social change rather than focusing on health behaviours that carry the risk of victim blaming. On the other hand, Sahakian and Wilhite (2014) argue that agency is distributed between the body, the material world and the social world and efforts to intervene with current practices may not suffice if only one pillar of these is addressed. For example, health awareness campaigns may influence the cognitive ability of individuals (addressing the body). However, if these campaigns are not accompanied by changes in the material world or a shift in the social meanings, they may only exhibit short-term outcomes if any (Sahakian and Wilhite 2014). While this study shares some views of posthumanist accounts, it is still believed that the meanings that objects acquire are imposed upon them by being involved in practices. It is human activity that gives objects attention.

Toothbrushing within the Framework of Health Promotion

A turn now is necessary to situate toothbrushing in Zaatari within the framework of health promotion (Figure 4.26). It is above all that studying oral health practices in Zaatari aims to plan effective future interventions. This goal originates from the moral commitment of this study that public health is an integral component and product of social justice. It is also a

moral stance as it builds on the efforts of previous researchers in dental public health to understand how oral health practices are distributed and performed. While it does not intend to reinvent the wheel, this study offers a novel contribution to this knowledge and urges researchers to adopt oral health practices rather than behaviours as the unit of analysis and change.

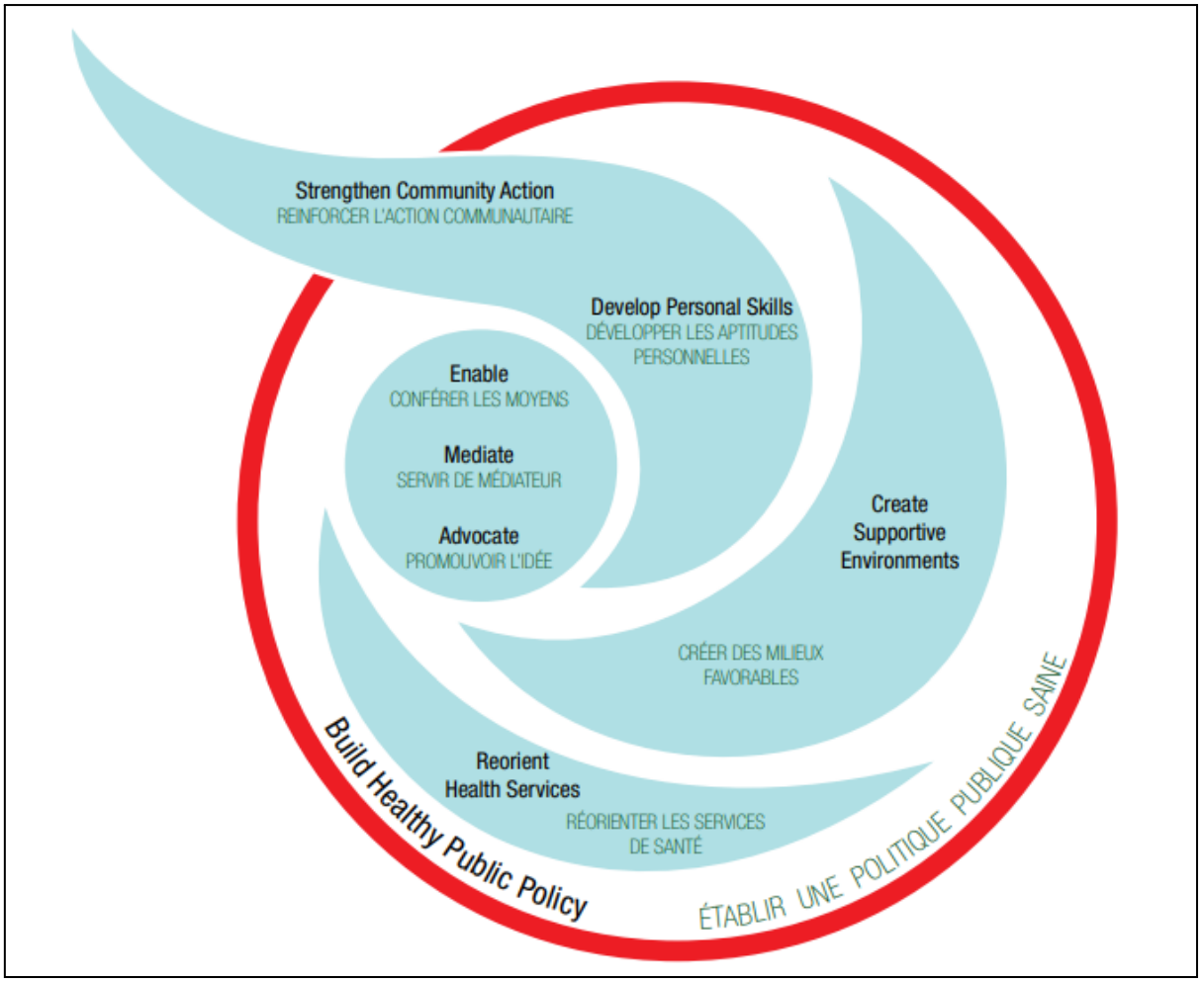


Figure 4.26: Health promotion emblem. (Copyright: World Health Organisation 2009).

The first point in this discussion refers to the inequalities in the distribution of oral health practices among people in Zaatari and those outside the camp. The unequal distribution of and access to the elements of toothbrushing practice is directly related to the unequal distribution of the practice. To counteract this, efforts should be made to increase the likelihood that more people in Zaatari are recruited to toothbrushing by making available the material as well as the social elements of the practice. Creating a supportive environment (WHO 2009) conducive to toothbrushing in the camp can be as simple as providing refugees with toothbrushes and toothpaste, enhancing the variability of these products so it matches people's preferences, providing all bathrooms in the camp with washbasins and making

necessary maintenance, improving water storage at home by increasing its capacity, providing shelters with adequate gas cylinders for heating in winter and extending the electricity provision for longer periods. Supportive environments extend to include a more efficient water supply system that prevents water waste, building more schools in the camp to accommodate the number of children and unify school day for both genders, increasing the funds to families so they can afford oral hygiene products besides their basic necessities and moving to more liveable conditions in the camp by introducing shelters that look more like houses than caravans. Radical changes in the politics of refugee camps, in general, are more likely to provoke supportive environments for general health and oral health by searching for more sustainable and stable solutions for refugees away from the indefinite containment in refugee camps. Indeed, it should be noted that some of these suggestions maybe seen in opposition to the temporary nature in the camp. Nonetheless, the camp has exceeded ten years now with no definitive solution in the horizon. Therefore, suggestions such as shelter maintenance are meant to improve the living conditions of people and elevating their dignity until more sustainable solutions are available; taking into account making the minimum cost-effective changes.

A supportive environment does not mean changes in the material environment solely; rather, it encompasses the social world. Making toothbrushing an established habit in the daily routine requires a change in the social meanings of the practice. Toothbrushing is not included in the set of the hierarchy of practices that people in Zaatari deem inextricably linked to their daily routines. Promoting toothbrushing as a basic practice that the majority of people perform and promoting a stereotype of healthy teeth that people need to maintain toothbrushing to be able to conform to this stereotype may change the teleoaffective structures associated with it. It has the potential to reposition toothbrushing higher in the hierarchy of routinely performed daily activities.

Another approach to creating supportive environment is to reorient practices such as toothbrushing to conform to cultural norms and religious beliefs. As discussed earlier, some practices are abandoned and die giving the chance for others to evolve. In the case of toothbrushing specifically among Arab Muslim population, the idea of oral hygiene is not new; rather, it was performed through other forms of practices using other material elements such as miswak and relating it to other social meanings such as following religious guidelines of maintaining a clean body. While the use of miswak is no longer considsered the regular practice of toothbrushing, many people are still aware of its use for oral hygiene. Therefore, there maybe an opportunity to reintroduce miswak as a cheap material that does not require any water and promoting the practice as not only to maintain clean teeth but also to follow religious recommendations. Another opportunity is present through promoting dry

toothbrushing. According to the dental professional advice, the mouth needs not be rinsed after toothbrushing. By promoting among families that children can brush their teeth without a drop of water, especially if combined with reintroducing free oral hygiene aids, more people can be recruited to toothbrushing.

To develop personal skills (Figure 4.26) for toothbrushing in Zaatari, the competencies associated with toothbrushing need to be promoted. Raising awareness of toothbrushing and the links between oral health and general health is necessary. Furthermore, the skills required to perform the practice need to be promoted such as the way of toothbrushing, the time required, managing water throughout toothbrushing, and manipulating the body in the activity-space of the practice. Health promotion campaigns, dental health professionals as well as school curricula may build these competencies for parents and their children. This also intersects with strengthening community action (Figure 4.26) in the camp by strengthening their agency to develop and call for change. If people develop the elements of toothbrushing towards these conducive to performing it, they can act through their agency to support this. Agency and structure are complementary and change in practices cannot be reduced to changes in either of them alone. Therefore, to strengthen community engagement, prerequisite infrastructures should be in place for people to make healthy decisions the easier ones to make. Suad (one participant) referred to how people in the camp lobby the administration for more efficient water supply by dividing the amount of water each family gets in two separate days to limit water waste. People in Zaatari also act accountability with respect to water waste in some instances by turning off the flow of water to overflowing tanks in the neighbourhood. These cases may save water necessary for toothbrushing, for instance.

Last but not least, reorienting health services towards prevention rather than treatment and universal primary health care is an integral component of health promotion (Figure 4.26). Dental health professionals can act to promote toothbrushing in their professional practice. They play a role in highlighting the importance of toothbrushing and fluoride in toothpaste as they can link it to direct outcomes in people's teeth when they come to routine dental visits. Although it starts in health policy, reorienting health services may extend to include non-health professionals such as school teachers and community centres' supervisors. These people can be trained to promote toothbrushing due to their direct daily contact with children. One example in literature where oral health promotion intervention was implemented is that described by Ogunbodede and colleagues (2000). In a community intervention to promote oral health in a refugee camp in Ghana, some refugees were trained to provide primary dental care following the direction for more preventative dental care and engaging the local community (Ogunbodede et al. 2000).

Planning oral health-promoting interventions is thus complex and mandates interdisciplinary contribution if long-term outcomes are sought. However, examples to promote healthy practices in general, and toothbrushing in particular, reduce their intervention to single measures (Thompson et al. 2018) neglecting the nature of transformative elements of practices. They also focus on toothbrushing as an isolated practice without linking it to the nexus of practices of which it is a part and in which changes in any practice induce changes in others. The ability to transform the nexus of interrelated and interdependent practices is, however, linked to the political will to create change. This makes health promotion extremely challenging to plan, implement and measure outcomes.

Consequently, promoting toothbrushing in Zaatari is far more complex than health promoters and stakeholders can imagine. To complicate things even further, the outcomes of the interventions cannot be predicted as the relationship between changes in these programmes and health practices is not linear. It is, rather, shaped through the intelligibility of practitioners and remains open-ended until performing the practice. Oral health-promoting programmes, therefore, should account for the trial-and-error nature of such interventions with continuous feedback to manipulate the way the interventions are delivered.

Chapter 5

Sugar Intake through Snacking

The previous chapter discussed toothbrushing as a social practice in Zaatari. Similarly, this chapter will discuss snacking in Zaatari refugee camp by framing it within the practice of food consumption. Schatzki's (2002) account of social practice theory is the guiding theoretical framework adopted, with simplifying analyses elaborated by Shove and colleagues (2012). Data collection and analysis followed the method-theory toolkit, recommended by Nicolini (2009), of "zooming in" on the practice of sugar consumption in the camp to reveal its particularities. Then "zooming out" to disentangle its connection with the sociomaterial and political aspects in this specific context. This is aided by the actor-network theory, as proposed by Latour (2005), which suggests that the researcher follows the actor (sugar in this case) in space. The purpose of this eclectic strategy is to understand how the practice is shaped and modified by elements of the arrangement.

In order to do this, sugar as a material and symbolic element is followed at home, in the supply chain market represented by shops, wholesalers and retailers in the camp, and at school. Each section will present a deep discussion of how sugar is handled in the practice of food consumption and zoom out to reveal the factors that affect the practice and situate it in the context of other practices. Many of the findings in this chapter conform with Warde's positioning of eating practices within the social practice theory approach (Warde 2015; Warde 2016). Warde (2015; 2016) describes eating as an embedded practice that is organised and coordinated to generate subsequent individual performances. In the same sense, sugar is a material element that is embedded in the cultural, social and economic representations of any population.

5.1. Sugar at Home

5.1.1. Describing food intake in a typical day

Participants were asked to journal the food intake of their children on a typical day and send photos and videos to document this. Not all participants responded due to the disruption this may have on their daily activities. However, an insight into the average food intake could be formed from those who responded (n= 7 out of 14). A few examples are described below followed by highlighting commonalities and differences among them.

On an average school day, the daily routine activities start as early as 7:00 am for female students. This is because girls and boys have different school times; girls attend school from 8:00 am to 12:00 pm and boys' school day starts at 12:00 pm and ends at 4:00 pm. All participants in the study mentioned that they (mothers) are the ones who wake up first every morning. They have the responsibility to wake other family members, prepare breakfast for them if needed, and help younger children with their dressing for school. The first food intake that children have in a day is, hence, breakfast (but not for all as will be discussed later).

The type of breakfast that children have varies from one family to another and from one child to another in the same family. For example, girls tend to skip breakfast more frequently than boys as they have to be at school between 7:30 and 8:00 in the morning to start their first lesson. This is more prominent among older girls as they start to spend more time dressing up before leaving their homes for school. For the small number who have the chance to have breakfast, it usually consists of sandwiches of labneh (a dairy derivative that is thicker in consistency than yoghurt), olive oil and zaatar (a mixture of mainly ground dried thyme and sesame seeds) or spreadable cheese (less often). These items are part of the traditional breakfast, the cheapest and the easiest to prepare. That is why they are the main options that mothers and children choose, especially in the morning as they do not have plenty of time.

In practice theory, time is framed as a resource that is finite and that rival practices compete for (Shove et al. 2012). In this sense, practices such as having breakfast, dressing and grooming are competitive practices as they have to be done within the same time frame. Children have to choose to be recruited to one and withdraw from the other and this decision is dependent on their practical intelligibility of what makes sense for them to do. As discussed in the previous chapter, practical intelligibility governs the course of forthcoming activities as actors (children in this example) choose what is practical for them instead of the

normative or rational thing to do (Schatzki 2002). Especially among teenage girls, their appearance when they go out has higher priority than having breakfast, although it may be not a normativised action in a way that is acceptable or legitimate, or a rational decision. However, they perceive it as practical as they do not have sufficient time for both practices so they choose what to prioritise. It is also linked to the teleoaffective structures of the practice of grooming, as they engage for the sake of some ends (better appearance) that they aim to achieve.

Similarly, time is a finite resource for mothers who prepare breakfast for their children to eat before school. This is combined with the limited food options available that are mainly determined by the cost of such items. Therefore, mothers choose to provide breakfast options that are the cheapest and least time-consuming. This does not mean that they ignore the nutritional value of the meals. Rather, as elements such as money and time are common among multiple practices, and due to their scarce nature, mothers have to decide what is practical in light of the complex teleoaffective structures that come to play a role. Teleoaffective structures represent the hierarchy of normativised ends, projects and tasks combined with normativised emotions and feelings (Schatzki 2002). In doing so, mothers aim to spare money for other higher-priority practices and they may feel more satisfied with this as they render these other practices as fulfilling better value for the family, such as affording for other meals of the day.

Local shops are abundant within the neighbourhoods, and even more in the vicinity of school premises as will be discussed below. Some children, therefore, buy sweets on the way to school for their breakfast. So, instead of children having a healthy breakfast to set off their day, they have sugar-containing food that is rich in food preservatives and chemicals. There are some other girls who do not eat breakfast at all and they wait until they have a chance at school to buy something from the shops close to the school, or have the biscuits that are delivered to them as part of the World Food Programme. Therefore, the early morning school shifts for girls and their tendency to spend a long time dressing up before school affect subsequent sugar consumption which, in turn, is constrained by food options at school and the localshop distribution around school.

For boys, the daily routine is different. Boys have the chance to get up at a later time than girls as their school day begins at noon. They usually have plenty of time to have breakfast, dress and even play before school. According to Fidaa and Haifa, their sons eat a sandwich before school or sometimes they ask for a full breakfast (a few dishes that are served with bread and tea). They then leave for school feeling full and therefore their appetite for sweets

is lower than their female siblings, as their mothers stated. Below are examples of some descriptions of the morning routines according to some participants.

> *'The girls go to school in the morning shift. They have to be there between 7:30-8:00 am. They do not usually eat until they come back from school at 12:00. At that time the boys should be ready for school [afternoon shift]. They usually eat a sandwich and leave for school.'* (Fidaa, mother of three girls and two boys aged between 5 and 17 years)

> *'Our day starts in the morning; we wake up as there is no electricity and it is too hot inside the caravans. We have electricity from 12:00 pm to 11:00 pm. Then kids wash and eat and those who have school leave for school. Some days, I leave for work too.'* (Kifaya, mother of three girls and three boys aged between 9 months and 17 years)

> *'Kids stay up late till 12:00 am. They wake up late too, around 10:00 am or a bit later. They leave for school at 11:30 am. Sometimes, they ask for sandwiches before school. My eldest son [9 years old] sometimes asks for tea and food such as labneh, makdous, zaatar and olive oil but in general, they prefer sandwiches.'* (Haifa whose children are all boys)

> *'Most of my children do not have breakfast before leaving home. The little kids have milk before leaving for school while my eldest son who is 16 years old has breakfast in the morning as his shift starts at 12:00 pm.'* (Fatin, mother of four girls and three boys aged between 2 and 16 years)

> *'My daughters don't have breakfast before school as they don't have much time to wash, put on their uniforms and get their hair done. After that, they rush for school.'* (Suad whose children are all girls)

This shows how potential gender inequalities in terms of sugar consumption are created. The unequal distribution of individual elements of practices and unequal access to them engender subsequent inequalities. Boys in Zaatari have higher access to breakfast than girls by having plenty of time before school putting girls at higher risk of consuming more sugar in respect of this factor alone as they have a higher appetite for sugar later in the day according to some mothers (access to sugar throughout the day needs to be taken into consideration). The female gender is, thus, prefigures adopting oral health-compromising practices such as sugar consumption (constraint). It also enables other oral health-promoting practices such as toothbrushing as discussed in the previous chapter. However, these

variations are contained in social practices as it is the structure that these practice arrangements are anchored to that mutates the agency of children to consume more or less sugar.

Younger children aged five years and below sometimes drink milk in the morning and those who attend preschool leave after having breakfast. They have some time to do so as their school time differs from the official school from year one (first grade) and above. It usually starts at 10 am and not all children get the chance to attend preschool due to the high demand and low number of facilities in Zaatari. Preschools run turns in some areas in the camp, according to Alaa, so that each child at preschool age gets some time at school which may be as short as a month or even less. Alaa, a mother of two young children, described their morning routine as:

> *'We wake up at 7:30 am, children use the toilet, and I wash their faces and change their clothes as they are still young. The children ask for milk, so they have milk sometimes with bread. When everybody else is awake, I make breakfast and we all sit to eat together.'*

The nature of breakfast on school days differs from that on weekends or holidays. Families have time to prepare proper breakfast these days and it reflects the cultural background of the people which is mostly linked to the crops grown in the area. Figure 5.1 shows a breakfast that Aisha's family had on a weekend day. The food items available are common among the majority of people in Zaatari, although not necessarily all families have all the types in a single breakfast.

Figure 5.1: An example of a breakfast meal that a family had on a weekend day.

The breakfast shown in Figure 5.1 consists of a variety of Middle Eastern traditional food which are:

- Olive oil and zaatar (ground thyme mixed with sesame seeds and sumac): this is a very common dish for breakfast and snacks in Jordan, Syria, Palestine and Lebanon.
- Date paste and tahini.
- Labneh (a dip that is in essence strained yogurt).
- Fresh tomatoes and cucumber in a dish with a knife to be cut during the meal and a small saucer containing salt to sprinkle on the vegetables.
- Pickled black olives.
- Apricot jam.
- Halva.
- Processed meat cut into bitesize pieces (similar to ham but it is made from chicken or beef).
- Makdous (aubergines stuffed with walnuts and red peppers and soaked in oil).

These dishes are put on a dining cloth or disposable plastic sheets directly on the floor as it is common to eat on the floor, especially in rural areas typical of the demographic distribution of people in Zaatari. These dishes are eaten with Arabic-style bread using the hands only (no cutlery) and are shared with all family members who sit for the meal.

The impression that one gets got from the picture is that it represents a healthy breakfast to a high degree. This is especially true considering that most people belonging to this culture do not add three sweet items to the same meal except when they have guests for breakfast. The normal breakfast in the region where most refugees in Zaatari come from contains one or two sweet items, if any. In addition, breakfast is meant to be eaten with all family members sitting around a round tray on the floor. The simple food items reflect the financial status of the family and the variety of food options available at shops in the camp.

After school, the family gathers for dinner to allow for all family members to be back from school or work. However, the exact timing of dinner varies from one family to another according to whether the parents or other family members work or not and their working hours. For instance, Aisha and Alaa stated that they have dinner at around 3:30 pm while Noor said that her family has dinner between 5 and 6 pm. The long gap between breakfast and dinner is filled with some snacks such as a sandwich, especially for younger children as Noor said. Other children may buy sweets from local shops during this time. The different school shifts make it difficult for the family to schedule the timing of meals that takes into account assigning proper duration between meals so that children do not get so hungry. They may combat this by eating sugar-containing snacks.

Dinner consists of traditional dishes that are popular in this culture and depend on seasonal crops and other ingredients available in the market. Figure 5.2 and Figure 5.3 show examples of dinner meals that Alaa's and Kifaya's families, respectively, had on a day. Both families have their dinner on the floor as it is popular in this culture and due to their unaffordability to get dining tables and the small shelter size to fit a table too. This shows how elements can transform each other; monetary funds lead to changes in the arrangement of the shelter as well as changes in the nature of food consumed by families. Dinner in Figure 5.2 consists of beans cooked with garlic and tomatoes, fries and yoghurt. While Kifaya prepared magloobeh as the main dish for dinner. Magloobeh is a traditional dish made mainly from rice, chicken and aubergines or cauliflower. There is also some yoghurt in a small bowl as this dish is usually served with yoghurt or salad. There are also a dish of labneh, a bowl of olive oil and another for zaatar and makdous, along with a piece of bread. Both examples show that the main dish is combined with other side dishes that are not usually served together. The reason for that according to Alaa and Kifaya is that their

children are picky eaters and they do not easily eat any type of food. Therefore, the two mothers choose to serve other dishes that their children eat in case they do not have food from the main dish. This is supported by Aisha (mother of three daughters and two boys aged between 2 and 14 years old) who described their dinner meals as:

> *'Regarding dinner meals, my kids are picky; only some food they love like pizza, sheesh barak, kebbeh and these are costly meals. So, I only choose one of these meals to make once in a month, and the rest of the weekdays they eat whatever I cook. Otherwise, they have zaatar or labneh sandwich.*
>
> *However, my husband and I eat anything -Thanks God. I cook mujaddarah with bulgur, tomato, green beans, broad beans, shakriyeh, rice and chicken, fries, and so on. For desserts, if we have a guest or one of the kids asked for, we buy like hareeseh or sfoof.'*

(Mujaddarah, sheesh barak, kibbeh and shakriyeh are traditional dishes whereas hareeseh and sfoof are traditional desserts.)

These examples reveal that the agency of children has the capacity to change practices they perform as well as practices that their mothers perform by being tied to the same nexus of practices. Being picky eaters affect the manner in which mothers prepare food and subsequently food consumption for children.

It is worth mentioning that, apart from the dishes that Aisha described as costly, all other dishes are vegetarian. People depend on these dishes for most of the days as their financial situation does not allow them to cook meals that contain meat on a daily basis. Whether or not they have their nutritional needs of protein is not clear, however. The fact that children are more picky about eating means that they might leave the dinner while still not full and this may make them eat other unhealthy food options. For breakfast, children might pick sugar-containing dishes such as jam. These factors increase the possibility of nutritional deficiencies among children in Zaatari and increase their consumption of sugar too. This is supported by findings from research findings in refugee camps (Hossain et al. 2016). Bilukha and colleagues (2014) conducted a survey assessing the nutritional status of children and nonpregnant women. The survey found that almost half of the children aged five years and below have anaemia and the prevalence of chronic malnutrition was significantly higher among children in Zaatari than those outside the camp (Bilukha 2014).

Figure 5.2: Example of a dinner that Alaa's family had one day.

Figure 5.3: Example of a dinner that Kifaya’s family had one day.

After dinner, the family members have different activities. Children do their homework if they have some to do and their parents, especially mothers, may help them with this. The mothers do some chores around the house such as dishwashing and fathers may take a rest if they have work. Later, the social networking activities begin for most of the family members especially during times of the year when the weather is not too cold. The space where these activities take place is usually in the open spaces such as in front of their shelters or if there is an area in the neighbourhood they may meet there. Children start playing in the road where they can play football, hide and seek, role modelling or other children's games. Older siblings have their own activities too; boys gather with their friends to hang out or play and girls may have a walk together or sit for chatting. Sometimes, older girls prefer to stay home as there is no appropriate place for them to meet, especially in light of the conservative culture of their parents.

Regardless of the activity that children do in the late afternoon hours, there is a common activity that the majority of them perform. That is going to the local shops and buying sweets. This is an activity that the vast majority of children in Zaatari cannot skip on any day. Not only because of their love of sugar, but also because of its association with other practices

such as hanging out with friends and playing, and the peer pressure that they sometimes feel. These are almost the only source of joy that children in Zaatari have for most days of the year, namely going to local shops and playing with friends. A deeper discussion of both practices is presented below, but it is adequate to understand at this point the sources of sugar that children have as part of their daily routines at home. The networking activities constitute major events during which children get access to sugar. Peer pressure may exert a role in children's demand to buy sweets which in most times is not rejected by parents as they do not want their children to be excluded from the group of friends. The desire to fit in these social groups is shared by children and their parents. Hence, practices of social networking, hanging out with friends and fitting into social groups have an impact on the sugar consumption of children.

During the weekends and school holidays, morning routines, and hence activities throughout the day, change for families as the bedtime and wake-up times change. This change happens consequent to many factors but most importantly as children do not have school early in the morning. They have a higher level of freedom to decide on their sleep time. In addition, their parents are more flexible as they are also not under the stress of getting their children to bed at an earlier time. This is combined by the nature of social networks in the camp which has its roots in the culture that this population is originally from (Arab Middle Eastern). People form tightly bound and complex networks with their relatives who do not necessarily be first-degree relatives and their friends and neighbours. They meet up frequently and more often during holidays as families have more free time than during other times of the year. During holidays, parents do not have to follow their children with their homework and exams which gives them the chance for social meetings. These meetings can extend to late in the night, especially when the meeting starts at a late time as in the summer. During summer, the weather is hot during the day and people in the camp do not have the luxury to install air conditioning. That is due to their high cost and being banned as they consume high power (although some families get air conditioners through the black market and smuggling activities between the camp and the outside). In addition, there is no electricity all day to turn on air conditioning (if the household has one) or even a fan. These late-night networking activities constitute another chance for children to access sugar in a manner similar to the one described above.

In summary, people in Zaatari have daily routines that differ from one family to another according to the gender of their children. Within most families with children of school age, routine is different for boys from that for girls. The daily routine also differs for the same family during school terms from school holidays or even weekends. These differences lead to differences in meal times and the type of dietary intake for children throughout the day.

Girls tend to skip breakfast and have a higher appetite for sweets that they can buy at or on the way to school than boys. Needless to say, the impacts of this are not limited to sugar intake and its association with oral health; but it extends to the overall nutritional status of children and its consequences on general health. However, the studies that explore malnutrition or dental caries levels among children in the camp do not refer to gender variations and do not take the different daily routines into account (Makan et al. 2019; Salim et al. 2020b, 2020a).

Other sources of sugar at home include desserts, whether homemade or bought from dessert shops in the camp and sugar in drinks served at home. Referring to Aisha's quote above, she mentioned some desserts that they buy if they have guests or one of her children asks for them. Desserts are, therefore, not something that the family gets on a regular basis. Rather, it is occasional as this means money that goes to buy these unnecessary items according to some participants which may always be spent on higher priority items. Finally, sugar-containing drinks, mainly tea and coffee, are very common. These two beverages are the major drinks that people have for breakfast, after dinner or when they meet with other people. Children who attend these events share tea with adults sometimes, although the taste of coffee is not appealing to them. Haifa described these beverages as:

> *'You know, we're from Dar'a [the hometown for the vast majority of people in the camp] and we can't live without tea. We drink tea at any time.'*

In fact, in all the visits that were made to participants' shelters during the fieldwork stage, tea or coffee were always served, sometimes followed by fizzy drinks due to the hot weather. These beverages were sweetened with sugar, especially tea which was very sweet sometimes. On other occasions, some desserts were served, such as biscuits or other homemade desserts. Children who were sitting during the visits asked for tea sometimes and drank fizzy drinks and ate desserts whenever served. The hospitality practices, in addition to the cultural practice of drinking tea and coffee, are another chance for children to get access to sugar.

The hospitality practices affect the nutrition of children in another way. It is important to show the guests signs of generosity in terms of welcoming phrases, smiling and the food and drinks served. Even for short visits, it is very unusual and sometimes considered a shame, not to serve guests anything. As having visitors is common within the context of this culture, it means that some money goes for the food and drinks served, adding an extra burden on the family. Furthermore, instead of providing children with a nutritional diet, some participants reported that if they have a visitor and they have some fruit at home, they serve it to the visitor rather than their children. Therefore, hospitality practices have a binary effect

on sugar consumption among children. They offer access to sugar for children by sharing tea and desserts with visitors on one hand, and they preclude a more balanced diet for children by competing on scarce financial aid on the other hand. It can be said, consequently, that decreasing sugar consumption and hospitality practices are competitive practices as they compete over a limited resource (money) and lower access to healthy food for children. Hospitality practices are also synergistic to higher sugar consumption among children as it offers them access to sugar-containing foods and beverages.

The financial hardship that people in Zaatari live in affects the nutritional status of the children apart from the effect of hospitality practices. Tensions are, hence, created for the families by impacting their parenting practices. The parents are aware of the importance of a healthy diet and lowering sugar consumption, but in many cases this is not manageable as it is unaffordable. For example, Fidaa expressed how furious she feels towards her children as they can not afford fruit for days. Whereas Khadijah said that she tries to substitute sugar with fruit and fizzy drinks with fruit juice whenever possible. Mariam added that her son (5 years old) loves sweet things and asks her to add more sugar to the milk he drinks every day. She tries to use honey as the sweetener when they have some at home, but when there is none, she adds sugar. Points like this negate the argument of the behavioural model which states that knowledge is allegedly followed by adopting ‘good’ behaviours (Taylor et al. 2006). Some participants explicitly explained how they have the information related to nutritional health and minimising sugar in their children’s diet. Yet these practices are intricately shaped by material elements in the context, affecting their agency and decision making, and consequently health outcomes. Therefore, health-promoting programmes that limit its arena to health education do not result in significant change in sugar consumption as they do not contextualise sugar consumption within the sociomaterial and political structures of the camp and the interdependent practices.

What makes parenting even harder is the affinity to sweet taste and the sense of pleasure and satisfaction it can provide. This is more prominent among children, especially younger ones who do not have the ability to make informed decisions. In this case, what children think about is the sweet taste and the satisfaction associated with it, leading them to consume or ask for sugar-containing foods. As there might be sometimes no desserts at home and no money to buy some sweets from local shops, children find a way to guarantee they get some. In many cases observed during the fieldwork, this involved children eating sugar on its own. These are a few examples of participants' responses describing what their children do whenever they do not find sweets, followed by a description of a true situation that happened during one visit:

'If we don't have any sweets at home, my kids eat sugar on its own or sometimes they drink tea and milk sweetened with sugar.' (Alaa)

'Sometimes, we don't have anything sweet at home. So, my son mixes coffee powder, sugar and milk powder and eats the mix.' (Aisha)

'My son aged 11 years old eats sugar on its own whereas my 16-year-old daughter starts shaking if she does not eat sweets in a day.' (Kifaya)

Reem's daughter had a tantrum during one of the visits. She went with her auntie to buy some sweets from the local shop. Later, they came back with no sweets and the girl was still crying. Her auntie explained that the shop owner did not allow them to have any item without paying as they already have debt that is overdue to be paid. Reem relieved her daughter's tantrum by handing her the sugar container with a spoon and the child started eating!

The symbolic meaning ascribed to sugar is given higher importance in the camp. Sugar is seen as the main source of luxury and joy for children, and sometimes parents. This meaning is contingent on the sociomateriality in the camp, from local shop regulations (discussed below) and pricing of sugar-containing items, to its association with networking events. Networking practices themselves are associated with a sense of happiness through having visitors over, hanging out with friends and occasions such as weddings where desserts are the main servings. Sugar is, on top of that, a treat for children when they do something good such as having a good score at school in addition to being used as a relief to manage tantrums and reverse sad moments for children. A potential for health promotion is to introduce counteracting practices such as recreational places that are culture-sensitive and context-sensitive taking into consideration the environment of Zaatari. Social change is also an umbrella that should cover efforts to shift sugar from being treated as a reward by replacing it with other material or symbolic elements such as healthy food and celebrating achievements. This type of change is thought to be slow but supposedly linked with long-term, sustainable attainment.

Indeed, sugar consumption in disadvantaged groups such as people in Zaatari may symbolise aspects other than the sweet taste associated with it. As mentioned, participants saw sweets as the only source of luxury and joy they afford to provide their children. Sugar consumption is, therefore, an integral part of care practices in Zaatari in the same way that Zivkovic et al. (2016) describe sweet consumption among disadvantaged families in Adelaide/South Australia in resistance to the public health discourse of limiting sugar intake. The public health advice which means refraining families from providing their children of

something that tastes good and makes them feel happy was considered *uncaring* for them (Zivkovic et al. 2016. This creates tensions as a result of the socioeconomic inequities expressed through the body and affect the body simultaneously (Zivkovic et al. 2016. Disadvantaged families considered sugar-containing food consumption as “sweetening of circumstances and social relations” (Zivkovic et al. 2016, p. 121); in other words people consume more sugar as coping mechanism to “make the bitter sweet” (Zivkovic et al. 2016, p. 121). Our findings support Zivkovic et al.’s (2016) findings to a high degree. People in Zaatari find sugar as the main source of happiness for their children that, sometimes, parents themselves offer sweets for their children or do not prevent them from going to buy sweets from local shops or in social occasions. Although people in Zaatari are aware of the ‘bad’ aspect of sugar, they are also aware of the joy it provides for their children; that, in the absence of other compensatory or competitive practices, people are not ready to resist. This is another example of the inappropriateness of oral health promotion sometimes as it does not extend to understand these embedded meanings of sugar consumption in special social organisations such as in refugee camps.

It can be concluded, then, that sugar is intricately rooted in the cultural and social making of the population in Zaatari. Their stay in the camp utterly anchors the meanings and teleoaffective structures associated with sugar as the contextual sociomaterial and political aspects complicate the agential decisions made by children and their parents. Parenting, thus, is a complex practice where parents position themselves between the two ends, limiting sugar consumption for their children and providing them with something that is possibly the major source of joy for them. Thus, meanings associated with sugar consumption transform the practice and provoke mutations in other interrelated practices such as buying sweets from local shops and household grocery shopping.

In summary, sugar consumption among children in Zaatari at the level of their homes is strongly correlated with other practices. These practices include parenting, meal preparation, grooming, networking, and constricted consumption due to low financial allowances. As all these practices are inextricably social, so is sugar consumption. Therefore, oral health promotion interventions should act at the level of creating social change rather than behavioural change if they are to be effective.

5.2. Sugar at Local shops

5.2.1. Organisation of Local Shops in Zaatari

Throughout this thesis, the use of the term ‘local shop’ refers to small retail stores that are present in neighbourhoods and sell mainly groceries, coffee, snacks and soft drinks. In English, they may be referred to as corner shops, tuck shops or convenience stores. While in Arabic, the term used is pronounced as *‘dukkan’* which can be comprehended by almost anyone who comes across the term. Local shops in Zaatari are organised differently from the ‘normal’ order of things outside the camp. Local shops are run as a family business in Zaatari, with no regulation. It is the temporality of the camp that is responsible for not setting regulations for local shops. While in normal situations local shops, like any other business, should be registered and issued a licence, this is not the case in Zaatari. Any type of registration or licensing is considered a sign of settlement that is not an endeavour in refugee camps. Investment licences in Jordan are offered to Jordanian people and other residents for whom the terms of their stay in Jordan allow them to invest including sales and retail shops. However, this excludes refugees as they are considered temporary residents whose valid stay is the response to humanitarian reasons. Other forms of activity for refugees are not, therefore, accepted such as obtaining a business licence or a driving licence. As Zaatari lies in Jordanian territory, the Jordanian regulations apply at the top of the administrative hierarchy in the camp.

Therefore, there is no need to obtain a licence for local shops, and this leads to the haphazardly distributed and regulated business. Local shops in Zaatari do not need approval for the location, or for the items sold. The no-licence pattern makes it easier for people to start the business too, as people do not need to follow certain standards or worry about taxes. Indeed, in the majority of cases of local shops in Zaatari, people dedicate part of their shelter to be a local shop. They separate it from the rest of the shelter and open a door to the outside. This means that, in addition to the no need to pay for licence or taxes, shop owners do not pay for rent, electricity or water. Taking into consideration that the arrangement of the inside of local shops does not need to be costly and in fact is very basic for most cases, starting the business is, hence, quite feasible for people. The cost of the items to be sold in the local shop comprises the majority of capital that shop owners need to invest.

Another factor that affects the tendency of people to start a local shop business is the financial status of Zaatari’s residents and the low availability of job opportunities. People find this business a way to increase their income, especially since it provides to some degree

steady income compared to job opportunities offered to them within the camp or outside. Most participants in this study reported that jobs offered were on 6-month contracts in most cases and they do not even have this chance regularly. In summary, local shops are easy businesses and a source of income that does not require specific regulations or qualifications in Zaatari.

The abundance of local shops in Zaatari is, therefore, institutionalised. It is not something that happened by chance, rather, it is an inevitable consequence of the regulations that run the camp combined with the political will to contain refugees in an indeterminate temporality. The current situation is expected to persist provided the perpetuation of these institutionalisation practices which first and foremost exclude people from the normal order of things. The effects of such organisation on oral health, thus, make sense. Local shops are present everywhere in Zaatari, and children come into direct contact with them multiple times a day, increasing the chance of buying sweets and subsequently adversely affecting their teeth.

During the fieldwork, two local shops were visited; Um Fathi owned the first while Abu Mahmoud owned the other. Um Fathi has her local shop as the front part of her shelter. She is the main person who runs the business although sometimes her daughter helps with this. Looking at her local shop, there is a mattress and a prayer mat where Um Fathi can also rest sometimes (Figure 5.4.A). There is also a stove that Um Fathi can cook on, especially in winter when she turns it on for heating. In summer, Um Fathi usually sits on a bench just outside the local shop and waits for customers to come as it can get hot inside because the caravan is made of metal. During the visit to Um Fathi's shop, observations, photos and interview data were collected. As seen in (Figure 5.4), the shop is arranged in a very basic manner where simple shelving is used to stack packets on. Each packet is opened so that it has a window that one can grab the item through. Almost all items sold in this shop are food items and almost exclusively sweets, crisps and drinks (either fizzy drinks or juice). There are around 25 different types crisps and 40 different types of biscuits apart from the drinks. Some other items are available such as toys, laundry pegs, pens (Figure 5.4.B) and some detergents (Figure 5.4.C). The fridge contains mainly sugar-containing drinks and some water bottles (Figure 5.4.D), whereas the small freezer contains only ice cream (not shown in the picture). All items are within the reach of children who constitute the vast majority of this shop's customers according to Um Fathi. When Um Fathi described the opening times of her shop, she explicitly referred to this as she said:

> *'During school terms, I open the shop at 7 am for children who want to buy stuff before the school day begins.'*

Figure 5.4: Um Fathi's local shop.

Abu Mahmoud's local shop is larger than Um Fathi's and the fact that it is owned by a man makes it more versatile, in terms of items sold in the shop. This is because men constitute the majority of income-making members in families in Zaatari while women are more in charge of indoor activities. Abu Mahmoud devotes his time to running the local shop (although his children help sometimes) as he does not take part in most of the household chores. Abu Mahmoud sells besides sweets some food items such as rice, sugar and some household items such as cleaning materials and tools.

A conversation with Abu Mahmoud revealed how the supply chains work in Zaatari. The selection of items is not totally his choice as he gets things that are made available by the wholesale shops which take into consideration mainly the profit. Things that make the highest profits are made available while things that are only expected to get the attention of a minority of people are not brought into the camp. The shop owner also highlighted that the highest profit of these market chains is made by wholesalers. The wholesalers spot the

products that make high profit, especially those sold as part of deals due for example to getting close to the expiry date or as part of discount sales. According to Abu Mahmoud:

> *'They [wholesalers] sometimes buy two boxes of fizzy drinks and get the third for free. When they sell these products to local shops, they sell them separately; so, they get the price of three boxes in addition to the profits when they actually paid for two. In addition, the wholesalers are the ones who control the prices inside the camp as it depends on how much it costs them to get stuff to the camp.'*

Abu Mahmoud offers facilitations to customers as they can buy from this shop and pay from the monthly coupons of the families. He also waits for people who cannot pay instantly until they get money to pay him back. As this lowers the stress for customers, it encourages more expenditure overall, as people do not feel pressure from immediate payment.

It can be seen (Figure 5.5) that this local shop contains more items than Um Fathi's shop. It has many brands of crisps and biscuits that can be seen in all photos taken from this local shop and which are arranged on lower shelves to be accessible for children. Some other sugar-containing products in this local shop are the sweets that are placed in buckets along with other roasted nuts (Figure 5.5.D). These are usually sold by weight to be shared within the family or to be served to visitors. The fridge (Figure 5.5.G) is mainly operated to keep fizzy drinks and juice in it. However, it also contains a bucket of yoghurt and some cheese. There are two freezers that contain a variety of ice cream as the weather was hot during the summer. The freezers (Figure 5.5.F) are turned off later in autumn as the weather gets colder and it is not usual that people buy ice cream then, due to the common belief among people that eating ice cream in cold weather may cause flu and tonsillitis. Parents ask their children not to buy ice cream so that they do not get sick. Parents can, indeed, ask the shop owners who still serve ice cream in the cold weather to stop that so their children do not get tempted to buy it. Other food items are sold in this shop such as food tins, pasta, sugar, rice, eggs, oil, ghee and coffee. People buy these commodities in between visits to the main supermarkets to get their monthly groceries with their monthly allowances. These local shops are closer to people's shelters and the shop owners, by virtue of personal connections, offer payment facilitations as Abu Mahmoud described. Other non-food commodities in this local shop include kitchen utensils and catering supplies (Figure 5.5.B and Figure 5.5.C), in addition to cleaning supplies (Figure 5.5.C and Figure 5.5.E). This shop has some oral hygiene products too (Figure 4.10).

In both local shops, it can be concluded that the targeted group is children. Although Abu Mahmoud's shop sells other items for the households, what makes this local shop profitable are the children. Most items sold for children are priced for five piasters (around 6 pence)

although other items such as lollipops and gum may even cost less. The low prices are intentional so that children can still buy these items and their parents can afford them. As a result and combined with other factors, children may make multiple journeys to local shops a day which in most cases cost five or ten piasters. In addition, the variety of items sold in local shops in the camp is limited. For example, it is almost impossible to find sugar-free, dairy-free or gluten-free food items and vegetarian/vegan items are not labelled in most cases. As shop owners run this business for profit, it makes sense that they are not concerned about people's general health when they choose what to provide in their shops. Profit generation is the driver here which is, in turn, dependent upon whether there is a market for such products as described above.

According to Um Fathi and Abu Mahmoud, they make an order with the items that they need to replenish their shops with and send them to the wholesale shops in the camp. The wholesale shops are part of the main markets in the camp, unlike local shops, and need a licence to run. The wholesalers prepare the orders and send them on carts pulled by donkeys as there are no private cars in the camp. In turn, the wholesalers get their goods from Jordanian merchants outside the camp where there is another form of supply chain that affects those within the camp. According to some wholesalers in the camp that were met during the fieldwork, it is the Jordanian merchants who have the final say regarding which items are imported to the camp.

Figure 5.5: Abu Mahmoud's local shop.

The discussion with Abu Mahmoud and Um Fathi revealed the nature of supply chain management in Zaatari that, albeit different from those outside refugee camps, shares similar ends. Profit is the drive of the business of supply chains and to make the highest possible profit a balance between supply and demand should be made. This balance is skewed towards generating more profit rather than meeting people's demands. Indeed, this is the main teleoaffective structure of running local shops that, in turn, has an impact on forthcoming activities. These activities reproducibly shape the material arrangement of such shops by prefiguring the items brought and how they are arranged in the shops. Subsequently, decisions made by people in the camp are affected by what is made available to them. One cannot choose to buy sugar-free snacks if they are not available in shops in the area or that can be reached in another way, for example. According to social practice theorists, agency and structure are co-constitutive. The context has a power of determination (Schatzki 2002) which is exerted in this case as prefiguration. Prefiguration in the sense of enablement and constraint shapes the agency of people as to what they buy from the shops which are linked to practices of business management. To say that agency of people here is denied and people do not have a role in decisions made is, however, an exaggeration. The supply chains work in circles that are fed by people's demands. People in Zaatari have high demand for sugar-containing products for reasons that make sense for them (such as low prices and the joy associated with having sweets). In contrast, culturally, people do not see themselves as consumers who 'demand' alternative products such as sugar-free items. Both factors consequently affect the nature of supply for the products that are made available in Zaatari shops.

The circle goes on time after another leading to the current situation of the abundance of sugar-containing products through the contingency of practices of supply and demand. The outcome of these interdependencies is the evolution of a highly anchored and stabilised nexus of practices of which sugar consumption is a part. This does not, however, exclude changing and transforming these practices but it needs to do so by breaking the links between 'unhealthy' practices and creating new links for healthier ones (Shove et al. 2012). It can also be changed by changing the elements of 'unhealthy' practices (Shove et al. 2012) such as the way sugar-containing items are presented in local shops, and the meanings associated with its consumption. As practices are the unit of change, according to the practice theory, it comes about through agency which is, in turn, co-constitutive and interdependent on the structure. Therefore, one cannot deny the role played by one extreme over the other in shaping the practice of sugar consumption in Zaatari by affecting the market of food products there and the consumption patterns among people.

5.2.2. Access to Local Shops by Children

Abundance

As described in the previous section, many factors interact to make starting a local shop business feasible. Many people are attracted to the idea leading to the high distribution of local shops within the neighbourhoods in the camp. The highly distributed local shops make it more predictable that children encounter them whenever they are out of the shelter to play, go to school or do other activities. Children are in a constant state of being aware of the presence of local shops. They cannot ignore and subsequently ask to go or, indeed, enter the local shop and buy sweets. The structuring of the material environment of Zaatari is shaped by these local shops that themselves correspond to the political orientation of the temporality of the camp. These structural arrangements then transform the social life of practices including sugar consumption.

During the fieldwork, a map of Zaatari downloaded from the UNHCR website (UNHCR 2017d) was handed out to a 15-year old girl who was asked to spot the sites of local shops in one district of Zaatari (District 1). The girl registered the sites of local shops during a walk with her friends. A map showing the distribution of local shops in the camp was then generated (Figure 5.6) where 72 local shops were mapped in District 1. Despite that the sites are not very accurate, they represent to a high degree the situation on the ground. The statistics for Zaatari population report that as of November, 2019, District 1 had a population of 6686 people (Humanitarian Data Exchange 2019) (when the total population of the camp was around 76000 people (UNHCR 2019b). Taking into account that the percentage of the increase in the total population of the camp was only 6000 people from 2019 to 2022 (82000 according to UNHCR (2022c)); that is an increase of about 8 per cent. Adjusting this to estimate the current population of District 1, the number is around 7200 people living there.

These figures mean that there are almost 100 people per a local shop in District 1. As there are no statistics on the number of people per local shops in urban areas in Jordan, this is compared to the statistics in the United Kingdom provided by Statista depending on surveys conducted in 2021. By taking London as the most populated area in the United Kingdom, there are 1670 people per local shop there (5860 local shops for a population of around 9.5 million people living there) (Statista 2021). The massive difference between the two areas supports the earlier findings that local shops in Zaatari are highly abundant.

Proximity

The high distribution of local shops entails their proximity to the shelters (Figure 5.6). In fact, the roads in Zaatari are narrow as they are not designed for traffic and the neighbourhoods contain large numbers of shelters due to the small size of average shelters. Some of these shelters include local shops as part of their structure, as described earlier, making the local shops relatively close to most of the shelters in the neighbourhood. Children can get out of their shelter to reach the local shop which is literally a few steps away in many cases, or less than two minutes walking distance.

Safety

Safety of the children during their trip to the local shop is binary. First, the roads are generally safe for pedestrians as there are few cars in the camp, and those that exist stick to main roads. Other means of transport include carts pulled by donkeys, but these are usually used to carry goods such as from wholesale shops to local shops or fruit and vegetables to be sold. Bicycles are common in the camp due to the inability to own a car and the need to travel within the camp which sometimes involves long distances. Even old men who have never ridden a bicycle before learned how to do that out of the need for it. Consequently, roads within the neighbourhoods in Zaatari are relatively traffic-free making them safer for children to make trips independently.

On the other hand, safety involves the sense of safety within the community people live in. In Zaatari, most people within the neighbourhood know each other and build strong connections of friendship and kinship. This lowers the urge to worry about children whenever they are out as they may meet their relatives or parents' friends in the way who, in turn, may act accountable in case of incidents. Even shopkeepers are within these social networks. Parents do not usually worry if their children go to the local shop on their own as the shopkeeper is their friend/relative. Children, themselves, understand this and feel more comfortable accessing the local shop. They feel so, also because they realise their ability to buy sweets from the local shop without the need to pay money directly. The connection between shop owners and parents lets them sell to the children and ask their parents whenever they meet them for the money. Otherwise, they can register the amount of money as a debt in a log book to be paid later from the monthly allowances of the family once they get them. Agency of children is shaped throughout their interaction with an array of practices as they grow up and going to local shops represent one encounter of this evolution of children's agency. By possessing agency, children can and do transform the structure in which such practices take place such as the way items in local shops are arranged.

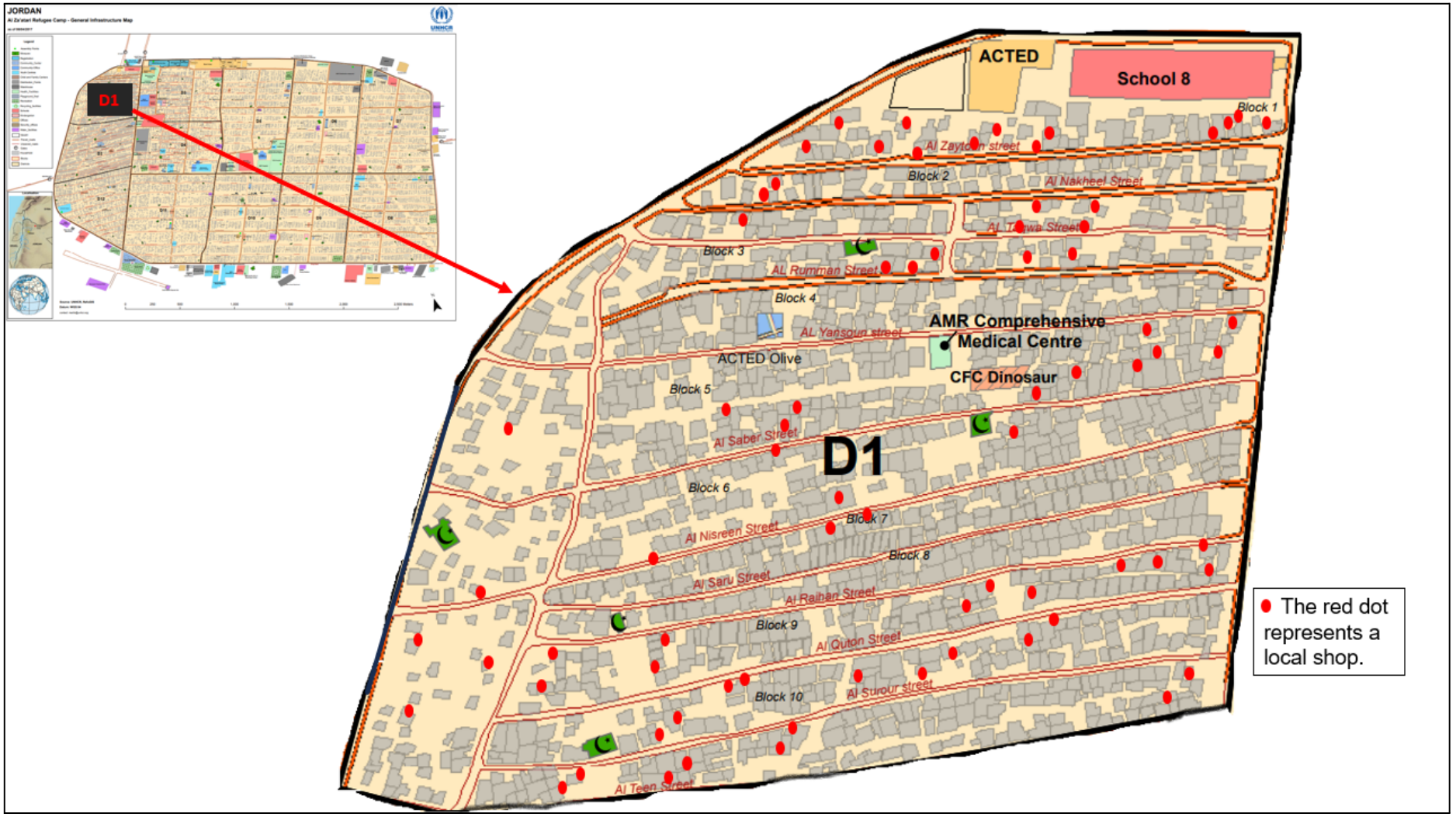


Figure 5.6: The distribution of local shops in one district (D1) in Zaatari refugee camp. The map is adapted from UNHCR (2017d).

In summary, the abundance and proximity of local shops in addition to the safety of making the trip by children render local shops highly accessible to children. That is actually the case in Zaatari, especially in light of the fact that these trips and eating sweets are a source of joy, as will be discussed later. Many participants in this study confirmed that going to the local shop is a daily activity for children and sometimes more than once a day. These are some of the responses that these participants added during the fieldwork:

> *'Local shops are present everywhere in the camp. They are very accessible to children; even my youngest daughter who is 5 years old goes to the shop every day and buys sweets.'* (Suad, mother of five girls)

> *'The local shops are close to our house. It's in our neighbour's house so the children can go alone. The kids go to buy sweets from the local shop every day. Each one has 10 piasters that they can spend. This is a big problem for us because we can't afford this.'* (Aisha, mother of three girls and two boys)

> *'The kids have money to buy from local shops once a day. There are two very close to our house. The older kids get 25 piasters, middle-aged kids get 15 piasters and little kids get 10 piasters. Sometimes, they get an extra 5 piasters in the evening to buy something too.'* (Fatin, mother of four girls and three boys)

> *'Local shops are present everywhere around us and kids can go very easily.'* (Fidaa, mother of three girls and two boys)

> *'My kids go to the local shop every day. They spend 5 piasters in the morning and 5 piasters in the evening.'* (Haifa, mother of 4 boys)

> *'Kids can go to local shops alone as there is nothing to worry about. However, we can't afford that. That's why we give our children 10 piasters two or three times a week only.'* (Noor, mother of nine children)

> *'It's an addiction [going to local shops]. They [children] can't skip it a single day. On top of this, because children know they can go and buy without even having money in their pockets, they do not usually respond to their parents when they ask them not to buy stuff from the local shop and they waste our money.'* (Hajar, mother of five children)

> *'There are three local shops in our neighbourhood that my children buy stuff from every day. My youngest daughter buys 3 times a day. She spends 10 piasters every time which could buy her two items as most sweets in local shops are sold*

for 5 piasters. But the older children buy sweets once a day.' (Huda, mother of seven children)

Another point that needs to be highlighted is that children in Zaatari not only buy sweets from local shops for the sake of eating sweets; there is also a sense of joy that accompanies the journey overall. This sense of joy/pleasure originates from the feeling of independence and the ability to make decisions themselves. Both factors give the child a sense of acting more like adults which they like and increase their self-confidence consequently. As discussed above, this is part of forming the agency of children. The teleoaffective structures of attending local shops represent a set of normativised ends associated with normativised emotions and mental dispositions (Schatzki 2002). In this case, satisfaction, self-confidence and the associated sense of joy represent the 'affective' side of teleoaffective structures. They are normative feelings in the context of Zaatari that are reinforced in a shared community of practices that children and their parents, through parenting practices, attempt to achieve. This interprets that children have home-made desserts and snacks (usually biscuits that parents buy) at home; still, they prefer to go and buy their snacks themselves as perceived from these responses:

'We usually buy biscuit packs at home, especially in winter. However, children are not satisfied. They insist on having money and buying from the local shop.' (Hajar)

'Kids need to feel the money in their hands and go select whatever they want to buy. It makes them feel happier!' (Suad)

5.2.3. Local shops and Parenting

The current situation of local shop organisation in Zaatari makes it attractive for children to consume more sugar-containing products as they are cheap and accessible. However, it makes it more difficult for their parents to say 'no'. Children do realise their agency to access local shops and the pressure they apply to their parents. Actually, many parents suffer due to this system of organisation as their children meet rejection with tantrums sometimes. This adds extra stress on the parents and pushes them to accept such demands. On the other hand, apart from the concern over sugar consumption, the financial burden on parents increases within the limits of the low monthly allowances they get. Furthermore, the shortage of job opportunities in the camp or outside precludes people from enhancing their income. It also limits their expenses to the very basics which do not include snacks from local shops, increasing the financial hardship even more. Hajar commented:

'I always tell them not to buy from these shops but children do not respond. They even sometimes get skin rashes as they get allergic to something in the snacks and still, they don't respond.'

As mentioned in the previous chapter, Sahakian and Wilhite (2014) support a connotation of 'distributed agency'. While they argue that agency is distributed between the individual, the material world and social world, this connotation is used here to refer to the nature of agency that multiple individuals take part in to shape the final product of how practices are performed. This is because this piece of work complies with Shatzki's standpoint that agency in practices is limited to humans as they are who invoke meanings on objects that enter the realm of practices. Objects do not have the privilege to possess meanings unless they are incorporated into human activity. Building on the use of the concept of distributed agency, it is also argued that agency is not equally distributed between individuals involved in the shared community of practices. Inequalities in distributed agency means that some individuals have a higher capability of changing the course of a practice than others.

Applying this to the findings discussed above, the current arrangement of local shops in Zaatari represent one of the structures in which sugar consumption takes place. This structure has a constitutive impact on the agency of individuals who perform the practice who, in this case, are both children and their parents. However, as the agency is distributed among them, it does so unequally. The agency of parents is undermined by the agency of their children which is enhanced by the structure of local shops in the camp. The power of determination of subsequent actions is, therefore, dependent on the practical intelligibility of children and their practical understandings of the practice of attending local shops more than it is dependent on their parents'.

Data such as this reveals the extremely challenging health promotion planning in context like Zaatari. Health promotion principles depend on changing the social and material structures by focusing on more upstream action at the level of the social determinants of health. In doing so, health promotion reinforces the governmentality of the context directing it to one conducive to adopting healthy behaviours. As the discussion on the context of Zaatari shows, health promotion falls short of accounting for contextual factors that upstream, policy-level interventions cannot capture. Lowering the level of intervention to the lived experience of practices promises for optimistic outcomes since they are highly context-dependent. Health promotion efforts should, therefore, be directed to produce social shifting by understanding both agency and structure of the context in which it is applied. This implies understanding the practical intelligibility of the practice in question, its teleoaffective structures and positioning it within the constellation of interrelated practices.

Children's reaction to their parents' rejection varies according to their age. Younger children do not understand it, and would start tantruming and crying. They do not usually stop until their request is fulfilled. Indeed, they consider buying from the local shop as a default daily activity that is unnegotiable, playing higher agency on this practice than their parents. Alaa and her mother-in-law described how this creates trouble every time they go out for a visit or something else:

> *'My kids are young so they go to the local shop with my mother-in-law who lives with us. Most of the time, we don't have cash money to pay the shopkeeper and ask him to register it as a debt until we have some money. This happens almost every day.'* (Alaa, mother of two young children)

> *'A few days ago, the kids went with me to visit someone. I intentionally took them from a road where there are no local shops so they do not embarrass me to go in as I didn't have money then. The kids started crying so badly because they wanted to go to the local shop. In the end, I decided to go back home even though I didn't arrive at my friend's.'* (Alaa's mother-in-law)

As they are at a young age (2 to 4 years old), these children usually need to be accompanied by their siblings or parents whenever they go to the local shop (although some children can go alone). This shows how the practice of an individual in any one moment may impact the practice of others and create links that hold these practices within a nexus of interdependence and transformation. Whereas slightly older children within the age range of 6 to 9 years old can manage their desire to access the local shop differently. These children can act independently especially when they have pocket money. Otherwise, they find a way to make it happen. For example, Fidaa explained how her 6-year-old son acts whenever he needs money to spend at the local shop:

> *'He takes money from me when I am around. If I'm not home, he goes to his dad's trousers where the money is and takes some money to go to buy from the local shop. In case he doesn't find money there, he would simply go to the local shop and ask to buy and register the cost in a log of debts kept in the local shop. Later, the shop owner asks us to pay him back.'* (Fidaa, mother of three girls and two boys aged between 5 and 17 years)

Children at older ages get cognitive abilities and a sense of responsibility higher than younger ones. Furthermore, the cultural patterns of parenting in Zaatari (and the Middle East in general) hold children responsible at a young age including sharing details of their financial situation. Children, then, feel the hardship that their family is in, and behave correspondingly.

In the case of children in Zaatari, as soon as they understand these details, they try to lower the burden off their parents' shoulders. For instance, they do not insist on pocket money or they do not ask for more. One participant stated:

> *'The younger the child is, the more difficult it is to persuade them not to buy stuff from the local shop. My older daughters understand our financial situation and would not ask for money to buy stuff from local shops daily. Even my other son who is 11 years old also understands; he hasn't taken any pocket money for 11 days now. While her 5-year-old son may go to the local shop 3-4 times a day.'* (Kifaya)

However, this is not always the case as children are still children, wherever they are and in whatever situation. Some children do not care for the reasons of rejection by their parents to go to the local shops and insist on getting money from them to do so, even when they know they do not have any. This creates confusion among parents as they try to balance their financial expenses, basic necessities and their children's desires. To complicate matters further, parents acknowledge that children in Zaatari pass through long periods of the year when going to the local shops and eating sweets are the only source of joy they can gain. In Zaatari, the presence of recreational areas for children is very limited and far from the shelters. It is too hot in summer and too cold in winter to play in open spaces. Furthermore, as these recreational areas are far from shelters, parents do not feel comfortable letting their children go on their own to such places. Consequently, children limit their socialising activities within the neighbourhoods where they are in direct encounter with the local shops, and this is one of the main entertainments. In addition, the peer impact enhances the possibility of buying sweets as everybody else does during these social times. This is shown in this quote by Fidaa:

> *'My children always go to buy sweets from local shops. We [parents] offer them sweets too. I see this as a compensation for the miserable conditions my children live in in Zaatari. There are no recreational areas that I can take my children to. There is a park in Zaatari but it is far from us and only opens till 4:00 pm. It's too hot during the day, so it's not practical to go there.'*

It remains, however, that buying sweets from the local shop is a practice that is performed for its own sake. Other than the times that children go to play and socialise with their peers, children attend local shops because they want to buy sweets. To understand this within the framework of practice theory, shedding light on the agency of performers, following the discussion above, is required.

Structure and agency are co-determining and they do so at the moment of their interaction in the milieu of the practice. The structural arrangements in Zaatari from local shop arrangement, recreation, social networking to parenting act to shape the agency of practitioners. The agency, in turn, is contained within the human activity represented by practices. Therefore, while practitioners come to be aware of their agency, they conform to the practical intelligibility of that practice (and the set of connected practices). In addition, changing the course of the practice, through agency, is directed toward certain teleoaffective structures; that is ends and emotions. To fulfil the pleasure associated with eating sweets (teleoaffective structure), the practical intelligibility of children issue a set of activities to realise that end including tantruming, begging their parents and buying without having cash money. However, as practical intelligibility is determined by the mental conditions of practitioners which is formed by learning, training and being instructed to perform the practice (Schatzki 2002), the subsequent practical understandings vary according to the mental abilities of performers. Furthermore, teleoaffective structures represent a hierarchy where some receive higher value than others for individuals. Finally, practical intelligibility takes account of the objects (structures and technologies) and activities of other people which both prefigure, in the sense of enable or constrain, subsequent actions. Therefore, the variable response of children to the structural arrangement of their environment and the constraint exerted by limited financial resources and parenting reflect the individualised practical intelligibility of what makes sense for each child to do. As older children have higher mental abilities, their practical intelligibility leans toward a higher level of rationality (although practical intelligibility is not meant to be rational).

The result of the combination of all these entities are practices of varying strengths. Some of which are supported by strong teleoaffective structures, material arrangements and political arrangements. While others are not anchored by such entities making them weak, highly labile and unstable. The involvement of children in a set of practices that they perform to realise their continuous consumption of sweets, for example, is supported by the local shop organisation, lack of recreational activities and fitting in social networks. This leaves controlling children's consumption of sugar as a weak practice that most of the arrangements in Zaatari act against its actual achievement. Consequently, to promote lower sugar consumption in Zaatari, introducing competing practices for the shared teleoaffective structures of having joy running simultaneously, rather than raising awareness among parents of the adverse effects of sugar on their children's health, is, perhaps, more rewarding. In comparison to toothbrushing described in the previous chapter, it was shown how toothbrushing is not supported by strong teleoaffective structures nor by structural arrangements that render it more likely to be adopted. Therefore, in Zaatari, more children

withdraw from toothbrushing practice while they engage in snack consumption with the cumulative damaging effects of both to children's oral health.

In addition, children do not have specific times during the day when they are allowed to go to local shops. For example, during the fieldwork, many children were observed buying from the local shops even before having breakfast. This is confirmed by participants such as Suad, Kifaya, Fidaa and Reem. In fact, in almost all visits made to participants' homes, children were seen entering the home with a bag of snacks bought from the local shop. Parents, sometimes, try to improve the quality of dietary intake for their children by providing a healthy breakfast or minimising snack consumption. However, they may face difficulties due to the tightly connected nature of other practices involved and the organisation of the camp. Sugar constitutes a substance that brings a sense of satisfaction among children due to its taste and the pleasure associated with its consumption. Therefore, it is extremely difficult to persuade children to stop eating sugar-containing products and other alternative solutions have to be implemented that take into consideration the complex context of the practice. This can be incorporated through a range of contradictory practices that reshape the practical intelligibility and agency of practitioners as discussed above. One participant described her son's desire to consume sweets. She said:

> *'Even if we tell him we don't have money for sweets, he would ask not to buy bread so he can buy sweets. It's like something he can't go without.'* (Fidaa)

Although in most cases, parents' concern regarding the frequent journeys to the local shops is financial, some are concerned with the effect of this on children's health. Hajar's quote above states the possibility of getting allergic reactions due to the items that children consume from the local shops. Some other participants mentioned that their children get stomach aches sometimes after consuming crisps from local shops. Parents do realise, on the other hand, the adverse effects of snacks that children buy from local shops, and sweets in general, on oral health. However, they seem to keep these concerns not among the highest. Therefore, parenting practices that aim to control children's diets may be associated with different teleoaffective structures which bring together different activities by linking them within the organisation of practices to pursue common ends. Some teleoaffective structures are, however, stronger than others. For example, limiting expenditure on snacks is higher in the hierarchy than improving children's oral health. Actually, during the fieldwork, parents linked going to the local shops with their children's oral health status only when asked explicitly about this. For instance, Mariam commented on her son's teeth status (who is 4 years old and has multiple cavities):

'My children ask for desserts regularly. This is on top of the sweets and crisps that they buy from local shops every day.'

Huda (mother of seven children) also seems to be aware of the detrimental effect of sweets from local shops and health outcomes including oral health. She said:

'I keep on telling my children not to buy too much from local shops as this deteriorates their health and teeth status but they don't respond. I think that crisps are the worst in terms of the health of the children as they suffer stomach aches and have tooth decay.'

According to Shove and colleagues (2012), the competencies of any practice include some knowledge that practitioners should acquire and link it to the meanings of being recruited to the practice and how to handle its material elements. In Zaatari, the availability of material arrangements associated with lower sugar consumption is not adequate and the value given to the meaning of lowering sugar consumption is no longer making sense in contrast to the meaning of consuming more sweets. Consequently, links between the elements of the practice weaken over time. This means that the competencies of performing the practice do receive much attention any longer. So, even though parents and their children possess the knowledge of the importance of lowering sugar, it is incapable of integrating other elements of the practice. This supports the argument that behavioural models which advocate the KAB concept (knowledge changes attitudes which change behaviours) are not capable of producing real change (Baranowski et al. 2003) as they do not consider the need to link all three elements of the practice together. Huda and her children know that sweets are not good for their health but they are not able to change their habits based on this piece of information.

5.3. Sugar at Schools

In Zaatari, there are 32 schools for children at school age to attend. However, the capacity of these schools is not sufficient to run normal school days. The situation since the launch of these schools has been to run two school periods for boys and girls. The morning period is from 8:00 am to 12:00 pm for girls, while the afternoon period is from 12:00 pm to 4:00 pm for boys. Children, in this case, get four hours at school a day, unlike the normal school day which extends for six hours. Therefore, schools in Zaatari focus on covering the official academic curriculum, eliminating other extracurricular activities such as physical education and arts as well as lunch breaks during the day.

Schools in the camp are supported by UNICEF which provides the financial funds to cover teachers' salaries and school supplies. It also supports the nutritional needs of children through the World Food Programme (WFP), which is delivered to children during the school day. To illustrate how WFP works, there should be a differentiation between the pre-Covid Healthy School Meal Programme and post-Covid enriched date bar delivery.

5.3.1. Healthy School Meal Programme (Pre-Covid)

Before the pandemic, the World Food Programme took the form of delivering healthy school meals to children. The programme was referred to as the 'Healthy School Meal Programme' and consisted of two pieces of pastry, one portion of vegetable which was usually a cucumber, and one portion of fruit which was usually a banana or an apple (Figure 5.7). The meal was delivered during one of the lessons as there is no assigned lunch break. The meal was intended to be eaten at school to provide children with energy to concentrate during the school day. However, the supervision of the efficiency of the programme stopped at the point when children were handed the meals. Whether children ate the meal or not is another story.

Figure 5.7: School meals distributed to children in Zaatari before the pandemic.
(Copyright: World Food Programme/ Mohammad Batah on October 2020 School meals distribution in Zaatari Camp for Syrian refugees, United Nations Jordan).

Children initiated a system of trading for the school meal among themselves or, disappointingly, with the teachers. Children traded parts of the meal, sometimes, for money

which they used to buy sweets from the local shops around the school later, giving them access to extra sugar. Another thing that children traded for is food from food trucks that surround schools. These trucks sell sweet corn or fava beans that are boiled and served with a drizzle of lemon juice and some spices. A glimpse into the snacks sold on food trucks can show them as a healthy alternative which would be the case if they were following rules of food safety. Actually, these snacks are served boiling hot in plastic bags and are not usually covered until served, increasing the risk of contamination. These points were highlighted by Suad and Kifaya as the fieldwork was conducted during the school summer holiday.

Other children traded some of their meals with their teachers who gave them money in return. This points out a major deficiency in delivering the programme. Instead of the teachers supervising children to ensure they ate the meal and stop any trading activities so that all children got at least one healthy meal a day (as the financial status of their parents may make this opportunity unaffordable at home), they themselves encouraged the trading practice.

On the other hand, not all children's attempts were successful among those who wanted to trade their meals. Therefore, these children either threw some or all of their meal away which was in the vast majority of the cases the pastries as they were the least preferable, or they took it back home for their siblings or parents to eat. The end result is that the programme had some deficiencies that should have been observed at that time and corrected to enhance its goal. However, there is no evidence that the programme was evaluated nor is there any information that refers to its drawbacks such as those mentioned here.

The trading practices for school meals enhanced the agency of children as they perceived themselves as decision makers. Again, the agency needed to accomplish such practices was distributed among children as the main actors, their parents encouraging them to eat these meals, and teachers who allowed them to trade during the lesson and who took an active part as they were the ones who were traded with at some occasions. Children performed trading activities to realise some ends such as the opportunity to buy sweets in return, gaining some money and getting rid of some ingredients of the meal that they did not prefer. Activities performed by children to trade their meals connect this practice with other practices such as sugar consumption and food truck businesses around schools. These connections take the form of strengthening each other guaranteeing their continuity. However, the withdrawal of one common element, that is school meals, may have affected the nexus of these practices without the existence of an alternative, which is in this case the date bars, which will be discussed later.

The school meals programme has been discontinued since the pandemic as according to UNICEF, this lowers the risk of Covid-19 spreading due to cross-contamination. People in refugee camps were deemed more vulnerable to getting infected due to the crowded nature of the camps and the lower sanitary conditions there. They may also suffer more once they get infected as the overall health measures are lower than among communities outside the camps. That explains the degree of tight regulations for accessing the camps which extend even beyond what most other organisations had then. However, even after declaring the end of the pandemic, these meals were not resumed. Some participants accuse the insufficient funding of the programme in particular and Zaatari in general as the main reason for not resuming healthy school meals for school children.

As stated earlier, these school meals may have been the only healthy meal that some children in the camp had. Needless to say, the impact of such programmes on lowering inequalities among children in terms of nutritional health, general health and oral health as all these measures are tightly connected. This brings a discussion on inequalities in Zaatari, which were referred to when discussing the availability of job opportunities in the camp. Although refugee camps might be thought of as a space where inequalities melt and people are more similar and unified, this is not the case at least in Zaatari. People carry traces of inequalities from their homeland as some of them might have had the chance to bring some of their savings. Others are supported financially by their relatives who live outside the camp, especially those working in the Gulf countries or in Europe. Inequalities may have, also, originated within the camp as some people presented themselves as community leaders when the camp was initiated. These people had, and still have, an advantage in terms of additional funds and job opportunities. Programmes such as Healthy School Meals may lower the impact of these inequalities especially among children as this is the critical age of defining much of future patterns of health and life chances (Wadsworth 1997; Wethington 2005; Braveman and Barclay 2009). However, the current situation enhances these inequalities rather than lowering them as children from lower socioeconomic status are those who are affected the most by discontinuing the meals adding to their misery.

Many participants commented on the nutritional-related impact of school meals for their children. To include some, these are a few responses:

> *'These meals were so important for children who come to school without having breakfast. They can find something healthy to eat so that they can continue the day active and be more able to learn effectively especially for children from poor families. I was working in a preschool where most of the children were from a certain area back in Syria who are known to be very poor. Whenever the kids*

were given the meals, they started eating so fast. You would think that they were starving. Unfortunately, now they don't have this chance.' (Suad)

'Although my children did not like the pastry, I wish they [WFP] didn't cut the meals as people here can't afford to feed their kids fruit and vegetables.' (Noor)

Unfortunately, discontinuing the Health School Meal programme ignores all the health-related benefits that children may gain. The decision might increase inequalities among families in the camp too. Despite the justification that was made to lower the risk of Covid infection, long-term consequences were not taken into consideration. The deficiencies of the programme, when it was still running, may have affected the decision. This does not, however, excuse discontinuing the programme as it would have been wiser to fix the deficiencies by setting a rigid system of supervision on delivering the meals. From the practice theory perspective, school meals had an impact on redistribution of the material elements and reorganising access to them among families. Therefore, dietary health inequalities may be associated with inequalities of the distribution and access to health meals among children.

Regarding the impact of the school meals programme on oral health, it has a multifactorial impact. First, the meal's content of sugar is relatively low and the overall nutritional value is high. It represented a balanced meal to some degree as it contained a source of carbohydrates (the pastry), dairy products (pastry filling), and vitamins (fruit and vegetables) although the protein content may be low. As stated above, this may be the highest nutritional value meal that some children got throughout the day. Other than the direct effect of the low sugar content in the meal, the strong association between nutritional health and general health on one side with oral health on the other side need not be overemphasised (Moynihan and Petersen 2004; Sheiham 2006).

Second, as the meal made children full, their subsequent appetite for snacking diminished dramatically, which includes sweets. Therefore, having a filling meal early during the day indirectly has the potential to lower sugar consumption later in the day. This was particularly paramount for girls who attend the morning school shift and, hence, do not have sufficient time to have breakfast before leaving home for school. Although this is less prominent for boys, participants emphasised the impact of having school meals for both genders. Anyway, the meal can make one meal of the day and not having it means that children stay hungry during the school day and they compensate with other alternatives. The alternatives at school are mostly sugar-containing options that are discussed below. These quotes from a participant and a child highlight this point:

'When the school meals programme was running, my children came home feeling full and so they did not ask to buy sweets from local shops.' (Huda)

'The school meal is better; it had an apple, a cucumber, a banana and a piece of pastry. It made me feel full.' (Haifa's son, 11 years old)

In addition to these benefits of free school meals on oral health, the programme might have had the potential to lower the burden on some families. Parents knew then that at least one meal a day is guaranteed for their children. It also created extra income for others who were recruited to prepare the meals. The employees were people from Zaatari (mostly women) who used this income to cover the basic necessities of their households.

The Healthy School Meal Programme, hence, had impacted the general and oral health in multiple pathways. The total impact of these is expected to have a 'spillover' effect on oral health outcomes. As children in the camp suffer difficult conditions that put them at risk of adverse health outcomes, initiatives such as this cannot be overemphasised. The potential health gains cannot be limited to nutritional, general or oral health as these are tightly associated as they share common risk factors.

5.3.2. Date Bars Enriched with Vitamins and Minerals (Post-Covid)

Although the title might be misleading, it describes the only food items delivered to school children after the pandemic. However, these bars were delivered even before the pandemic along with the school meals. The bars (Figure 5.8) are promoted as being enriched with vitamins and minerals which children in the camp are highly in need of. This project is part of the 'School Feeding Programme' affiliated with the World Food Programme and is funded partially by German Cooperation as stated on the package. Each child gets two packs of these bars every school day. However, some participants mentioned that in periods of low funding, even these bars may be discontinued for a few days and sometimes for two weeks. The bars taste sweet due to the date filling and sugar in the layer wrapping the filling.

Children trade these bars similar to the way they do with school meals as discussed above. The money they get for these is spent usually in local shops buying other sweets and crisps. Some children who do not like the bars may get them back home on requests from their parents so they can be given to younger siblings who do not attend school yet, or sometimes to pregnant women or lactating mothers. This is because people are convinced of the high

content of these bars of vitamins and minerals. As they do not get sufficient daily needs from food nor they can afford to buy supplements, these bars create a target to get nutritional benefits, especially for people at higher risk of malnutrition. Characteristics of the date bars create a shared meaning of getting nutritional sufficiency which link practices of parenting and caring for pregnant and lactating women.

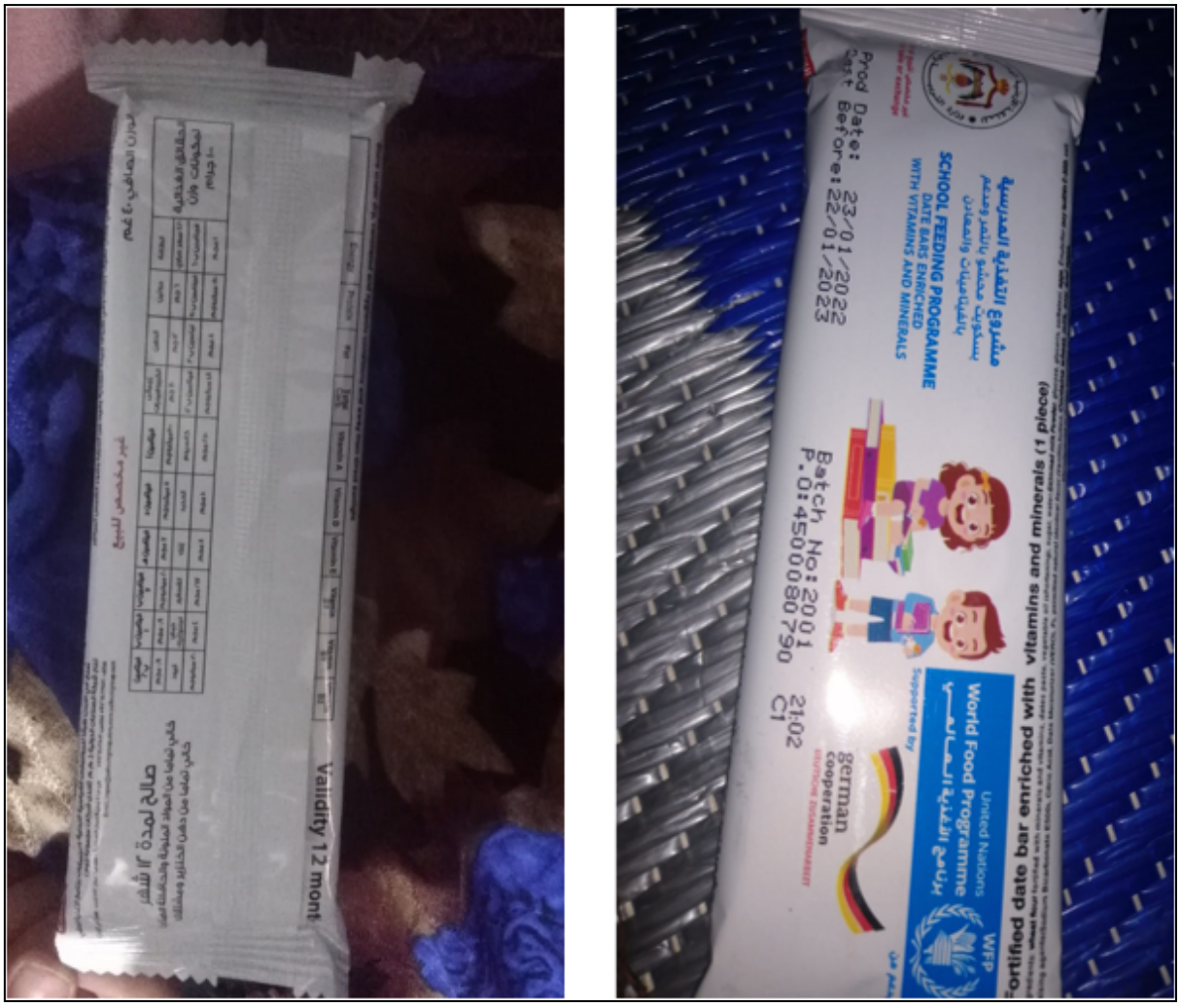


Figure 5.8: Date bars delivered to school children in Zaatari as part of the 'School Feeding Programme': Information on the package includes:

- United Nations World Food Programme/ School Feeding Programme
- Date bar enriched with vitamins and minerals (1 piece)
- Supported by German Cooperation (with German flag printed on the pack)
- The official logo of the Jordanian Ministry of Education
- A line saying 'not for resale or exchange'
- Production date and best before date (1 year validity period).
- Batch number
- Nutritional facts

As is the case for school meals, reviews on these bars are variable. Some parents referred to their preference for bars over school meals due to being fortified with minerals and

vitamins. Others preferred school meals as they made their children feel full and lowered their appetite for sugar. Similarly, some children like the taste of the bars while others do not.

> *'The bars are better than the school meals because my children didn't like the pastry. The bars are even better than the apples and cucumbers that were in the meal as the bar is supported with vitamins. If the children liked the pastry, the meal would be a better option as they would get full.'* (Fatin)

> *'I prefer bars as they are enriched with vitamins and minerals.'* (Kifaya)

> *'My children eat these two bars and if they get the chance to buy others from their friends, they do so. One of my children can eat 10 of these in one day.'* (Huda)

> *'Three of my children preferred meals and they don't eat the bars and the other two prefer the bars. Personally, I prefer the bars as they are enriched with vitamins and minerals which children really need.'* (Aisha)

> *'I prefer the bars over the meals as we found some dirt in the pastry; maybe there wasn't sufficient supervision.'* (Noor)

The competencies associated with getting these date bars including the knowledge of their nutritional value link this practice with trading practices referred to earlier. It also affects the organisation of the interdependent practices as a hierarchy where some of them are supported with structural and symbolic arrangements whereas others are not. For some children, eating the date bars comes higher in this hierarchy than eating school meals. Other children rank getting sweets even higher than both supporting trading activities to get money to buy these sweets. This, in turn, links these practices to attending local shops and all the interrelated practices connected to it as discussed in the previous section (Section 5.2).

Despite the argument that these bars provide part of the daily needs of children of vitamins and minerals, their sugar content cannot be ignored. Nutritional information for 100 grams weight of these bars states that they provide 130 calories and their carbohydrate content is 70 grams. So, when a child consumes two bars (40 grams each) a day, this is equivalent to 56 grams of carbohydrates providing energy of 104 calories. Although the free sugar content is not stated on the package, dates are considered high in sugar in addition to the sugar contained in the outer layer of the bar. According to the National Health Services' (NHS 2022) guidelines on cutting down on sugar, dried fruit including dates is high in sugar and its consistency (being sticky) makes it associated with the development of dental caries. The

guidelines also recommend limiting its consumption to mealtimes rather than as a snack (NHS 2022).

It is however not fair to claim that the sugar content of these bars is high or exceeds the daily limit for children but the context of the feeding programme generally needs to be studied as a unit. To say that these bars are unhealthy without referring to the discontinuation of free school meals, for example, is not appropriate. Furthermore, the trading of these bars to get higher sugar-containing items should be included whenever an evaluation of these programmes is made. Therefore, the impact of these bars on oral health cannot be separated from the whole picture. Consequently, they are also included in the discussion made above on the impact of discontinuing healthy school meals without further repetition. Findings such as this reveal the high complexity of the organisation of health diet practices including minimising sugar consumption. This makes health promotion interventions extremely challenging due to the multitude of levels of interventions and the inability to control them as well as the poorly delineated tools to measure the effectiveness of such programmes.

Indeed, according to participants' responses to school meals and bars, it appears that most of those who prefer bars over meals do so as a result of deficiencies in the 'healthy School Meal' programme rather than the idea itself. When asked explicitly whether fixing these deficiencies would change their opinion, they all agreed that the meals are a better option for their children. This shows the inefficient delivery of the programme and the lack of periodic evaluation.

5.3.3. Other Sources of Sugar at School

As stated above, some children trade their meals and bars for money so they can buy sweets from local shops. However, as a result of the short school day in Zaatari, there are no assigned lunch breaks and, hence, no school canteens. This supposedly means that children only get the bars distributed as part of the School Feeding Programme to eat (after cutting the school meals), but this is not the case. Local shop owners realise that schools are a place of a potentially high number of customers. Therefore, they use this point to their advantage. The distribution of local shops around schools tends to be higher than in other places in Zaatari. Children can buy sweets either on their way to school, during the school day or after school. Indeed, although there is no lunch break, some teachers allow children to go and buy from local shops during the school day, for example after the lesson finishes or between lessons. As the local shops are very close, children do so relatively quickly.

It remains, however, that some teachers and headteachers are worried about disturbing the flow of lessons or the safety of children as these local shops are outside the borders of the schools. Therefore, some schools took the decision to allow local shops to open their windows or doors directly to the school yard so that children do not need to get out of the school. While this decision ensures a higher level of safety to children and lower disturbance to lessons, it increases the access to sugar among children. Furthermore, it encourages the trading practices that go around for biscuits (and meals before) as children know that they can get something directly in return. If access to local shops during the school day is prohibited, children, particularly those who do not have breakfast or proper food at home, are expected to eat their date bars (or meals) more often. They cannot stand staying hungry all the school day and access to local shops would be limited to before school or after school which is also expected to be lower as children know there is something to eat at school or they already eat something. Hajar's daughter, for example, said:

'I prefer to buy sweets from the local shop because I have the chance to choose.'

This quote highlights that some practices allow children to play a higher agential role than others which is something that children value. Children prefer to go to local shops as they act as active decision makers unlike being coerced to be limited to school meals or date bars.

This discussion, again, highlights the fact that the Healthy School Meal Programme lacked organisation and supervision which adversely impacted its efficiency. Some recommendations for resuming the programme may include dedicating time during the school day so children can eat their meals supervised by the school staff. In addition, all trading practices for these meals, as well as the date bars, should be prohibited. Regulations on local shops around schools should also be put into action to lower the number of local shops and set a minimum distance from the school.

5.3.4. Oral Health Promotion at School

School is a perfect space for promoting healthy practices in terms of general health and oral health. This is due to the ability to involve programmes that reach a large number of children attending schools, their families and their communities. According to the life course approach of theorising health outcomes, poor oral health can affect future opportunities of those children by impacting their school performance and quality of life in general (Kwan et al. 2005). Therefore, the role of school cannot be overemphasised.

The case in Zaatari, however, ignores the capacity of schools in promoting oral health among children. In light of other sociomaterial and political aspects discussed in this thesis, the role of schools in Zaatari seems to be even more relevant. The neglect of oral health in schools is at multiple levels. First, school staff do not work actively to ensure that the School Feeding Programme is delivered to children. No supervision is maintained during the delivery of the date bars (or the meals before) so that children eat their daily allowances. The trading practices are, also, not banned and, unfortunately, in some cases are encouraged when teachers themselves are involved in these activities. Second, during the school day, children are allowed to buy sweets from nearby local shops or, even worse, allow local shops to have direct access to the school yard. This increases children's access to more sugar, ignoring the school's authority on limiting this; hence, lowering sugar intake among students. Furthermore, no action is taken to improve children's awareness of the adverse effects of sugar on oral health, nutrition, and obesity levels (and overall general health).

In addition, the neglect of incorporating oral health in the school curriculum in Zaatari is apparent. Neither the educational material that is taught to children nor any campaigns are involved to promote the oral health of these children. According to the oral health-promoting school policies described by Kwan and colleagues (2005), a huge potential for promoting oral health in schools is missed in Zaatari, a place where incorporating such policies is more needed. These policies include healthy eating, no sugar and daily supervised toothbrushing among others. It is vital that schools, especially in vulnerable areas, reclaim their active role in building attitudes, skills and practices among children including those related to oral health. Suad, for example, argued that children are more willing to respond to their teachers than their parents as they feel teachers have higher power and possess more persuasive skills. She said:

> *'School might have a role in motivating kids to brush their teeth or eat less sugar as kids receive information better from their teachers rather than from us. For example, during covid, kids were taught the correct way to wash their hands to minimise the risk of infection. Many kids still wash their hands now with the same method.'*

Sujood supported this as she said:

> *'If teachers try to explain the risks of sugar to school children and request them to reduce sugar consumption, children will be more willing to obey than if told to do so by parents.'*

This active role of the school complies with health promotion principles. It aims to create a supportive environment at school by directing school policies towards healthier snacks, for example. In addition, the school may play a role in encouraging children to perform toothbrushing if they promote this practice as a 'habit' that starts at school and continues in the everyday routine of families. By endorsing the preventive role of health services and believing that this role should not be limited to health settings, reorienting health services as a principle of health promotion is a task that can start at school. Implementing initiatives at school that focus on the prevention of dental diseases as the driving motive, such as those mentioned above, may support the efforts of health services in preventing such diseases. It also lowers the load on health services in vulnerable settings, such as Zaatari, which already suffer a shortage of the capability to provide treatment services. Prevention of dental caries among children and the need for emergency dental care as a result of acute pain associated with dental diseases may create the possibility of reorienting health services in the camp. These efforts can be redirected towards other areas that people need and the opportunity to prevent them is lower such as maternity health, communicable diseases and other noncommunicable diseases. Unfortunately, this potential to recruit schools as a major field for oral health promotion by observing the oral health-promoting schools framework (Kwan et al. 2005) is missed in Zaatari.

The challenges to incorporating oral health promotion at school are high, however. The above discussion on the role of schools to promote oral health may unintentionally be translated into victim-blaming. The principal practice in schools is education not feeding children or getting them to brush their teeth. This is a major challenge for promoting health in any setting and it is even more troublesome in refugee camps such as Zaatari. The length of the school day and low funds directed towards the camp in general and education, in particular, enhance even further the educational role of the school and nothing else. Therefore, to build effective oral health-promoting programmes in Zaatari schools, they should be very context-specific and reinforce the educational role of the school rather than disturbing it.

5.4. Sugar at Main Supermarkets

5.4.1. Food Items Sold in Supermarkets

There are two main supermarkets in Zaatari that are the official sites to exchange monthly allowances in the form of digital coupons for groceries. One is run by Safeway and the other

by Tazweed which are retail companies that have a series of supermarkets outside Zaatari. People get their groceries from these supermarkets and scan them at the cashier who then asks for an eye print which is linked to the household account. This account is where monthly allowances and other additional monetary funds are charged to. As these allowances are delivered on a monthly basis, the main grocery shopping is performed monthly too; although people can still make some shopping in between. The supermarkets are served with a free bus service that runs during the day and has certain points (bus stops) where people can be picked up. Photos from inside the supermarkets are shown below (Figure 5.9).

As seen in the photos, both supermarkets contain almost all the basic food items that people need to survive. People can buy fruit and vegetables, dairy products, chicken and meat, tinned food, rice, sugar, coffee, tea, juice and nuts. However, the relatively high availability of sugar-containing items and snacks is clear such as packs of biscuits, juice and sugar-containing spreads (e.g. jam). A large amount of bags of ten-kilogram sugar reflects the pattern of consumption of sugar among people in the camp. On the contrary, healthy snacking options are limited to fruit and vegetables that many people find costly. Other sugar-free snacks are not available such as those containing sugar substitutes.

5.4.2. Actual Shopping Done by Families

During the fieldwork, a visit was made to each supermarket accompanied by the gatekeeper. The journeys were made in the same manner people in the camp do (by bus). Photos were taken from both supermarkets and the gatekeeper was shadowed during her own shopping. It can be shown from the photos (Figure 5.10) that only very basic items are bought.

Figure 5.9: Photos taken from the main supermarkets at Zaatari.

Figure 5.10: Grocery shopping done by Suad (the gatekeeper) as the major monthly shopping.

On the other hand, during the online stage, Haifa sent videos of their grocery shopping that was done once (Figure 5.11). The items include an oil bottle (5 litres), a bag of Egyptian rice (5 kg), a bag of basmati rice (5 kg), a bag of tea, a bag of bulgur and a bag of sugar (10 kg). Items in the other video (Figure 5.12) include potatoes, onions, cucumbers, pasta, labneh, yoghurt, tomato paste, some food tins, and eggs. Haifa commented that by this, they got everything for the month. They have only around 10 JOD (around 11 pounds) in their coupons allocated for bread.

The items bought by both families confirm the pattern of constrained consumption that is referred to many times in this thesis. A detailed inspection of the items shows how they are depleted of any luxurious products. 'Luxurious products' here do not refer to special types of fruits and vegetables, chocolates or crisps, or superfoods. Rather, it is luxurious from the perspective of people in Zaatari. For example, fruit is a luxury as well as desserts, meat or poultry, nuts and other snacks. People have to manage their necessities within the constraint of the limited income they get, other natural resources in the area (Zaatari is an arid environment so there are no trees or other plants that people can cultivate), and other non-food necessities.

Figure 5.11: Items bought by Haifa's first trip to the supermarket in one month. These photos are shots captured from a video sent by Haifa on WhatsApp.

Figure 5.12: Items bought by Haifa's second trip to the supermarket in one month. These photos are shots captured from a video sent by Haifa on WhatsApp.

This is another example that situates people as humans who have agency within the sociomaterial and political limits of the context that they interact with and react to. Similar to the supply chains created in the camp for items sold in local shops or oral hygiene products made available in the camp. Structural arrangements of major supermarkets in the camp are defined by the politics of funding the camp, the administrative role in signing subcontracts

with retail shops and the supply chain that is enforced by these retailers. These factors have a constitutive impact on the arrangement of supermarkets in the camp prefiguring (enabling and constraining) subsequent shopping made by families. However, the agency of people in the camp either leans toward these structural arrangements or resists them. What determines this is the practical intelligibility of the practitioners and the teleoaffective structures that are normatively associated with accomplishing the practice. Shopping practices, consequently, transform the nexus of practices of which most have money as a common element that makes subsequent events happen or leads to activities that lead to other events.

Individual differences are existent that reflect the unequal access to elements of practices in the camp (sugar consumption here). For example, variations of income among families and varying competencies of parenting and meal planning create different versions of the practice of sugar consumption. These versions are engendered by the practical intelligibility of what makes sense for each family to manage their limited resources. In doing so, families comply to a set of teleo-affective structures and rules that they aim to achieve or observe while incorporating (or withdrawing) sugar from their children's diet.

Chapter Summary

As concluded in the previous chapter, the context of Zaatari is unique with most of the social, material and political arrangements contributing to high levels of sugar consumption among children. However, previous studies on oral health or general health in Zaatari refugee camp did not provide any evidence on the actual amount of sugar intake. The application of the social practice theory enabled the sensitive capturing of complex factors that affect children's sugar consumption practices as the theory is interested in the lived experience of these practices. In the case of Zaatari, it is the lived experience of disadvantage institutionalised through the politics of refugee camps in addition to the social construction of the meanings of consuming sugar that are accused for the current outcomes. This study mainly implemented Scatzki's version of social practice theory with contributions from other social practice scholars such as Shove and colleagues (2012) and Reckwitz (2002). As the space in the camp consists of multiple sub-spaces such as schools, shelters and markets, it creates challenges in terms of how to study sugar consumption in Zaatari while making possible the incorporation of these sub-spaces. Indeed, it is justifiable to render sugar consumption in each of these sub-spaces a social practice of its own. That is since it realises the definition of a practice as 'open-ended, temporally unfolding nexuses of actions' (Schatzki 2002, p.72) with its own elements that are actively engaged to produce the practice. However, for the

purpose of simplifying this complexity, sugar consumption among children in Zaatari is rendered as an umbrella practice. This subsequently consists of a hierarchy of projects, tasks and activities distributed among these sub-spaces and that are accomplished for the pursuit of this practice. Therefore, each sub-context was studied alone inspired by the utilisation of the principle of the Actor Network Theory of following the actor referring to the connections that link these contexts wherever applicable. To accomplish this, a toolkit of theory-methods was adopted as recommended by Nicolini (2009).

Sugar consumption in Zaatari is a social practice as it involves the active integration of many people in the proximal and distal social spaces. These include children, their parents, local shop owners, wholesalers and retailers, school teachers, health professionals, stakeholders in the camp and politicians who are involved in the discourse on refugee camps. In each sub-context in the camp, multiple actors come to have identities that are related to their involvement in the practice of sugar consumption. The identities of these actors are incurred by their contribution to the practice rather than their own characteristics. Furthermore, contexts have a power of determining the entities caught in them. These entities include things and artefacts referred to as objects or materials (as well as living organisms and humans). Individuals in a specific context define what makes sense for them to do through their practical intelligibility. To reiterate this, practical intelligibility needs not be rational nor normative (Schatzki 2002); rather, it is practical in the sense that is functional to the individual involved. Practical intelligibility issues the course of subsequent activities that make the practice possible. Hence, it governs the practice. While activities identified through the practical intelligibility of individuals are performed, they are linked through practical understandings, teleoaffective structures, rules and general understandings.

The practical understandings are the set of knowledge and skills required to fulfil the practice. For example, children and their parents in Zaatari are aware of the impact of sugar on general and oral health, children know how to access local shops and the price that they need to pay for snacks. They also acquire skills to ensure they consume sugar which include manipulating their parents through tantruming and insisting and trading skills such as negotiating what they are trading for. These practical understandings are, in turn, performed to pursue certain ends such as gaining money to buy a snack or to realise a certain mental status such as joy, satisfaction and self-confidence. These represent the teleoaffective structures of the practice and they do not possess equal value for practitioners; they are arranged as a hierarchy in which some get higher attention than others and hence the activities linked to them are prioritised. People, in accomplishing their daily activities, may be required to obey certain rules that either force or restrain some actions. For example, in some schools, children are not allowed to leave the school to buy snacks from local shops in

the vicinity, boys and girls cannot attend the same school shift and people need to spend their monthly allowances in only two supermarkets in the camp. Finally, a set of general understandings may link the activities of sugar consumption practice together and link them to activities in other practices. These include the general understanding that children can attend local shops alone and that recreational activities in the camp are limited making sugar consumption the major source of joy for children.

At home, sugar consumption practices are determined by a nexus of other interdependent and contingent practices. Parents, through practising parenting, attempt to weaken the practice of sugar consumption in order to gain health benefits for their children and to preserve money that goes to buying sweets. On the other hand, parents sometimes reinforce sugar consumption by offering them sweets as they cannot afford providing them with other luxuries or recreational activities. Financial expenditure practices intersect with sugar consumption by having money as a shared element. The tight financial status that people in Zaatari experience lead to a constricted form of consumption where only very basic necessities are afforded. Competing over this limited resource, affects the practice of many other practices, not to mention sugar consumption (and toothbrushing). Social networking and hospitality practices offer access to children for sugar. Sugar-containing foods and beverages are served at these social gatherings when children come into direct contact with these products and are offered some. These practices need money to be practiced depleting the household of some of the limited income they get that would have been used to support healthier, less sugar-containing diet.

Attending local shops to buy sweets is intimately related to practices performed at the family level of which is sugar consumption. The structure of Zaatari is one conducive to high abundance of local shops that are distributed at a short distance from the majority of shelters. This is due to the indeterminate temporality of the camp and the exclusion of its residents from the normal order of things. Therefore, local shop business can be launched without the need to issue a licence as that entails a direction towards settlement which is not warranted neither by local governments nor the UNHCR. Settling people in refugee camps makes them invisible to the international community that is required to financially support such settings. In respect to local shop business, decisions like this, combined with the shortage of job opportunities and the low income of families, lead to adopting local shops as an easy way to make extra income. These factors, in addition to road safety in Zaatari and the strong community connections, pave the way for the possibility that children are more likely to buy sweets from local shops and that they can do so independently. These are some of the structural factors that have a prefigurational role on the practice of sugar consumption. Attending local shops by children transforms the material arrangement of local shops and its

interconnected practices. For example, supply chains in the camp are determined by (and determine) the demands from the local community including children. Wholesale businesses take part as mediators between the local shops inside the camp and other traders and producers outside the camp.

A set of teleoaffective structures supports buying snacks from local shops. For instance, children relate this practice to realise some normativised emotions such as happiness and satisfaction connected with the taste that sugar conjures and pride of being able to act independently. These mental states are culturally praised as parents enahnce such emotions which are associated with behaving more like adults. On the other hand, parents try to limit spending on sweets from local shops as it is related to pursuing money saving and health-related ends. However, the structural arrangements of the camp and teleoaffective structures associated with buying sweets from local shops seem to be stronger than the teleoaffective structures of being prevented from doing so. Controlling children's desire to attend local shops are not also supported by structural factors. Thus, there are strong vs. weak practices and to promote lowering sugar consumption, efforts need to counteract this discordance by supporting the structural arrangements and teleoaffective structures of weaker practices if they are to be made more possible to perform.

Besides the educational practice of schools, they play an important arena for health promotion. These programmes have the capacity to deliver such programmes to a large number of children in an attempt to reverse the unequal distribution of social determinants of health. There are multiple opportunities that schools in Zaatari can conform to the oral health-promoting schools framework suggested by Kwan and colleagues (2005). However, from the perspective of the social practice theory, interventions should take into account the mundane activities that children perform at school that have a direct impact on the success of these interventions. For example, trading practices lower the efficiency of the Healthy Shool Meals programme which is related to sugar consumption practices according to the findings from this study. In addition, to promote oral health in schools in Zaatari, multiple actors have to take part and commit to such programmes including children, families, teachers, school administrators and politicians. For instance, teachers were found to enhance the trading practices among children sometimes and did not supervise children to ensure they ate their meals. By the active involvement of teachers as health promotors by providing them with necessary training, the potential for health-promoting programmes is enhanced. Supporting families financially may lower the tendency of children to trade their meals as they weaken the teleoaffective structures of such practices (getting money), too. In addition, school administrators can control access to children to local shops around schools at least during the school day so that children are more likely to eat their meals and do not consume more

sugar-containing products. Nevertheless, school meals were discontinued since Covid-19 pandemic and the potential for promoting oral health and general health as well as lowering inequalities in the camp has stopped. This is the point where the role that stakeholders may play to lobby the camp administration and funding bodies to support resuming this programme. Furthermore, families can ac as a community and highlight the adverse effects they suffer as a result of cutting school meals for their children. It is above all a political will to direct funding towards areas that matter more for people and enhance the health of children in Zaatari.

By incorporating oral health promotion in Zaatari schools, it is paramount to consider the complexity of the practice of sugar consumption by tackling it within the nexus of contingent and contradictory practices. Sugar consumption in schools is related to educational practices that exclude oral health from school curriculum and refrain from the active supervision of children to have their meals due to the disturbance to the short school day it can cause. Local shop businesses that are not regulated by guidance as to the distance from schools and selling children during the school day enters the nexus of practices playing a competitive role with lowering sugar consumption at schools. The teleoaffective structures of the local shop business being centred mainly around making profit build stronger links between the elements of consuming more sugar and weakening the links between the elements of lowering sugar consumption. Furthermore, school shifts as a result of the insufficiency of schools in Zaatari to accommodate the number of students affect sugar consumption among children. This also creates variations in terms of this practice among both genders as a result of the impact of different school shifts on scheduling daily routines for boys and girls.

Data on food consumption in the camp does not include the daily sugar consumed per person in Zaatari. The nature of this study did not allow obtaining such data. The predictions are based on observing food consumption patterns and journaling food intake which is estimated to be high. The World Health Organisation (WHO 2015) published ‘Guideline: Sugars Intake for Adults and Children’ where it provides a strong recommendation to limit free sugars to less than 10% of total daily energy intake (with further benefits of less than 5% free sugars of daily energy intake). The objective of this guideline is to reduce the prevalence of noncommunicable diseases of which many share free sugars as a common risk factor such as diabetes, obesity and dental caries (Sheiham and Watt 2000). By adopting sugar as a common risk factor, efforts that aim to promote oral health are likely to be more efficient as they use resources more wisely. Therefore, health-promoting programmes in Zaatari have to reinforce all parties’ roles to minimise sugar consumption specifically among children due to its impact on health on the lifecourse. However, some guidelines such as this ignore the co-constitutive and interdependent nature of sugar consumption and many other practices in

the camp that are described throughout this chapter. For example, promoting lowering sugar intake for children may increase the burden on families and highlight the lack of power and agency they have rather than empowering them. This is possible if such efforts are not combined with changing the elements of sugar consumption or associated practices or engender competing practices such as recreational activities. Another tightly related health promotion campaign is the 5-a-day that aims to get more people to adhere to higher consumption of fruit and vegetables. On the contrary, participants in this study reported their inability to afford fruit and vegetables on a regular basis due to the financial constraints they live in that are, in turn, related to other practices such as hospitality.

The tightly knitted nature of the interdependence of the bundles and complexes of practices associated with sugar consumption at school highlights the extremely challenging oral health promotion. Furthermore, health promotion initiatives ignore the agency of children as decision makers as they mostly conform to the social determinants of health approach. Regardless of the principle of health promotion of *empowering* people to promote their own health (WHO 2009), it still considers them as passive recipients of changes in the wider environment (Blue et al. 2014). Health-promoting programmes that are directed towards children still play an amplifying role in ignoring the agential power that children can utilise to turn the course of the intervention according to their practical intelligibility of what they want to do. On the other hand, this agential power that children possess is realised by other practices such as in the arrangement of local shops in Zaatari where it is transformed so that it conforms to childre as the main customers.

In summary, sugar consumption among children in Zaatari is extremely complex. Oral health-promoting efforts should be framed within the general health promotion programmes and should consider the nexus of practices where sugar consumption is positioned. A mixture of upstream and downstream actions needs to be incorporated that treats children as influential agents on the subsequent course of action.

Chapter 6

Discussion and Conclusions

Oral health in refugee camps, in general, and in Zaatari refugee camp, in particular, are in need of research. The number of refugees worldwide is increasing year after year and more refugees enter a protracted state especially those living in refugee camps where time seems to stop transiently to an indeterminate point. Previous literature on oral health in refugee camps demonstrated the high levels of unmet dental treatment needs. Yet, very little is known about *how such oral health outcomes* are organised within the unique structure of refugee camps. Very little is known about how these unique circumstances contribute to such rampant levels of dental decay. Therefore, this study aimed to explore the oral health practices in Zaatari refugee camp by portraying them through the lens of social practice theory. The study focuses on toothbrushing and snacking as social practices and reveals how these are linked to the social, structural and political arrangements of everyday life in the camp. The theory foregrounds the routinised nature of daily life and how this is shaped by the interaction of both structural factors and human agency.

The findings support the argument that oral health practices are not haphazardly orgainsed in Zaatari refugee camp and reveal how a massive discordance has opened between oral health-promoting and oral health-compromising practice arrangements. In what follows the key findings of this thesis are presented in relation to toothbrushing and sugar intake through snacking practice among children in Zaatari. These are viewed within the state of current knowledge in existing literature highlighting similarities and differences. Unpacking and interpreting the findings is then presented in an attempt to explain what the findings mean within the unique context of refugee camps. Following this, a plan of complimentary interventions to improve oral health outcomes within the discourse of upstream-downstream levels of action according to Watt (2007) and other researchers. Then, the limitations of the study are outlined and how these might have affected the findings is presented. After that, recommendations for future research are suggested.

6.1. Contribution to Knowledge

As stated earlier, there is a need to move beyond describing oral health outcomes in refugee camps to explaining them. That is, there is a need to suggest how the social determinants

work in refugee camp settings to produce dental diseases, especially dental caries among children. To discuss this problem this section draws on the conceptual framework (Figure 2.4) by Solar and Irwin (2010) which divides the determinants of health into structural determinants and intermediary determinants. This section goes further than this however, it seeks to demonstrate how an awareness of social practices enables a much more nuanced and detailed analysis of how dental disease remains so high in Zaatari refugee camp.

Solar and Irwin's (2010) framework (Figure 2.4 reproduced again below for easy referral) is useful because it differentiates the social determinants of health inequities (structural determinants) that are situated upstream from the social determinants of health (intermediary determinants) situated downstream (Graham 2004a; 2004b). The intention is to explain the ways in which social determinants affect toothbrushing and sugar intake as linked to dental caries in a practice-based approach. In this section, this framework is used to unpick the social organisation in refugee camps. This section suggests that these social determinants play differently in refugee camps compared to the widespread application of the social determinants framework in high and middle-income countries. The key contribution of this thesis is to outline how the findings of this thesis, rooted as they are in a social practices approach, can explain how dental disease has become so rampant in Zaatari. This discussion begins with a general account of how an understanding of the theory of social practices can sharpen the analysis of the social determinants of health before going on to make recommendations about what might be done to improve oral health in the camp.

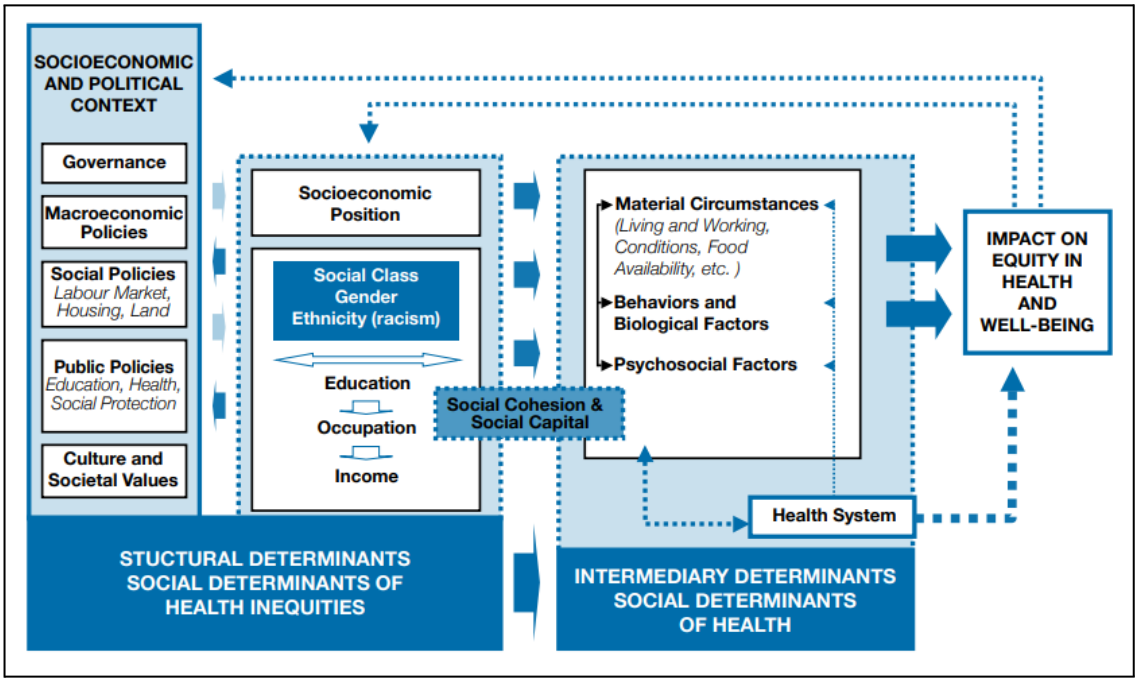


Figure 2.4: A conceptual framework for action on the social determinants of health.
(Copyright: Solar and Irwin. Social Determinants of Health Discussion Paper 2. 2010)

6.1.1. Fundamental causes, social determinants and social practices

A central theme of this thesis is that living in a refugee camp is a *fundamental cause* of other determinants of health or as we described it the *umbrella determinant* or the *cause of the causes of the causes*. However, just saying there are links does not provide a detailed enough explanation for how these determinants affect oral health outcomes. This is the key contribution of this thesis. This thesis seeks, for the first time in dental public health research, to demonstrate the exact pathways for how social determinants shape two oral health-related practices: toothbrushing and snacking. Whilst these two practices alone may not be the only determinants that lead to such high rates of dental disease in the camp, diagnosing what is going on with these two practices can help unpick how the various social determinants combine to shape daily life in the camp. It can also enable a diagnosis of what might be done to improve the situation.

The argument, following social practice theory, acknowledges the co-constitutive nature of structure and agency in producing practices (Schatzki 2002; Shove at al. 2012). According to this approach, individuals selectively respond to changes in their environment, modify them, and act under their practical intelligibility and the confinement of their structure which they subsequently change through these actions and so on. In addition, while practices as performances (Shove et al. 2012) are manifested at the intermediary level, practices as entities (Shove et al. 2012) are shaped by the interplay of the structural and social determinants at all levels. A key contribution of this study is the ability to analyse how these determinants combine to generate poor oral health.

As stated previously, context has a power of determination over the entities captured in it (Schatzki 2002). In Zaatari, this context is determined by urban planning (or the lack of it), the macroeconomic policies reflected in the socioeconomic structure of the camp, the educational system, the health system, housing conditions, food variety and affordability among others. They do this by virtue of the fact that Zaatari remains a permanently temporary space to contain unwanted people and keep them within the biologic lives they possess ignoring all other identities (Sigona 2015). A consequence of this is that the context prefigures daily practices. For example, the absence of oral hygiene supplies in the main supermarkets in the camp restricts the ability of residents to buy these both conveniently at a place where they buy all other groceries. This had a significant impact on oral care as a social practice since participants could not easily secure the materials necessary to support

the practice. In this way, social practices such as toothbrushing are connected to other social practices such as shopping. Changes in the determinants of one practice can have a cascading chain of effects on others. Another example is the absence of any legislative policy regarding licensing and property ownership (then, no rent has to be paid) in the camp leading to highly abundant local shops which increased children's attendance at these shops to buy snacks full of sugar. So, while the first example restricted people's agency to perform toothbrushing, the second example enabled snacking practice. The case is, however, far more complex and was described in detail in Chapters 4 and 5.

While practices are affected by the structure they are in, the agency of people impacts the course of the practice. Agency does so recursively in a bottom-up manner and all decisions and actions at the individual level are determined by their practical intelligibility. People do what makes sense for them to do which is shaped by the surrounding structure. In Zaatari, practical intelligibility is shaped by the temporality of the camp and all subsequent restrictions at all levels of the social determinants and is acquired through learning to do the practice. In this study, it was shown how children and their parents knew that toothbrushing was the rational activity to be performed. Yet, their intelligibility did not issue actions for toothbrushing to be achieved. This echoes the finding from Kay and Locker's (1996) review that dental health education, if implemented in isolation from other changes, would have a small short-term effect on plaque accumulation but no effect on caries increment. These outcomes were despite the positive effect on the level of knowledge. In a more recent review, Firmino et al. (2018) concluded that parental oral health literacy was not associated with children's toothbrushing frequency nor with the use of toothpaste. Therefore, acquiring a higher level of oral health literacy was not associated with subsequent healthy practices such as toothbrushing. This may be because such practices are imbedded in other wider and more complex relationships.

Another example from the findings of this study is water-conserving activities performed by many children on one side and not following the professional advice of twice-daily toothbrushing. Children did not acquire this latter form of intelligibility while living in Zaatari where their existence seemed to be reduced to biologic lives (Sigona 2015; McConnaichie 2016) so toothbrushing was not perceived as necessary to keep. On the other hand, practical intelligibility goes side by side with the normative intelligibility of preserving water as being an essential necessity for keeping bodies alive. This practice received much higher priority as a result.

In terms of snacking, the practical intelligibility of people in Zaatari was shaped by the food and financial insecurity they experienced. Subsequent actions, therefore, were those that

limited shopping practices to buy the cheapest items. On the other hand, the practical intelligibility of children and parents was affected by the adverse conditions in the camp, finding a source of happiness in sweet snacks. In both cases, toothbrushing and snacking, practical intelligibility issued the course of subsequent actions. Yet, it was constructed by repetitively experiencing the material and structural environment they live in which are themselves determined by being a refugee camp. This supports the analysis made by Durey et al. (2021) who observed that mothers' practices of feeding and caring for children were shaped by the material structure of the supermarkets where they do shopping. Mothers' intelligibility took into consideration the need to care for their children while at the same time saving money; for which, offers in supermarkets such as 'buy one, get one' impacted such decisions (Durey et al. 2021). Subsequent actions by mothers were determined by the repetitive encountering of these material elements which, consequently, affected the sleeping and resting of children and their mothers (Durey et al. 2021).

Moving from the point of performing actions to more distal factors, these actions, while guided by the practical intelligibility of preserving lives as the guiding of all forms of intelligibility, are linked via forms of connections that arise from this intelligibility. At the level of practical understanding of the know-how necessary for the novice practitioner to start a new practice such as toothbrushing, the context in Zaatari limits the exposure of children to opportunities to learn to practice toothbrushing. Knowledge is context-dependent. In Zaatari's context, the types of practical knowledge and skills that people acquire are those related to living on the margins of society and living transiently. People arrange their daily activities based on short-term plans because there is always a sense of temporality and hope to resettle and be included again in the normal order of things. As discussed above, knowledge about toothbrushing is not considered among those necessary for survival. This is also the case for understanding how toothbrushing might be modified to better fit the environment of the camp.

Activities associated with toothbrushing as a social practice were also shown to be linked via four procedures that link them to other practices as well. These links included first the practical understandings of the practice which comprise the knowledge and skills required to perform the activity. While both are necessary for the novice practitioner to start a new practice such as toothbrushing, the context in Zaatari limits the exposure of children to opportunities to learn to practice toothbrushing. Knowledge is context-dependent. In Zaatari's context, the types of practical knowledge and skills that people acquire are those related to living on the margins of society and living transiently. People arrange their daily activities based on short-term plans because there is always a sense of temporality and hope to resettle and be included again in the normal order of things. Therefore, children learn, for

example, how to position themselves within the temporal arrangements of bathrooms in their shelter such as by spitting foam directly on the floor and knowing-how to manage low rations of water by skipping toothbrushing altogether. As discussed above, knowledge about toothbrushing is not considered among those necessary for survival.

The findings of this thesis, also, suggest that toothbrushing sits at the bottom of an array of linked practices. This might be related to the adverse living conditions that people in Zaatari experience, as well as the temporality of the camp, with its corresponding containment and political sovereignty. These factors combined are the causes of why the water delivery system in Zaatari is organised the way it is and people cannot enjoy a regular supply of water and be able to organise other activities accordingly. They are also the main reason why people cannot pursue the jobs they are trained as professionals in their home country, or for that matter, any job that might increase their income and enhance the affordability of nutritious food and oral hygiene supplies. People in Zaatari are confined within the limits of the work permits by the Jordanian Ministry of Labour or the very limited job opportunities in the camp. This is to maintain the containment of refugees within the borders of refugee camps. So, while suffering low socioeconomic conditions as a result of low job availability, poor housing conditions and water shortage, living in a refugee camp organises these determinants and shapes the ends that people want to pursue when engaging in a practice. This had contradictory effects, on the one side people do not want to *waste* precious water for toothbrushing whilst they want their children to *feel happy* by consuming sugar-containing snacks on the other. The connections and disconnections between actions related directly or indirectly to toothbrushing and snacking took into consideration these practical understandings, teleoaffective structures, rules and general understandings. They were originally performed subsequent to an individual's practical intelligibility constructed by living in the camp. While such actions represent people’s agency, their agency is confined within the limit of the camp.

This study highlights the transformative relationship between agency and structure. In Zaatari, while agency is restricted, it is not eliminated. For example, the discontinuation of free supplies of oral hygiene aids and the absence of these in official supermarkets, initiated a supply chain for these products outside of the formal structures of the camp. Shop owners secured a supply of these materials displaying residual agency. On the other hand, while both genders were affected by the same structural factors within the same households, girls brushed their teeth more frequently expressing their agency through attributes that may be socially constructed towards gender roles.

This study also demonstrates that there is a contested form of agency in a manner that agency is distributed (Sahakian and Wilhite 2014) between individuals involved in the practice. In this study, children utilised their agency to resist some parenting practices (such as going to buy sweets from local shops and trading practices), administrative practices (such as trading in schools and not consuming school meals) and structural restrictions (such as the lack of recreational activities). It was argued that there was a form of distributed agency between children, their parents, administrators, teachers and those who control supply chains in the camp. Children used their agency and practical intelligibility of what made sense for them to do within the structural arrangements they lived in and in conjunction with the impact of agency distributed among all other actors. As a result, they performed some activities that either resisted these restrictions or submitted to them. Sugar consumption as part of snacking practices was challenging to understand but illustrates the difficulties that lie ahead in planning health promotion programmes. Any attempt to promote oral health among children in Zaatari (as well as other settings) should take the contested and distributed agency that children have and consider how this may impact any intervention. This may lead to making such programmes either more successful or fail.

Consequently, while the structure of the camp affected the toothbrushing and snacking practices, people's agency played an important role in determining whether or not and how such practices were performed. People’s agency transformed the structure of the camp in terms of these practices. Examples include local shop businesses, supply chains for oral hygiene aids, making some modifications in the bathroom to make toothbrushing easier and trading school meals which may be a hidden factor in the decision of their discontinuation. The result is an ongoing circle that is maintained over time to the degree it will be difficult later to say what comes first, structure or agency (Schatzki 2002). Both are transformative and give feedback to the expression of the other. However, it can be concluded that refugee camps restrict people’s oral health practices as there is a significant imbalance between structures that promote oral health and structures that damage it. The next sections discuss how these factors fit into the structural determinants framework of Solar and Irwin (2010).

The Structural Determinants of Health Inequities

The structural determinants are relevant to social practices as far as they shape the structure in which people in Zaatari live. According to Giddens’ structuration theory, there are two ends that converge to produce the social order at the level of people’s performances. These are the structure and agency. My analysis suggests that structural determinants in Zaatari affect people’s oral health practices by virtue of their impact on the structure end of the duality. To simplify this pathway, Shove and colleagues’ (2012) element-based approach

to social practices is utilised here (Figure 3.1). First, the structural determinants in Zaatari redistribute the *material* elements of oral health practices. The policies in place to regulate Zaatari impact the monetary and materiality of living conditions for people. This redistribution of resources is institutionalised through the humanitarian aid and containment nature of the camp. The camp policies also redistribute *power, widening* the gap between the power of administrators (global society, humanitarian organisations and host government) and the power of individuals in the camp reinforcing their dependent status. The materiality of the camp affected by these policies determines the materiality of living conditions even those mundane actions such as opening and closing water taps during handwashing and toothbrushing, keeping oral hygiene supplies even if people do not use them just in case they want to do so do not buy new ones and not leaving the warm room to go to the toilet for toothbrushing. Redistribution of material resources generates a set of competitive practices (such as those competing for water and money) or synergistic practices (such as local shop business and snacking).

Living in Zaatari reconfigured the *meanings* of all practices people accomplish in their daily lives individually and in clusters. Most importantly, the meanings of the vast majority of practices are linked to survival as lives there are reduced to biological lives (Sigona 2015). This in turn creates a hierarchy of teleoaffective structures where people make priorities of which practices to recruit or withdraw from. Toothbrushing, for example, is not deemed necessary as it does not fit within the meaning of survival for people in the camp and practices higher in the hierarchy are maintained such as eating and basic hygiene. On the other hand, snacking is maintained and reproduced as it is linked indirectly to the meaning of survival as being a coping mechanism and a source of happiness. Consequently, the structural determinants reinforce meanings of survival, generating practices of different hierarchical relevance that people as carriers of many practices at the same time make decisions of which to engage in and which not to.

The structural determinants also redistribute the *competencies* of all practices people perform in the camp. This happens through the opportunities the structure of the camp offers for people through education, having a job or other training. They affect oral health practices as they limit the opportunity to acquire the know-how of these practices in terms of knowledge of the significance or skills to manage them. Oral health practices, therefore, remain in the subconscious cognition of people in Zaatari as other practices occupy their cognition such as how to afford food or manage water. The structural determinants of health inequities determine all aspects that the structure of the camp is shaped and maintained and they have causative and mediating effects on oral health practices in a rather complex, nonlinear manner.

Intermediary Determinants of Health: agency and practice

The intermediary determinants seem to play a role more towards the agency end of the duality of structures and agency. I agree with Watt's (2007) and Solar and Irwin's (2010) criticism of health promotion because it works to modify these intermediary determinants rather than the upstream structural determinants. Having said this, one of health promotion's main concepts is to *empower* people to adopt healthy lifestyles. This is achieved, from the health promotion perspective, by enabling people to adopt healthier behaviours by making their environments conducive to health by making healthier options the easier ones. I challenge this by arguing that empowering people in traditional health promotion focuses mainly on the immediate material environment of practices. Traditional health promotion does not consider the embedded meanings and competencies required for change to be accomplished. Nor does health promotion explore the embedded and entangled nature of practices, as this study has demonstrated. Changes directed at one practice may encounter changes restricted to another and vice versa risking the potential failure of such programmes. These findings do however support behaviour change theories' that focus on intermediary-level determinants by removing barriers and promoting enablers relating to the adoption of "healthier" behaviours (Shove 2012). Both, health promotion and behaviour change, seem to ignore that the restrictions that one's environment places on adopting a healthier lifestyle are themselves determined by structural determinants in a way they affect the routine performance of daily lives.

So far, I have referred to the way structural factors may mediate oral health practices within the organisations of the camp. At the intermediary level, the material circumstances of people's living conditions rearrange the way the elements of oral health practices are linked or what constituent elements are included. According to Shove et al. (2012), the elements of any practice transform each other through the repetitive reproduction of the practice. In Zaatari, bathroom arrangements were a material element of toothbrushing such as the absence of a washbasin or water tap lowered the motivation of children (and their parents) to perform toothbrushing which is linked to the *meanings* of the practice. This was because toothbrushing was perceived as more difficult to perform on one hand and may result in children wetting themselves or getting dirty which linked toothbrushing to other undesirable practices such as changing clothes or washing them. Low monetary funds made toothbrushing more unlikely while snacking more likely. Money is a shared material element; its distribution is affected by structural determinants and it affects oral health practices by restricting the availability of material elements for toothbrushing (for example, toothbrushes and toothpaste) and making those for snacking more available as they are cheaper.

As previously discussed, the *meanings* of practices in the camp are mediated by the meaning of survival through the structural determinants, this umbrella meaning gives rise to meanings inscribed in individual practices. The meanings of individual practices, in turn, either mediate the reproduction of oral health practices or compete with them. For example, preserving water and maintaining body hygiene are competitive meanings in Zaatari because if people want to preserve water they need to limit practising body hygiene as it includes water in many instances including toothbrushing. The restricting material circumstances then lead people to adopt some of the body hygiene practices that they perceive to possess stronger teleoaffective structures. When doing so, more and more people withdraw from tooth brushing as it is not regulated by the umbrella meaning of survival nor the immediate environment is one conducive to performing it.

Similarly, as the *competencies* of individuals in Zaatari are redistributed through the structural determinants, they are reconfigured at the level of individual practices and their connections to other practices. As biologic lives, people in the camp mainly acquire competencies that enable them to run the day-to-day activities such as general cleaning around the house, parenting and budgeting to ensure maximum availability of basic food necessities (by, for example, buying the cheapest, value-free food). While people are busy acquiring these competencies and performing practices related to them, they withdraw from oral health practices. Therefore, competencies may involve competition between practices. People also acquire another set of competencies related to the practices on top of the hierarchical pyramid. For example, children learn to attend local shops independently reinforcing the evolution of snacking practices and parents learn how to manage scarce water by asking their children not to brush their teeth.

In the end, the intermediary determinants in Zaatari shape the immediate material environment in a way that is conducive to more children being recruited to snacking and withdrawn from toothbrushing. When trying to configure these determinants through the health promotion lens, it can be concluded that they go side by side with the principles of health promotion to empower people by making the environment conducive to healthier oral health practices. Stopping at this point, nevertheless, jeopardises the incomplete comprehension of the whole picture. We have attempted to show how the structural determinants are the main mediators of the intermediary determinants which, in turn, mediate the routine daily activities of people. Oral health practices lie within these routinised, mundane activities. The arrangement of these activities forms practices-as-performances (Shove et al. 2012) by the integration of the elements at the moment of enactment whose existence depends on higher upstream determinants. Through the repetition of these performances over time as the structural arrangements stay invariably stable and the

continuous recruitment of faithful practitioners, these practices become rooted in the social order of the camp as practices-as-entities (Shove et al. 2012). The structural arrangements also give rise to connections made between practices that share material elements, meanings and competencies in competitive, contested or synergistic relations. The outcome is tightly knit constellations of practices that one cannot study outside these clusters nor can they be changed without taking into account the community of connected practices.

6.2. Action Plan to Promote Oral Health in Zaatari

Following the 'diagnostics of practice' approach outlined in the previous section this section seeks to examine what, if anything can be done to effect change in the camp with respect to oral health. According to practice theory, practices are the unit of change (Schatzki 2002; Shove 2010; Shove et al. 2012). Health promotion plans, therefore, may benefit from a practice-oriented programme by overcoming the shortcomings of traditional health promotion. Watt (2007) and Solar and Irwin (2010) argued that the dominant approach to oral health promotion places significant focus on the intermediary determinants (social determinants of health rather than social determinants of health inequities). This risks widening the gap across the social ladder (Watt 2007; Solar and Irwin 2010) due to the selective uptake of the benefits of such programmes by those who are well-off (Watt 2007). Petersen and Kwan (2011) explained this further by arguing that unless action is made on upstream determinants (social determinants of health inequities), the production of oral diseases (and other diseases) does not cease and efforts are wasted on treating sick individuals.

Shove (2010) argued that in order to produce social change (in sustainable consumption), there is a need to move beyond the ABC approach preferred by policymakers. The ABC approach states that action should be directed towards attitudes of people who become more able to adopt healthy behaviours and make change at the population level. However, this approach is too simplistic with the main intuition being political rather than health-oriented. The dominant approach in oral health promotion argues that action should be directed to empower individuals to adopt oral health practices conducive to maintaining better oral health (Solar and Irwin 2010). The action is again situated within the individual although changes are claimed to make environments supportive of adopting these behaviours by directing change at social determinants (of health).

On the other hand, practice theory acknowledges that actions made by individuals are directed by their practical intelligibility. That is, any effort to produce change should make sense for people to do at the practical level rather than at the normative or rational levels. Therefore, oral health promotion programmes should be aimed at making changes that make

desirable practices more practical. The unit of inquiry is, thus, the practices rather than individuals' ability to adopt behaviours. In the following, I suggest some actions to promote oral health in Zaatari taking into consideration the uniqueness of this space and the practice level of interventions. This is guided by the upstream-downstream framework by Watt (2007) (Figure 6.1).

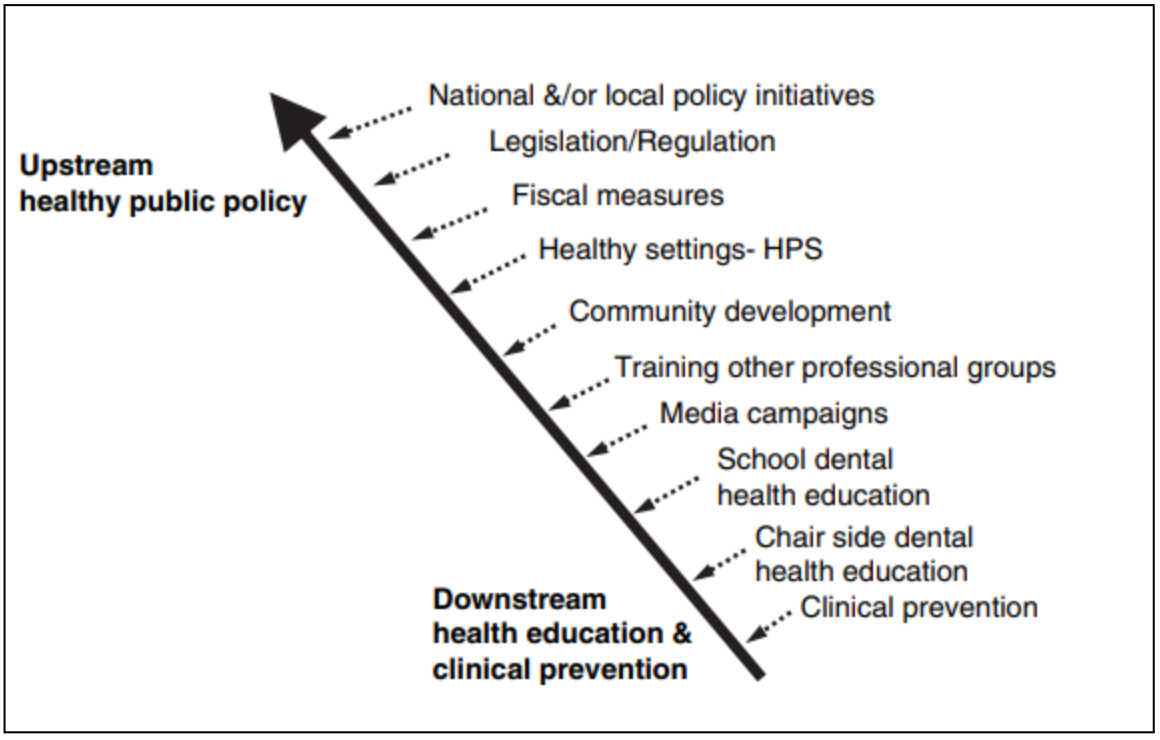


Figure 6.1: Upstream/downstream: options for oral disease prevention.
(Copyright: Watt, R., (2007). From victim blaming to upstream action: Tackling the social determinants of oral health inequalities. *Community dentistry and oral epidemiology*. **35**(1), pp. 1–11.)

6.2.1. National and/or Local Policy Initiatives

As this is a refugee camp, national initiatives are absent as this space is not governed by any state, not even the host government. Therefore actions at this level constitute these made by UNHCR to ensure that the camp is more conducive to better health practices (and by implication better oral health practices). These may include raising more funds to improve the socioeconomic status of residents, lobbying the Jordanian government to increase refugees' inclusion in the labour market, improving the urban planning of the camp, and enhancing the education system in the camp by increasing the number of schools and offering more opportunities to pursue higher education in Jordanian universities. As this is a temporary space means that policies such as water fluoridation which has been evidenced to lower oral health inequalities (The Office for Health Improvement and Disparities. Water fluoridation 2022) are not feasible.

6.2.2. Legislation/ Regulation

Although Zaatari is a refugee camp that is meant to be temporary, it has entered its second decade since its establishment and no near solution is on the horizon. Therefore, as the space is centred around its temporality, there are some legislative interventions that might be considered to tackle the worst effects of this temporality. Some policies might consider the refugee resettlement process, removing restrictions on social mobility and having permits to work. It can, however, benefit from a temporary form of legislation to regulate life within the camp. For example, legislation to issue business licences in the camp could benefit health directly, it may also benefit other aspects of health and well-being by having a system of food safety supervision. Regulations associated with housing may have an impact on the physical and psychological health of residents, too. It may be beneficial to allow refugees to make modifications to their houses so they are more liveable from their perspectives. This allows for the accommodation of large families, improved privacy and higher levels of dignity for people. This may affect the practice of toothbrushing and sugar consumption by lowering stress levels and making such practices more meaningful to them. It may have a direct effect such as in shelter maintenance in terms of improving the facilities within the bathrooms so that toothbrushing is more practical.

6.2.3. Fiscal Measures

This can be bidirectional. On one hand, improving the socioeconomic status of people in the camp makes oral hygiene supplies and healthy food more affordable with benefits on oral health. On the other hand, making these items more affordable by subsidies or vouchers directed solely towards buying these items. For example, toothbrushing and toothpaste can be distributed free of charge as was the situation before. Corporations whose businesses contain producing these items may be lobbied to provide these funds. In addition, fruit and vegetable vouchers can be given to families according to their family number similar to bread vouchers they get.

So far, these three levels of action to promote oral health in the camps make up the upstream actions and aim to redistribute the elements of social practices in the camp including oral health practices. They also aim to establish or reemphasise connections between practices with a beneficial impact on oral health and break connections between those competitive to performing healthier oral health practices. At the level of *material* elements, these upstream actions have the capacity to make the material elements of toothbrushing more available and affordable such as water availability and oral hygiene aids including fluoride-containing toothpaste. On the other hand, the material elements of snacking practice are challenged by

regulating the abundance of local shops in the camp and the affordability of healthier food options.

At the competencies level, engaging children at stream schools and later at higher education supports them with the necessary competencies to make their recruitment to toothbrushing and withdrawal from snacking more likely. On the other hand, upstream actions can reconfigure the meanings of interrelated practices. By supporting sustainable solutions to the refugee crisis and living with more dignity, people can direct their attention from surviving towards more-like-normal living allowing the opportunity to bring meanings of adopting healthier practices to the fore.

6.2.4. Healthy Settings

Here, the implementation of oral health-promoting schools (Kwan et al. 2005) may be an important step. Petersen and Kwan (2011) stated that among high-risk groups, schools may be the only setting where oral health promotion is provided. Actions in Zaatari's schools may include resuming the school meals and delivering them under supervision to ensure each child consumes the meal. It can be beneficial to make this action more practical so that children's perspectives of the school meals are taken into consideration when preparing the meals. In addition, preventing sugar-containing snacks at school or in its vicinity may increase the uptake of school meals or other healthier options. Allowing more lunchtime and time for playing at school may improve the wellbeing of children in an attempt to change the common understanding that snacks are the only luxury. Supervised toothbrushing at schools may improve their oral health. However, within the structural limitations of current schools, mainly the short school day, this can be difficult to achieve. This can be more practical if the school day was extended, even for a short time, for the sole purpose of enhancing the wellbeing of children such as playing, having fruit and vegetables and performing dry tooth brushing where no water is needed as there are no water taps in classrooms. A study in Brazil concluded that there were more caries-free children among those attending health-promoting schools (Moyses et al. 2003). Cohen et al. (2018) suggested an association between healthier diets among children from schools that adopted lowering snack policy with expected benefits on oral health. Implementing toothbrushing in schools also enables better recruitment to the practice as a whole and reinforces it as part of daily habits and routines. This social support, if carried out across the camp, would be hugely important for oral care as a whole.

Practice-based interventions such as this support healthier oral health practices through both the elements of the practice and time of practitioners as a resource that transpires across

many practices. On one hand, the material elements of healthier eating at school are made available through healthy school meals, supervising children, banning trading and regulating local shops around schools. On the other hand, these are supported with meanings and competencies (through knowledge about healthy food) in order for the elements of the practice to be linked together and the practice of healthier eating is established while its competitive practice of unhealthy sugar-rich diet is restricted.

For toothbrushing, the material elements can be made available at school and these may be limited to toothbrushes and toothpaste to consider the materiality of the school structure and the scarcity of water in the camp. The competencies are taught to children such as how to perform toothbrushing, time of toothbrushing, where to spit the foam and how to brush without water. These need to be linked to the meanings of toothbrushing of maintaining clean teeth and reducing cavities and the need for dental visits. Once all three elements are made available in the scene and in the minds of practitioners (children), the practice can be established. Both healthier eating at school and toothbrushing need time as a resource as engagement in activities requires time. By suggesting a minor extension to the school day (15-30 minutes) which can be considered as time to promote the wellbeing of children, promoting activities linked to oral health practices can be made possible.

6.2.5. Training Other Professional Groups

Some initiatives in refugee camps were directed at training refugees to perform basic dental care, especially extractions (Ogunbodede et al. 2000; Roucka 2011). In Zaatari, this seems impractical as the camp is provided with primary dental care although it was assessed as inadequate (Salim et al. 2021g). Nevertheless, the provision of preventive dental healthcare may be enhanced through outreach programmes from Jordanian universities. There could be some planning and intersectoral efforts to initiate such programmes. The application of cost-effective techniques can also be beneficial such as the atraumatic restorative technique (ART), pit and fissure sealants and fluoride application. Sponsoring some students from the camp to pursue a degree in dentistry may benefit the population there, as well. In this way, the redistribution of competencies to promote better oral health in the camp and the redistribution of material elements (through cost-effective technology) can be achieved.

6.2.6. School Dental Health Education

Some participants highlighted the preference of their children to take health-related messages from their teachers rather than their parents. Therefore, oral health education may be included in the school curriculum or through deliberately oral-health directed workshops to

teach children about the importance of oral health and clean teeth. They may also be taught the correct way of toothbrushing and when and how often to perform it. Furthermore, this needs to be combined with education on the negative impact of sugar not only on oral health but also on general health such as preventing obesity. These efforts will provide children with the know-how (practical understandings) of toothbrushing and healthy eating that they can implement and transfer to their families. So, this is only limited to the competencies element of toothbrushing and snacking and, therefore, may not achieve tangible outcomes without connecting it to upstream action targeted at the materials and meanings of the practices.

6.2.7. Chairside Dental Health Education

Although this is directed only to those who access dental care, professional dental health education cannot be neglected. This includes teaching children about toothbrushing and the impact of a sugar-rich diet on the dental caries disease process. It can be supported by showing children the various lesions and plaque accumulation so they are more motivated to clean their teeth. However, it should be highlighted that children who attend dental healthcare maybe those from better socioeconomic backgrounds (Lambert et al. 2017).

6.2.8. Clinical Prevention

At this stage, preventive chairside measures are applied such as pit and fissure sealants and fluoride delivery techniques. Evidence from a literature review, however, concluded that there is little evidence of the effectiveness of dental treatment or prevention or the increase of the number of professional manpower on reducing dental caries (Watt and Sheiham 1999). All these levels of action may be implemented to make toothbrushing and low sugar-containing dieting more practical for people to perform. It is important to re-emphasize that the power of making change is much more influential when directing the upstream options such as policies and legislations and this power decreases as we move downstream (Watt 2000; Solar and Irwin 2010; Petersen and Kwan 2011; Watt and Sheham 2012). With the practice approach in mind, action should take into account the conceptualisation of transformation within the fabric of daily life; that is the practice level (Shove 2010).

At the end of this section, it should be reiterated that social practices need the active engagement of all three elements: materials, meanings and competencies which, themselves, can transform each other (Shove et al. 2012). Practices should also be considered within their interactions with other practices that either maintain or restrict them (Schatzki 2002; Shove et al. 2012). Action on the downstream level may change one or more of the elements of toothbrushing or snacking or consider these practices in isolation of their

entanglement with the arrangement of connected practices. Therefore, actions at the downstream level risk wasting valuable resources due to insufficient planning and inadequate theoretical underpinning of changing human activities. In terms of oral health practices from the perspective of social practices, the aim should be to de-routinise unhealthy practices and re-routinise healthier ones (Hargreaves 2011). Attention should be paid to the power imbalances between policymakers and practitioners when doing so by choosing those manageable actions within the realm of refugee camps. Finally, we need not ignore the behavioural spillover where success in changing some habits of people in the camp towards more health-promoting ones may have an impact on initiating other healthy habits or bringing them back to the conscious level (Nash et al. 2017). Therefore, action on oral health promotion in the camp should be considered within the general health promotion programmes in order for benefits from one side to spill to the other. What this thesis reports is that toothbrushing and snacking are social practices and for them to thrive, we should consider that the practice is shaped by 'normatively' defined teleoaffective structures and material arrangements. This means it is not simply a behaviour but a routine activity that has its own structure. How the practice is structured by the camp is what acts to determine whether or not it is performed. It is argued then that the practice needs to be better supported by arrangements in the camp.

6.3. Limitations of The Study

Despite the effort made to produce this piece of knowledge, this study was not without limitations. As this study utilised methods not applied before in the field of dental public health in general and in refugee camps in particular, it is expected that some challenges might arise in the application of these methods. For example, it was not known to what degree the methods in the virtual stage captured the everyday routine of research participants and achieved the proper depth of description. On the other hand, the virtual stage highlighted some shortcomings regarding this manner of data collection that are very specific to the context of Zaatari. For instance, some participants were not regular users of WhatsApp while others were not regularly able to connect to the internet due to the cost of mobile data packages (people in Zaatari are offered free monthly mobile phone packages but these were sometimes not sufficient until the next month). On other occasions, as electricity is not available round the clock, mobile phones are not always charged. These factors led to delayed responses sometimes which participants justified later. Therefore, the reliability of conducting virtual data collection depends on the ability of participants to connect to the internet. However, even with these delays, this stage continued as expected and data that were collected formed the basis for the next stage without further delay during fieldwork.

In addition, the responses of research participants to using visual methods varied. For example, one participant refused any involvement of visual methods in the data shared on WhatsApp. This same participant also refused to be visited during the fieldwork and she justified this to the conservative nature of her family and relatives. Modifications to include this participant in the study were made which limited her participation to chatting on WhatsApp without including any visual material. This decision was made based on the informative responses that she contributed to and to highlight that the researcher can modify his/her methods to incorporate hard-to-reach community members. It also refers to the flexible nature of qualitative research design where decision-making is an ongoing process. In addition, whether or not research participants were willing to be data collectors by taking photos and filming was variable, too. Some research participants were more active than others in this regard. This was overcome by the open discussion of the research process and to guarantee to the participants the confidentiality of any data collected, their privacy and the anonymous handling of their identity. However, nudging participants to reply to questions or requests to send photos and videos was carefully balanced not to let participants feel they were coerced to do so.

The research findings may not, also, be generalisable to other settings due to the contextualisation of the findings. However, it is believed that by presenting the findings in a transparent way, other researchers and stakeholders might still be able to make sense of the findings in relation to their field of interest. Finally, it cannot be ignored that longer fieldwork could have afforded the research other insights not possible through virtual methods or short ethnography. Nevertheless, proceeding with the project without some trade-offs was not possible. To compensate for this, some measures were followed such as triangulation of the methods and peer reviewing during data analysis. This was in addition to auditing the findings during participant observation along with the participants themselves to ensure that assumptions made by the researcher reflected to a high degree the reality.

Despite these expected challenges, it is thought that this research project is one of the first in the field in terms of the theoretical orientation and methods applied. Applying these methods in a refugee camp and interpreting the findings based on the social practice theory offered a novel strategy to look at oral health research and behavioural sciences in this field. By the end of the study, efforts have been made to gain greater understanding of how oral health practices in Zaatari camp were organised to inspire future interventions and research. There is also a possibility that these innovative methods may provide comparable results and thus can be generalised to other research activities in the field of public health.

6.4. Conclusions

This study contributes to oral health research, and health research in general, on three levels. First, at the practical level, this study can be seen as the basis for planning oral health-promoting interventions in Zaatari camp in particular, and other refugee camps in general. It is important to note that the answer is not simply a case of a one-size-fits-all behavioural intervention, nor is there a simple change at the macro level. Real change would involve changes throughout the chain of practice-based effects. The study demonstrates the complex nature of oral health practices in the camp but also outlines some direction for effective interventions. But these require political will to intervene. Second, from the theoretical viewpoint, this study supported the call to incorporate social practice theory in health research which is still in its infancy as well as revolutionise its incorporation in oral health research. The study depended mostly on Scahtzki's (2002) account of the theory but included other scholar's perspectives as well such as Shove and colleagues (2012). The findings could be framed nicely within these accounts supporting their empirical significance. Most importantly, this study supports the argument of the duality of structure and agency as both were shown to be transformative and co-constitutive in the shaping and reshaping of oral health practices in Zaatari. Third, from a research perspective, this study helped resolve the mystery surrounding oral health in Zaatari and what impact living in refugee camps has on children's oral health status. The study outlines the complexity of planning health promotion programmes by outlining common criticisms of this approach and illustrating how an alternative approach can start by focusing on the material elements of social practices. The principles of health promotion mainly depend on the social determinants of health approach which sometimes ignores the agency of individuals in changing the course of such interventions. This study suggests considering oral health practices rather than behaviours as the unit of change by supporting the argument that practices should be incorporated as the unit of study and analysis. Therefore, oral health practices can be applied in health promotion programmes as the unit of change and intervention.

Future research could benefit from further studies that apply some interventional measures that are thought to be able to create social change conducive to better oral health outcomes. Future studies are also needed to test the empirical application of the social practice theory in oral health research, and possibly in other health-related research such as mental health, maternity health and dietary health. To overcome methodological limitations of this study, longer ethnographic fieldwork may also be applied in similar settings which may result in findings that support or contradict the findings of this study. Efforts should be made to reorient health promotion towards a more applicable science by utilising the concepts of

social practices. Finally, the moral stance of this study is to support research that may have an applicable impact on vulnerable populations in refugee camps. There is a call here to consider building a framework for oral health in refugee camps that should be taken into consideration by United Nations personnel and oral health bodies. This framework should be based on the lived experience of oral health practices in the camps similar to what is presented in this study. In addition, it should refrain from limiting its scope of action to delivering dental health care. It should also consider the nexus of practices rather than treating them as isolated entities. At the heart of the efforts to support refugee camps' residents is seeking more sustainable solutions and supporting refugees to be included once again in the normal order of things. Oral health practices in Zaatari were shown to be institutionalised by all the political dimensions that created and still act to keep the persistence of these spaces of containment. It is above all, therefore, that a political will is warranted to support the dignity and settlement of these refugees which may have impacts that spillover to their general and oral health.

Appendices

Appendix 1: Consent Forms

English version

The Social Organisation of Oral Health in Zaatari Refugee Camp/Jordan: Consent Form

Please tick the appropriate boxes	**Yes**	**No**
Taking Part in the Project		
I have read and understood the project information sheet dated 24/06/2021 or the project has been fully explained to me. (If you will answer No to this question please do not proceed with this consent form until you are fully aware of what your participation in the project will mean.)		
I have been given the opportunity to ask questions about the project.		
I agree to take part in the project. I understand that taking part in the project will include taking photographs and videos, being interviewed and recorded, entering conversations with the researcher on social media, and allowing the researcher to make visits to my shelter.		
I understand that by choosing to participate as a volunteer in this research, this does not create a legally binding agreement nor is it intended to create an employment relationship with the University of Sheffield.		
I understand that my taking part is voluntary and that I can withdraw from the study at any time; I do not have to give any reasons for why I no longer want to take part and there will be no adverse consequences if I choose to withdraw.		
How my information will be used during and after the project		
I understand my personal details such as name, phone number, address and email address etc. will not be revealed to people outside the project.		
I understand and agree that my words may be quoted in publications, reports, web pages, and other research outputs. I understand that I will not be named in these outputs unless I specifically request this.		
I understand and agree that other authorised researchers will have access to this data only if they agree to preserve the confidentiality of the information as requested in this form. I understand and agree that other authorised researchers may use my data in publications, reports, web pages, and other research outputs, only if they agree to preserve the confidentiality of the information as requested in this form.		
I give permission for the pseudonymised interview transcriptions and notes that I provide to be deposited in an online repository provided by the University of Sheffield so they can be used for future research and learning.		
So that the information you provide can be used legally by the researchers		
I agree to assign the copyright I hold in any materials generated as part of this project to The University of Sheffield.		

Name of the participant [printed] Signature Date

Name of Researcher [printed] Signature Date

Project contact details for further information:
Dua'a Almegbil (dtalmegbil1@sheffield.ac.uk)- School of Clinical Dentistry, University of Sheffield, Claremont Crescent, Sheffield, United Kingdom, S10 2TA. Phone number: 00447984204379
Professor Barry Gibson (b.j.gibson@sheffield.ac.uk)- School of Clinical Dentistry, University of Sheffield, Claremont Crescent, Sheffield, United Kingdom, S10 2TA
Dr. Lucy Mayblin (l.mayblin@sheffield.ac.uk)- Department of Sociological Studies, University of Sheffield, Sheffield, S10 2TU
Professor Chris Deery (c.deery@Sheffield.ac.uk)- Dean, School of Clinical Dentistry, School of Clinical Dentistry, University of Sheffield, Claremont Crescent, Sheffield, United Kingdom, S10 2TA

Arabic version

التنظيم الاجتماعي لصحة الفم في مخيم الزعتري/ الأردن
نموذج الموافقة

نعم	لا	الرجاء وضع علامة على الصناديق المناسبة
		المشاركة في المشروع
		لقد قرأت و فهمت ملف المعلومات المتعلق بالدراسة بتاريخ 24/06/2021 أو أنه قد تم شرح الدراسة لي شرحا وافيا. (إذا كانت إجابتك "لا" على هذا السؤال فيرجى عدم المضي قدما في نموذج الموافقة هذا حتى تكون على علم تام بما تعنيه مشاركتك في المشروع).
		لقد أتيحت لي الفرصة لأسأل أسئلة عن المشروع
		أوافق على المشاركة في المشروع. أفهم أن المشاركة في المشروع سوف تشمل التقاط الصور ومقاطع الفيديو، وإجراء المقابلات والتسجيل الصوتي، والمشاركة في مناقشات مع الباحث على وسائل التواصل الاجتماعي، والسماح للباحث بإجراء زيارات إلى مكان سكنك.
		أفهم أن اختيار المشاركة في هذا البحث طوعية و هذا لا يخلق اتفاقاً ملزماً قانونياً ولا يهدف إلى إنشاء علاقة عمل مع جامعة شيفيلد.
		أفهم أن المشاركة طوعية وأنه يمكنني الانسحاب من الدراسة في أي وقت ؛ ولست مضطرا إلى تقديم أي أسباب تمنعني من المشاركة ولن تكون هناك عواقب سلبية إذا اخترت الانسحاب.
		كيف ستستخدم معلوماتي أثناء وبعد المشروع
		أفهم أن تفاصيلي الشخصية مثل الاسم ورقم الهاتف والعنوان وعنوان البريد الإلكتروني وما إلى ذلك لن يتم الكشف عنها لأشخاص خارج المشروع.
		أفهم وأوافق على أنه يمكن اقتباس كلماتي في المنشورات والتقارير وصفحات الويب وغيرها من نواتج البحوث. وأفهم أنه لن يُذكر اسمي في هذه النواتج ما لم أطلب ذلك على وجه التحديد.
		أفهم وأوافق على أن الباحثين الآخرين المسموح لهم باستخدام البيانات لن يتمكنوا من الوصول إلى هذه البيانات إلا إذا وافقوا على الحفاظ على سرية المعلومات على النحو المطلوب في هذا النموذج.
		أفهم وأوافق على أنه لا يجوز للباحثين المعتمدين الآخرين استخدام بياناتي في المنشورات والتقارير وصفحات الويب وغيرها من مخرجات البحوث إلا إذا وافقوا على الحفاظ على سرية المعلومات كما هو مطلوب في هذا النموذج.
		أعطي الإذن لنسخ المقابلات والملاحظات ذات الأسماء المستعارة التي أقدمها ليتم إيداعها في مستودع إلكتروني توفره جامعة شيفيلد حتى يمكن استخدامها في البحث والتعلم في المستقبل.
		حتى يمكن للباحثين استخدام المعلومات التي تزودها بشكل قانوني
		أوافق على تخصيص حقوق الطبع والنشر التي أحتفظ بها في أي مواد تم إنتاجها كجزء من هذا المشروع إلى جامعة شيفيلد

الاسم التوقيع التاريخ

الاسم التوقيع التاريخ

للمزيد من المعلومات يرجى التواصل على:

1. دعاء المقبل
(dtalmeqbil1@sheffield.ac.uk)- School of Clinical Dentistry, University of Sheffield, Sheffield, United Kingdom, S10 2TA. Phone number: 00447984204379

2. البروفيسور باري جيبسون
Professor Barry Gibson (b.j.gibson@sheffield.ac.uk)- School of Clinical Dentistry, University of Sheffield, Sheffield, United Kingdom, S10 2TA

3. الدكتورة لوسي مايبلين
Dr. Lucy Mayblin (l.mayblin@sheffield.ac.uk)- Department of Sociological Studies, University of Sheffield, Sheffield, S10 2TU

4. عميد الكلية: البروفيسور كريس ديري
Professor Chris Deery (c.deery@Sheffield.ac.uk)- School of Clinical Dentistry, University of Sheffield, Sheffield, United Kingdom, S10 2TA

Appendix 2: Participant Information Sheet

English version

The Social Organisation of Oral Health in Zaatari Refugee Camp/Jordan
Participant Information Sheet

The University Of Sheffield.

Research Project Overview

I am Dua'a Almegbil and I am doing a PhD study at the University of Sheffield/United Kingdom. I aim to study the oral health practices in Zaatari by linking them to the social and material circumstances in the camp and the everyday lives and social practices of people involved.

Do you have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part, you will be given this information sheet to keep (and be asked to sign a consent form).

Please note that choosing to participate in this research is totally voluntary without any legal or monetary consequences.

Can you withdraw at any point?

Even if the study has actually started, you can still withdraw at any time without any negative consequences. You do not have to give a reason. If you wish to withdraw from the research, please contact me (Dua'a Almegbil) at dtalmegbil1@sheffield.ac.uk.

What are you expected to do?

If you choose to take part in this study, you will be involved for around a year. However, this will not be on a daily basis as the data collection will be divided into stages. In the first stage, I will contact you through WhatsApp where discussions around the daily routines and oral health practices will take place. Then, I will ask you to take photos and videos of how your everyday lives look like including the shelters, facilities, surrounding areas, and daily practices with focus on oral health practices. I will ask you to send these materials to me on WhatsApp. The second stage involves one interview that will be conducted online. You will be given the opportunity to ask freely and explain your perspective.

In the third stage, I will ask you to make home visits to observe closely the living conditions and how these affect the oral health practices. In addition, we can arrange some trips around the camp to shopping centres and other public facilities available. If we are not able to proceed this way due to the pandemic, we will ask you to make these journeys yourself and record it as a short video so we can understand the situation.

What will happen to your stories?

It is hoped that your stories will help us understand why the oral health status of children in the camp is lower than that for children outside the camp. This will have a great impact on planning future oral health promoting programmes from your point of view.

Will my information be safe?

All the information that we collect about you during the course of the research will be kept strictly confidential and will only be accessible to members of the research team. You will not be able to be

1

identified in any reports or publications unless you have given your explicit consent for this. You can obtain a copy of any publication made by contacting the research team.

Due to the nature of this research it is very likely that other researchers may find the data collected to be useful in answering future research questions. We will ask for your explicit consent for your data to be shared in this way.

Who funds the study?

This study is organised by the University of Sheffield/United Kingdom. This means that the University of Sheffield will fund me in buying the recording system and other expenses including mobile data packages and travel expenses.

Has the study been ethically approved?

This project has been ethically approved the University of Sheffield's Ethics Review System.

What if you want to complain?

If you are dissatisfied of anything during the research, please let me know immediately. If you wish to make a complaint, please contact the main supervisor [Professor Barry Gibson; b.j.gibson@sheffield.ac.uk] in the first instance. If you feel your complaint has not been handled in a satisfactory way, you can contact the Head of the Department of Oral Health and Development [Professor Chris Deery; c.deery@Sheffield.ac.uk] and/or the University's Research Ethics & Integrity Manager (Lindsay Unwin; l.v.unwin@sheffield.ac.uk).

For further information, please contact:

Dua'a Almegbil (dtalmegbil1@sheffield.ac.uk)

Note: You will be given a copy of this information sheet to keep.

Thank you very much for taking part in the project.

The University Of Sheffield.

التنظيم الاجتماعي لصحة الفم في مخيم الزعتري/ الأردن- ملف المعلومات للمشاركين

نظرة عامة على المشروع البحثي

أنا دعاء المقبل، طالبة دكتوراة في جامعة شيفيلد/بريطانيا. وأهدف إلى دراسة ممارسات صحة الفم في مخيم الزعتري من خلال ربطها بالظروف الاجتماعية والمادية في المخيم والحياة اليومية والممارسات الاجتماعية للأشخاص المعنيين.

هل عليك أن تشارك؟

الأمر متروك لك لتقرر إن كنت ستشارك أم لا. إذا قررت المشاركة، سيتم إعطاؤك ورقة المعلومات هذه للاحتفاظ بها (ويطلب منك التوقيع على نموذج الموافقة).

يرجى ملاحظة أن اختيار المشاركة في هذا البحث هو طوعي تماما دون أي عواقب قانونية أو مالية.

هل يمكنك أن تنسحب في أي لحظة؟

حتى لو بدأت يمكنك ان تنسحب في اي وقت دون ان تكون هنالك اية عواقب سلبية. ليس من الضروري أن تبرر سبب انسحابك. إذا كنت ترغب في الانسحاب من البحث، يرجى الاتصال بي (دعاء المقبل) على الايميل dtalmegbil1@sheffield.ac.uk.

ماذا تتوقع مني أن أفعل؟

إذا اخترت الاشتراك في هذه الدراسة، فستشارك فيها مدة سنة تقريبا. غير أن ذلك لن يتم على أساس يومي لأن جمع البيانات سيقسم إلى مراحل. في المرحلة الأولى، سأتصل بكم عبر "واتس آب" حيث ستجري مناقشات حول الروتين اليومي وممارسات صحة الفم. بعد ذلك، سأطلب منكم التقاط صور ومقاطع فيديو عن كيف تبدو حياتكم اليومية بما في ذلك مقر السكن والمرافق والمناطق المحيطة بها والممارسات اليومية مع التركيز على ممارسات صحة الفم. سأطلب منك إرسال هذه المواد لي على واتس أب. وتشمل المرحلة الثانية إجراء مقابلة واحدة عن بعد. وستتاح لكم الفرصة ان تسألوا بحرية وتشرحوا وجهة نظركم.

وفي المرحلة الثالثة، سأطلب منكم القيام بزيارات منزلية لمرافقة ظروف المعيشة عن كثب وكيف تؤثر هذه الظروف على ممارسات صحة الفم. وبالإضافة إلى ذلك، يمكننا أن نرتب بعض الرحلات حول المخيم إلى مراكز التسوق والمرافق العامة الأخرى المتاحة. وإذا لم نتمكن من المضي في هذه المرحلة بسبب الوباء، سنطلب منكم القيام بهذه الرحلات بأنفسكم وتسجيلها في فيديو قصير حتى نتمكن من فهم الوضع.

ماذا سيحدث لمعلوماتك؟

من المأمول أن تساعدنا قصصكم في فهم سبب تردي حالة صحة الفم للأطفال في المخيم مقارنة بالأطفال خارج المخيم. سيكون لهذا تأثير كبير على تخطيط برامج تعزيز صحة الفم في المستقبل من وجهة نظرك.

هل ستكون معلوماتى آمنة؟

كل المعلومات التي نجمعها عنكم خلال البحث ستبقى سرية للغاية وستكون متاحة فقط لأعضاء فريق البحث. ولن يكون من الممكن تحديد هويتكم في أية تقارير أو مطبوعات ما لم تعطوا موافقتكم الصريحة على ذلك. ويمكنك أن تحصل على نسخة من أي مادة مطبوعة صادرة بالاتصال بفريق البحث.

ونظرًا لطبيعة هذا البحث، فمن المرجح جدًا أن يجد باحثون آخرون البيانات التي تم جمعها مفيدة في الإجابة على بعض الأسئلة المستقبلية. سنطلب موافقتك الصريحة لمشاركة بياناتك بهذه الطريقة.

من يمول الدراسة؟

يتم تنظيم هذه الدراسة من قبل جامعة شيفيلد/بريطانيا. وهذا يعني أن جامعة شيفيلد سوف تمول شراء نظام التسجيل والنفقات الأخرى بما في ذلك حزم البيانات المتنقلة ونفقات السفر.

هل تمت الموافقة على الدراسة أخلاقياً؟

تمت الموافقة على هذا المشروع أخلاقيًا من قبل نظام مراجعة الأخلاقيات في جامعة شيفيلد.

ماذا لو أردت أن تقدم شكوى؟

إذا كنت غير راض عن أي شيء خلال البحث، من فضلك أعلمني على الفور. إذا كنتم ترغبون في تقديم شكوى، يرجى الاتصال بالمدير الرئيسي [البروفيسور باري جيبسون ؛ b.j.gibson@sheffield.ac.uk] في المقام الأول. وإذا شعرتم بأن شكواكم لم تعالج بطريقة مرضية، يمكنكم الاتصال برئيس قسم صحة الفم [البروفيسور كريس ديري ؛ c.deery@Sheffield.ac.uk] و/أو مدير البحوث المتعلقة بالأخلاقيات والنزاهة في الجامعة (ليندسي أنوين ؛ l.v.unwin@sheffield.ac.uk).

وللمزيد من المعلومات، يرجى الاتصال على العنوان البريدي التالي:

دعاء المقبل (dtalmegbil1@sheffield.ac.uk)

أو على واتس آب على الرقم: 00447984204379

و لكم جزيل الشكر على قراءتكم لهذا الملف

Appendix 3: Ethical Approvals

University of Sheffield Ethics Committee's Approval Letter

The University Of Sheffield.

Downloaded: 14/08/2023
Approved: 01/10/2021

Dua'a Almegbil
Registration number: 190188045
School of Clinical Dentistry
Programme: PhD Dental Public Health

Dear Dua'a

PROJECT TITLE: The social organisation of oral health in Zaatari refugee camp/Jordan
APPLICATION: Reference Number 039931

On behalf of the University ethics reviewers who reviewed your project, I am pleased to inform you that on 01/10/2021 the above-named project was **approved** on ethics grounds, on the basis that you will adhere to the following documentation that you submitted for ethics review:

- University research ethics application form 039931 (form submission date: 28/09/2021); (expected project end date: 31/08/2022).
- Participant information sheet 1095235 version 3 (13/09/2021).
- Participant consent form 1095237 version 3 (13/09/2021).

If during the course of the project you need to deviate significantly from the above-approved documentation please inform me since written approval will be required.

Your responsibilities in delivering this research project are set out at the end of this letter.

Yours sincerely

Paul Hatton
Ethics Administrator
School of Clinical Dentistry

Please note the following responsibilities of the researcher in delivering the research project:

- The project must abide by the University's Research Ethics Policy: https://www.sheffield.ac.uk/research-services/ethics-integrity/policy
- The project must abide by the University's Good Research & Innovation Practices Policy: https://www.sheffield.ac.uk/polopoly_fs/1.671066!/file/GRIPPolicy.pdf
- The researcher must inform their supervisor (in the case of a student) or Ethics Administrator (in the case of a member of staff) of any significant changes to the project or the approved documentation.
- The researcher must comply with the requirements of the law and relevant guidelines relating to security and confidentiality of personal data.
- The researcher is responsible for effectively managing the data collected both during and after the end of the project in line with best practice, and any relevant legislative, regulatory or contractual requirements.

Jordan Universiy of Science and Technology Ethics Committee's Approval Letter

جامعة العلوم والتكنولوجيا الأردنية
Jordan University of Science and Technology

مستشفى الملك المؤسس عبدالله الجامعي
King Abdullah University Hospital

لجنة أخلاقيات البحث على الإنسان
Institutional Review Board

Ref.:28/141/2021, date 16.06.2021

Date: 16.06.2021

To Whom It May Concern

In reference to the scientific research which is presented by Prof. Ola B. Al-Batayneh, and Dr. Dua'a T. Almegbil, entitled:

The Social Organization of Oral Health in Zaatari Refugee Camp/Jordan

We would like to inform you that the above research proposal has granted IRB approval, under the following conditions:

1. Commitment to the Scientific Research Policy at Jordan University of Science and Technology and King Abdullah University Hospital.
2. Maintaining data confidentiality and using it only for scientific purposes.
3. Consent form is required.
4. This approval will be canceled if the principal investigator doesn't provide IRB with the final report about the results of the research after twenty months.

Regards,

Prof. Yousef Al-Gaud

Chairman of the Institutional Review Board

M.R/ Committee Coordinator

Tel.: 962-2-7200610 Fax: 962-2-7095777 P.O. Box: 630001 Irbid 22110 Jordan Email: irb@kauh.jo

Jordanian Minsitry of Health Ethics Commitee's Approval Letter

وزارة الصحة

الرقم MOH/REC/2022/125
التاريخ
الموافق

قرار لجنة أخلاقيات البحث العلمي

اجتمعت لجنة أخلاقيات البحث العلمي بتاريخ ٢٧/ ٢٠٢٢/٤ لمناقشة ودراسة البحث العلمي المقدم من قبل طالبة الدكتوراه / دعاء توفيق المقبل وبأشراف الاستاذ الدكتور Barry Gibson.

بعنوان:-

" التنظيم الاجتماعي لصحة الفم في مخيم الزعتري / الاردن"

وبناءً عليه قررت اللجنة الموافقة على إجراء البحث المعاد للمذكوره أعلاه مع الالتزام بأخلاقيات البحث العلمي ، وتم التوقيع من قبل أعضاء اللجنة حسب الأصول.

مقرر اللجنة وحدة تنمية الموارد البشرية السيد/ اكرم العدائي	عضو المدير الطبي د. حسن اصديرع	عضو الصيدلاني رجدان سرطاوي	عضو الصيدلاني مراجعه عامه د.جيهه البرازاوي
عضو رئيس قسم الباطني د. يوسف القديمات	عضو مدير مديرية المختبرات د. معاذ بدوي	عضو أخصائي الأطفال د. عصام الخواجا	عضو مدير الشؤون الإدارية والمالية والتمريض / د.هالي القضاة

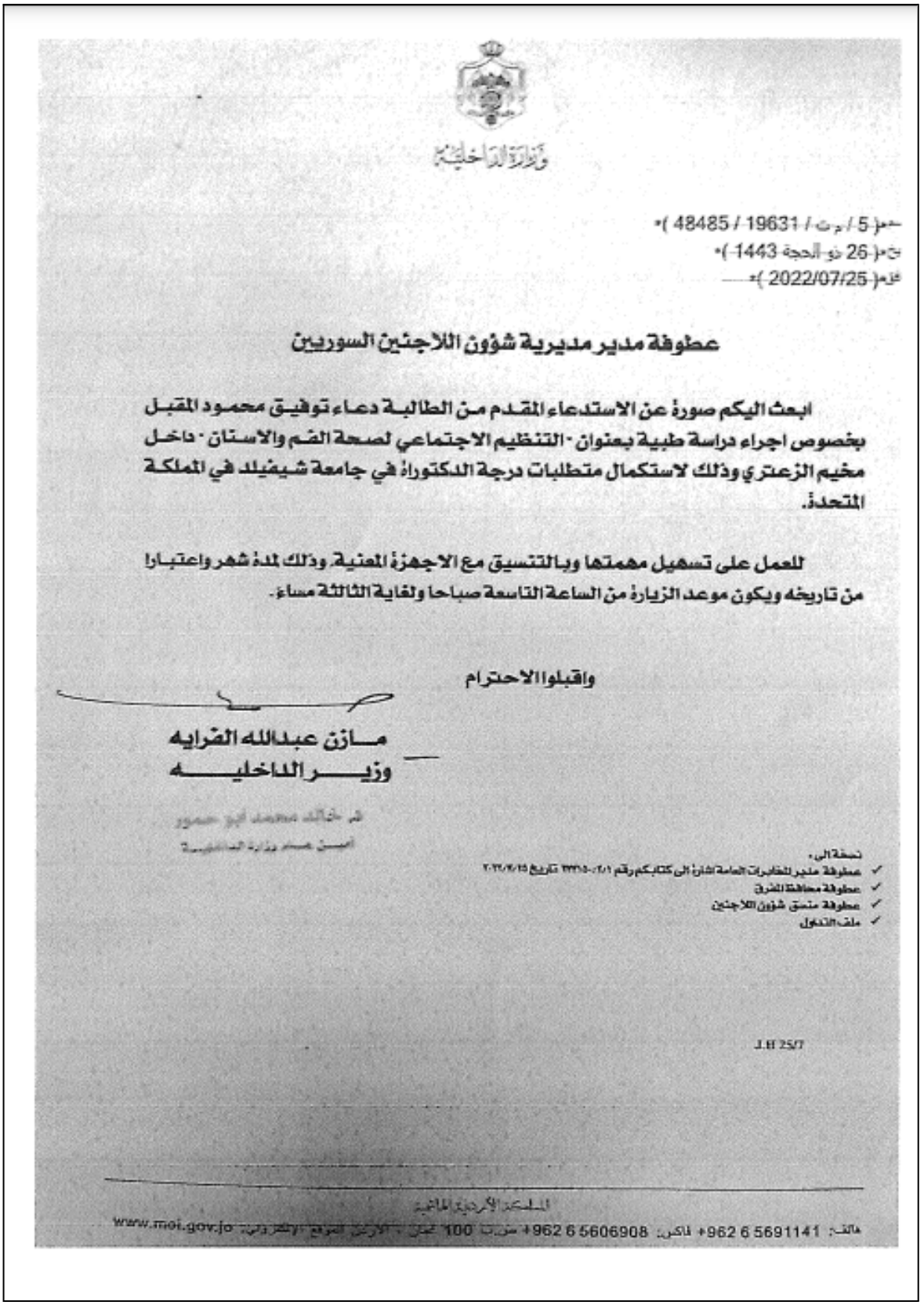
رئيس اللجنة

مدير ادارة مستشفيات البشير

الدكتور علي عزات العبداللات

Appendix 4: Access Permit to Zaatari Refugee Camp

Jordanian Ministry of Interior Liasion Letter



وزارة الداخلية

رقم: (5/ب ت/ 19631 / 48485)
تاريخ: (26 ذو الحجة 1443)
الموافق: (2022/07/25)

عطوفة مدير مديرية شؤون اللاجئين السوريين

ابعث اليكم صورة عن الاستدعاء المقدم من الطالبة دعاء توفيق محمود المقبل بخصوص اجراء دراسة طبية بعنوان - التنظيم الاجتماعي لصحة الفم والاسنان - داخل مخيم الزعتري وذلك لاستكمال متطلبات درجة الدكتوراة في جامعة شيفيلد في المملكة المتحدة.

للعمل على تسهيل مهمتها وبالتنسيق مع الاجهزة المعنية، وذلك لمدة شهر واعتبارا من تاريخه ويكون موعد الزيارة من الساعة التاسعة صباحا ولغاية الثالثة مساء.

واقبلوا الاحترام

مازن عبدالله الفرايه
وزير الداخليه

نسخة الى:
- ✓ عطوفة مدير المخابرات العامة اشارة الى كتابكم رقم ٢/١-٣٣١٥ تاريخ ٢٠٢٢/٧/١٥
- ✓ عطوفة محافظ المفرق
- ✓ عطوفة منسق شؤون اللاجئين
- ✓ ملف التداول

J.H 25/7

المملكة الأردنية الهاشمية
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Access Permit Issued by Zaatai Refugee Camp's Manager

تصريح دخول

ت	الاســـــــم	رقم الجواز / الهوية	مكان العمل
١.	دعاء توفيق محمود	اردني	وزارة الصحة
٢.	خالد علي جميل العلاونة (مرافق الطالبة)	١٠-٩٠٦١١	

تاريخ الدخـــول : من تاريخ ٢٠٢٢/٠٧/٢٥م ولغاية ٢٠٢٢/٠٨/٢٥م.

مكان العمـــــل : وزارة الصحة

سبب الدخـــول : للعمل مع وزارة الصحة لعمل دراسة على أن يتم دخولها من الساعة التاسعة صباحا ولغاية الثالثة مساء إدخال الأشخاص تحت إشراف العلاقات العامة

ضابط التصاريح
م١نبيل الخضيرات

الأمن الوقائي

المرافق الأمني

العقيد
مدير مخيم الزعتـــــــري

المملكة الأردنية الهاشمية
وزارة الداخلية
الإدارة لشؤون مخيمات اللاجئين السوريين

Abbreviations and/or Glossary

ART: Atraumatic Restorative Technique

FDI: The Fédération Dentaire Internationale (World Dental Federation)

NGOs: Nongovernmental Organisations

OHRQoL: Oral Health-Related Quality of Life

RSD: Refugee Status Determination

SDH: Social Determinants of Health

SPT: Social Practice Theory

SRAD: The Syrian Refugee Affairs Directorate

UN: United Nations

UNHCR: The United Nations High Commissioner for Refugees

UNICEF: United Nations Children's Fund

UNRWA: The United Nations Relief and Works Agency for Palestine Refugees in the Near East

WASH: Water, Sanitation and Hygiene

WHO: World Health Organisation

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