



Birth experiences and birth trauma: an exploration of psychosocial and contextual factors

A thesis submitted in partial fulfilment of the requirements for the Doctorate in Clinical
Psychology

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Declaration

This thesis has been submitted for the award of Doctorate in Clinical Psychology at the University of Sheffield. It has not been submitted to any other institution, or for the purpose of obtaining any other qualifications.

Structure and Word Count

Literature Review

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Empirical Study

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Lay Summary

Literature Review

Childbirth Related Post Traumatic Stress Disorder (CB-PTSD) is a mental health disorder which occurs for some people following a traumatic experience of childbirth. This review investigated to what extent 'psychosocial' (defined as interpersonal) factors occurring during childbirth contribute to the development of CB-PTSD. 41 studies were included. It was found that negative experiences of care/support from professionals and birth partners contribute significantly to the development of CB-PTSD, whereas positive experiences can be protective. This suggests that the interpersonal aspects of care/support should be considered in the development of prevention strategies. Evidence for the importance of professional care/support was stronger than for birth partners. Further research is needed which looks at the relative importance of different aspects of care/support, and how different types of factors interact to cause CB-PTSD.

Empirical Study

There were many changes to ordinary practices in maternity services in the United Kingdom (UK) during the COVID-19 pandemic. However, research into the impact of these changes on birthing people remains limited. This study sought to address this by investigating the experiences of women who gave birth during the first 'national lockdown', from a psychological and trauma-informed perspective. The responses of 69 women to a survey were included in a Framework Analysis. Findings included themes of 'isolation and aloneness', 'practical adversities', 'uncertainty', 'relational (un)safety', and 'lasting impact'. Experiences of isolation and aloneness were particularly dominant, usually in relation to restrictions placed on partner attendance at the birth. Many women reported lasting negative psychological impacts from this, which should be considered carefully in future

pandemic or disaster response planning. More positively, this study also found evidence to suggest that relationally attuned care can help to protect positive birth experiences for women, even in the relatively extreme circumstances of a pandemic.

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Table of Contents

Declaration.....	i
Structure and Word Count.....	ii
Lay Summary.....	iii
Acknowledgements.....	v

Section One: Literature Review

Abstract.....	1
Practitioner Points.....	2
Introduction.....	2
Method.....	8
Search strategy.....	9
Inclusion and exclusion criteria.....	10
Defining ‘psychosocial factors’.....	12
Screening procedure.....	13
Data extraction and quality assessment.....	13
Data synthesis.....	15
Results.....	16
Study characteristics.....	19
Organisation of findings.....	36
1. Professional care/support.....	37
a) Generalised perceptions of care.....	37
b) Quality of communications.....	48
c) Trust in staff or professionals.....	51
d) Abuse, mistreatment or disrespect.....	52
2. Care/support from birth partners.....	59
a) Presence of birth partner.....	59
b) Support/care from birth partner.....	63
Other results (not fitting under any other groupings).....	67
Quality assessment.....	67
Discussion.....	68
Conclusion.....	74
References.....	75
Appendices.....	97
Appendix A.....	97
Appendix B.....	98
Appendix C.....	100
Appendix D.....	102
Appendix E.....	109

Section Two: Empirical Study

Abstract.....	115
Practitioner Points.....	115
Introduction.....	116
Method.....	120
Design.....	120
Participants.....	122
Analysis.....	125
Findings.....	128
1. Isolation and aloneness.....	131
a) The journey to the ward.....	131
b) During birth.....	132
c) On the postnatal ward.....	132
d) Private rooms.....	133
e) 'Silver linings' and exceptions.....	133
2. Experiences of uncertainty.....	135
a) Preparedness and anticipation.....	135
b) The 'ever changing rules'.....	135
c) Locus of control and decision-making.....	136
3. Cumulative impact of practical adversities.....	137
a) Difficulties in meeting basic needs.....	137
b) Hospital environment or atmosphere.....	138
c) Gaps in care provision.....	138
4. Experiences of relational unsafety.....	139
a) Attunement in care and communications.....	139
b) (Mis)trust in staff or systems.....	140
c) Distressing experiences of separation.....	142
5. Lasting impacts and making sense of the experience.....	142
a) Loss of birth experience not had.....	142
b) Rules and restrictions not seeming to make sense.....	143
c) Lasting impact of the birth experience.....	143
Discussion.....	145
Strengths and limitations.....	149
Clinical and research implications.....	150
Conclusion.....	151
References.....	153
Appendices.....	168
Appendix A.....	168
Appendix B.....	170
Appendix C.....	174
Appendix D.....	176
Appendix E.....	177

Appendix F..... 178

Appendix G..... 179

Appendix H..... 187

Appendix I..... 190

Appendix J..... 191

Appendix K..... 194

Appendix L..... 240

Section One: Literature Review

To what extent are psychosocial factors during childbirth associated with Childbirth Related Post Traumatic Stress Disorder? A systematic review and narrative synthesis

Abstract

Childbirth Related Post Traumatic Stress Disorder (CB-PTSD) is an increasingly recognised mental health difficulty affecting birthing people. There is quantitative evidence from this to suggest that intrapartum (during birth) interpersonal or relational ('psychosocial') risk factors, such as aspects of care or support, can be predictive of CB-PTSD even when controlling for other known risk factors. However these findings have not yet been systematically reviewed and synthesised. This review is needed to inform the development of primary prevention strategies in maternity services, and to suggest future directions for research. 7 databases were searched up to 19th May 2025, returning 2817 unique reports. 41 studies were included from 17 countries, with mostly moderate risk of bias. There were high levels of clinical and methodological heterogeneity. Findings suggested that factors relating to care/support from professionals and birth partners during birth are significantly associated with the development of CB-PTSD, including in many cases when controlling for other risk factors. Support for the importance of care from professionals was stronger than from birth partners. This suggests that interpersonal and relational aspects of care should be considered in the development of primary prevention strategies. Further research could support this by investigating the relative importance of different aspects of professional care.

Practitioner Points

- Poorly perceived professional care/support emerged as a risk factor. In particular, perceived abuse, mistreatment or disrespect by professionals was strongly and positively associated with CB-PTSD. Primary prevention strategies should concentrate on reducing the occurrence of these incidents, particularly in countries or settings where there is a high prevalence of abuse, mistreatment or disrespect in childbirth.
- Positively perceived professional care/support emerged as protective, including in the presence of other risk factors. Primary prevention strategies for CB-PTSD should include a focus on improving the relational or interpersonal dimensions of care from providers during birth.
- Presence and quality of support from birth partners during birth was associated with lower symptoms or an absence of CB-PTSD, suggesting that birth partners have a potentially protective role in traumatic birth. This should also be considered in the development of primary prevention strategies, for example through consideration of how birth partners can be encouraged and included.

Introduction

Childbirth Related Post Traumatic Stress Disorder (CB-PTSD) is a recognised mental health condition affecting birthing people. At the time of this review, there is increasing recognition of CB-PTSD in health systems across the globe, with strategies being developed to respond to and help prevent its occurrence (Ayers et al., 2024). Unlike some traumas, childbirth is not by definition a traumatic event. This means that there is a strong argument for the development of primary prevention strategies for CB-PTSD. However, for

this, a comprehensive understanding is needed of the factors during birth which contribute to its development. This review sought to add to the current understanding of these factors, concentrating especially on psychosocial factors.

Post Traumatic Stress Disorder (PTSD) is a psychiatric condition which occurs subsequent to experiencing a traumatic event. In the diagnostic criteria set by the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), Criterion A refers to the traumatic event which includes exposure to death, threatened or actual death, injury or violence. Other criteria refer to symptom clusters including re-experiencing, avoidance, negative thoughts or feelings, arousal and reactivity. Symptoms must last for more than one month, be distressing or have an impact on functioning, and not due to any other cause (American Psychiatric Association, 2013).

Despite advancements in childbirth practices and medical technology, childbirth continues to entail risk for birthing people. Global maternal mortality, which includes intrapartum, prenatal and postpartum deaths, is projected to decline only as far as 167 in 100,000 births by 2030, significantly above UN targets (Ward et al., 2023; World Health Organisation, 2015). Rates of postpartum haemorrhage have been estimated globally at 6% (Carroli et al., 2008). Birth also continues to present risks for infant safety, with a global stillbirth rate of 13.9 per 1000 infants reported in 2019 (Hug et al., 2021). These are problems disproportionately affecting countries with less financial resources (Kurjak et al., 2023; World Health Organisation, 2023a). However, data suggests progress on maternal infant safety has also stalled in many higher income countries, particularly in countries with increasing health inequalities between different societal groups (Flenady, 2011; Khalil et al., 2023; Moyer et al., 2023; Ruiz et al., 2015; World Health Organisation, 2023b).

Considering the above, childbirth has the potential to meet the criteria of being a traumatic event for a proportion of births (Boorman et al., 2014; Vythilingum, 2010). PTSD related to childbirth (CB-PTSD) in birthing people has an estimated global prevalence of 4%, with 17% experiencing symptoms but not meeting all diagnostic criteria (Heyne et al., 2022). Horsch et al. (2024) define CB-PTSD as ‘symptoms of PTSD that develop after, or as a direct consequence of, having had a traumatic birth’. The negative long term consequences of CB-PTSD for birthing people and their infants are potentially numerous, including subsequent problems in parent-infant attachment, child behaviour and couple relationships (Delicate et al., 2018; Ettinger et al., 2024; Garthus-Niegel et al., 2018; Van Sielegthem et al., 2022). PTSD is also associated with suicidality (Krysinka and Lester, 2010), which is a leading cause of maternal mortality (Chin et al., 2022; Lindahl et al., 2005; MacGregor et al., 2022). This risk is particularly high when PTSD is comorbid with depression, which in postpartum populations is often the case (Dekel et al., 2020; Panagioti et al., 2012). Higher prevalence rates of CB-PTSD are generally found in lower income countries, with geographical region explaining 18% of between-study variance in a meta-analysis of global prevalence and risk factors (Heyne et al., 2022). Further research into the aetiology of CB-PTSD across countries is therefore urgently needed, to support the development of prevention strategies.

Research into the aetiology of CB-PTSD can be organised by chronology (Kranenberg et al., 2023). Contributory or risk factors can be grouped according to the following: factors occurring/existing *before* (vulnerability factors), *during* (intrapartum), or *after* (postpartum/postnatal) the birth event (Ayers et al., 2016; Simpson et al., 2017). In regards to vulnerability factors, prior traumatic birth, prior sexual trauma, prior and/or antenatal mental health difficulties including prior PTSD, prior trauma (not childbirth related), tokophobia (fear of birth) and medical complications during pregnancy, have all been found

to significantly predict CB-PTSD, although findings are not always consistent between individual studies (Ayers et al., 2016; Chan et al., 2020; Dekel et al., 2017; El Founti Khsim et al., 2022; Grekin and O'Hara, 2014; Simpson et al., 2017). In regards to postpartum/postnatal factors, postnatal depression has been consistently found to be highly comorbid with CB-PTSD (Ayers et al., 2016; Dekel et al., 2020; Grekin and O'Hara, 2014; Panagioti et al., 2012). Lower reported social support in the postnatal period has also been found to be significantly correlated with the development of CB-PTSD (El Founti Khsim et al., 2022; Grekin and O'Hara, 2014; Khademi and Kaveh, 2024).

Intrapartum factors associated with CB-PTSD have received less attention in research. This is perhaps surprising, considering that a traumatic experience of birth is something all cases of CB-PTSD have in common. The issue is perhaps complicated by the fact that not all difficult births (even births involving significant obstetric trauma) are experienced by the birthing person as 'traumatic', and not all 'traumatic births' result in CB-PTSD (Ayers, 2016). However, all cases of CB-PTSD are by definition related to a traumatic birth experience. Despite this, research on predictors of CB-PTSD has focussed, for the most part (with the possible exception of mode of delivery), on non birth related variables. Similarly, research on prevention has tended to focus more on secondary rather than primary prevention strategies (Dekel et al., 2025). One possible explanation for this may be that intrapartum factors, with the exception of biological or obstetric variables, are often more difficult to operationalise quantitatively. Birth trauma has been described as 'in the eye of the beholder', highlighting the element of subjectivity in some of the experiences possibly associated with birth trauma (Beck, 2004).

Beyond chronology, risk factors for CB-PTSD are typically organised according to the biopsychosocial model of mental health (Kranenburg, 2023). In the research on

intrapartum factors associated with CB-PTSD, most attention has been paid to biological or obstetric variables, such as mode of birth. Across numerous reviews and meta analyses, instrumental or assisted deliveries and emergency caesarean sections are more strongly associated with CB-PTSD (Ayers et al., 2016; Carter et al., 2022; Dekel et al., 2017; El Founti Khsim et al., 2022; Ginter et al., 2022). However, Ginter et al. (2022) found that in many studies where obstetric variables were entered into regression analysis with other risk factors including vulnerability and postnatal factors, obstetric factors ceased to be a significant predictor. Similarly, in the review by Dekel et al. (2017), obstetric factors were the fourth highest weighted risk factor, with the highest weighted factor being birthing people's subjective experience of the birth. This highlights the need for research into intrapartum factors which are more psychological and/or social in nature.

Research into psychological and/or social intrapartum factors associated with CB-PTSD is more limited. Most research on psychological factors has tended to focus on intrapsychic factors, such as sense of agency, locus of control, or experiences of dissociation. These have all been found to have some significance in the development of CB-PTSD (Ayers et al., 2016; Carter et al., 2022; Dekel, 2017). In regards to social factors, geography is a consistently significant predictor, with higher prevalence of CB-PTSD persistently found in lower income countries (Ayers et al., 2024; Heyne et al., 2022). Having the possibility to 'room in' with the baby has also been suggested to have some significance, although there is perhaps not yet enough research on these types of purely environmental/contextual factors from which to summarise or draw conclusions (Chan et al., 2020).

There is also perhaps a category of intrapartum factors which could reasonably be considered both psychological and social in nature. These are defined for purposes of this review as 'psychosocial' factors. This may include interpersonal or relational occurrences

during the birth, such as experiences of communication, care or support, as well as disrespect or abuse. There has been extensive qualitative research in this area, often focussed on the quality of patient-provider interactions throughout the birthing experience and its possible role in birth trauma. The wealth of qualitative research in this area is in itself interesting, and perhaps reflects a professional intuition or clinical consensus that this is an area which warrants attention. Findings from these types of qualitative studies have been well synthesised in multiple reviews, and seem to suggest that interpersonal or relational experiences during birth are important to experiences of birth trauma, with potentially protective as well and contributory functions (Andersen et al., 2012; Elmir et al., 2010; Reed et al, 2017; Simpson and Catling, 2016).

There is also emerging quantitative evidence which explores this apparent relationship between psychosocial factors during birth and CB-PTSD. Some reviews of CB-PTSD risk factors suggest significant associations between CB-PTSD and interpersonal or relational occurrences during birth, with quality of support or communication from staff being an especially common predictor (Ayers et al., 2016; Carter et al., 2022; Dekel et al., 2017; El Founti Khsim et al., 2022; Grekin and O'Hara, 2014). However, a systematic review focussed only on these types of intrapartum predictors or risk factors has not yet been completed. A review by Patterson et al. (2019) found significant associations between CB-PTSD and women's and midwives' subjective experiences of care provider interaction during birth. However, this was a mixed methods review which only considered the quality of provider interaction, and not other potentially significant psychosocial factors such as support from partner(s). It also included provider perspectives on quality of provider interaction which, although interesting, may have introduced confounding factors. At the time of writing and as far as the author of this thesis was able to establish, there are no

other published reviews of psychosocial (defined as interpersonal or relational) intrapartum factors associated with CB-PTSD.

The primary aim of this systematic review was therefore to answer the question, ‘to what extent are psychosocial factors during childbirth associated with Childbirth Related Post Traumatic Stress Symptoms or Disorder (CB-PTSD)?’. Psychosocial factors’ was defined, with reference to the above literature, as factors both ‘psychological’ and ‘social’ in nature, such as relational or interpersonal experiences during the birth. This definition is similar to the factors explored in the review by Patterson et al. (2019), except in this review was not limited to interactions with providers. The secondary aim of this review was to consider whether some psychosocial factors seem more influential than others in the development of CB-PTSD, and whether there were any interaction or indirect effects with other predictors. These effects might include commonly recognised predictors for CB-PTSD, such as previous traumatic experiences (particularly sexual trauma), locus of control, fear of childbirth, pregnancy difficulties, and obstetric interventions and/or mode of birth (Ayers et al., 2016; Chan et al., 2020). Therefore, it was predicted that significant models may be found involving relationships between psychosocial factors and some of these other predictors, where psychosocial factors may act as a buffer or protective factor in the presence of other risk factors.

Method

This systematic review was completed as part of a Doctorate in Clinical Psychology (DClinPsy) thesis portfolio by a Trainee Clinical Psychologist at a UK university. Details of the persons involved in or connected to the review and their roles are given in the appendices (Appendix A). The review was pre-registered on the PROSPERO International

Prospective Register of Systematic Reviews (CRD42024566237, Appendix B). The process of conducting and reporting of this review was informed by the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) guidance (Page et al., 2021) and by guidance given in the Joanna Briggs Institute (JBI) Manual for Evidence Synthesis (Aromataris et al., 2024).

Search strategy

Searches were conducted between 23rd July 2024 and 28th August 2024, and then updated on 19th May 2025, on the following electronic databases: Pubmed, MEDLINE, PsychInfo, Web of Science, SCOPUS, PTSDPubs, and ProQuest. In accordance with guidance by Paez (2017) and Mahood et al. (2013) and with the intention to help reduce publication bias, doctoral and dissertation theses were included. Therefore ProQuest was utilised as a recommended database for 'grey literature' (Hoffecker, 2020). A copy of the search strategy including search strings/syntax is given in the Appendices (Appendix C). Search terms were developed using an amended version of the Population Exposure Outcome model (PEO) for etiologic research (Hosseini et al., 2024), but with the additional (fourth) category of 'predictors' to represent psychosocial factors, which in the case of this review needed to be separated from the 'exposure' (birth). Search terms are shown in Table 1. Returns from searches were imported into EndNote software, which removed duplicates, following which the author also conducted a manual search for duplicates in accordance with best practice (Hammer et al., 2023). Following full-text screening, reference lists of included papers from initial searches were checked and two further papers were identified for inclusion (Horsley et al., 2011).

Table 1: Search terms

Population	Exposure	Outcome	Predictors
wom?n	birth	PTSD	psychological factors
mother*	childbirth	"postnatal PTSD"	"social factors"
maternal	postnatal	PTSD-PC	"psychosocial factors"
	postpartum	"PTSD post childbirth"	care
	intrapartum	"PTSD childbirth related"	support
	delivery	PTSD-CR	communication
	labor	PTS	distress
	labour	PTSS	fear

Inclusion and exclusion criteria

Inclusion and exclusion criteria are reported in Table 2. Only texts written in English language were included, due to linguistic limitations of the researcher and also resource constraints. For purposes of full text screening, criteria were assessed hierarchically. For

example, texts not meeting the first inclusion criteria of ‘published in English language’, were excluded for this reason and not assessed against any other criteria.

Table 2: Inclusion and exclusion criteria

Inclusion and exclusion criteria	
1.	Published in the English language.
2.	Quantitative or mixed method studies. Qualitative, case studies or trials were excluded.
3.	Reliable and valid measure of post traumatic stress. Following the approach taken by Ginter et al. (2022), both diagnostic and/or symptom measures were included.
4.	At least one psychosocial factor occurring during birth, operationalised quantitatively and analysed in relation to post traumatic stress.
5.	Participants are birthing people (not partners) with either healthy term babies or a normative community sample with regards to neonatal outcomes, assessed up to 12 months postpartum. Also no samples restricted to only birthing people with specific medical risk factors or diagnoses (e.g. diabetes, tokophobia, substance abuse), maternal adolescence, and/or high maternal morbidity, and no samples restricted only to participants who define themselves as (or have been otherwise identified as) having had traumatic births.

Inclusion and exclusion criteria

6. 'Exposure' consists of birth in medical or maternity settings. No home births (unless this constitutes a usual maternity setting for the country) or novel maternity settings. Also no studies investigating only births defined by specific obstetric variables (e.g. mode of delivery, postpartum haemorrhage, primiparity or multiparity), or birth in highly specific contexts (e.g. war/conflict, natural disasters, pandemic conditions).

Defining 'psychosocial factors'

The initial intention of this review was to investigate psychosocial intrapartum factors defined broadly, including potentially intrapsychic factors and factors relating to the birth environment. However it became apparent after title and abstract screening that this was likely to result in more results than could be meaningfully and usefully synthesised, therefore the scope of the review was altered at this stage and the pre-registration updated (Appendix B). 'Psychosocial factors' were redefined in line with the definition given in the Introduction to this report, as follows.

- Only factors (occurring during childbirth) which can be defined as both 'psychological' AND 'social', e.g. relational factors, perceptions of care, communications,
- NOT factors which are only 'psychological'/intrapsychic e.g. emotions, cognitions experienced during birth, locus of control, agency
- NOT factors which are only 'social' e.g. factors relating to birth environment

Considering that this change involved only a narrowing of the inclusion criteria, it was decided that searches did not need to be re-run as there was no reason based on this change to think relevant papers may have been missed.

Screening procedure

Screening was conducted by the author of this report. Title and abstract screening was conducted as one step (Ti + Ab), because 'title only' (Ti/O) screening has been shown to increase risk of selection bias (Teo et al., 2023). Title and Abstract screening was conducted in Endnote, following which full text screening and all subsequent stages of this review were conducted using spreadsheets. All papers and theses were retrievable for full text screening. As part of data quality checks, 10% of papers (randomly selected) included in full text screening were screened by another Trainee Clinical Psychologist (Mahtani et al., 2020; Stoll et al., 2019). Inter-rater agreement for full text screening was 92% with only one discrepancy. The discrepancy was resolved through discussion and looking back at the paper in question, from which it was established that the primary researcher had overlooked something which made the paper in question ineligible for inclusion.

Data extraction and quality assessment

A data extraction sheet which was piloted and further refined before being applied to all studies (Afifi et al., 2023; Snilstveit et al., 2012). The following were extracted from each paper: information about the study design, sample characteristics, details about the birth, PTSD measure used, psychosocial factor(s) and how these were measured, main result(s)

and any other relevant results. Authors were contacted in an effort to retrieve any missing information pertaining to main results, such as effect sizes. Strength of effects were interpreted according to Cohen (1988) for effect sizes, the British Medical Journal's (2025) guidance for interpretation of correlation coefficients, and Rosenthal (1995) for interpretation of Odds Ratios. In accordance with the inclusion criteria, data were only extracted from postnatal timepoints up to 1 year post birth. For some longitudinal studies, this means data were extracted from only one timepoint. These studies were labelled as 'cross sectional within longitudinal' for purposes of this review, and were appraised as though cross sectional in the quality assessment. Extraction was conducted in its entirety by the author, with another Trainee Clinical Psychologist also extracting from 10% (randomly selected) of included papers. Inter-rater agreement was 87%. Discrepancies between the author's extraction and that of the second extractor were resolved through discussion and both researchers looking together at the papers. In most cases, discrepancies consisted of one researcher having identified additional information (usually study or sample characteristics) which the other had missed, and could be resolved through either inclusion of this information or verification of this information.

The frameworks used for quality assessment in this review were modified versions of the Critical Appraisal Skills Programme (CASP) checklists for either cross sectional or cohort studies (Critical Appraisal Skills Programme, 2024a; Critical Appraisal Skills Programme, 2024b). Copies of the modified versions of each framework, with information around the rationale for all modifications made, can be viewed in the appendices (Appendix D). The framework was modified to ensure that all aspects of methodological quality pertinent to this review would be captured, informed by a published review by Stevenson et al. (2023) on a related topic. The main modifications were the addition of questions pertaining to the reporting of sample characteristics and use of minimal exclusionary criteria, as these

considerations are important to risk of bias in observational research (Grimes and Schulz, 2002). Quality assessment using this modified framework was also carried out by another Trainee Clinical Psychologist for 10% of included papers (randomly selected). Inter-rater agreement for this was calculated using Cohen's (1960) Kappa statistic and was 0.69 ($p < 0.001$) which can be considered a 'good' level of agreement (Altman, 1999). Discrepancies were resolved through looking together at the papers and scoring sheets. Disagreements were generally due to differences in interpretation of items in the modified assessment framework. These were resolved through discussion.

Data synthesis

Data was synthesised using a narrative evidence synthesis approach, informed by published guidance by Popay et al. (2006) and the JBI Manual for Evidence Synthesis (Aromataris et al., 2024). A high degree of both clinical and methodological heterogeneity was anticipated, making meta-analysis likely to be inappropriate (Lensen, 2023; Higgins et al., 2024). Additionally, based on pilot searches, it was anticipated that most studies would not be high quality. This also could make a meta analysis inappropriate (Higgins et al., 2024; Lensen, 2023). As anticipated there was a high degree of clinical and methodological heterogeneity between studies, although some of this could have been controlled for using appropriate meta-analytic techniques. Ultimately, the main reason for not conducting a meta analysis as part of this review pertained to issues of construct validity. The exploratory scope of this review meant that even 'specific' psychosocial factors defined narrowly for purposes of this review, were still defined, operationalised and measured uniquely in each included study, with no assurance of construct validity between studies. Heterogeneity of this specific nature in meta analysis has been termed 'combined

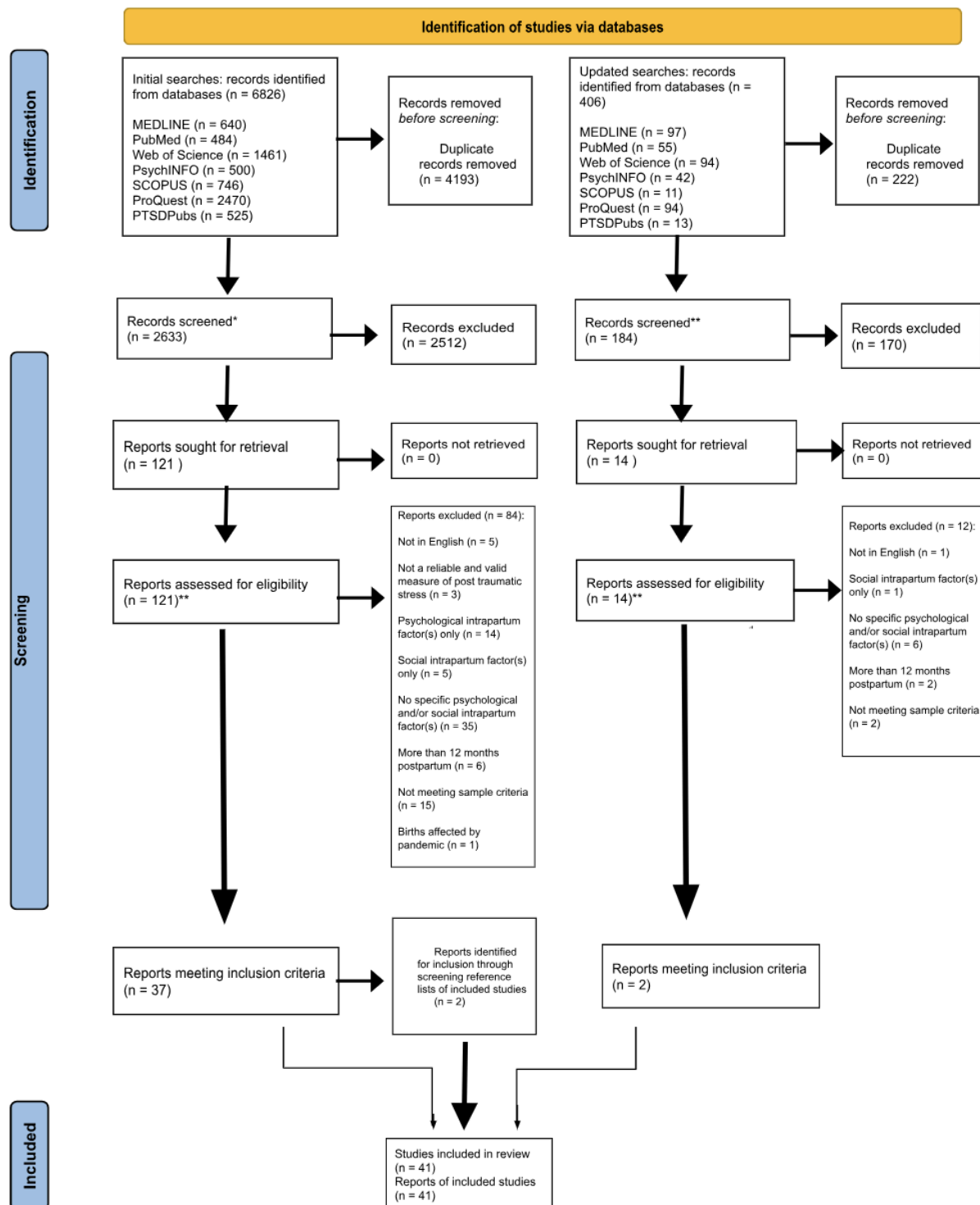
construct heterogeneity' (Hunter & Schmidt, 1994). It can be understood as a problem of 'aggregating apples with oranges' (Carpenter, 2020), and has been described as 'an especially slippery issue in meta-analyses' because it cannot be tested for statistically, therefore is often overlooked (Levine & Weber, 2020). The problem is distinct from random effects heterogeneity. That is to say, studies of 'apples and oranges' can theoretically produce homogenous effects, this does not make them the same fruits. In the case of this study, it was judged that pooling data, even within subgroups, was inappropriate for this reason. Narrative synthesis was judged to be the more appropriate method of data synthesis, allowing for a more cautious and nuanced presentation of results. The approach taken to narrative syntheses involved the thematic organisation of results into sub-groups and then overarching groups (Aromataris et al., 2024; Popay et al., 2006). This approach was taken with reference to the research question and aims, which included a query as to the types of psychosocial factors which are particularly associated with CB-PTSD.

Results

Searches initially returned 2633 unique papers, of which 121 were taken forward for full text screening after screening of titles and abstracts. A further 184 unique papers were returned when searches were updated, of which 14 were full text screened. The most common reasons for exclusion at full text screening were the absence of a psychological or social factor according to definitions utilised in this review ($k = 41$), followed by sample characteristics or sampling methods not meeting inclusion criteria ($k = 17$). 39 studies met all inclusion criteria at full text screening and therefore were included in the review. After screening reference lists of included papers from initial searches, the final number of

included studies was 41. Figure 1 shows a PRISMA diagram summarising the searching and screening processes using the template provided by Page et al. (2021).

PRISMA 2020 flow diagram for new systematic reviews which included searches of databases only



* Screened or assessed against the earlier version of inclusion/exclusion criteria, prior to revised definition of 'psychosocial factors', see Appendix B.

**Screened or assessed against the final version of inclusion/exclusion criteria, see Table 2.

Figure 1: PRISMA diagram summarising searches and screening procedure

Study characteristics

The characteristics of included studies are reported below in Table 3. 41 unique studies were included, including 4 doctoral theses and 37 published in peer reviewed journals. This included studies conducted in 17 different countries, predominantly in Europe & Central Asia ($k = 30$) and generally high income countries ($k = 37$).¹ All included studies had either longitudinal ($k = 19$) or cross sectional ($k = 15$) designs, or have been classed as 'cross sectional in longitudinal' ($k = 7$)². Sample sizes ranged from $N = 52$ to $N = 2579$ ($M = 342$, $SD = 427$, $Median = 222$). The mean age of participants ranged between 26.73 and 36.17 years. There was substantial clinical heterogeneity. Rates of primiparity (first time birth) ranged from 26% to 92%, whilst rates of caesarean sections ranged from 6% to 47.2%. To some extent, it is likely these variances reflect global variances in fertility and birth practices (Althabe et al., 2006; Cheng et al., 2022). There was also a high degree of methodological heterogeneity. Eleven different self report measures for PTS were used. Approaches to operationalising and measuring psychosocial variables ranged from single questions with categorical (e.g.. yes/no) or scale (e.g. Likert 1-5) responses, to the use of validated multi-item scales. Most studies reported bivariate associations between PTS and psychosocial factors, either via correlations or group-level analyses (symptomatic vs non-symptomatic). Some studies investigated psychosocial factors in a model with other relevant predictors, or as a mediator or moderator.

¹ Countries classified by region according to The World Bank (2023) classification systems.

² This refers to studies which were longitudinal, but have been treated as though cross sectional in quality assessment for this review due to data having been extracted only from one timepoint.

Table 3: Characteristics of included studies

<i>Characteristics of included studies</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
Alix (2024)	No (doctoral thesis)	USA	Cross Sectional	109	Mean age: 34.94 62.16% primiparous 28.46% c-sections	PCL-5 ³	2 weeks - 12 months postpartum
Bailham (2001)	No (doctoral thesis)	UK	Longitudinal	72	Mean age: 30 45.9% primiparous 35% c-sections	IES ⁴ and PTDS ⁵	T1: 5-8 weeks postpartum T2: 10-14 weeks postpartum

³ The Posttraumatic Stress Disorder Checklist for DSM-5 (Blevins et al., 2015).

⁴ Impact of Events Scale (Horowitz et al, 1979).

⁵ The Posttraumatic Diagnostic Scale (Foa et al., 1997).

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<i>Characteristics of included studies (continued)</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
Baptie et al. (2020)	Yes	UK	Cross Sectional	222	Age: 18-24 (18.5%), 25-34 (64%), 35-44 (17.6%) 63.1% primiparous 23.5% c-sections	TES-B ⁶	Up to 12 months postpartum
Ben-Hassin e et al. (2022)	Yes	France	Longitudinal	140	Mean age: 31.5 48.8% primiparous 23.8% c-sections	PPQ ⁷	T1: < 6 days postpartum T2: 2 month postpartum T3: 6 months postpartum
Bingol and Bal (2020)	Yes	Turkey	Cross Sectional	481	Mean age: 28.57 Parity not reported	CBiTS ⁸	6 months postpartum

⁶ Traumatic Events Scale - Birth (Wijma et al., 1997).

⁷ Perinatal Posttraumatic Stress Disorder Questionnaire (DeMier et al, 1996).

⁸ City Birth Trauma Scale (Ayers et al., 2018).

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<i>Characteristics of included studies (continued)</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
					37.9% c-sections		
Capik and Durmaz (2018)	Yes	Turkey	Cross Sectional in Longitudinal*	222	Mean age: 27.21 39.6% primiparous 27% c-sections	PSS-SR ⁹	4 weeks postpartum
Catala et al. (2021)	Yes	Spain	Longitudinal	116	Mean age: 31.4 50.8% primiparous 23.2% c-sections	Modified PPQ ¹⁰	T1: < 48 hours postpartum T2: 4 months postpartum
Cigoli et al. (2006)	Yes	Italy	Longitudinal	160	Age not reported Parity not reported Mode of birth not	PTSD-Q ¹¹	T1: <48 hours postpartum T2: 3-6 months postpartum

⁹ Posttraumatic Stress Disorder Symptom Scale - Self Report (Foa et al., 1993).

¹⁰ Modified Perinatal Posttraumatic Stress Disorder Questionnaire (Callahan et al., 2006).

¹¹ Posttraumatic Stress Disorder Questionnaire (Czarnocka and Slade, 2000).

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<i>Characteristics of included studies (continued)</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
					reported		
Creedy et al. (2000)	Yes	Australia	Cross Sectional in Longitudinal*	499	Age not reported Parity not reported Mode of birth not reported	PSS-SR ¹²	4-6 weeks postpartum
Czarnocka and Slade (2000)	Yes	UK	Longitudinal	298	Mean age: 28.94 65.6% primiparous Mode of birth not reported	PTSD-Q ¹³ and IES ¹⁴	T1: < 72 hours postpartum T2: 6 weeks postpartum
de Shepper et al (2016)	Yes	Belgium	Longitudinal	229	Mean age: 30	IES-R ¹⁵ and TES-B ¹⁶	T1: 1 week postpartum

¹² Posttraumatic Stress Disorder Symptom Scale - Self Report (Foa et al., 1993).

¹³ Posttraumatic Stress Disorder Questionnaire (Czarnocka and Slade, 2000).

¹⁴ Impact of Events Scale (Horowitz et al, 1979).

¹⁵ Impact of Events Scale - Revised (Weiss and Marmar, 1997).

¹⁶ Traumatic Events Scale - Birth (Wijma et al., 1997).

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<i>Characteristics of included studies (continued)</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
					48.1% primiparous 22.1% c-sections		T2: 6 weeks postpartum
Denis et al. (2011)	Yes	France	Longitudinal	140	Mean age: 30 55% primiparous 21.34% c-sections	IES-R ¹⁷	T1: 48 hours postpartum T2: 1 month postpartum T3: 4 months postpartum T4: 9 months postpartum
Dikmen-Yil diz et al. (2017)	Yes	Turkey	Longitudinal	829	Mean age: 27.6 40% primiparous 43.7% c-sections	PDS ¹⁸	T1: 4-6 weeks postpartum T2: 6 months postpartum

¹⁷ Impact of Events Scale - Revised (Weiss and Marmar, 1997).

¹⁸ Posttraumatic Diagnostic Scale (Foa et al., 1997).

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<i>Characteristics of included studies (continued)</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
Ford and Ayers (2011)	Yes	UK	Longitudinal	138	Mean age: 32.12 37% primiparous Mode of birth not reported	PDS ¹⁹	T1: 3 weeks postpartum T2: 3 months postpartum
Freedman et al. (2020)	Yes	Israel	Cross Sectional	143	Age: 18-25 (3.5%), 26-35 (81.6%), 36+ 14.9% 49% primiparous 21.2% c-sections	PCL-5 ²⁰	6-12 months postpartum
Gankanda et al. (2021)	Yes	Sri Lanka	Longitudinal	214	Mean age: 28.38 42.7% primiparas	PSS-SR ²¹	T1: 1 month postpartum T2: 2 months

¹⁹ Posttraumatic Diagnostic Scale (Foa et al., 1997).

²⁰ The Posttraumatic Stress Disorder Checklist for DSM-5 (Blevins et al., 2015).

²¹ Posttraumatic Stress Disorder Symptom Scale - Self Report (Foa et al., 1993).

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<i>Characteristics of included studies (continued)</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
					40% c-sections		postpartum
							T3: 6 months postpartum
Gürber et al. (2012)	Yes	Germany	Longitudinal	219	Mean age: 31.4 62.6% primiparous 10.5% c-sections	IES-R ²²	T1: 48-96 hours postpartum T2: 1 week postpartum T3: 3 weeks postpartum
Haagen (2015)	Yes	Netherlands	Longitudinal	284	Mean age: 31.2 42.2% primiparous 7.5% c-sections	PSS-SR ²³	T1: 1 week postpartum T2: 3 months postpartum T3: 10 months

²² Impact of Events Scale - Revised (Weiss and Marmar, 1997).

²³ Posttraumatic Stress Disorder Symptom Scale - Self Report (Foa et al., 1993).

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<i>Characteristics of included studies (continued)</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
							postpartum
Handelzalts et al. (2022)	Yes	Israel	Longitudinal	246	Mean age: 31.4 26% primiparous 6% c-sections	CBITS ²⁴	T1: 1-4 days postpartum T2: 8-10 weeks postpartum
Isbir et al. (2016)	Yes	Turkey	Cross Sectional in Longitudinal*	242	Mean age: 26.73 39.7% primiparous 34.3% c-sections	IES-R ²⁵	6-8 weeks postpartum
King et al. (2017)	Yes	UK	Cross Sectional	157	Mean age: 29.82 Parity not reported 14% c-sections	TES-B ²⁶	1-12 months postpartum

²⁴ City Birth Trauma Scale (Ayers et al., 2018).

²⁵ Impact of Events Scale - Revised (Weiss and Marmar, 1997).

²⁶ Traumatic Events Scale - Birth (Wijma et al., 1997).

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<i>Characteristics of included studies (continued)</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
Koenig et al. (2016)	Yes	Germany	Longitudinal	183	Mean age: 32.6 43.9% primiparous 33.1% c-sections	TES-B ²⁷	T1: 6 weeks postpartum T2: 12 months postpartum
Kress et al. (2021)	Yes	Germany	Cross Sectional in Longitudinal*	1028	Mean age: 30.1 79.3% primiparous 17.4% c-sections	IES-R ²⁸	8 weeks postpartum
Lathan et al. (2023)	Yes	USA	Cross Sectional in Longitudinal*	52	Mean age: 28.2 30.8% primiparous Mode of birth not reported	CBiTS ²⁹	6 weeks postpartum

²⁷ Traumatic Events Scale - Birth (Wijma et al., 1997).

²⁸ Impact of Events Scale - Revised (Weiss and Marmar, 1997).

²⁹ City Birth Trauma Scale (Ayers et al., 2018).

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<i>Characteristics of included studies (continued)</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
Leavy et al. (2023)	Yes	France	Longitudinal	123	Mean age: 31.4 45.5% primiparous 16.2% c-sections	PCL-5 ³⁰	T1: 3 days postpartum T2: 2 months postpartum
Leeds and Hargreaves (2008)	Yes	UK	Cross Sectional	102	Mean age: 30.1 (non symptomatic), 30.7 (partially symptomatic), 26.2 (fully symptomatic) 42% primiparous 32.4% c-sections	PPQ ³¹ and PCL-5 ³²	6-12 months postpartum
Maggioni et al. (2006)	Yes	Italy	Cross Sectional in	93	Mean age: 33	PTSD-Q ³³	3-6 months postpartum

³⁰ The Posttraumatic Stress Disorder Checklist for DSM-5 (Blevins et al., 2015).

³¹ Perinatal Posttraumatic Stress Disorder Questionnaire (DeMier et al, 1996).

³² The Posttraumatic Stress Disorder Checklist for DSM-5 (Blevins et al., 2015).

³³ Posttraumatic Stress Disorder Questionnaire (Czarnocka and Slade, 2000).

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<i>Characteristics of included studies (continued)</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
			Longitudinal*		64.4% primiparous 16.1% c-sections		
Martínez-V azquez et al. (2021)	Yes	Spain	Cross Sectional	899	Mean age: 35.2 40.4% primiparous 21.3% c-sections	PPQ ³⁴	1-12 months postpartum
Polachek et al. (2012)	Yes	Israel	Longitudinal	89	Mean age: 32 29% primiparous 47.2% c-sections	PDS ³⁵	T1: 2-5 days postpartum T2: 1 month postpartum
Radoš et al. (2022)	Yes	Croatia	Cross Sectional	603	Mean age: 30.6 61% primiparous	CBiTS ³⁶	1-12 months postnatal

³⁴ Perinatal Posttraumatic Stress Disorder Questionnaire (DeMier et al, 1996).

³⁵ Posttraumatic Diagnostic Scale (Foa et al., 1997).

³⁶ City Birth Trauma Scale (Ayers et al., 2018).

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<i>Characteristics of included studies (continued)</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
					22.9% c-sections		
Rojas-Ashe (2016)	No (doctoral thesis)	USA	Cross Sectional	384	Mean age: 30 34.7% primiparous 22.8% c-sections	IES-R ³⁷	< 6 months postpartum
Soet et al. (2003)	Yes	USA	Cross Sectional in Longitudinal*	103	Mean age: 29.2 92% primiparous 32% c-sections	TES-B ³⁸	4 weeks postpartum
Sorenson and Tschetter (2010)	Yes	USA	Cross Sectional	71	Mean age: 30 49.3% primiparous	PTCS ³⁹	6-7 months postnatal

³⁷ Impact of Events Scale - Revised (Weiss and Marmar, 1997).

³⁸ Traumatic Events Scale - Birth (Wijma et al., 1997).

³⁹ Posttraumatic Stress Disorder Inventory (Sorenson, 2000a).

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<i>Characteristics of included studies (continued)</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
					Mode of birth not reported		
Spooner (2012)	No (doctoral thesis)	USA	Cross Sectional	149	Age not reported 57.4% primiparous 31.8% c-sections	PTSD-Q ⁴⁰	6 weeks - 12 months postpartum
Steetskamp et al. (2022)	Yes	Germany	Longitudinal	278	Mean age: 32.44 50% primiparous 34.5% c-sections	IES-R ⁴¹	T1: 'days' postpartum T2: 6 months postpartum
Suarez and Yakupova (2023)	Yes	Russia	Cross Sectional	2579	Mean age: 31.03 63.1% primiparous	CBiTS ⁴²	< 12 months postpartum

⁴⁰ Posttraumatic Stress Disorder Questionnaire (Czarnocka and Slade, 2000).

⁴¹ Impact of Events Scale - Revised (Weiss and Marmar, 1997).

⁴² City Birth Trauma Scale (Ayers et al., 2018).

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<i>Characteristics of included studies (continued)</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
					24.5% c-sections		
Swift et al. (2024)	Yes	Iceland	Cross Sectional	600	Age: ≤20 (1.2%), 21–25 (10.7%), 26–30 (34.2%), 31–35 (34.7%), 36–40 (16.7%), ≥41 (2.7%)	CBiTS ⁴³	6-12 weeks postpartum
					44.8% primiparous		
					12.5% c-sections		
Tavares et al. (2025)	Yes	Portugal	Cross Sectional	284	Mean age: 33.48	CBiTS ⁴⁴	2 months postpartum
					55.5% primiparous		
					32.8% c-sections		
van Son et al. (2005)	Yes	Netherlands	Longitudinal	320	Mean age: 31	IES ⁴⁵	T1: 3 months postpartum

⁴³ City Birth Trauma Scale (Ayers et al., 2018).

⁴⁴ City Birth Trauma Scale (Ayers et al., 2018).

⁴⁵ Impact of Events Scale (Horowitz et al, 1979).

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<i>Characteristics of included studies (continued)</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
					43% primiparous 11% c-sections		T2: 6 months postpartum T3: 12 months postpartum
Verreault et al. (2012)	Yes	Canada	Longitudinal	308	Mean age: 32.21 48.1% primiparous 27.7% c-sections	SCID-I ⁴⁶ and MPSS-SR ⁴⁷	T1: 1 month postpartum T2: 3 months postpartum T3: 6 months postpartum
Yakupova and Suarez (2022)	Yes	Global - predominantly Russia and Russian commonwea	Cross Sectional	611	Mean age: 31.17 58.8% primiparous 22.6% c-sections	CBiTS	< 12 months postpartum

⁴⁶ Structured Clinical Interview for DSM-IV Axis I Disorders (First et al., 1997).

⁴⁷ Modified PTSD Symptom Scale (Falsetti et al., 1993).

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<i>Characteristics of included studies (continued)</i>							
Authors (date)	Peer reviewed	Country	Type of study	N**	Sample characteristics	PTS Measure(s)	Timepoint(s) up to 12 months postpartum
		lth					

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Organisation of findings

A total of 86 results were extracted from the 41 included studies. Some studies investigated multiple psychosocial factors, and/or operationalised and/or analysed one psychosocial factor in multiple ways (producing more than one result). All results were in the direction of poorer perceived support/care or absence of support being associated with higher CB-PTSD scores or positive CB-PTSD caseness. Groupings from narrative synthesis are shown visually in Figure 2. The two overarching groups were 'Professional care/support' and 'Care support from birth partners'. These each had 4 and 2 sub-groups, respectively. There was one result which did not fit into either group, due to the psychosocial variable being a composite of both partner and professional support. However this organisational structure was judged to be the best fit for the data overall, therefore the groupings were retained and this result is reported separately.

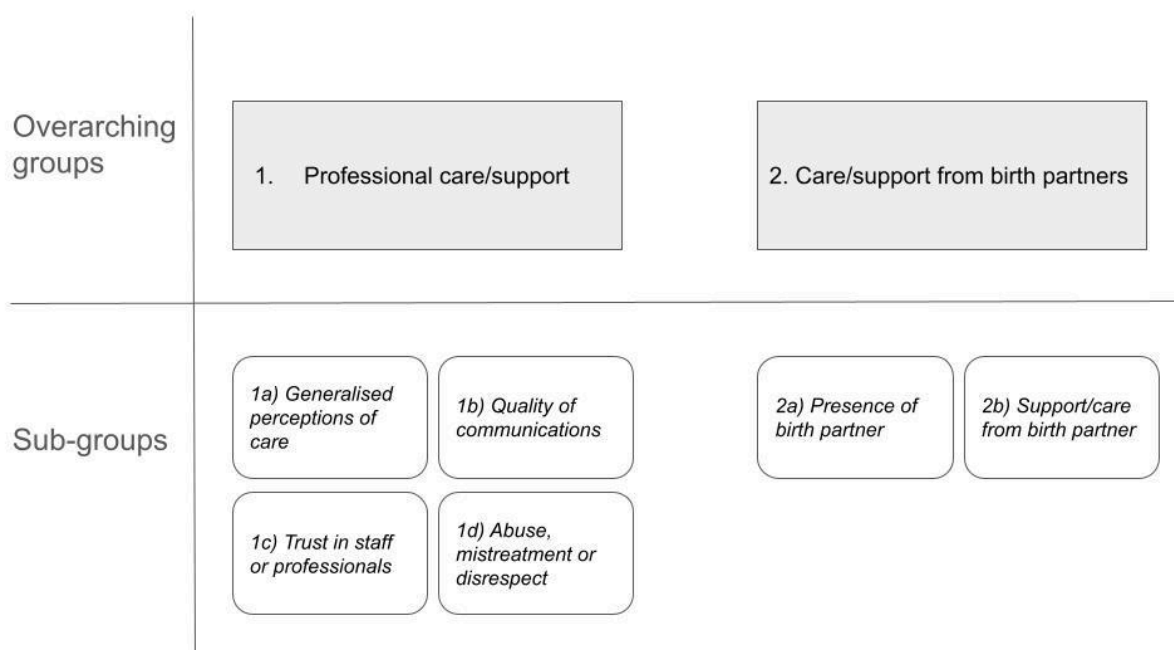


Figure 2: Groups and sub-groups

1. Professional care/support

Of the two groups, 'Professional care/support' was the larger (i.e. had the most results from the most studies). 65 results from 34 studies were identified as relating to perceptions of professional care or support. Findings on this group were further separated into four sub-groups. Results are reported as follows.

1a) Generalised perceptions of care:

This sub-group pertains to 'generalised' perceptions of care or support from professions during birth. Included in this were results from studies which defined and operationalised perceptions of care or support in ways not specific to any particular aspect. For example, 'supportiveness of staff during labour' (Czarnocka and Slade, 2000), and 'satisfaction with health professionals during the birth' (Dikmen-Yildiz et al., 2017), were included under this sub-group. Results are shown below in Table 4.

Results in this sub-group included 21 bivariate associations. Of these, 17 (81%) were significant and 4 (19%) were non-significant. Significant associations mostly consisted of weak/very weak correlations or small effect sizes (8 results). Four results suggested moderate correlations or medium effect sizes, and only two results suggested strong/very strong correlations or large effect sizes.⁴⁸ It is notable that for two results of significant bivariate associations in longitudinal studies, these associations ceased to be significant at a later timepoint (up to 12 months postpartum).

⁴⁸ Discrepancies between reported numbers of significant results and numbers of effect strengths/sizes, is because not all studies reported effect sizes or correlation coefficients. Authors were emailed in all cases as an attempt to retrieve this information.

Results in this sub-category also included 15 associations between perceptions of professional care and CB-PTSD from analyses with additional variables. Of these, 11 (73%) were significant. Details of covariates for individual studies are given in Table 4. The most common covariates were mental health in pregnancy, obstetric variables (including mode of birth), and maternal birth complications or injury. Of studies that tested specific hypotheses, one study found that perceptions of professional care mediated the relationship between obstetric interventions and CB-PTSD (Baptie, 2020), whereas another found that the two variables interacted to predict CB-PTSD (Ford and Ayers, 2011). Two studies also found interaction effects between perceptions of care moderated and past trauma, (Ford and Ayers, 2011; Rojas-Ashe, 2016), and one study between perceptions of care and negative cognitions about self and world (Spooner, 2012).

There were four instances on this sub-group of bivariate associations which ceased to be significant in subsequent analysis with additional variables, usually when preliminary associations were weak/very weak or had a small effect size. Three results of significant independent associations with additional variables ceased to be significant at a later time point (up to 12 months post birth).

Table 4: Results for generalised perceptions of care

<i>Perceptions of professional care or support: generalised perceptions of care</i>				
First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
Bailham (2001)	Staff support/care (PLDQ ⁴⁹ , developed for this study)	Significant, moderate, negative correlation at T1. Non-significant at T2. ⁵⁰	Significant independent association at T1 but not at T2. In analysis with additional variables relating to postnatal depression, emotional expressivity and attitudes to emotional expression, and trauma history. ⁵¹	Medium
Baptie et al. (2020)	Staff support (Subscale on the PLDQ ⁵²)	Significant, moderate, negative correlation. ⁵³	Significantly mediated the effect of obstetric interventions on PTS. ⁵⁴	Medium
Ben-Hassine et al. (2022)	Interactions with health professionals (QACE ⁵⁵)	-	Significant independent association* at T2, not at T3. In analysis with additional variables relating to wellbeing in	Medium

⁴⁹ Perception of Labour and Delivery Questionnaire (Bailham et al., 2004).⁵⁰ Pearson correlation.⁵¹ Multiple stepwise regression⁵² Perception of Labour and Delivery Questionnaire (Bailham et al., 2004).⁵³ Pearson correlation.⁵⁴ Mediation and moderation analysis.⁵⁵ Questionnaire Assessing the Childbirth Experience (Carquillat et al., 2017).

Perceptions of professional care or support: generalised perceptions of care (continued)

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
			pregnancy, obstetric variables and post-birth emotions. ⁵⁶	
Bingol and Bal (2020)	Feeling of support (categorical, low support/sufficient support)	Significant, negative association, effect size not reported. ⁵⁷	-	Medium
Capik and Durmaz (2018)	Satisfaction with attitudes of medical staff during birth (Categorical, yes/no)	-	Significant independent association. In analysis with additional variables relating to subjective birth experience, maternal birth complications, and infant birth complications. ⁵⁸	Medium
Catela et al. (2021)	Professional support (Subscale of WOMBLSQ4 ⁵⁹)	Significant, weak, negative correlation. ⁶⁰	Not independently significant. In analysis with additional variables relating to health and	Medium

⁵⁶ Multiple hierarchical regression.

⁵⁷ Student's t-test.

⁵⁸ Multiple regression.

⁵⁹ Women's Views of Birth Labour Satisfaction Questionnaire (Smith, 2001).

⁶⁰ Spearman correlation.

Perceptions of professional care or support: generalised perceptions of care (continued)

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
			wellbeing in pregnancy, antenatal care and APGAR scores. ⁶¹	
Cigoli et al. (2006)	Support from medical and paramedical staff (RDHS ⁶² , developed for this study)	Non-significant	-	Medium
Creedy et al. (2000)	Perception of midwifery care (Subscale of the PCQ ⁶³)	Non-significant	-	Medium
Czarnocka and Slade (2000)	Supportiveness of staff in labour (Likert 1-10)	Significant, negative association with large effect size. ⁶⁴	-	Medium
Dikmen-Yildiz et al. (2017)	Satisfaction with health	Significant, weak, negative correlation at	Significant independent association at T1	High

⁶¹ Structural equation modelling.

⁶² Real and Desired Help Scale (Cigoli et al., 2006).

⁶³ Perception of Care Questionnaire (Fisher, 1993).

⁶⁴ One-way ANOVA.

Perceptions of professional care or support: generalised perceptions of care (continued)

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
	professionals during the birth (Likert, range not reported)	T1 and T2. ⁶⁵	and T2. In analysis with additional variables relating to wellbeing and social support in pregnancy, fear of childbirth, birth complications, wellbeing and social support postpartum, and traumatic events postpartum. ⁶⁶	
Ford and Ayers (2011)	Hospital staff support (Subscale on SCIB ⁶⁷)	Significant, weak, negative correlation. ⁶⁸	Significant independent association only at T2. Interacted with prior PTS to significantly predict PTS at T1. Interacted with birth intervention to significantly predict PTS at T2. In analysis with additional variables relating to prior trauma, wellbeing in pregnancy, locus of control, self-efficacy, and	High

⁶⁵ Spearman correlation.

⁶⁶ Multiple hierarchical regression

⁶⁷ Support and Control in Birth Questionnaire (Ford et al., 2009).

⁶⁸ Pearson correlation.

Perceptions of professional care or support: generalised perceptions of care (continued)

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
			obstetric variables. ⁶⁹	
Gürber et al. (2012)	Perceived support from caregivers during delivery (Subscale on the BBCI ⁷⁰)	-	Significant independent association at T2, but not at T3. In analysis with additional variables relating to dissociation, emotional experience and adaptation during birth, physical discomfort, and postnatal depression. ⁷¹	Medium
Haagen (2015)	Support delivered by staff (Scale developed by authors)	Significant, very weak, negative correlation. ⁷²	-	Medium
Isbir et al. (2016)	Support from healthcare professionals during birth	Significant, very weak, negative correlation. ⁷⁴	-	Medium

⁶⁹ Multiple hierarchical regression.

⁷⁰ Berne-Basel Childbirth Inventory (Stadlmayr, unpublished).

⁷¹ Longitudinal path analysis.

⁷² Pearson correlation.

⁷⁴ Pearson correlation.

Perceptions of professional care or support: generalised perceptions of care (continued)

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
	(Subscale of SCIB ⁷³)			
Isbir et al. (2016)	Satisfaction with hospital care (Likert 1-5)	Significant, very weak, negative correlation. ⁷⁵	Not independently significant. In analysis with additional variables relating to parity, wellbeing in pregnancy, expectancy, obstetric variables, postpartum support and wellbeing. ⁷⁶	Medium
King et al. (2017)	Professional support (Subscale on the CEQ ⁷⁷)	Significant, weak, negative correlation	Not independently significant. In analysis with additional variables relating to social support, wellbeing in pregnancy, obstetric variables, trauma history, demographics, fear of childbirth, and partner support in birth. ⁷⁸	Medium

⁷³ Support and Control in Birth Questionnaire (Ford et al., 2009).

⁷⁵ Pearson correlation.

⁷⁶ Multiple hierarchical regression.

⁷⁷ Childbirth Experience Questionnaire (Dencker et al., 2010).

⁷⁸ Multiple regression.

Perceptions of professional care or support: generalised perceptions of care (continued)

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
Kress et al. (2011)	Perceived support during birth - felt 'taken care of' (Likert 0-10)	-	Significant independent association. In analysis with additional variables relating to wellbeing in pregnancy, demographics, obstetric variables, subjective birth experience, and birth complications. ⁷⁹	Medium
Maggioni et al. (2006)	Real and desired help from staff (RDHS ⁸⁰)	Non-significant	-	Medium
Radoš et al. (2022)	Quality of care provision (Subscale of BSS-R ⁸¹)	Significant, weak, negative correlation. ⁸²	Significant independent association with birth-related symptoms. In analysis with additional variables relating to stress experienced in labour and women's personal	Medium

⁷⁹ Bivariate binary logistic regression.

⁸⁰ Real and Desired Help Scale (Cigoli et al., 2006).

⁸¹ Birth Satisfaction Scale - Revised (Martin and Martin, 2014).

⁸² Pearson correlation.

Perceptions of professional care or support: generalised perceptions of care (continued)

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
			attributes. ⁸³	
Rojas-Ash e (2016)	Professional support (Subscale on the CEQ ⁸⁴)	Significant, negative correlation. ⁸⁵	Significantly moderated the effect of past history of sexual assault on CB-PTSD. ⁸⁶	Medium
Soet et al. (2003)	Overall measure of quality of interactions (Scale created by authors)	Non-significant	-	High
Sorenson and Tschetter (2010)	Quality of provider interactions (QPI-I ⁸⁷)	Significant, moderate, positive correlation. ⁸⁸	-	High
Spooner (2012)	Quality of medical staff support (PLDQ ⁸⁹)	Significant, strong, positive correlation. ⁹⁰	Negative cognitions about both self and world significantly moderated relationship with PTS when controlling for	High

⁸³ Path analysis.

⁸⁴ Childbirth Experience Questionnaire (Dencker et al., 2010).

⁸⁵ Test used not reported, author was emailed as attempt to retrieve this information.

⁸⁶ Mediation and moderation analysis.

⁸⁷ Quality of Provider Interactions - Interview (Sorenson, 2000b).

⁸⁸ Pearson point-biserial correlation.

⁸⁹ Perception of Labour and Delivery Questionnaire (Bailham et al., 2004).

⁹⁰ Pearson correlation.

Perceptions of professional care or support: generalised perceptions of care (continued)

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
			state anxiety. ⁹¹	
Swift et al. (2024)	Felt well supported by staff during labour (Item on BSS-R ⁹²)	Significant negative association, effect size not reported. ⁹³	-	Medium
Verreault et al. (2012)	Perception of care (PCQ ⁹⁴)	Significant, negative association with medium effect size. ⁹⁵	Not independently significant at T1. In analysis with additional variables relating to demographics, trauma history, mental health history, subjective birth experience, postpartum social support, trait anxiety, postnatal depression, and Apgar scores. ⁹⁶	High

⁹¹ Mediation and moderation analysis.

⁹² Birth Satisfaction Scale - Revised (Martin and Martin, 2014).

⁹³ Fishers exact test 2-sided.

⁹⁴ Perception of Care Questionnaire (Fisher, 1993).

⁹⁵ Student's t-test.

⁹⁶ Multivariate binary logistic regression.

1b) Quality of communications:

This subgroup includes results pertaining to the quality of communications with professionals during birth. For example, feeling 'well informed of progress in labour' (Leeds & Hargreaves, 2008), and 'feeling listened to' by professionals/staff (Soet et al., 2003). Results are shown below in Table 5.

Results in this sub-category included 9 bivariate associations with CB-PTSD. Of these, only 4 (44%) were significant, whilst 5 (56%) were non-significant. Effect sizes (where reported) were medium or large. Significant associations consisted of: wishes and views being listened to, quality of information given, and feeling informed of progress in labour. However, non-significant results also for the most part similarly pertained to feeling listened to and/or informed. One non-significant result was also found for 'emotional dimension of care', which was included under this sub-group on the basis that it could be referring to communicative attunement (Creedy et al., 2000).

There was only one result from analyses with additional variables under this sub-group. 'Opportunity to ask questions' [during birth], was a significant independent predictor, even alongside other significant predictors including family income, prior mental health, birth complications and experience of birth as traumatic (De Shepper et al., 2016).

Table 5: Results for quality of communication

<i>Perceptions of professional care or support: quality of communications</i>				
First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
Creedy et al. (2000)	Emotional dimension of care (Subscale of the PCQ ⁹⁷)	Non-significant	-	Medium
Czarnocka and Slade (2000)	Wishes and views listened to by staff in labour (Likert 1-10)	Significant, negative association with large effect size. ⁹⁸	-	Medium
Czarnocka and Slade (2000)	How well informed of progress of labour (Likert 1-10)	Significant, negative association with medium effect size. ⁹⁹	-	Medium
De Shepper et al. (2016)	Opportunity to ask questions (Likert 1-10)	-	Significant, independent association. In analysis with additional variables relating to subjective birth experience, mental health history, demographics, hospital factors, locus of control and	Medium

⁹⁷ Perception of Care Questionnaire (Fisher, 1993).⁹⁸ One-way ANOVA.⁹⁹ One-way ANOVA.

***Perceptions of professional care or support: quality of communications
(continued)***

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
			birth complications. ¹⁰⁰	
Haagen (2015)	Information delivered by staff and felt listened to (Scale developed by authors)	Non-significant	-	Medium
Leeds and Hargreaves (2008)	Wishes and views listened to by staff in labour (Item on PLDQ ¹⁰¹)	Non-significant	-	Medium
Leeds and Hargreaves (2008)	How well informed of progress of labour (Item on PLDQ ¹⁰²)	Non-significant	-	Medium
Soet et al. (2003)	Feeling listened to (Likert 1-5)	Non-significant	-	High
Soet et al. (2003)	Quality of information given	Significant, negative association with moderate effect	-	High

¹⁰⁰ Multiple regression.

¹⁰¹ Perception of Labour and Delivery Questionnaire (Bailham et al., 2004).

¹⁰² Perception of Labour and Delivery Questionnaire (Bailham et al., 2004).

***Perceptions of professional care or support: quality of communications
(continued)***

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
	(Likert 1-5)	size. ¹⁰³		
Swift et al. (2024)	Staff communicated well with me during labour (Item on BSS-R ¹⁰⁴)	Significant negative association, effect size not reported. ¹⁰⁵		Medium

1c) Trust in staff or professionals:

This was the smallest sub-group under ‘Professional care/support’ and consists of only two results. However the sub-group was retained as it was felt to be conceptually distinct from other subgroups. Results are shown below in Table 6. Both results fitting under this sub-group were statistically significant. One consisted of a bivariate association between ‘felt in good hands during labour’ and lower CB-PTSD (Freedman et al., 2020). The other consisted of a negative association between ‘perception of medical and technical skills of staff’ and CB-PTSD, in an analysis which also included covariates relating to obstetric intervention, quality of communications with staff and dissatisfaction with care (Creedy et al., 2000).

¹⁰³ Student’s t-test. Effect size (Hedges’ *g*) calculated from test statistics provided by the author.

¹⁰⁴ Birth Satisfaction Scale - Revised (Martin and Martin, 2014).

¹⁰⁵ Fishers exact test 2-sided.

Table 6: Results for trust in staff of professionals

<i>Perceptions of professional care or support: trust in staff or professionals</i>				
First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
Creedy et al. (2000)	Perception of medical and technical skills of staff (Subscale of the PCQ ¹⁰⁶)	-	Significant independent association in analysis with other sub-scales of PCQ as covariates. ¹⁰⁷	Medium
Freedman et al. (2020)	Felt 'in good hands' during labour (Categorical, yes/no)	Significant, negative association, effect size not reported. ¹⁰⁸	-	Low

1d) Abuse, mistreatment or disrespect:

This subgroup included results pertaining to experiences of abuse, mistreatment or disrespect during birth. This included factors relating to verbal and physical abuse or neglect, as well as specific examples of mistreatment such as 'threats or accusations' (Yakupova and Suarez, 2022). Results are shown below in Table 7.

¹⁰⁶ Perception of Care Questionnaire (Fisher, 1993).

¹⁰⁷ Simple regression.

¹⁰⁸ One-way ANOVA.

Overall this sub-category included 17 results, 11 of which were bivariate associations. Of these, nine (82%) were significant. This included three results relating to verbal or emotional abuse, four relating to respect or politeness, one relating to physical violence and one 'mistreatment events'. Of results reporting the strength of association or effect size, all were moderate or large. One of the non-significant results was derived from exceptionally small numbers due to very few participants reporting physical abuse (Gadanka et al., 2021).

The remaining six results consisted of associations from analyses with additional variables. Of these, five (83%) were significant. Details of covariates for individual studies are reported in Table 7. The most common covariates were obstetric variables including mode of birth, and demographic characteristics including parity. Positively, one study found that respectful treatment significantly moderated (down) the effect of low autonomy in birth on CB-PTSD (Lathan et al., 2023).

Table 7: Results for abuse, mistreatment or disrespect

<i>Perceptions of professional care or support: abuse, mistreatment or disrespect</i>				
First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
Alix (2024)	Respectful treatment (MORI ¹⁰⁹)	Significant, moderate, negative correlation. ¹¹⁰	Significant independent association in analysis controlling for past mental health problems. ¹¹¹ Did not significantly moderate the effect of past mental health problems of CB-PTSD. ¹¹²	Medium
Bingol and Bal (2020)	Politeness (Categorical, yes/no)	Significant, negative association, effect size not reported. ¹¹³	-	Medium
Bingol and Bal (2020)	Respect for privacy (Categorical, yes/no)	Significant, negative association, effect size not reported. ¹¹⁴	-	Medium

¹⁰⁹ Mothers On Respect Index (Vedam et al., 2017).

¹¹⁰ Spearman correlation.

¹¹¹ Multiple regression.

¹¹² Mediation and moderation analysis.

¹¹³ Student's t-test.

¹¹⁴ Student's t-test.

Perceptions of professional care or support: abuse, mistreatment or disrespect (continued)

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
Gankanda et al. (2021)	Verbal abuse (Categorical, yes/no)	Significant, positive association with a large effect. ¹¹⁵	-	Medium
Gankanda et al. (2021)	Physical abuse (Categorical, yes/no)	Non-significant	-	Medium
Lathan et al. (2023)	Mistreatment events (MCPC ¹¹⁶)	Significant, moderate, positive correlation. ¹¹⁷	Did not significantly moderate the relationship between low autonomy in birth and high PTS, except when looking only at participants experiencing high levels of mistreatment. ¹¹⁸	High
Lathan et al. (2023)	Respectful treatment (MORI ¹¹⁹)	Significant, moderate, negative correlation. ¹²⁰	Significantly moderated the relationship between low autonomy in birth and high	High

¹¹⁵ Fishers exact test 2-sided. Effect size (Odds Ratio) calculated from test statistics provided by the author.

¹¹⁶ Mistreatment by Care Providers in Childbirth Questionnaire (Vedam et al., 2019).

¹¹⁷ Pearson correlation.

¹¹⁸ Mediation and moderation analysis.

¹¹⁹ Mothers On Respect Index (Vedam et al., 2017).

¹²⁰ Pearson correlation.

Perceptions of professional care or support: abuse, mistreatment or disrespect (continued)

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
			PTS. ¹²¹	
Leavy et al. (2023)	Disrespect during childbirth (BMC-SQ ¹²²)	-	Significant positive association**I n analysis with additional variables relating to demographics, mental health history, obstetric variables, birth complications, infant feeding, and hospital factors. ¹²³	Medium
Martínez-Vazquez et al. (2021)	Verbal violence (Categorical, yes/no)	Significant, positive association with large effect size. ¹²⁴	-	Medium
Martínez-Vazquez et al. (2021)	Physical violence (Categorical, yes/no)	Significant,, positive association with large effect size. ¹²⁵	-	Medium

¹²¹ Mediation and moderation analysis.

¹²² Behaviour of the Mother's Caregivers - Satisfaction Questionnaire (Rudigoz et al., 2018).

¹²³ Multiple regression.

¹²⁴ Bivariate binary logistic regression.

¹²⁵ Bivariate binary logistic regression.

Perceptions of professional care or support: abuse, mistreatment or disrespect (continued)

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
Martínez-Vazquez et al. (2021)	Psych-affective violence (Categorical, yes/no)	Significant, positive association with large effect size. ¹²⁶	-	Medium
Soet et al. (2003)	Attitude of doctor/midwife (Likert, from sympathetic to hostile)	Non-significant	-	High
Yakupova and Suarez (2022)	Bullying (Categorical, yes/no)	-	Significant independent association. In analysis with additional variables relating to obstetric variables, support in labour, and demographic s including parity. ¹²⁷	Medium
Yakupova and Suarez (2022)	Threats or accusations (Categorical, yes/no)	-	Significant independent association. In analysis with additional variables	Medium

¹²⁶ Bivariate binary logistic regression.

¹²⁷ Generalised linear models.

Perceptions of professional care or support: abuse, mistreatment or disrespect (continued)

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
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relating to obstetric variables, support in labour, and demographic s including parity.¹²⁸

¹²⁸ Generalised linear models.

2. Care/support from birth partners

‘Birth partners’ for purposes of this review, refers to anyone providing support during birth in a non-professional capacity. This could include a partner, friends or family members. In total 21 results from 15 studies were identified as relating to care or support from birth partners. Findings on this group were further broken down into two sub-groups: presence of birth partner, and support from birth partner.

2a) Presence of birth partner:

This sub-group pertains to the presence of birth partners during birth, and/or number of birth partners. Most studies operationalised this as a simple yes/no question (e.g. ‘was your partner present during the birth?’). All significant associations were in the inverse direction, i.e. presence of companion (or greater number of companions) was associated with lower CB-PTSD. Results are shown below in Table 8.

Results in this sub-category included four bivariate negative associations between presence of birth partner and CB-PTSD. Of these, two (50%) were significant. Only one reported an effect size, which was moderate.

There were also six results of negative associations in this sub-group from analyses with additional variables. Of these, four (67%) were significant. Three of these pertained to the presence of a partner/companion (yes/no), and the other to having two more companions (as opposed to only one). Details of covariates for individual studies are reported in Table 8. The most common covariates were obstetric variables including mode of birth, and demographic characteristics including parity.

Table 8: Results for presence of birth partner

<i>Care or support from birth partners: presence of birth partner</i>				
First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
Czarnocka and Slade (2000)	Partner attended birth Categorical (yes/no)	Significant, negative association with medium effect size. ¹²⁹	Significant independent association. In analysis with additional variables relating to planned pregnancy, mental health history, and obstetric variables. ¹³⁰	Medium
Denis et al. (2011)	Father present during birth (Categorical, yes/no)	-	Non-significant	Medium
Gankanda et al. (2021)	Presence of labour companion (Categorical, yes/no)	Non-significant	-	Medium
Handelzalts et al. (2022)	Lay companion in addition to or in place of partner	-	Two or more lay companions associated with significantly	High

¹²⁹ Fishers exact test 2-sided.¹³⁰ Multiple stepwise regression.

Care or support from birth partners: presence of birth partner (continued)

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
	(Categorical, partner only/ partner and another companion/ another companion only)		lower CB-PTSD compared with only one. In analysis with additional variables relating to parity, mental health diagnoses, and labour duration. ¹³¹	
Polachek et al. (2012)	Presence of birth companion (Categorical, yes/no)	Non-significant	-	Medium
Steetskamp et al. (2022)	Presence of companion during labour (Categorical, yes/no)	Significant, negative association, effect size not reported. ¹³²	Significant independent association. In analysis with additional variables relating to demographic s including parity, obstetric variables, birth injury, and pregnancy complications. ¹³³	Medium

¹³¹ MANCOVA.

¹³² Man-Whitney U Test.

¹³³ Multiple regression.

Care or support from birth partners: presence of birth partner (continued)

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
Suarez and Yakupova (2023)	Presence of support companion (Categorical, yes/no)	-	Significant independent association. In analysis with additional variables relating to trauma history, demographics and obstetric variables. ¹³⁴ Presence of support companion did not significantly moderate the effect of prior trauma on CB-PTSD. ¹³⁵	Medium
Yakupova and Suarez (2022)	Presence of birth partner or companion (Categorical: no support/partner/doula or Private midwife/partner + doula or private midwife)	-	Non-significant	Medium

¹³⁴ Multiple regression.

¹³⁵ Mediation and moderation analysis.

2b) Support/care from birth partner:

This sub-group refers to the quality or extent of support experienced from birth partners. This includes factors described as 'perception of support from partner' (Creedy et al., 2000) and 'quality of birth partner support' (King et al., 2017). All significant associations were in the inverse direction, i.e. higher perceived support from companions was associated with lower CB-PTSD. Results are shown below in Table 9.

Results in this sub-group included seven bivariate associations between quality of support from a birth partner and CB-PTSD. Of these, three (43%) were significant. Two associations were weak or had small effect sizes, whilst the other had a large effect size. Interestingly, Martínez-Vazquez et al. (2021) operationalised 'quality of partner support' categorically (from 'none' to 'a lot'), and found good support to be related to lower CB-PTSD but no significant association between low support and CB-PTSD. This would suggest that high partner support is potentially protective, but low partner support is not necessarily a risk factor.

There were also four results from analyses with additional variables on this subgroup. Of these, two (50%) were significant. Covariates included variables relating to social support, wellbeing in pregnancy, obstetric variables, trauma history, demographics, fear of childbirth, and aspects of perceptions of care from professionals.

Table 9: Results for support/care from birth partner

<i>Care or support from lay companions: quality of partner support</i>				
First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
Catala et al. (2021)	Quality of partner support (Subscale of WOMBLSQ4 ¹³⁶)	Non-significant	-	Medium
Creedy et al. (2000)	Perception of support from partner (Subscale of PCQ ¹³⁷)	-	Significant independent association. In analysis with other sub-scales of PCQ as covariates. ¹³⁸	Medium
Czarnocka and Slade (2000)	Supportiveness of partner in labour (Likert, 1-10)	Significant, negative association with large effect size. ¹³⁹	-	Medium
de Shepper et al (2016)	Felt supported by partner (Categorical, yes/no)	-	Non-significant	Medium
King et al. (2017)	Quality of birth partner support	Significant, weak, negative correlation. ¹⁴⁰	Significant independent association. In	Medium

¹³⁶ Women's Views of Birth Labour Satisfaction Questionnaire (Smith, 2001).¹³⁷ Perception of Care Questionnaire (Fisher, 1993).¹³⁸ Simple regression.¹³⁹ One-way ANOVA.¹⁴⁰ Spearman correlation.

***Care or support from lay companions: quality of partner support
(continued)***

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
	(Likert, range not reported)		analysis with additional variables relating to social support, wellbeing in pregnancy, obstetric variables, trauma history, demographics, fear of childbirth, and partner support in birth. ¹⁴¹	
Maggioni et al. (2006)	Real and desired help from family during birth (Subscale of RDHS ¹⁴²)	Non-significant	-	Medium
Martínez-Vázquez et al. (2021)	Quality of partner support during birth (Categorical: none/little/somewhat/quite/a lot)	Significant negative associations with small effect sizes for 'somewhat', 'quite' and 'a lot'. ¹⁴³	-	Medium

¹⁴¹ Multiple regression.

¹⁴² Real and Desired Help Scale (Cigoli et al., 2006).

¹⁴³ Multivariate binary logistic regression.

***Care or support from lay companions: quality of partner support
(continued)***

First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
Polachek et al. (2012)	Extent of birth partner support (Likert 1-5)	Non-significant	-	Medium
Tavares (2025)	Perception of support from partner (Likert 0-4)	Non-significant	No significant interaction effect with prior mental health	Medium

Other results (not fitting under groupings)

There was only one result not fitting under either Group A or B. Koenig et al. (2016) asked participants to rate the degree of support experienced by both professionals and birth partners (separately), but summed these scores to create one composite variable ('social support') for use in an analysis. The authors found no significant direct effect for this variable on CB-PTSD at 12 months postpartum. This result is reported below in Table 10.

Table 10: other results (not fitting under groupings)

<i>Not fitting under any groupings</i>				
First author (date)	Psychosocial variable (measure used)	Result from bivariate analysis	Result from analysis with additional variables	Quality assessment
Koenig et al. (2016)	Social support from partner and from professionals (Likert 1-7 for each person, totalled)	Non-significant	-	Medium

Quality assessment

Using the modified CASP quality assessment framework (Appendix D), 9 studies were assessed as high quality, 31 as medium quality, and 1 as low quality. Scores are reported in Appendix E. A common methodological weakness across the studies was in the

reporting of demographic characteristics of the sample. Most studies (k = 30) did not report race and/or ethnicity. The majority (k = 31) were also not sufficiently powered, or did not report a sample size calculation. Of longitudinal studies (k = 19), most (k = 13) had attrition of over 20%. Other common weaknesses pertained to the ways in which psychosocial factors were measured. The strongest studies on this item used validated scales (or subscales of) if available and appropriate (k = 16). Weaker studies used categorical variables (e.g. were you satisfied with the care you received from professionals? Yes/No) where a scale variable would have improved validity (k = 5). All studies used a validated measure of PTS as this was part of inclusion criteria. However, five studies did not measure PTS at least 1 month postpartum, five studies applied an inappropriate cut-off in the analysis with psychosocial factors, and 9 studies used a translated version but did not report steps taken to ensure validity. Only two studies received full marks for analytical rigour.

Overall, findings from quality assessment suggested that there was a moderate risk of bias across the majority of included studies. This was taken into consideration in the interpretation of findings, and was also a factor in the decision to perform narrative synthesis rather than meta analysis.

Discussion

The primary aim of this review was to understand whether and how psychosocial factors are implicated in CB-PTSD. Psychosocial factors were defined as relational or interpersonal occurrences or experiences during birth. Overall, this review found considerable evidence to support the view that psychosocial factors during birth are

associated with CB-PTSD. The present review builds and expands on prior reviews (e.g., Patterson et al., 2019) by exploring both the perceived quality of healthcare interactions but also the perceived quality of support from family and friends present at the birth. Overall, perceived care/support and perceived mistreatment were important factors in healthcare interactions. For partners, the evidence suggested that good partner support may be a protective factor, but its absence not necessarily be a risk factor for CB-PTSD. The findings overall from this review are not unequivocal; non-significant results were also found for all subgroups, and particularly for 'quality of communications' with staff or professionals. However, there were no findings from this review of higher perceived support or presence of support persons being positively associated with CB-PTSD.

The strongest predictors from this review were 'generalised perceptions of care' and 'experiences of abuse, mistreatment or disrespect'. Despite having the most results of any sub-group, 'generalised perceptions of care' found mostly weak or small/very small associations. Whereas 'abuse, mistreatment or disrespect' by providers found mostly moderate, large or strong associations. This is curious considering that conceptually, the latter is an aspect of the former. One explanation may be that 'generalised perceptions' lacks specificity and in many cases was operationalised as a composite of different aspects of care or support, with the use of an 'overall' score potentially masking any variations or leading participants to consider care from many different professionals. Conversely, 'abuse, mistreatment or disrespect' is more specific, and in many cases was operationalised categorically (yes/no). A research implication from this may be that future studies should consider investigating specific aspects of care or support, rather than (or in addition to) a generalised or overall measure. This is important for clinical applicability. To improve care, it is necessary to know which aspects of care to focus improvements on. 'Quality of communications' for example is a common focus in quality improvement

projects for maternity services in high income countries (Chang et al., 2018; Rowe et al., 2002), yet it had the lowest proportion of significant results out of the sub-groups in this review.

The findings from this review on the sub-group 'trust in staff of professionals' also suggest an interesting avenue for future research. There were only two results (from two studies) on this sub-group, which is insufficient to form conclusions, particularly as one of the studies was assessed as low quality (Freedman et al., 2020). However, both results were statistically significant, suggesting that feelings of trust in professionals during birth may be a factor that warrants further investigation. Patterson (2019) also found a theme of 'confidence' in professionals, in a review of the birth experiences of women who developed CB-PTSD, but mainly in qualitative studies. Some of the qualitative literature on this topic applies the concept of 'shattered assumptions' (Janoff-Bulman's, 2013) to explain how trust in self and others (including in systems) becomes undermined as a consequence of traumatic birth (Attard et al., 2022). There is evidence from this review to suggest that negative cognitions about the world and self interacts with negative perceptions of care in birth to predict CB-PTSD (Spooner, 2012). Furthermore, previous trauma (including previous traumatic birth) is a recognised predictor of traumatic birth (Cohen et al., 2004; Ford and Ayers, 2011; Kennedy & MacDonald, 2002; Soet et al., 2003). Considered together, these findings perhaps suggest a process by which women's trust in professionals are 'shattered' in relation to their perceptions of care received during a traumatic birth, which in turn increases vulnerability to CB-PTSD in future births. This proposed causal model, partially explored by Spooner (2012) and Ford and Ayers (2011), could provide a valuable starting point in future research.

In some studies, bivariate associations ceased to be significant when entered into a model with other covariates. However, for the most part, psychosocial factors remained independently significant in analyses controlling for static risk factors such as demographics and health factors, obstetric variables and a history of mental health problems or trauma. Psychosocial factors were rarely the only significant predictor in these models, with other common significant predictors including obstetric intervention, parity, locus of control, mental health and social support in pregnancy and postpartum, as well as history of trauma and/or mental health problems. Overall these findings can be interpreted as support for the diathesis-stress model of trauma aetiology (Chan et al., 2020; McKeever and Huff, 2003), applied to birth trauma in a review of risk factors by Ayers et al. (2016). According to this model, vulnerability or risk factors such as trauma history or demographic factors, are thought to interact with stressors during the birth such as obstetric interventions and perhaps psychosocial factors, as well as in some models with postpartum variables such as social support, to predict CB-PTSD.

A secondary aim of this review was to consider any apparent relationships between psychosocial factors and other predictors of CB-PTSD. However, the studies included in this review tended to be more exploratory than hypothesis-driven. Only a minority performed mediation or moderation analyses. Bapitje et al. (2020) found that perceptions of professional care mediated the relationship between obstetric interventions and CB-PTSD. This suggests that women who had more obstetric interventions, viewed their care more negatively, which in turn contributed to the development of CB-PTSD. Aside from this, significant interaction effects were observed between perceptions of care and the following: obstetric interventions, past trauma, and negative cognitions about self and world (Ford and Ayers, 2011; Rojas-Ashe, 2016; Spooner, 2012). Positively, Lathan et al. (2023) also found that 'respectful care' reduced the extent to which 'low autonomy' in birth

predicted CB-PTSD. One way to interpret these effects may be through the model of 'social buffering' in PTS development (Cohen and Wills, 1985; Wang et al., 2021). According to this model, social support 'buffers' (moderates downwards) the effects of trauma exposure. Applying this to the findings from this review, positively perceived support from professionals could be said to 'buffer' the potentially traumatic effects of obstetric interventions. However it remains unclear from this review whether the same applies to perceived support from birth partners. 'Presence of birth partners' in this review had four significant results from analyses with additional variables, and only one non-significant result. This suggests that the presence of birth partners may be protective. However, further research is needed to better understand the nature of this relationship, and whether birth partner support also 'buffers' the effects of obstetric interventions.

Strengths and limitations

A strength of this literature review is its novelty - as far as the author is aware, this is the first review of associations between psychosocial factors (as defined in this review) during birth and CB-PTSD. The detailed quality assessments conducted as part of this review could also be considered a strength. However, this review also has a number of limitations which mean that findings should also be interpreted cautiously and contextually. Firstly, the topic covered in the review was a broad topic and on pilot searches revealed a large number of studies. As such, to ensure it was feasible and had a clear focus there was a need to have strict inclusion and exclusion criteria. Some of these criteria, such as the decision to exclude studies with primiparous samples may have increased the risk of exclusion bias, impacting generalisability. We also decided to focus specifically on 'psychosocial factors' rather than factors covering both psychological and social factors. This focus was needed to ensure the review was not too broad in scope, but because we

had to rely on the terminology used by the authors, it may have meant some relevant literature could have been missed. Related to this, there were also high levels of both clinical and methodological heterogeneity. Psychosocial factors were tentatively grouped as part of a narrative synthesis and efforts were made to pay attention to the underlying constructs. However, groupings do not imply that factors were 'the same', as it is possible that different studies were measuring different dimensions of the constructs. Similarly for PTS, eleven different measures were used. Some studies utilised two PTS measures and found substantially different prevalence rates, suggestive of poor cross validity. This review also included studies using symptom measures, and/or which measured CB-PTSD prior to 1 month postpartum and/or did not utilise a cut-off. Therefore findings from this review can be said to pertain to CB-PTSD symptoms, but not necessarily to full CB-PTSD 'caseness'. International consensus is needed as to the most appropriate measure for CB-PTSD, to help facilitate future research and evidence synthesis (Williams et al., 2022). The generalisability of findings from this review are also limited by a number of factors. This was a review of studies from predominantly high income and Western countries, and only a minority of studies reported race and/or ethnicity for their samples. Of the studies that did report this, samples tended to be disproportionately White with respect to the national or local population. This is particularly a limitation as there is evidence to suggest that across high and upper middle income countries, Black women are at significantly higher risk of adverse birth outcomes (Sheikh et al., 2022). Further research is needed which prioritises understanding the particular nature of CB-PTSD aetiology for Black and racially minoritised groups, as well as for more representative national or local samples.

Conclusion

This review has been the first to synthesise quantitative evidence of psychosocial risk factors during birth for CB-PTSD, with 'psychosocial' being defined as relational or interpersonal experiences or occurrences. Findings broadly support and update a diathesis-stress model for CB-PTSD aetiology, in which CB-PTSD is considered to arise out of a complex interaction between prior vulnerability factors, birth-related factors and postpartum factors (Ayers et al., 2016). Similar to in a previous review (Patterson, 2019), psychosocial birth-related factors found to be most associated with CB-PTSD pertained to perceptions of care from professionals, and especially to experiences of abuse, mistreatment or disrespect. To a lesser extent, associations were also found with factors pertaining to perceptions of care from birth partners (non-professionals) during the birth. There were also findings of interaction effects between psychosocial and other predictor variables, suggesting that positively perceived social support and respectful treatment may have a protective 'buffering' effect. Overall, the findings from this review add to the current knowledge around risk factors for CB-PTSD, suggesting that psychosocial experiences during the birth are independently important and are worthy of attention. Overall, the clinical implications of findings from this review can be regarded as encouraging. Care from professionals is a dynamic risk factor (i.e. can be modified), and findings tentatively suggest that this alone can be sufficient to moderate effects of more static (i.e. difficult to change) risk factors such as birth interventions or historical vulnerability factors. Maternity service providers should ensure support and care for women during birth is high, and focus especially on reducing experiences of abuse, mistreatment and disrespect. Suggestions for future research include a focus on more specific aspects of care or support, in order to provide more specific clinical recommendations.

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Appendix A

Details and roles of people involved in the review

Person	Professional role	Role in this review
Jasmine Mackay-Palmer	Trainee Clinical Psychologist	Main author - undertook all aspects of the review.
Dr Emma Blakey	Senior Lecturer in Developmental Psychology	Research supervisor.
Katie Brown	Trainee Clinical Psychologist	Replicated a proportion of full text screening, extraction and quality assessment. Katie and Jasmine also collaborated on the modification of the CASP Frameworks for their respective DClinPsy thesis projects, both supervised by Dr Emma Blakey. Although they ultimately produced different modified versions (to meet the different needs of their projects), there are some similarities in the modifications made and reasoning for these decisions.

Appendix B

Pre-registration

This project was pre-registered on the PROSPERO international prospective register of systematic reviews on 18th July 2024 (CRD42024566237). The published record can be viewed via the following link:

<https://www.crd.york.ac.uk/PROSPERO/view/CRD42024566237>

Some amendments were made to the pre-registration during the project. These can be viewed on the published record and also are detailed in the following table.

Amendments made to pre-registration			
Date	Stage of review	Details of amendment	Reason for amendment
19th September 2024	Between searches and screening	Added to the exclusion criteria under the headings of 'population' and 'exposure'.	Searches revealed a large quantity of papers with factors (e.g. COVID-19 birth conditions, postpartum haemorrhage) we had not thought to specify in exclusion criteria, however which are not in keeping with the aims and purpose of the review.
24th February 2025	Between Ti/Ab screening and full text screening	Narrowing of exclusion criteria under 'predictor' through change made to definition of 'psychosocial factors'. Redefined for purposes of review as interpersonal or relational factors, NOT intrapsychic or environmental factors.	It seemed that full text screening was likely to result in over 100 included studies. It was felt that this would be too many for narrative synthesis, given also the high degree of heterogeneity between studies. The new definition of 'psychosocial factors' for purposes of this review, constitutes only a narrowing of the previous inclusion criteria. Therefore searches did not need to be re-run and Ti/Ab screening did not need to be repeated.

Amendments made to pre-registration			
Date	Stage of review	Details of amendment	Reason for amendment
23rd March 2025	Full text screening	Updates made to inclusion criteria, under 'population'. Changes reflect a decision that this review will focus only on community/representative samples, and not include studies which have looked at samples only of women identifying as (or identified as) having had a traumatic birth.	Considering the high levels of heterogeneity anticipated, focussing only on studies with community samples will help to ensure that results can be meaningfully and usefully compared and synthesised.
4th April 2025	Extraction	Correction to exclusion criteria under 'type of study' - 'case control studies', should read 'case studies'.	Correction.

Appendix C

Search strategy

The following search string was used to search databases:

(Women OR Mother* OR Maternal) AND (Birth OR childbirth OR postnatal OR postpartum OR intrapartum OR delivery OR labour OR labor) AND (PTSD OR PTSD-PC OR 'postnatal PTSD' OR 'PTSD post childbirth' OR 'PTSD childbirth related' OR PTSD-CR OR PTSS OR PTS) AND ('psychological factors' OR 'social factors' OR 'psychosocial factors' OR care OR support OR communication OR distress OR fear)

Initial searches (between 23rd July and 28th August 2024):

Database used	Search fields used
MEDLINE (via OVID)	Advanced search > 'keyword' (searches title, abstract and subject heading)
PubMed	Title/Abstract
Web of Science - 'all databases'	'Topic' (searches the Title, Abstract and Keywords fields)
PsychINFO (via OVID)	Advanced search > 'keyword' (searches title, abstract and subject heading)
SCOPUS	Title, Abstract, Keywords
ProQuest	Anywhere except full text'
PTSDPubs (via ProQuest)	Anywhere except full text'

Updated searches (19th May 2025):

Database used	Search fields used	Search dates
MEDLINE (via OVID)	Advanced search > 'keyword' (searches title, abstract and subject heading)	Past year (exact search dates not possible)*
PubMed	Title/Abstract	23/07/2024 - 18/05/2025
Web of Science - 'all databases'	'Topic' (searches the Title, Abstract and Keywords fields)	23/07/2024 - 18/05/2025
PsychINFO (via OVID)	Advanced search > 'keyword' (searches title, abstract and subject heading)	Past year (exact search dates not possible)*
SCOPUS	Title, Abstract, Keywords	Past year (exact search dates not possible)*
ProQuest	Anywhere except full text'	23/07/2024 - 18/05/2025
PTSDPubs (via ProQuest)	Anywhere except full text'	23/07/2024 - 18/05/2025

*The overlap in dates means a small number of papers were retrieved twice, through initial searches and then again through updated searches. These papers were not screened a second time. Only newly identified papers from updated searches were taken forward to full text screening.

Appendix D

Modified CASP framework

Modified CASP - Cross Sectional Studies

No.	Original CASP	Modified CASP	Additional detail and/or explanation for modification	Scoring
	Did the study address a clearly focused issue?	<i>Question removed</i>	<i>Removed because the focus of individual studies is not relevant to this review.</i> <i>This item was also removed in review by Stevenson et al. (2023)</i>	N/A
	Did the authors use an appropriate method to answer their question?	<i>Question removed</i>	<i>Removed because review already has inclusion/exclusion criteria around methodology.</i> <i>This item was also removed in review by Stevenson et al. (2023)</i>	N/A
1	Were the subjects recruited in an acceptable way?	a) Were the subjects recruited in an acceptable way?	Results should be generalisable to the local or national population. Random sampling methods would be strongest (Munn et al., 2015). However, convenience or voluntary sampling could also be very acceptable. Recruitment strategies involving online methods may be somewhat acceptable. However exclusive online	Yes - very (2), Yes - somewhat (1), No (0a), Can't tell (0b)

			recruitment is likely to produce unrepresentative samples and so may be unacceptable (Singh & Sagar, 2021; Quagan et al., 2021).	
		b) Were there minimal exclusionary criteria?	Minimal exclusionary criteria pertaining to health including mental health, medical and/or birth complications, demographic variables, and prior experiences (e.g. prior traumas). This is in accordance with the scope of the review, which is looking at correlations with CB-PTSD specifically in community samples.	Yes (1), No (0a), Can't tell (0b)
		c) Do the authors report demographic characteristics of the sample to a minimally acceptable extent?	Minimally acceptable would be if all of the following are reported: gender and/or sex (considering global scope of review, either is acceptable), age, race and/or ethnicity, and education (Hughes et al., 2016). Additionally, considering the global scope of this study and the differences in childbirth rates between different countries (United Nations, 2025), parity (number of children) should also be reported to receive the point.	Yes (1), No (0a), Can't tell (0b)

2	Were the measures accurately measured to reduce bias?	a) Was postpartum post traumatic stress measured using a validated measure for the specific population in the study?	Diagnostic or clinical interviews have better sensitivity than self-report measures (Zimmerman, 2024). Self report questionnaires should have acceptable psychometric properties, and ideally have been validated on the population in the study. In studies where the latter is not the case or where translated versions have been used, the study should also have taken steps to ensure validity.	Yes, clinician interview (2), Yes, self-report scale (1), No (0a), Can't tell (0b)
		b) Was post traumatic stress measured at least one month post partum? Or, for longitudinal studies: were at least one of the timepoints at which PTS measured, at least one month postpartum?	Diagnostic criteria for Post Traumatic Stress Disorder requires persistent symptoms for at least 1 month in DSM-5 (APA, 2013). This item also covers item 6b in the CASP for cohort studies checklist, 'was the follow up of subjects long enough?'	Yes (1), No (0a), Can't tell (0b)
		c) If a clinical cut off on PTS measure was applied in the analysis, was the most appropriate and valid cut-off used?	This is important because inconsistency in PTSD prevalence rates in research on birth trauma is thought to be in part due to different cut offs being applied to commonly used instruments (Williams et al., 2024). Particularly for studies in this review looking at comparisons between clinical and non-clinical	Yes (1a), N/A - no cut off used/applied in analysis (1b), No (0a), Can't tell (0b)

			groups, applying an invalid cut off could bias the results.	
		d) Were the psychosocial factor(s) operationalised in a valid way?	This question was added because the review had no criteria around how psychosocial factors were operationalised and measured, therefore it was anticipated some studies may have done this in more valid ways than others.	Yes, very (2), Yes, somewhat (1), No (0a), Can't tell (0b)
	Were the data collected in a way that addressed the research issue?	<i>Question removed</i>	<i>Removed as this is already covered by the question on recruitment.</i>	
3	Did the study have enough participants to minimise the play of chance?	Did the study have enough participants to minimise the play of chance?	Was a sample size calculation reported, and was this sample size reached? Sample size calculation (e.g. power analysis) must be reported to gain the point, otherwise 'can't tell'.	Yes (1), No (0a), Can't tell (0b)

	How are the results presented and what is the main result?	<i>Question removed</i>	<i>Not included in the review as this has already been factored in at screening and papers which do not meet this criteria have been screened out.</i> <i>This item was also removed in review by Stevenson et al. (2023)</i>	
4	Was the data analysis sufficiently rigorous?	Was the data analysis sufficiently rigorous?	Detailed description of analysis including measurement techniques, as well as evidence of consideration of relevant issues such as statistical assumptions, collinearity and missing data.	Yes very much (2), Yes partly (1), No (0a), Can't tell (0b)
	Is there a clear statement of findings?	<i>Question removed</i>	<i>Removed as this is covered by inclusion/exclusion criteria, i.e. papers without clear statement of findings would not have been included as there would be nothing to extract.</i> <i>This item was also removed in review by Stevenson et al. (2023)</i>	
	Can the results be applied to the local population?	<i>Question removed</i>	<i>This item is covered by the item on recruitment.</i> <i>This item was also removed in review by Stevenson et al. (2023)</i>	

	How valuable is the research?	<i>Question removed</i>	<i>Removed as value of study is implied by inclusion in review.</i> <i>This item was also removed in review by Stevenson et al. (2023)</i>	
			Maximum possible score	13

Modified CASP - Cohort Studies

Same questions to be included as above, with the addition of:

	Original CASP	Modified CASP	Rationale	Scoring
5	Was the follow up of subjects complete enough?	Was follow-up complete enough (>80%) between first and last timepoint up to 1 year postpartum?	Acceptability cut-off added to ensure consistency in scoring. This item was modified in the same way in a review by Stevenson et al. (2023)	Yes (1), No (0a), Can't tell (0b)
	Was the follow up of subjects long enough?	<i>Question removed</i>	<i>Removed as covered under 4b in this modified CASP</i>	
			Maximum possible score	14

Overall scores calculated as percentage of total possible score (either 13 or 14), rounded to 2 decimal places

Low quality = scores < 33.33%

Medium quality = scores 33.34% - 66.66%

High quality = scores > 66.66%

Appendix E

Quality assessment

Reference	Design	1a	1b	1c	2a	2b	2c	2d	3	4	5	SCORE	Quality
Alix (2024)	Cross sectional	1	1	1	1	0(a)	1(b)	2	0(b)	1	N/A	0.615	Medium
Bailham (2001)	Longitudinal	2	1	1	1	1	0(a)	2	0(b)	1	0(a)	0.643	Medium
Baptie et al. (2020)	Cross sectional	1	1	0(a)	1	0(b)	1(b)	2	0(b)	1	N/A	0.538	Medium
Ben-Hassine et al. (2022)	Longitudinal	2	1	0(a)	1	1	0(b)	2	0(b)	1	0(a)	0.571	Medium
Bingol and Bal (2020)	Cross sectional	2	0(a)	0(a)	1	1	1(b)	0(a)	1	1	N/A	0.538	Medium
Capik and Durmaz (2018)	Cross sectional in longitudinal	2	0(a)	0(a)	1	1	1(b)	0(a)	0(a)	1	N/A	0.462	Medium
Catala et al. (2021)	Longitudinal	2	0(a)	0(a)	1	1	1(b)	2	0(a)	1	0(a)	0.571	Medium

Cigoli et al. (2006)	Longitudinal	2	0(a)	0(a)	0(b)	1	0(a)	1	0(b)	1	0(b)	0.385	Medium
Creedy et al. (2000)	Cross sectional in longitudinal	2	1	0(a)	1	1	1(b)	2	0(b)	0(a)	N/A	0.615	Medium
Czarnocka and Slade (2000)	Longitudinal	2	1	0(a)	1	1	1(a)	1	0(b)	0(a)	1	0.571	Medium
de Shepper et al (2016)	Longitudinal	2	1	0(a)	0(b)	1	0(a)	1	0(b)	0(a)	0(a)	0.357	Medium
Denis et al. (2011)	Longitudinal	2	1	0(a)	1	1	1(b)	2	0(b)	1	0(a)	0.643	Medium
Dikmen-Yildiz et al. (2017)	Longitudinal	2	1	0(a)	1	1	1(b)	1	1	1	1	0.714	High
Ford and Ayers (2011)	Longitudinal	2	1	1	1	1	1(b)	2	1	1	0(a)	0.786	High
Freedman et al. (2020)	Cross sectional	0(a)	0(a)	0(a)	0(b)	1	1(a)	0(a)	0(b)	1	N/A	0.231	Low

Gankanda et al. (2021)	Longitudinal	2	0(a)	0(a)	0(b)	1	1(a)	2	1	0(a)	1	0.571	Medium
Gürber et al. (2012)	Longitudinal	2	1	0(a)	0(b)	0(a)	1(b)	2	0(b)	1	1	0.571	Medium
Haagen (2015)	Longitudinal	2	1	1	1	1	1(b)	1	0(b)	1	0(a)	0.643	Medium
Handelzalts et al. (2022)	Longitudinal	2	1	0(a)	1	1	1(b)	2	1	1	0(a)	0.714	High
Isbir et al. (2016)	Cross sectional in longitudinal	2	0(a)	0(a)	1	1	1(b)	1	0(b)	1	N/A	0.538	Medium
King et al. (2017)	Cross sectional	1	1	0(a)	1	1	1(b)	1	1	1	N/A	0.615	Medium
Koenig et al. (2016)	Longitudinal	2	1	0(a)	1	1	1(b)	1	0(a)	1	0(a)	0.571	Medium
Kress et al. (2021)	Cross sectional in longitudinal	2	1	0(a)	1	1	1(b)	1	0(b)	0(a)	N/A	0.615	Medium

Lathan et al. (2023)	Cross sectional in longitudinal	2	0(a)	1	1	1	1(b)	2	0(b)	1	N/A	0.692	High
Leavy et al. (2023)	Longitudinal	2	1	0(a)	1	1	1(a)	2	0(b)	0(a)	0(a)	0.571	Medium
Leeds and Hargreaves (2008)	Cross sectional	2	0(a)	0(a)	1	1	0(a)	1	0(b)	1	N/A	0.462	Medium
Maggioni et al. (2006)	Cross sectional in longitudinal	2	0(a)	0(a)	0(b)	1	1(a)	2	0(b)	1	N/A	0.538	Medium
Martínez-Vazquez et al. (2021)	Cross sectional	2	1	0(a)	0(b)	1	1(a)	0(a)	1	1	N/A	0.538	Medium
Polachek et al. (2012)	Longitudinal	2	1	0(a)	0(b)	1	0(a)	0(b)	0(b)	0(b)	1	0.357	Medium
Rados et al. (2022)	Cross sectional	0(b)	1	0(a)	1	1	1(b)	2	1	2	N/A	0.692	High
Rojas-Ashe (2016)	Cross sectional	0(a)	1	1	1	0(a)	1(b)	2	0(b)	2	N/A	0.615	Medium

Soet et al. (2003)	Cross sectional in longitudinal	2	1	0(a)	1	1	1(a)	1	1	1	N/A	0.769	High
Sorenson and Tschetter (2010)	Cross sectional	2	1	1	1	1	1(b)	2	0(b)	0(b)	N/A	0.692	High
Spooner (2012)	Cross sectional	1	1	1	1	1	1(b)	2	1	1	N/A	0.769	High
Steetskamp et al. (2022)	Longitudinal	2	1	0(a)	0(b)	1	1(a)	2	0(b)	1	No (0)	0.571	Medium
Suarez and Yakupova (2023)	Cross sectional	1	1	0(a)	1	0(a)	1(a)	2	0(b)	1	N/A	0.538	Medium
Swift et al. (2024)	Cross sectional	2	1	0(a)	1	1	1(a)	1	0(b)	0(a)	N/A	0.538	Medium
Tavares et al. (2025)	Cross sectional	2	1	0(a)	1	1	1(b)	1	0(b)	1	N/A	0.615	Medium
van Son et al. (2005)	Longitudinal	2	1	0(a)	1	1	1(b)	1	0(b)	0(a)	0(a)	0.5	Medium

Verreault et al. (2012)	Longitudinal	2	1	1	2	1	1(a)	2	0(b)	1	0(a)	0.786	High
Yakupova and Suarez (2022)	Cross sectional	1	1	0(a)	1	0(a)	1(b)	0(a)	0(b)	1	N/A	0.385	Medium

Section Two: Empirical Project

‘Something I won’t ever get over or forget’: a qualitative analysis of birth experiences in the UK during the COVID-19 pandemic

Abstract

This study qualitatively investigated experiences of childbirth during the first COVID-19 ‘lockdown’ in the UK. Participants (N = 69) shared their experiences via survey. Accounts were included in a Framework Analysis using a mixed inductive/deductive approach incorporating codes derived from qualitative literature on birth trauma. Findings included themes of ‘isolation and aloneness’, ‘practical adversities’ ‘uncertainty’, ‘relational safety’, and ‘lasting impact’. Interrelationships between themes were also explored and ‘isolation and aloneness’ emerged as central to participant experiences. Overall, this research affirms that the exclusion of partners from childbirth had a negative impact on women. By introducing a trauma-informed perspective, it also offers some new insights around the importance of relational safety. Implications for policy and practice are that the psychological risks to women of applying restrictions to the birth experiences should be carefully considered in pandemic or disaster response planning. Enhancing relational safety via social support could help to buffer the potential traumatic effects of restrictions. Further research into experiences of relational safety in childbirth is needed.

Practitioner Points

- Birthing ‘alone’ due to restrictions on birth partner attendance during the COVID-19 pandemic had negative and lasting psychological impacts on women. This should

be weighed carefully in the risk assessments for future pandemic or disaster response planning.

- Experiences of uncertainty due to unclear communications, as well as practical adversities due to limitations in the hospital environment and understaffing, exacerbated these negative impacts.
- Relational safety, particularly as pertains to experiences of care from staff, emerged as an important protective factor even in the relatively extreme circumstances of the pandemic. This adds weight to the importance of relational and interpersonal factors in the childbirth experience generally.

Introduction

The first period of national lockdown in the United Kingdom (UK) due to the Coronavirus Disease (COVID-19) pandemic, occurred between 23rd March and 4th July 2020. During this time, governments and health services introduced laws and policies which restricted ordinary liberties and practices, including in National Health Service (NHS) maternity settings (Coxon et al., 2020; Thomson et al., 2022). 73% of birthing people surveyed in England experienced restrictions around their birth partner being able to attend the birth (Harrison et al, 2021). This was a departure from the norm where ordinarily in the UK, 91% of fathers attend the birth of their first child (Burgess & Goldman, 2018). Other changes to standard care and provision included the suspension of home birthing services in many areas (Romanis & Nelson, 2020), infection prevention measures such as Personal Protective Equipment (PPE) and the use of 'private rooms' in hospitals (Thomson et al., 2022), and reduced staffing due to redeployment (Harrison et al, 2021).

The psychological impact of this experience on birthing people is not yet fully understood. Policy changes and restrictions were introduced often without an evidence base. Decisions by health services therefore represented an effort to find 'appropriate balance between infection control and optimal maternity care' (Lalor et al., 2021, p. 1721). However, it is important that the consequences of these decisions are understood, particularly as some were 'antithetical to a human rights-based approach to quality care' (Lalor et al., 2021, p. 1721).

Indicators as to potential risks of restrictive policies or practices may be found by considering the literature on birth trauma. In the UK there is increasing recognition of traumatic birth as a public health issue (All Party Parliamentary Group on Birth Trauma, 2024). Prevalence estimates for CB-PTSD in the UK prior to the pandemic, ranged between 2.5% - 7.7% (Baptie et al., 2020; Harrison et al., 2021; King et al., 2017). However, there is some evidence to suggest people who gave birth during the pandemic experienced higher levels of Childbirth Related Post Traumatic Stress Disorders (CB-PTSD) than was typical pre-pandemic (Filippetti et al., 2022; Harrison et al., 2024; Kasaven et al., 2023).

A concept analysis by Greenfield et al. (2016) produced the following definition of traumatic birth:

the emergence of a baby from its mother in a way that involves events or care that cause deep distress or psychological disturbance, which may or may not involve physical injury, but resulting in psychological distress of an enduring nature.

The aetiology of traumatic birth remains an area of emerging understanding (Ayers et al., 2016). Common across all research is the finding that 'events or care' which one birthing person may experience as traumatic, another may not (Baptie et al., 2020; Czarnocka and Slade, 2000). The presence of supportive partners and midwives throughout birth, is a recognised protective factor for postnatal mental health (Kainz et al., 2010; Werner-Bierwisch, 2018). There is also evidence that poorly perceived care may be a more significant risk factor than level of obstetric intervention or type of delivery (Elmir et al., 2010; Thomson et al., 2008; Thomson et al., 2010). This suggests that, even in cases of difficult births, support and care serve as important factors with the potential to either protect from or exacerbate psychological distress or trauma. A number of models have been suggested to help explain this, from the diathesis-stress model which emphasises genetic or biological vulnerabilities (Ayers et al., 2016), to models which emphasise psychological vulnerability factors such as locus of control or attachment style (MacKinnon et al., 2018; Soet et al., 2003).

Qualitative research into traumatic birth has highlighted themes include feeling 'out of control' or autonomy being undermined, expectancy violation, and negatively perceived interactions with professionals (Simpson & Catling, 2016; Watson et al., 2021). Other themes include the significance of labour pain particularly when incongruent with expectations (Huang et al., 2019; Zhang et al., 2020), obstetric emergencies and complications including preterm birth (Lasiuk et al., 2013), and experiences during birth interacting with pre-existing mental health difficulties and/or with past traumatic experiences (Montgomery et al., 2015; Reed et al., 2017). More interpretative studies have found that birthing people describe the experience in terms similar to victims of a violent crime (Thomson & Downe, 2008), including reporting feelings of being abandoned, ignored, invisible or unsupported (Elmir et al., 2010; Harris & Ayers, 2012). This suggests

that factors relating to quality of interactions with healthcare providers may be particularly important to understanding experiences of birth trauma.

There has been limited UK-based qualitative research into experiences of birth (traumatic or otherwise) during the pandemic. Thomson et al. (2022) found examples of post-traumatic growth and resilience. However, the majority of studies report findings of women being more negatively impacted. A sentiment analysis by Aydin et al. (2022) found that women rated their experiences in terms which were 'predominantly negative' (304). Blakey et al. (2025) identified themes of fear, anger and worry in response to contradictory or unclear guidance and policy, with negative impacts at times on perceptions of care. Other studies found specific negative impacts of restrictions on birth partner attendance, and of PPE (Irvine et al, 2024; Sanders and Blaylock, 2021; Keely et al., 2023).

In summary, there is a growing body of research which suggests that birth during the pandemic may have resulted in increased CB-PTSD (Benzakour et al., 2022; Diamond and Collaini, 2022; Liu et al, 2022; Mayopoulos, 2021; Schuman et al., 2022). However in the UK, our understanding of the experiences which may have contributed to this is limited. Further research is needed to help develop understandings of how birthing people experienced birth during the pandemic (Blakey et al., 2025). As suggested by Keely et al. (2023), the psychological literature on birth trauma may provide a useful and relevant lens through which to understand these experiences. Findings in this area could help to inform future policy decisions in terms of pandemic or disaster response planning, but also perhaps for maternity services operating in a context of increasingly stretched resources (Norman et al, 2022).

This study was developed to answer the question: ‘what were the experiences of UK women giving birth for the first time during the COVID-19 pandemic?’. Women giving birth for the first time had no prior experiences of birth, which may mean their experiences are more closely linked to circumstances of birth during the pandemic. The aims of this research were, firstly, to investigate and report the experiences of women who gave birth during the COVID-19 pandemic in the UK. Secondly, to identify common examples of protective factors, as well as psychological needs or vulnerability factors, arising from these experiences. Thirdly, to consider any apparent relationship between women’s reported psychological experiences of giving birth, and their reported experiences of restrictions or policy changes due to the pandemic. Then finally, to produce findings can be used to help inform NHS policy and practice, both in terms of pandemic or crisis response planning and maternity services more generally.

Method

Design

This study had an observational qualitative design with a descriptive phenomenological epistemological stance (Giorgi, 2009; Sundler et al., 2019). The stance chosen was phenomenological because the research pertains to the experiences of participants. It was descriptive (as opposed to interpretative), because the research asks, ‘what were these experiences?’ (Matua et al., 2015).

This study utilised a pre-existing dataset. Data were collected between September 2021 and July 2022 as part of a project conducted by researchers at the Universities of Sheffield

and Warwick (Blakey et al., 2025), which utilised an online survey to collect information about the experiences of people becoming parents for the first time during the pandemic. The survey questionnaire can be viewed in Appendix A. The original intention for this study was to analyse only the responses to the item on the questionnaire pertaining to birth experiences, to focus on the birth experience in more depth than was achieved in the analysis by Blakey et al. (2025) of the entire dataset across all timepoints (prenatal, birth and postnatal). Although this focus remains unchanged, a decision was ultimately made to include also the responses to the questions about prenatal and postnatal experiences in the analysis. However, these were only coded or indexed if they referred or related directly to the birth experience. This decision arose through discussion with co-researchers and stakeholders, due to concerns that looking only at the responses to the question about birth could overly decontextualise experiences, given that questions were answered at the same (retrospective) timepoint. Also because participants had sometimes described what could be considered the 'birth experience' (for example, experiences on postnatal wards) in response to the prenatal or postnatal questions.

Participants were provided with an information sheet and gave informed consent (Appendix B, Appendix C). Ethical approval was received from the University of Sheffield Department of Psychology Research Ethics Committee for the original research project (Appendix D), and also for the secondary use of the data for purposes of this DClinPsy thesis research project (Appendix E). The project was registered on the Open Science Framework (OSF) between the 'familiarisation' and the 'development of the thematic framework' stages of the analysis (osf.io/7jycr). The reason for registering the project at this point was because a consultation process with co-researchers took place between these stages. A final change to the research design (the inclusion of data from prenatal and postnatal

items on the questionnaire) resulted from this, following which the research was registered.

Participants

The sampling procedure used is reported in Figure 1. The decision was made to exclude participants from outside the UK both to account for global differences in birthing policies and in order to produce findings with relevance to the NHS. The sample was further restricted to births during the first ‘national lockdown’ between 23rd March and 4th July 2020. This decision was made because one of the aims of this research was to consider the possible psychological impact of COVID-19 related restrictions or policy changes on birth experiences. The first lockdown period saw the most stringent and consistent changes and restrictions imposed across the NHS. Due to limitations with the dataset (participants were asked what month they gave birth in, not the exact date), the final sample for this study included respondents who gave birth in April, May or June, 2020. Only birthing people (not partners) were included, all of whom identified as women, therefore participants are henceforth referred to as ‘women’ or ‘mothers’.

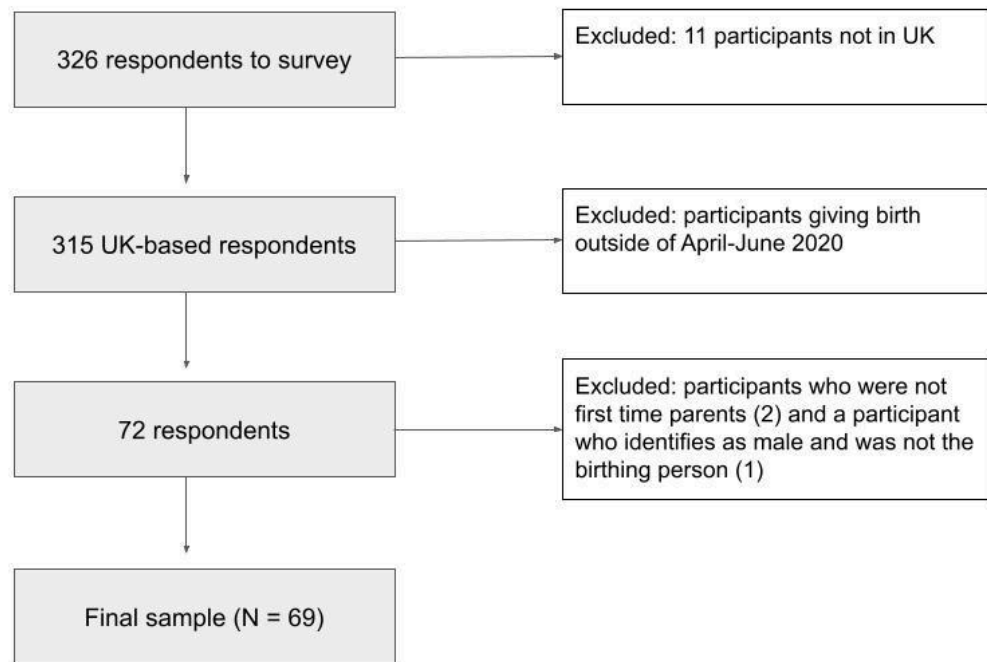


Figure 1: Flow diagram showing sampling procedure

This sampling procedure resulted in a final sample size of $N = 69$, with a mean response length of 128 words (ranging from 2 to 641) to the question from the survey which asks about birth experience. Whilst there is no widely agreed upon optimal sample size for Framework Analysis, the method is generally considered to be suited to ‘larger’ qualitative datasets (Ritchie and Spencer, 1994). Some published examples of Framework Analysis on similar topics have smaller sample sizes (Delicate et al., 2023; Edge, 2010; Furber, 2010). However the length of responses in these studies was likely longer, due to the use of interviews rather than surveys. The larger sample size in this research was intended to achieve an appropriate balance between breadth and depth in the analysis.

Demographic characteristics for the sample are reported in Tables 1 and 2. The sample was mostly White British and not identifying as disabled.

Table 1: Race and ethnic background of respondents

Race and ethnic background of respondents (N = 69)	
White British	65
White - Another Background	2
Asian - Another Background	1
Another Background	1

Table 2: Disability status of respondents

Responses to question 'do you consider yourself to have a disability?' (N = 69)	
Yes	2
No	57
Did not respond	10

Analysis

This research utilised Framework Analysis (Ritchie and Spencer, 1994), which is a codebook form of Thematic Analysis (Gale et al., 2013). The decision to use a form of Thematic Analysis rather than a more interpretative methodology such as Interpretative Phenomenological Analysis (Smith et al., 2009), was made in accordance with the descriptive phenomenological epistemological stance of this research. Framework Analysis was chosen over other forms of Thematic Analysis, such as Reflexive Thematic Analysis (Braun and Clarke, 2019) due to its 'pragmatic' approach which is suited to a combination of inductive and deductive approaches to theme generation (Goldsmith, 2021). This makes Framework Analysis particularly suited to policy-oriented research, and consequently the method is often applied to research in NHS settings including in maternity and related services, as its approach can be adapted to the needs and questions of organisations and systems (Baldwin and Bik, 2021; Furber and McGowen, 2011). Framework Analysis is also particularly suited to research with larger qualitative datasets, as its distinct stages of analysis provide a structure which helps to prevent individual stories or experiences from becoming lost through the process of analysis. This is partly enabled through the method's distinctive organisational feature, the 'framework matrix', which allows for both within and between case comparisons. For these reasons Framework Analysis is often a preferred qualitative methodology for research using larger datasets (Goldsmith, 2021; Hackett and Strickland, 2018). In summary, the choice of Framework Analysis over other qualitative methodologies for this study, was intended to enable pragmatic interpretation of findings from a reasonably large and potentially heterogeneous sample, without losing sight of the different meanings these findings may hold for different participants in context of their individual stories.

Analysis was conducted by the primary researcher and followed Ritchie and Spencer's (1994) five step procedure: familiarisation, developing the thematic framework (in this project, through a combination of open coding and applying *a priori* themes derived from a literature review), indexing (applying the thematic framework), charting and summarising, then mapping and interpretation. NVivo software (Lumivero, 2023) was used. At the second stage, a process borrowed from Template Analysis (King, 1998, 2012) was also utilised to facilitate the involvement of six co-researchers. There is limited published guidance on how to conduct Framework Analysis in practice (Parkinson et al., 2016). The 'pragmatic' adoption and adaptation of procedures in accordance with the research aims and stance, is generally endorsed in Framework Analysis (Goldsmith, 2021). Although Framework Analysis has a defined procedure with five distinct stages, the nuance of how analysis is conducted within each stage 'relies on the creative and conceptual ability of the analyst' (Ritchie & Spencer, 1994, p. 177).

The approach taken to interdisciplinary collaboration in the second stage of the analysis followed the approaches described by Gale et al. (2013) and Parkinson et al. (2016), in which co-researchers separately each coded a sample of the dataset then came together to discuss codes and collaboratively develop a 'template' thematic framework. This co-constructive approach was chosen over more positivist approaches, such as measuring intercoder agreement to validate themes, in accordance with this study's descriptive phenomenological epistemological stance. Phenomenologically oriented research embraces researcher subjectivity (Finlay, 2009). To have introduced validation of themes and therefore an implied notion of objectivity to this research, would have been 'conceptually incoherent' (Braun and Clarke, 2023, p.3). Details of co-researchers and their roles in this research are given in the Appendices (Appendix F). A detailed account of the analytic process at each stage in the form of a 'research log' is given in the appendices

(Appendix G), along with a summary of the literature review from which *a priori* themes were developed (Appendix H), the Thematic Framework (Appendix I), a frequency table from the indexing stage (Appendix J), and the Framework Matrices (Appendix K).

Throughout the analysis, efforts were made to reduce researcher bias, within the boundaries of what is conceptually possible and/or desirable in qualitative research (Galdas, 2017). The approach taken to quality control throughout was informed by items in the Joanna Briggs Institute (JBI, 2017) appraisal checklist for qualitative research, as recommended by Hannes et al. (2010). ‘Member checking’, although not universally endorsed (Metulsky, 2021), is often regarded as ‘gold standard’ (Madill & Sullivan, 2018). However this was not possible due to data having been collected anonymously. Two main measures were taken to ensure quality and reduce researcher bias. The first was the involvement of co-researchers from other disciplines and with lived experience through an ‘application’ approach to research co-production (Jennings et al., just 2018). The second was reflexivity on the part of the primary researcher, a Trainee Clinical Psychologist. The author aimed to be reflexive throughout the research process with respect to their own positionality and how this shaped their engagement with the research material. The author has no lived experience of birth or birth trauma. The involvement of co-researchers was intended to help identify any differences in understanding which could arise due to this. The researcher also made an active effort to be reflective about what they were ‘bringing’ to the research. This included a personal tendency to consider issues through (broadly speaking) feminist and human rights based ‘lenses’, and in connection with this, a belief (informed by research) that birth trauma is prevalent in the UK and that services have an ethical responsibility in regards to this. To facilitate a reflexive engagement with the data in regards to these personal motivations and beliefs, the researcher kept a reflexivity

journal, as recommended by Dowling (2006). Extracts from this can be viewed in Appendix L. The researcher also utilised research supervision to consider how her own experiences and responses may be interacting with the data throughout the different stages of analysis. Positionality statements from all involved parties are given in the appendices (Appendix F).

Findings

Findings are organised under five overarching themes, each of which also has a number of sub-themes. These are shown visually in Figure 2 which also details interrelationships between sub-themes. Figure 3 shows how overarching themes overlap. Findings are reported narratively with illustrative examples given from participant responses.

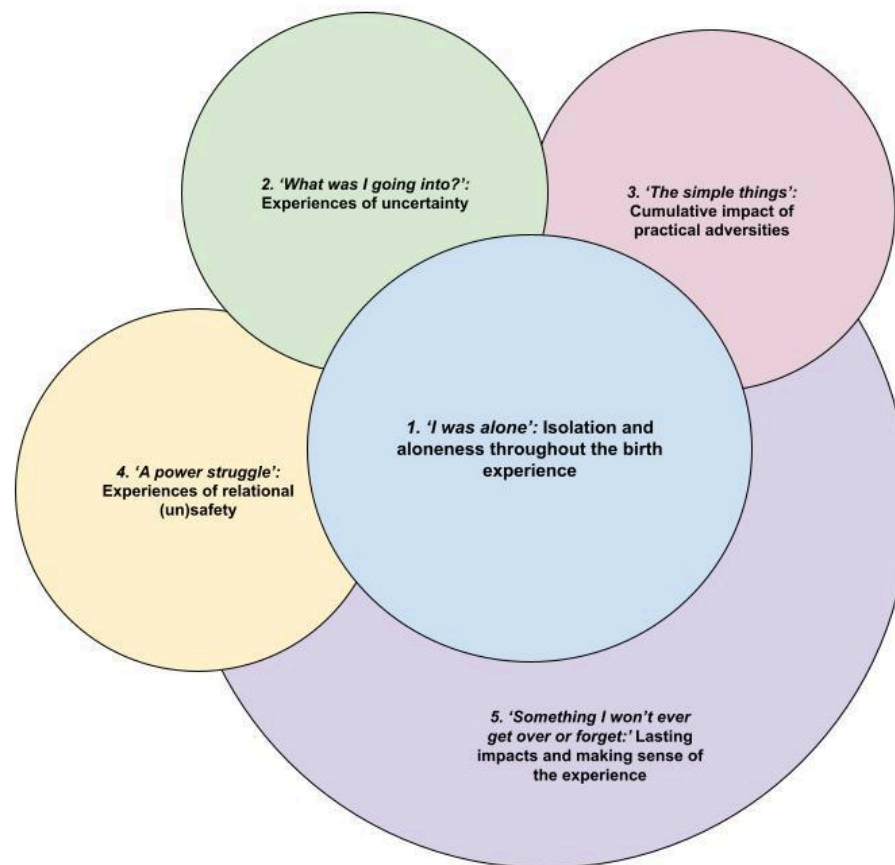


Figure 3: Theme map showing overlapping between overarching themes

1. *'I was alone': Isolation and aloneness experienced throughout the birth experience*

Most women reported experiences of isolation and/or aloneness during at least one point during their birth (Appendix J). This often refers to periods of being actually alone in a room or corridor ('aloneness'), or sometimes to more psychological aloneness ('isolation'). This theme was highly interrelated or overlapping with other themes, hence its central position in Figures 2. Experiences under this theme seemed to cluster around particular moments in the birthing experiences (e.g. arriving at ward, or experiences on postnatal wards) which are represented as sub-themes.

a. The journey to the ward

On arrival at the hospital or birthing centre, many mothers described difficult experiences of locating and walking to the labour ward alone.

The main thing about covid was that I had to walk into the hospital alone in the middle of the night, 6cm dilated and having strong surges while my husband had to wait in the car outside (Participant 11).

I had to walk in by myself, walk up the stairs alone while having contractions (Participant 12).

b. Isolation and aloneness during birth:

Many women reported partners not being permitted to join until the 'active stage' of labour, or until they were in theatre. Even with partners present, many women reported isolation and a perception of being 'left alone'. In general, women recalled feelings of loneliness and fear in relation to these experiences.

It was lonely, isolating and at times scary. I was induced and had to stay in hospital for 3 days by myself before my partner could join me (Participant 61).

I felt very alone, my husband had to sit separately to me on the ward until my C-Section whilst I anxiously waited alone with no support (Participant 37).

They found I was 6cm dilated and allowed my husband to be admitted. [...] It was a very long and painful labour and due to midwife shortages my husband and I felt like we were left alone for a lot of the birth (Participant 46).

c. Isolation and aloneness on the postnatal ward:

On the postnatal ward many women described experiences of isolation and aloneness, usually in relation to partners not being present and having no visitors.

The initial few days were horrific. I cried constantly shut in a hospital room following my 'traumatic' birth, on my own. That was the only traumatic part (Participant 5).

People always said to me that a benefit must have been that there weren't many mums on any of the wards or any families coming in bothering anyone. I found that deeply isolating and lonely. No one to speak to, no one to celebrate the arrival of my little one. So sad (Participant 6).

d. Private rooms

Experiences of private rooms were mixed. Some mothers appreciated or found benefits from this. For others, the experience was isolating and compounded feelings of loneliness.

I was put in a private room on the maternity ward (standard with twins) and had to ring a buzzer and wait for someone to have time to help me for everything - even just lifting my babes out of their cot for a cuddle. It was awful (Participant 21).

Being in a private room was a blessing in a way, because I was on video calls to my husband most of the time! (Participant 68).

e. 'Silver linings' and exceptions

Although experiences of aloneness and isolation were mostly described by participants in negative terms, there were notable exceptions to this, with some women appreciative of not having visitors.

A positive is that whilst in hospital being induced, due to no partners being allowed, I got very close to the girls in the bays around me. One of them has since become a best friend (Participant 40).

I liked not having to have visitors. It's barbaric to me now the way people used traipse into maternity wards and the homes of new parents trying to heal and bond (Participant 62).

For women who reported being permitted to have their partner present for the entire duration of the birth (a minority experience), this was also appreciated and seemed to be protective.

Thankfully covid did not have a huge impact on the birth of our son. My labour was quick and my husband was permitted to stay with me the entire time (Participant 31).

I was incredibly lucky that my birth didn't feel too affected by the pandemic. I got to the hospital at 8cm so my husband was with me the whole time we had a private room in the birth suite and other than the midwife wearing a mask, it was all okay (Participant 34).

2. *'What was I going into?': Experiences of uncertainty*

a. Preparedness and anticipation

Many mothers reported feelings of worry in anticipation of the birth. Contributing factors included disruption to antenatal classes, anxiety about their partners not being able to attend, and fear of the 'unknown'.

My NCT classes had also turned to online sessions for the final few weeks [...] I had so many questions about my induction and no one to ask! (Participant 42).

Very high levels of anxiety and fear. Particularly over partner not being able to attend birth (Participant 12).

I was very fearful of the unknown of labour and having to give birth alone (Participant 38).

b. The 'ever changing rules'

Some women reported high levels of uncertainty due to hospitals and birthing centres being unable to tell them whether partners would be permitted to join and/or for how long. This was clearly linked to feelings of stress and anxiety.

The uncertainty about whether my husband could come to the hospital with me was unbearable. There was a lot of rumours about what hospitals were and weren't allowing and each hospital seemed to have its own set of rules (Participant 6).

The ever changing rules, the uncertainty, the fact not even the hospitals had a clue what their own rules were. It was a frightening time as it was never mind rules changing at the hospital every 5 minutes (Participant 40).

c. Locus of control and decision-making

To manage uncertainty and perhaps to maintain a sense of control, some women reported planning to wait as long as possible before travelling to the hospital or birthing centre.

I had hoped to stay at home as long as possible so that my husband could be with me in the hospital (Participant 6).

I remember labouring at home for as long as possible as I didn't want to and didn't think I could do it without my husband. [...] In hindsight I put my comfort and possible safety of labour aside as the fear of being alone was huge for me (Participant 38).

3. *'The simple things': The cumulative impact of practical adversities*

a. Difficulties in meeting basic needs

Many women reported difficulties meeting basic needs during their time at the hospital or birthing centre.

Simple things like the cafes and shop in the hospital being closed meant we had to bring everything with us and couldn't walk [...] or get snacks (Participant 12).

[I was told] basic rights such as privacy (keeping my curtain closed) and access to water (filling up my cup at the fountain) should be avoided due to covid (Participant 67).

This was particularly the case on the postnatal wards. Due to the absence of birth partners, women struggled to care for their babies and themselves whilst recovering from the birth.

I couldn't even walk to the bathroom to wash my face one day after birth. And I was alone cause no visitors allowed. I was in survival mode to keep my baby fed and learn all things while I was under blood transfusion and really poorly (Participant 39).

Overall, there was a sense from participant responses that practical adversities (however 'small') added up to make the experience overall more likely to be distressing.

All these small things, disturbances made the birth experience more stressful, unpredictable (Participant 56).

b. Hospital environment or atmosphere

Some women mentioned that the hospital environment felt chaotic or stressful. Some also reported a perception that wards were understaffed due to the pandemic.

The rules in hospitals have been changing, which made me feel even more worried what's next. I feel like no-one knew what they were doing, either. In the hospital there was chaos (Participant 56).

It was clear that there were not many staff at the unit (Participant 58).

c. Gaps in care provision

Some women reported gaps in care provision such as not being able to use their planned birth equipment, or an absence of support with breastfeeding

I had hoped for a water birth but wasn't allowed one. It felt like all of my choices had been stripped from me. I felt vulnerable in every aspect of my life - my body, my community, my work, my relationships (Participant 6).

I did not feel very supported by the midwives as I struggled to breastfeed and none of them I felt gave me any real help (Participant 20).

4. *'A power struggle': Experiences of relational (un)safety*

a. Attunement in care and communications

Women reported contrasting experiences in regards to the quality of care and communications. Some women described attuned communications with staff who made them feel safe, including significant moments of kindness and compassion. Others reported being spoken to inappropriately or made to feel unwelcome.

The midwives were great, particularly one who poured me lots of baths and held me as I sobbed. I'm not sure if she was allowed to do that but I craved any form of comfort and was desperate for my husband (Participant 6).

I was alone when I was told that my baby was in serious trouble. The line "Your baby's in trouble, but the good news is you're allowed to call your husband now." shouldn't feature in normal maternity care. After being told this I was left alone believing my baby had died (Participant 4).

In the experiences of some women, Personal Protective Equipment (PPE) seemed to be a barrier to attuned communications.

You don't realise how much you rely of someone's facial expressions until it's not there, really impacted me (Participant 13).

Social distancing policies may also have impacted attunement in care and communications.

A paediatrician standing on the other side of the room while giving us advice about our baby because she didn't want to get too close (Participant 51).

Another two days in hospital by myself with my baby no visitors as a first time mum I didn't know exactly what to do the nurses didn't really come too close obviously due to covid (Participant 41).

b. (Mis)trust in staff or systems

Women reported contrasting experiences in regards to trust in staff in systems. Some reported feeling high levels of trust and safety, whereas others reported heightened feelings of mistrust. Again, for some, PPE and social distancing exacerbated relational unsafety.

Luckily the staff at the hospital were amazing and acted as my emotional support in the absence of family and friends. One nurse even gave me a much needed hug at a really crucial time - an act of kindness that I will never forget (Participant 31).

A feeling of discomfort and suspicion by anyone and everyone you meet. It's hard to convey trust and security in people around you when you cannot see them and they don't want to get physically close no matter how many reassuring words are exchanged. It was an isolating and lonely experience (Participant 58).

The pandemic made it easier to coerce people into the “easiest” route of induction, hospital birth and limited choices (Participant 62).

Feeling unattended to or neglected was a commonly reported experience.

I was left alone in the postnatal ward with almost no midwife attending me (Participant 2).

They left me 10 hours without painkillers on the same day I had a c section. The doctor came to see why I was vomiting and saw that it was pain and asked the midwives to give me painkillers and not delay. I trusted them again and they just ignored his advice (Participant 35).

One woman reported a perception of a ‘power struggle’ between staff at the hospital, whilst another alluded to a sense of ‘us and them’ between health professionals and patients.

It looked to me like there was a power struggle between doctors, nurses, management and other things (Participant 35).

I would say it felt negligent at times, I felt like we were treated as primarily infection risks and there was a really strong narrative of health professionals “risking their lives” for us (Participant 66).

c. Distressing experiences of separation

Many women reported distressing experiences of separation from their partner, particularly on admission and again immediately following the birth.

My husband was so distressed seeing me in so much pain on the other side of the glass (Participant 6).

It was brutal as my husband was made to leave straight after the emergency c section (Participant 32).

A small number of women also reported distress due not having their own parents visit or present for the birth.

[I] so desperately wanted my parents to visit us (Participant 13).

If I could have had my mother with me [the birth] would have been different (Participant 39).

5. *'Something I won't ever get over or forget': Lasting impacts and making sense of the experience*

a. Loss of birth experience not had

Many women described feelings of loss and other strong negative emotions when reflecting on their birth experience, including feelings of disbelief, sadness and anger.

I just felt incredibly let down, angry and that every possible corner was cut. There was clearly no thought around the emotional impact on women, to take away a life changing situation which is supposed to be positive (Participant 66).

Our baby was a longed for ivf baby and so my husband missed out on so much. This still makes me sad [...] I think it's something we won't ever get over or forget sadly. (Participant 59).

b. Rules and restrictions not seeming to make sense

Reflecting on their birth experiences, some women referred to the 'rules' not seeming to make sense, particularly in regards to partners attending the birth.

The rules made no real sense in terms of partner having to wait outside until I was in 'established' labour (Participant 12).

I don't understand why the partners aren't allowed in until you are in established labour. What would make more sense is that they stay in for the whole of the labour but not leave the hospital to prevent cross infection (Participant 20).

c. Lasting impact of the birth experience

Many women described their birth explicitly as traumatic. Some reported a lasting negative impact, extending into the postnatal period and beyond. For some, this impact included difficulties with breastfeeding.

I couldn't breastfeed in the end and I'm very sure it was down to the pandemic affecting the support I had (Participant 21).

It affected both me and my husband deeply, still to this day even now almost 2 years on. I was diagnosed with PND which I contribute to that first week of my baby's life (Participant 63).

However, some women reported positive feelings or memories associated with the birth, or an enhanced appreciation for their own resilience.

The staff who looked after me before and during my emergency caesarian section were incredible and I am so grateful that they got my baby out safely after such a high-risk situation (Participant 4).

When things get tough, I say to myself, 'I had a baby during the first lockdown, I can do anything' (Participant 11).

Discussion

This research investigated experiences of birth during the COVID-19 pandemic in the UK from a psychological and trauma-informed perspective, with the aim of producing findings to help inform NHS policy and practice. Findings were organised under four peripheral themes, converging around a central theme of isolation and aloneness. Themes in general were highly interrelated (see Figure 2). This is also represented more at a more abstracted level in Figure 3, as 'overlapping' between themes. The finding of 'isolation and aloneness' occurred for the majority of participants in this study, and this is consistent with findings from previous qualitative research which have reported on birthing accounts during the pandemic (Jackson et al., 2023; Montgomery et al., 2023). In this study, it was found to be overlapping with all other themes, resulting in its central position in Figure 3. Notably, the theme has a more dominant position than it did in the broader analysis by Blakey et al. (2025), perhaps because the selected sample for this study was only participants who gave birth during the first national lockdown and so were most likely to be affected by restrictions on partner attendance. Experiences relating to isolation and aloneness were overwhelmingly negative. For most women, this was in connection with their partner not being present (overlapping with relational unsafety and experiences of uncertainty), although some women also mentioned the absence of their own parents, absence of visitors, and feeling isolated from hospital staff and/or other birthing women (overlapping especially with experiences of practical adversities). The theme of 'lasting impacts' is overlapping with all other themes in Figure 3, as women generally reported lasting impacts from, or continuing to feel affected by, experiences also belonging under all of the other themes.

One way in which to understand these interrelationships or overlapping between themes, may be through the concept of social buffering (Cohen and Wills, 1985; Wang et al., 2021). It is theorised that social support can 'buffer' (i.e. reduce risk and severity of PTSD) exposure to a trauma, whereas social isolation is understood to increase risk and exacerbate symptoms. This effect is thought to be 'universal to all traumas', and has also been demonstrated specifically in relation to Childbirth Related PTSD (CB-PTSD) (Ayers, 2017; Santos et al., 2024 ,p. 1). There is evidence that a supportive birth partner can be a protective buffer against potentially traumatic experiences in childbirth (Grekin and O'Hara, 2014; Kainz et al., 2010; Vischer et al., 2020). Most participants in this study reported restrictions on their partners' attendance at the birth and (in many cases) distress linked with this. Conversely, participants from this study who were able to have their birth partner present for the entirety of the birth (a minority), tended to report more positive experiences and tended not to describe their birth as distressing overall.

The finding of a 'cumulative impact of practical adversities' could be understood in relation to the diathesis stress-model of trauma development. This model suggests that vulnerability factors (diathesis) interact with the stressful event to produce trauma (Chan et al., 2020; McKeever and Huff, 2003). Diathesis in this context is often interpreted as referring to intrapsychic or pre-existing vulnerability factors. However, statistically important factors can also be found in the birth experience, such as factors pertaining to quality of support or the birth environment (Ayers et al., 2017). It is plausible that the cumulative impact of individually 'simple' or small adversities, such as restricted access to water and other basic needs not being met, may have increased vulnerability to the birth overall being experienced as distressing or even traumatic.

The theme of 'relational (un)safety' in this study, has not been emphasised in other similar studies. Its emergence here is perhaps a product of the trauma-informed perspective applied in the analysis. The prefix is bracketed for this theme because the findings were polarised. For example, communications with individual staff members emerged as either 'attuned' or 'unattuned'. Examples of attuned communications were where women felt safe and cared for, because their needs were recognised or responded to. Contrastingly, examples of unattuned communications were when women felt unsafe or uncared for, such as when spoken to in a negative tone, or being 'left' or unattended to. This included a perception that staff were 'trying their best' but understaffing was evident, and there was often a sense that women lacked confidence in the systems on maternity wards. Janoff-Bulman's (2013) concept of 'shattered assumptions' may apply here, in the sense that women's fundamental assumptions about the ability of persons' or systems' abilities to keep them safe were undermined. This interpretation of experiences makes memories of the birth more likely to become traumatic because the experience is conceptualised as a 'near miss', as evidenced perhaps in a sense of 'gratitude' or feeling 'lucky' about the outcome of the birth reported by some participants. Similar 'shattered assumption' processes have been observed in other qualitative investigations into experiences of traumatic birth (Attard et al., 2022; Patterson et al., 2019).

The theme of uncertainty found in this study, is consistent with wider research on psychological experiences of the pandemic in the UK (Freeston et al., 2020; Rettie & Daniels, 2021). The first 'lockdown' in particular was a time of heightened uncertainty for people and organisations, having to react quickly to an evolving situation (Bryce et al., 2022; Koffman et al., 2020; Lapsley, 2020). Birth as an event necessarily involves a degree of uncertainty, particularly for first time Mothers (Borrelli et al., 2018; Rondung et al., 2019). However, pandemic restrictions introduced unusual elements of uncertainty to

birth, such as about whether partners would be permitted to attend. Mason's (1993) distinction between 'safe' and 'unsafe' uncertainty can perhaps be usefully applied. What helps to make uncertainty feel psychologically safe can be a complex combination of factors. This could include relational factors ('relational safety') or more practical or concrete factors ('the simple things'), all of which help to provide a sense of familiarity or act as anchors in a chaotic environment. When these things were missing for participants in this study, this contributed to uncertainties becoming unsafe or, as one woman described, 'difficult to tolerate'.

The theme of 'lasting impacts and making sense of the experience' from this study, reflects the reality that childbirth experiences can have enduring psychological impacts (Beck, 2011; Bossano et al., 2017). In this study, some participants described their birth experiences as traumatic, and/or reported experiencing postnatal mental health difficulties in connection with the birth. This is consistent with findings from quantitative studies in the UK suggesting that pandemic birthing cohorts experienced elevated rates of postnatal mental health difficulties (Filippetti et al., 2022; Harrison et al., 2024; Kasaven et al., 2023).

Most women did not describe their birth as traumatic or report postnatal mental health difficulties, but did report negative emotions or difficult memories associated with their birth. Some of the most commonly reported emotions were sadness, anger, and a sense of disbelief or difficulty accepting events. Many women described a sense of loss or having 'missed out' on an experience they had expected or desired. These descriptions are suggestive of the Kübler-Ross and Kessler's (2005) model of grief processing (the 'five stages of grief'). Grief processes have also been observed in experiences of birth trauma or negative birth experience in other qualitative studies (DeGroot & Vik, 2017; Fenech and Thomson, 2014). In this study, the experience of disbelief or non-acceptance of events that

occurred, for many participants was focussed on the issue of the 'rules' (e.g. around partner attendance) seeming not to make sense, and frustrations with this. The concept of 'unsafe uncertainty' may also apply here (Mason, 1993).

As in some other studies, participants did also report some positives or 'silver linings' (Aydin et al., 2022; Gray and Barnett, 2022). For example, some women appreciated having a private room for their induction, or having no visitors to the postnatal ward. Participants reporting negative birth experiences generally reported being negatively impacted by this to a degree. However a small number of women who had negative experiences, reported to have experienced something like post-traumatic growth from this. In the words of one participant, 'I had a baby during the first lockdown, I can do anything'. Examples of this were rare but salient, and were consistent with some of the wider literature on postnatal post-traumatic growth (Berman et al., 2021; Brown et al, 2022; Ketley et al., 2024).

Strengths and Limitations

The main strengths of this study stem from the large sample and the resulting approach taken to analysis which was enabled by this large and rich dataset. The use of Framework Analysis has facilitated analysis of a relatively-speaking large sample in greater depth than has been achieved in many other qualitative studies of birth experiences during the pandemic in the UK to date. The focus on the first three months of the pandemic in this study, means that findings can be meaningfully associated with lockdown circumstances/restrictions. This has helped to produce findings which are practical and policy-oriented, in accordance with the aims of the research.

This study also several limitations. Data was collected via an internet survey using voluntary sampling, which makes self-selection bias likely. The sample is disproportionately White British and non-disabled, relative to the British population. These are limitations which affect the generalisability of findings. The development of *a priori* initial themes/codes was unsystematic which increases the likelihood of researcher bias, although attempts were made to control for this through researcher reflexivity and ‘checking’ with co-researchers. Finally, a trauma-informed perspective has been applied throughout this research. Justification has been given for this in regards to documented increased prevalence of birth trauma during the pandemic. However it is also a limitation in the sense that a particular lens has been applied to participant experiences.

Clinical and research implications

The findings from this research suggest that women in the UK were mostly negatively, and in many cases lastingly, impacted by pandemic-related changes to their birth experience. Experiences of restrictions to partner attendance were described almost exclusively negatively, and in many cases, in terms suggestive of psychological trauma. The clinical implications of this are that policy-makers should weigh the importance of birth partners carefully in the risk assessment when planning for pandemic or other emergency circumstances. It should also be expected that women who experience this are likely to need greater levels of perinatal mental health support and potentially other forms of support in the perinatal period.

The finding of the theme ‘relational (un)safety’ in this research, gives support to the emerging evidence that relational or interpersonal aspects of professional care during birth are important (Patterson et al., 2019). The findings from this study contribute somewhat

uniquely to this, as they suggest that this remains true even in the 'extreme' circumstances of a pandemic. This research found examples of relationally attuned care and communications 'buffering' the negative impacts of pandemic conditions for birthing women, as well as examples of more unattuned care and communications perhaps exacerbating negative impacts. Clinical implications of this are that attention should be paid in maternity services to relational aspects of care. These implications have relevance for routine maternity care and not only for disaster response planning, as many of the practical adversities of experiences with which experiences of relational unsafety in this study were linked, were not unique necessarily to pandemic circumstances. Further research in this area is also needed, to help further define which relational aspects are most important (and for whom).

Finally, important findings from this research were that women struggled with the uncertainty created by inconsistent communications, and also with inadequacies in the birthing environment ('small things'), all of which contributed to psychological unsafety. It is important that systems learn from this by ensuring better preparedness for pandemic or disaster circumstances in the future. This is a particular challenge for the NHS at a time of increasing pressures (Darzi, 2024).

Conclusion

Findings from this study show that women were in many cases negatively and lastingly impacted by changes to intrapartum care during the pandemic. Experiences of aloneness connected with other potentially difficult aspects of birth in pandemic conditions, such as experiences of uncertainty and of practical adversities. The potential psychological impacts

of restrictions on birthing women should be considered carefully in pandemic and disaster response planning, particularly in regards to the exclusion of birth partners. The trauma-informed perspective in this study also helped to produce a finding of 'relational (un)safety', suggesting that the relational or interpersonal dimensions of care are important to how birth is experienced, even in the relatively 'extreme' conditions of a global pandemic. This perhaps suggests the importance of relational factors in maternity care more generally, outside of pandemic circumstances. Many of the material causes of pressure in maternity services during COVID-19, such as understaffing, have remained challenging for the NHS post-pandemic (Darzi, 2024). Further policy-oriented and psychologically informed research is needed which investigates in more depth experiences of relational safety during childbirth generally, including in the current post-pandemic circumstances. The findings from this research therefore also give weight to the important and preventative (of birth trauma) role of Clinical Psychology in helping to create more trauma informed environments in NHS maternity settings, perhaps especially through a focus on supporting relationally attuned care.

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Appendix A

Survey Questionnaire

Pandemic Parenting Study Questionnaire

Your Experiences

We will ask for you to share your experiences before, during and after the arrival of your baby. We are interested in your experience in your own words. Feel free to share your experiences in all three of these areas or just the ones that stand out for you the most.

1. Thinking about your pregnancy (or the time before your baby arrived) and the Covid-19 pandemic, what stands out for you about the experience? We're interested in your own unique perspective, which might include positives and negatives.

[free text response]

2. Thinking about the birth of your baby (or the process of your baby arriving) and the Covid-19 pandemic, what stands out for you about the experience? We're interested in your own unique perspective, which might include positives and negatives.

[free text response]

3. Thinking about the time after your baby or child arrived during the Covid-19 pandemic, what stands out for you about the experience? We're interested in your own unique perspective, which might include positives and negatives.

[free text response]

4. Do you feel digital technology has played a particular role (or roles) in your experiences of becoming a new parent during the pandemic? We're interested in any experiences you'd like to share - both good and bad.

[free text response]

5. What do you think would be helpful for other new families who might go through a similar experience as you?

[free text response]

6. What year did your baby arrive?

[free text response]

7. What month did your baby arrive?

[free text response]

8. The researchers wrote about their own experiences in an article published online.
Have you read it?*

Yes (fully or in part)

No (I've not read it)

9. Did you find it helpful to share your experience with us? Please feel free to elaborate more on this below.

[Yes]

[No]

We are interested in how parents have found it taking part in our study. Can you tell us anything about how reflecting on your experiences has made you feel? Or what you think about the study we are running?

[free text response]

Appendix B

Information sheet

Participant Information Sheet

You are being invited to take part in a research project. Before you decide whether or not to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us, using the email address below, if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

We are interested in hearing from people who became a new parent shortly before or during the COVID-19 pandemic. We would like to gather these anonymous accounts so we can share these stories for other parents and advocate for better support for new parents during this time. More specifically, we're interested in hearing from you if you became a parent (biological, adoptive, foster) to an infant under the age of 1 for the first time between 23rd September 2019 and present.

We are three researchers from the University of Sheffield and the University of Warwick who each became first-time parents during the pandemic. We feel that new parent's voices have not been heard and it is important to document these experiences. It is important to us that this is a safe space to anonymously share your experiences that might be very personal. We will not ask for any information that could identify you personally and if you inadvertently do share any identifying information we will make sure it is removed before sharing your story on our website.

You can also find more information (and read other parents' stories) on our study website here: <https://sites.google.com/sheffield.ac.uk/pandemicparenting/home/>

Please feel free to share this link with anyone who you think would like to take part. Data collection will close on 30th June 2022.

What do I have to do if I take part?

We will ask you to reflect on and share your experience of being pregnant (or the time before the baby arrived), giving birth (or the baby's arrival) and afterwards, by writing down your responses to several questions on this form. We will also ask you for some basic background information so we know how representative participants in our study are of the wider population (for example, in terms of ethnicity, geographical location). How much you want to share, and the answers you choose to give are entirely up to you. If you do not want to respond to a question, you can leave it blank. Depending on how much information you want to give, we anticipate that the study will take between 10-60 minutes to complete. Your responses will only be recorded if you click 'submit' at the end of the questionnaire.

Do I have to take part?

No, you do not have to take part. It is up to you to decide whether or not to take part. If you choose to take part, you can stop at any time without giving a reason by just closing the browser window before submitting your responses. Once you have submitted your responses, it will not be possible to withdraw your data as we will not be able to personally identify participants. Please note that by choosing to participate in this research, this will not create a legally binding agreement, nor is it intended to create an employment relationship between you and the University of Sheffield.

What are the possible disadvantages and risks of taking part?

We hope that many parents might find it cathartic to reflect on their experiences. However, it is possible that reflecting on and recalling your experiences might be distressing. If this happens we recommend contacting your health visitor or GP since the staff collecting data for this study are not clinically trained. Here are some other resources you might find useful if you feel you need support:

If you are in England or Wales, family lives provides online and telephone support:

<https://www.familylives.org.uk/how-we-can-help/confidential-helpline/>

Parenting and mental health:

<https://parentingmentalhealth.com/>

<https://www.nspcc.org.uk/keeping-children-safe/support-for-parents/mental-health-parenting/>

<https://www.mind.org.uk/information-support/tips-for-everyday-living/parenting-with-a-mental-health-problem/parenting-and-mental-health/>

Traumatic birth: <https://pandasfoundation.org.uk/what-is-pnd/birth-trauma/>

Support for new fathers: <https://www.fathersnetwork.org.uk/>

What are the possible benefits of taking part?

You might find that sharing your experiences is a positive experience for you. We also hope that by participating, your responses will benefit other parents who might read them. We hope that the findings from this research will help to give a picture of what it was like to be pregnant, give birth and become a parent during the pandemic. We also hope that the results might inform healthcare or policy decisions by providing a clear picture of what the transition to parenthood was like for new parents during this time and provide a way for us to advocate better support for new parents.

What will happen to my data?

If you take part, you will be assigned a participant number. All your data will be identified by this participant number only and we will not be able to identify you personally from it. We plan to analyse the information we receive at a group level and draw out themes that may apply to new and expectant parents. Anonymous verbatim quotes may be published on our research website for other parents to read, in journal articles, books or data repositories for other researchers to use. Although this information will be made available to others, you will never be identified.

What is the legal basis for processing my personal data?

According to data protection legislation, we are required to inform you that the legal basis we are applying in order to process your personal data is that 'processing is necessary for the performance of a task carried out in the public interest' (Article 6(1)(e)). Further information can be found in the University's Privacy Notice <https://www.sheffield.ac.uk/govern/data-protection/privacy/general>.' As we will be collecting some data that is defined in the legislation as more sensitive we also need to let you know that we are applying the following condition in law: that the use of your data is necessary 'for archiving purposes in the public interest, scientific research purposes or statistical purposes' (9(2)(j)).

Who is organising and funding the research?

The University of Sheffield is organising this research.

Who is the Data Controller?

The University of Sheffield will act as the Data Controller for this study. This means that the University is responsible for looking after your information and using it properly.

Who has ethically reviewed the project?

This project has been ethically approved via the University of Sheffield's Ethics Review Procedure, as administered by the Department of Psychology.

What if something goes wrong and I wish to complain about the research or report a concern or incident?

If you wish to make a report of a concern or incident relating to potential exploitation, abuse or harm resulting from your involvement in this project, please contact the project's Designated Safeguarding Contact, Dr Emma Blakey - pandemicparentingresearch@gmail.com. If the concern or incident relates to the Designated Safeguarding Contact, or if you feel a report you have made to this Contact has not been handled in a satisfactory way, please contact the Head of the Department of Psychology, Prof Liz Milne at psy-hod@sheffield.ac.uk.

Contact for further information:

If you have any questions about the study before participating, please get in touch with the research team (Dr Blakey, Dr Scott and Dr McGillion) by emailing us at:

pandemicparentingresearch@gmail.com

Appendix C

Consent form

Consent Form

Before you proceed, it is important you understand what the study involves and give your consent to participate. Please tick the boxes if you agree with the following statements. You will not be able to proceed with the study unless you agree with the following statements.

I have read and understood all the information given about the study.*

[Yes]

[No]

I have been given the opportunity to ask questions about the project if I like by emailing the research team.*

[Yes]

[No]

I agree to take part in the project. I understand that taking part in the project will involve sharing my experiences of becoming a parent during the pandemic and background information.*

[Yes]

[No]

I understand that my taking part is voluntary and that I can withdraw from the study at any time while giving my responses by closing the browser window. 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.*

[Yes]

[No]

I understand and agree that my responses will be analysed by researchers and verbatim quotes may be used in publications, other research outputs. I understand that I will not be identified in these outputs.*

[Yes]

[No]

I understand and agree that my responses will be shared on the project website for anyone to read so other parents benefit from reading about others' experiences. I understand I will not be identified in these outputs.*

[Yes]

[No]

I give permission for the anonymised data that I provide to be deposited at the UK Data Service or another appropriate responsible digital repository so it can be used for future research and learning.*

[Yes]

[No]

I agree to assign the copyright I hold in any materials generated as part of this project to The University of Sheffield.*

[Yes]

[No]

*Required question

Appendix D

Ethical approval for original research project



Downloaded: 03/01/2022

Approved: 10/09/2021

Emma Blakey
Psychology

Dear Emma

PROJECT TITLE: Experiences of new parents during the COVID-19 pandemic

APPLICATION: Reference Number 043325

On behalf of the University ethics reviewers who reviewed your project, I am pleased to inform you that on 10/09/2021 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 043325 (form submission date: 09/09/2021); (expected project end date: 31/12/2022).

Participant information sheet 1097077 version 2 (09/09/2021).

Participant consent form 1097078 version 3 (09/09/2021).

The following amendments to this application have been approved:

Amendment approved: 20/12/2021

Amendment approved: 20/10/2021

Amendment approved: 11/09/2021

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

Department Of Psychology Research Ethics Committee
Ethics Administrator
Psychology

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/rs/ethicsandintegrity/ethicspolicy/approval-procedure>

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.

Appendix E

Ethical approval for secondary use of data



Downloaded: 19/02/2024

Approved: 16/02/2024

Jasmine Mackay-Palmer
Registration number: 220237930
Psychology
Programme: DClinPsy

Dear Jasmine

PROJECT TITLE: Experiences of UK women giving birth for the first time during the COVID-19 pandemic: A Framework Analysis **APPLICATION:** Reference Number 058943

This letter confirms that you have signed a University Research Ethics Committee-approved self-declaration to confirm that your research will involve only existing research, clinical or other data that has been robustly anonymised. You have judged it to be unlikely that this project would cause offence to those who originally provided the data, should they become aware of it.

As such, on behalf of the University Research Ethics Committee, I can confirm that your project can go ahead on the basis of this self declaration.

If during the course of the project you need to [deviate significantly from the above-approved documentation](#) please inform me since full ethical review may be required.

Yours sincerely

Department Of Psychology Research Ethics Committee
Departmental Ethics Administrator

Appendix F

Roles and positionality statements - REDACTED as contains personal information

Appendix G

Research log (detailed description of analysis)

<i>Stage of Framework Analysis</i>	<i>Description</i>
Familiarisation	This first stage of Framework Analysis following the process outlined by Ritchie and Spencer (1994) involved the main researcher immersing themselves in the data and making some initial notes. During this process the researcher also began the process of keeping notes in a reflexivity journal (Appendix L). There is no set guidance as to how long the researcher should spend on this stage, therefore the decision to move onto the next stage was made in accordance with Kiernan et al. (2018) 'as simply a pragmatically-determined matter of subjective judgement, reflexively framed by the time-bound nature of the research project in question' (248).
Developing the thematic framework	For this stage of the analysis in the process described by Ritchie and Spencer (1994), a mixed deductive/inductive approach was utilised to facilitate the bringing of a psychological understanding of birth trauma as a 'lens' through which to understand the data. 'A priori' themes were derived from a non-systematic review of the qualitative literature on birth trauma, conducted by the primary researcher (see Appendix H). This stage of the analysis also involved a degree of collaboration with a group of six co-researchers, including women with lived experiences of giving birth during the pandemic, women with lived experience of birth trauma, Researchers, Midwives and a Clinical Psychologist with specialism in birth trauma (see Appendix F). Each co-researcher was individually tasked with coding the same 6 responses to the question about birth experiences, selected by the primary researcher intentionally to represent the heterogeneity in the dataset. They were asked to code each response, first inductively (i.e. 'open coding'), then by applying the list of a priori themes to the data. The primary researcher and co-researcher met as a group to share findings, out of which a 'template' version of a thematic framework was developed, as follows. This process of beginning with a 'template' framework (developed through collaboration with stakeholders/co-researchers) to help develop the Thematic Framework, borrowed from Template Analysis (King, 1998, 2012), was utilised at this stage in order to maximise the influence of co-researchers within the limits of their available capacity.

‘Template’ applied in developing Thematic Framework	
Themes	Sub-themes
Psychological (un)safety	Aloneness
	Passivity/control
	Luck
	Expectancy 
	Other
Discrimination and abuse	Trapped
	Inhuman practices
	Inconsistent/unjust applications of COVID restrictions
	Other
Pain	Helplessness
	Control
	Preparedness
	Other
Impact of prenatal experiences (on birth)	Access to antenatal/prenatal support/education
	Other
Quality of communication	Attunement
	PPE
	Communication during emergencies
	Government/national communications
	Other
Quality of support	Comforted/reassured by staff
	Relational safety
	Staffing issues (absence of staff)
	Presence of birth partner
	Other
Role of culture	On labour wards (organisational cultures)
	Individualism vs collectivism
	Other
Knowledge, access to information and preparedness	Preparedness
	COVID information constantly changing
	Public attitudes
	Other

The primary researcher then went on to code the entirety of the dataset by applying this ‘template framework’ in an iterative fashion, whilst also continuing to apply an ‘open coding’ approach to identity themes not fitting within the current framework, and adjusting the framework accordingly. This was conducted on Google Sheets due to the large quantity of data. The framework was reorganised when approximately one third of participant accounts had been coded, and then again when two thirds of accounts had been coded, and then finally when all accounts had been coded.

This stage resulted in a Thematic Framework (see Appendix I). The framework was shared back with co-researchers to gain feedback and enable reflexivity for the main researcher (see Appendix L), before being finalised and taken forward to the next stage of the analysis.

Indexing

This stage of the analysis was carried out by the primary researcher using NVivo (Lumivero, 2023). Themes and subthemes from the Thematic Framework (Appendix I) were converted into indexes which were applied to the data systematically. The frequency of indexed cases for each theme and sub-theme can be viewed in Appendix J.

Summarising and charting

This stage was also conducted on NVivo (Lumivero, 2023) and involved the use of the software’s ‘framework matrix’ function. NVivo automatically generated matrices for each theme and sub-theme with links to the indexed data. Following the process described by Ritchie and Spencer (1994), the main researcher then undertook a process of abstraction by typing summaries (and to some extent, interpretations) of the indexed data into the relevant ‘boxes’ on the charts. In accordance with convention for Framework Method, the resulting Framework Matrices from this have been shared in full (Appendix K).

Mapping and interpretation

The final stage, in accordance with Ritchie and Spencer (1994), was undertaken by the primary researcher with reference to the research question. This was done through close examination and manipulation of a master spreadsheet combining all framework matrices (Appendix K), which enabled the researcher to closely examine and interpret content within and across participants. It was apparent from this that content under ‘thoughts and feelings’ also appeared under other themes and was perhaps overly de-contextualised as a theme in its own right, therefore this overarching theme was dropped from the final map. Following the process described by Moss (2020), additional charts were sometimes

utilised for sub-groups of participants, to explore apparent patterns and relationships between specific themes and sub-themes. A worked example of this is given as follows.

Exploring the interrelationships between experiences of relational (un)safety and PPE			
Participant	Relational (un)safety	Experience of PPE	Interpretation
Participant 3	'In and out of hospital quickly', 'felt like we had little support'.	Staff wearing PPE added to anxieties.	<i>Negative perception of support exacerbated by staff wearing PPE?</i>
Participant 10	Perception that staff 'running around' stressed with things, felt alone and frustrated by lack of help.	Was wearing a mask, and then when son was placed on chest, couldn't see son due to mask which was distressing.	<i>Negative perception of support, and negative experience of wearing PPE - disconnected from other people (both staff and infant)?</i>
Participant 26	Good care from midwives during birth, 'made us feel like nothing was strange'. 'No sense of panic or fear'. Felt as though 'they [professionals] were only interested in you and the baby.	Professionals wore masks but birthing people and partner didn't have to which was appreciated.	<i>No implied negative impact of PPE on relational safety. 'Buffering' effect of compassionate and attuned care?</i>
Participant 29	During birth, didn't feel listened to <u>be</u> agency midwife and had no advocate due to <u>partner</u> not being allowed on ward. <u>However</u> had positive experience with a different midwife who 'kept talking to me' and also kept husband updated by phone.	Unbothered by PPE as <u>expect</u> PPE in hospitals. Staff 'flushed faces' to introduce themselves which was appreciated.	<i>No implied negative impact of PPE on relational safety. 'Buffering' effect of good communication by midwives, and involvement of <u>partner</u> via phone.</i>
Participant 31	Husband permitted to stay the entire time during the birth, implied that this was protective/positive.	Staff wore 'appropriate PPE' which <u>helped</u> birthing person to feel safe.	<i>No implied negative impact of PPE on relational safety. <u>Protective presence of birth partner</u> ('buffering' effect?).</i>
Participant 33	Felt well supported by midwives during birth.	Midwives wore PPE.	<i>No implied negative impact of PPE on relational safety</i>
Participant 46	Felt was left alone for a lot of birth, perception that <u>this</u> due to midwife shortages. Postnatal felt unsupported, struggled alone with self care and care for <u>baby</u> , again perception	Perception that staff were reluctant to respond to call <u>button</u> due to the challenges of needing to change PPE between patients.	<i>Negative perception of care linked to staff wearing PPE</i>

	that <u>this due</u> to midwife shortages and staff being 'stretched thin'.		
Participant 48	Felt 'forgotten' by staff when waiting to be discharged.	Midwife 'head to toe' in PPE.	<i>Implied link between negative perception of care (not 'held in mind') and PPE</i>
Participant 50	Midwives struggled to insert catheter, query whether this was because their glasses were steaming up and midwives unused to this.	First day of hospital using PPE, midwives struggled with glasses steaming up, perception that this may be why they were unable to insert a catheter.	<i>PPE impacted feelings of trust in staff/professionals, and/or may have directly impacted care</i>
Participant 52	Staff made birth <u>experience 'positive</u> and reassuring. Partner present from the start, just not allowed to leave and return. Implied that this was positive/protective.	'Weirdness' of staff wearing PPE and so <u>not</u> being able to see people's faces.	<i>PPE 'weird' but tolerable, partner presence protective ('buffering' effect?)</i>
Participant 55	Perception that  'hospital seemed more concerned about covid than keeping me safe and well', and 'hospital so paranoid about covid that they missed the vital signs of how ill I was'.	Midwives wearing PPE added to anxieties because 'I was never sure who I was speaking to'.	<i>PPE impacted feelings of trust in staff/professionals</i>
Participant 58	Feelings of being 'left alone' during birth, implied lack of support from or absence of staff.	Feelings of 'discomfort and suspicion' created by not being able to see people's faces due to PPE.	<i>Negative perception of support linked to staff wearing PPE, impacted feelings of trust in staff/professionals</i>
Participant 68	<u>Placed isolation room</u> and staff reluctant to respond to buzzer due to needing to change into PPE. Felt uncared for <u>by staff</u> , 'it really felt like no-one wanted to help me'. Needed support with breastfeeding and didn't get this.	In <u>isolation room</u> whilst being tested for COVID, perception that <u>staff reluctant</u> to respond to buzzer due to needing to apply full PPE to <u>enter room</u> .	<i>Negative perception of care linked to staff wearing PPE</i>

Overall through the 'mapping and interpretation' phase, two overarching themes from the Thematic Framework ('lasting impact' and 'making sense of the experience') appeared interdependent, and so were consolidated. The seven overarching themes from the Thematic Framework therefore became five in the final map, with some sub-themes also being reorganised during the mapping process. Attention was also paid to the frequencies table from the indexing phase (Appendix J), which directed the researcher's attention to content under 'other' category for some overarching themes, in cases where the frequencies were unexpectedly high. This identified salient content which had not been explicitly described in the Thematic Framework, such as experiences of anger under 'thoughts and feelings' and 'making sense of the experience', which helped to elaborate interpretations in the final map. For example, 'anger' was ultimately understood as part of the sub-theme 'loss of experience not had' under the overarching theme 'lasting impact and making sense of the experience', in the final theme map. In general, when using frequencies to inform decision making at this stage of the analysis, consideration was given to Goldsmith's (2021) warning against 'simply reduc[ing] the [...] data to quantitative data by only relying on the volume of data associated with each framework component and sub-component' (p. 2071). The researcher sought to follow Richie and Spencer's (1994) recommended process of 'weighing up the salience and dynamics of issues, and searching for a structure rather than a multiplicity of evidence' (p. 186). For example, 'isolation and aloneness' had high frequencies (see Appendix J) and also seemed salient in examination of individual accounts using the framework matrices. I.e. it was not only 'common' across stories, but also important within individual stories. Therefore isolation and aloneness was retained as a theme in its own right in the final theme map, and was found to have a central position when examining interrelationships between themes using the framework matrices. To give a contrasting example, 'thoughts and feelings' also had relatively high frequencies compared to some other themes in the Thematic Framework. However, when the content under 'thoughts and feelings' was examined using the framework matrices, it was found to be largely overlapping with other themes (i.e. the same extracts of data had been coded under multiple themes), and in these cases it was felt, was more meaningfully understood in context of the other themes. Therefore 'thoughts and feelings' was dropped from the final theme map. To give a third example, 'lasting impact' and 'making sense of the experience' had relatively low frequencies, and on examination of the framework matrices, were found to be conceptually interdependent, so were consolidated in the final theme map. The researcher subjectivity as part of this process was embraced, as per the method (Richie and Spencer, 1994), and was managed through researcher reflexivity (see Appendix L) including through research supervision.

Multiple maps (Figures 1 and 2 in main report) were created to visually represent the findings at different levels of abstraction. Co-researchers were consulted again at the conclusion of analysis, to ensure reflexivity and to 'sense check' the findings.

Appendix H

Summary of review of literature for development of *a priori* initial themes/codes

Literature reviewed:

Author(s) (Year)	Title	Themes
Watson et al. (2021)	Women's experiences of birth trauma: A scoping review	- Sense of knowing and control (in relation to expectations vs reality of labour, decision making and power) - Quality of interactions with healthcare providers (especially quality of communication, pressure and coercion, opportunism from staff looking to utilise a learning experience) - Support network (social expectations, social comparison, social media, family, partners)
Simpson and Catling (2016)	Understanding psychological traumatic birth experiences: A literature review	- Prior mental health - Obstetric emergencies (especially requiring hospital setting or transfer to hospital setting) - Neonatal complications - Quality of provider interactions
Zhang et al. (2020)	Women's experience of psychological birth trauma in China: a qualitative study	- Pain - Uncertainties - Expected to be strong (not allowed to be weak) - Made to feel unimportant
Ayres (2007)	Thoughts and emotions	- Mental coping strategies

	during traumatic birth: a qualitative study	- Wanting labour to end - Poor understanding of what was going on - Mental defeat
Huang et al. (2019)	Exploring Contributing Factors to Psychological Traumatic Childbirth from the Perspective of Midwives: A Qualitative Study	- Perceived family support - Perceived support from staff - Protracted labour in the first stage and/or futile efforts in the second stage - Pain (especially when incongruent with expectations) - Birth outcomes (both maternal and neonatal)
Salter et al. (2023)	Overlap between birth trauma and mistreatment: a qualitative analysis exploring American clinician perspectives on patient birth experiences	- Stigma and discrimination - Poor rapport between women and providers - 'Birth trauma as euphemism to describe mistreatment'
Elmir et al. (2010)	Women's perceptions and experiences of a traumatic birth: a meta-ethnography	- 'feeling invisible and out of control' - 'to be treated humanely', - 'Feeling trapped: the reoccurring nightmare of my childbirth experience' - 'a rollercoaster of emotions' - 'disrupted relationships' - 'strength of purpose: a way to succeed as a mother'.

Deductively developed codes taken forward to development of thematic framework:

Code	Examples
Psychological (un)safety	E.g. Power, control, pressure, coercion, autonomy, consent, mental defeat, thinking you and/or baby are going to die, impact or intrusion of prior trauma during the birth experience, or conversely, feelings of being cared for and safe during birth. For birthing people, but possibly also others (e.g. psychological (un)safety of staff, or of birth partners).
Quality of support	E.g. from birth partners, from midwives, other professionals, friends and family, peers (in-person or remote).
Quality of communications	E.g. transparency and accountability, being (un)heard, feeling (un)heard, (mi)understood, communication barriers and facilitators, virtual and in-person communications.
Discrimination and abuse	E.g. violence, coercion or control, issues of consent, racism, stigma, inhumane treatment.
Knowledge, access to information and preparedness	E.g. Having knowledge about birth; expectations; knowing and understanding what is happening as it happens, significance of antenatal care and education, expectancy violation, social comparison.

Appendix I

Thematic Framework

Themes:	Agency	Uncertainty	The 'simple things'	Thoughts and feelings	Relational Safety	Isolation and aloneness	Making sense of the experience	Lasting impact
Sub-themes:	Locus of control and decision making	Changing rules/information	Hospital atmosphere/environment	(Not) thinking about COVID	(Un)attuned communications with staff	Anticipating aloneness	'Luck'	On mood
		Not knowing what to expect from birth	Basic rights, e.g. food, water, hygiene, privacy	Fear	Feeling unattended to or neglected	Aloneness during induction or whilst waiting for C section	Expectations and expectancy violation	On infant feeding
	Feeling trapped			Loneliness	Public attitudes and fear of judgement		Loss/grief	Post-traumatic growth
	Access to knowledge or information	Rules not seeming to make sense	Other	Relief		Aloneness during birth	Social comparison	Other
	Other	Other			Supportive presence of birth partner	Aloneness on postnatal ward	Other	
					Compassionate care and acts of kindness	Positives or 'silver linings' of isolation		
					PPE			
					Consistency of care	Private rooms		
					(Mis)trust in staff/systems	The walk to the ward		
					Separation from partner	Other		
					Absence of own Mother			
					Other			

Appendix J

Frequency table from indexing phase of analysis

<i>Overarching themes</i>		<i>Sub-themes</i>	
Theme	Frequency*	Sub-theme	Frequency**
Agency	52	Agency: Access to knowledge or information	15
		Agency: Feeling trapped	12
		Agency: Locus of control and decision making	22
		Agency: Other	3
Uncertainty	48	Uncertainty: Changing rules or information	9
		Uncertainty: Not knowing what to expect from birth	18
		Uncertainty: Rules not seeming to make sense	4
		Uncertainty: Other	17
The 'simple things'	57	The 'simple things': Basic rights e.g. food, water, hygiene, privacy	13
		The 'simple things': Hospital environment or atmosphere	30
		The 'simple things': Other	14
Thoughts and feelings	69	Thoughts and feelings: Fear	21
		Thoughts and feelings: Loneliness	9
		Thoughts and feelings: Relief	5
		Thoughts and feelings: (Not) thinking about COVID	7
		Thoughts and feelings: Other	27
Relational (un)safety	167	Relational (un)safety: (Mis)trust in staff or systems	16
		Relational (un)safety: (Un)attuned communications with staff	20
		Relational (un)safety: Absence of own Mother	3

		Relational (un)safety: Compassionate care and acts of kindness	9
		Relational (un)safety: Consistency of care	3
		Relational (un)safety: Feeling unattended to or neglected	30
		Relational (un)safety: PPE	18
		Relational (un)safety: Public attitudes and fear of judgement	2
		Relational (un)safety: Separation from partner	51
		Relational (un)safety: Supportive presence of birth partner	12
		Relational (un)safety: Other	3
Isolation and aloneness	136	Isolation and aloneness: Aloneness during birth	7
		Isolation and aloneness: Aloneness during induction, early labour or whilst waiting for c-section	27
		Isolation and aloneness: Aloneness on postnatal ward	44
		Isolation and aloneness: Anticipating aloneness	24
		Isolation and aloneness: Positives or 'silver linings' of isolation	12
		Isolation and aloneness: Private rooms	8
		Isolation and aloneness: The walk to the ward	8
		Isolation and aloneness: Other	6
Making sense of the experience	58	Making sense of the experience: Expectations and expectancy violation	20
		Making sense of the experience: Loss or grief	9
		Making sense of the experience: 'Luck'	7
		Making sense of the experience: Social comparison	8
		Making sense of the experience: Other	14
Lasting	32	Lasting impact: On infant feeding	4

impact	Lasting impact: On mood	18
	Lasting impact: Post-traumatic growth	4
	Lasting impact: Other	6

*Frequency defined as total number of coded cases (participant accounts) across all sub-themes for this overarching theme.

**Frequency defined as total number of cases (participant accounts) coded with this sub-theme.

Appendix K

Framework matrices

Theme: Agency				
Participant	Access to knowledge or information	Feeling trapped	Locus of control and decision making	Other
1		Feeling trapped on postnatal ward.		
2	Needed support with breastfeeding on postnatal ward, but missed out on this as left early due to being alone.	Feeling trapped on postnatal ward.		
4	Antenatal classes cancelled meant that missed out on crucial info about birth.			
5	Cancelled NCT classes, impacted preparedness for birth.		Letting go of control during birth felt positive, after long time trying to control things in lead up to birth.	
6		Feeling trapped on postnatal ward.	Didn't get to use birth facilities wanted, felt out of control.	
8	Was not informed in advance that would need to stay in recovery post birth due to low dose SSRI.		Was able to do planned or hoped for things such as get in birthing pool.	
9		Feeling trapped on ward when admitted in lead up to birth due to complications.	Lack of control over access to baby on NICU, last minute decisions by hospital around what is permitted.	Waiting to be taken to theatre.
10			Feeling 'mentally prepared' for birth due to planned c section.	
12		Feeling trapped in delivery room.		
13		Feeling trapped in delivery room and again on postnatal ward.		
14			Not wanting to be induced.	Lacking agency on postnatal ward in terms of independent access to shower/bathroom etc.
18	Not knowing how to care for baby on postnatal ward, staff inability or lacking capacity to give support		No choice over where to give birth, having to go to hospital despite not wanting to.	
19			Lack of control over processes, e.g. outcome if testing COVID positive, rushed decision on baby name, initially not allowed to use a fan during the delivery.	

20	Not knowing what is happening during birth, not feeling kept informed by professionals.	Feeling trapped on postnatal ward as nobody to watch baby.		
21		Feeling trapped on postnatal ward as nobody to watch baby.	Feeling helpless on postnatal ward.	
24			Had to be induced (lack of choice)	
27	NCT classes cancelled. Silver lining of this - did own research to prepare for birth which was ultimately empowering.			
29	Felt well informed during birth by midwife about what is happening.		Nobody 'to advocate for me' during birth.	
30			Being 'moved to a ward' (out of control).	
33	No breastfeeding support offered on postnatal ward.			
35		Feeling trapped on postnatal ward	Self-discharged because pain was not being treated on postnatal ward.	
36		Feeling trapped on labour ward before partner allowed to join.		
37	Not fully informed about health of new baby.			
38			Feeling as though can't do it (birth) alone, delayed going to ward because of this.	
39	Online alternative to NCT classes were useful.			
40		Feeling trapped on ward during induction.		
41	Feeling unsure how to care for baby on postnatal ward, nurses not helping as didn't want to come close due to COVID.			
42	NCT classes cancelled, meant had questions about upcoming induction and nobody to ask.		Given choices but felt unsupported to make informed choice.	
46			Asked for epidural and not given one.	
47				
48				
49			Didn't get to use birth facilities wanted.	
52	Had to rely on own research to prepare for birth.			

54			Having to make decisions alone.	
57			Felt pressured to leave soon after birth.	
61			Birth was a 'debilitating' experience.	
62	NCT classes cancelled, impact of this particularly on knowledge around breastfeeding.		Felt pressured into choices about birth, home birth was cancelled.	
66		Feeling trapped when baby admitted for complications.	Lack of control over 'basic elements' of giving birth.	Felt as though treated as infection risk and not as person.

Theme: uncertainty				
Participant	Changing rules or information	Not knowing what to expect from birth	Rules not seeming to make sense	Other
1	Government advice 'confusing and unhelpful'.			
4		Antenatal classes cancelled meant didn't know what to expect, missed out on crucial info.		Fear about how care would be effected by COVID and possibility of birthing alone, 'dominated my thoughts'.
5		Uncertainty and fear about birth.		Uncertainty created fear about birth. However letting go of control during c section was actually experienced positively, 'I knew I was safe for a while'.
6	'Rumours' about what was and wasn't allowed in hospitals, each hospital having its own set of rules.			
8	Told needed to stay in hospital 2 days post birth due to being on low dose SSRI, however had not been told this previously.			Had to change maternity care and give birth in different hospital to expected, however felt supported by professionals through this, 'muddling through' together.
9	'Last minute decision' by hospital to allow partner onto NICU to visit baby.			
11	Uncertainty around what rules were on maternity wards, changing day by day, 'no one could say for certain'.			
12			Rules around partner attendance 'made no real sense'.	Fearful of possibility that partner could catch covid and not be able to attend at all.
13		Going into hospital with thoughts of 'what was I going into, was I safe?'		
17		Final weeks of pregnancy filled with uncertainty about what would happen during birth.		
19		Worry about whether or not husband would be allowed to attend birth.		Having to be tested in labour, 'wondering what would happen if I tested positive'.
20			Questioning rule around partner attendance, would make more sense if partner could attend for whole of labour.	Not knowing 'what was going on' in early labour.

26		Antenatal classes cancelled so didn't know what to expect.		
27		Antenatal classes cancelled, however this ended up being a positive as did own research which was empowering.		Worries that husband wouldn't be allowed to attend birth.
28				Fear that could birth alone, or interact with someone with COVID. Fears about hospital environment.
29				Worries about how husband would locate ward.
30	Last few weeks leading up to birth was stressful as rules 'changing daily'			
31		Unknown of whether husband would be allowed to attend birth.		Fear that 'bringing a baby into a world that was unsafe'. Lots of unknowns and 'no answers available'.
35	Nobody had any answers about what rules would be or what would happen in hospital, nothing that could 'rely on'.			
36				Fearful of possibility of not receiving adequate care due to NHS being 'overwhelmed'. Fear of catching covid and possible consequences of this.
37		Uncertainty about whether husband would be allowed to attend birth.		Told baby had an eptopic beat but not given enough information about this.
38		Fearful of the 'unknown of labour'		
40	Ever changing rules, not even hospitals seemed to now what own rules were. Hospital initially said partner could not join in theatre for c section and then relented on this.			Induction failed and spent days in hospital 'for seemingly no reason'.
42		Antenatal classes went online, meant had questions about birth and nobody to ask.		
48		Uncertainty of whether husband would be allowed to attend birth and what would happen.		
50		Fear about going to hospital as 'no one really knew what was happening' in them.		
51				Worry about possible impact of covid on self and baby.

52		Antenatal classes cancelled, had to rely on own research which was difficult.		
56		'Constant unknown' was scary.	Rules around partner attendance seem 'ridiculous' in hindsight.	Disorientated during birth ('what's next?'). Chaos in hospital, 'feel like no-one knew what they were doing'.
59		Uncertainty about whether or not husband would be allowed to attend birth, right up to the day of the birth, was hard to tolerate.		
61		Last month of pregnancy a very uncertain period, anxiety that could end up having to give birth alone.		
63		Worried a lot in last two months of pregnancy about whether husband 'would make it to the birth'.		
65				Memory of partner sat in hospital car park, unsure if he should come home or stay and wait.
66			Don't understand why wasn't allowed 'even a golden hour or just some privacy after giving birth'.	
69	Nobody could give any information about what was going to happen in hospital, sense of hospital in panic or crisis.			Uncertainty created by pandemic during pregnancy and going into birth.

Theme: the 'simple things'			
Participant	Basic rights e.g. food, water, hygiene, privacy	Hospital environment or atmosphere	Other
2			Biggest difficulty on postnatal ward was difficulty moving.
4			NCT classes meant missed out on the basic information about what to expect from birth.
6		Atmosphere on postnatal ward 'sad' due to absence of any visitors to celebrate newborns.	Midwives poured baths,
8		Atmosphere 'a little surreal', 'a strange world of only mums and babies'.	Husband accidentally took birthing person's phone home with him when left hospital after birth.
9			Midwives and other staff made week in hospital pre birth feel 'homely'.
10			Couldn't see baby initially when placed on chest, due to mask.
12	Cafes and shop closed so couldn't walk corridors or get snacks. Postnatal, struggled to get help with accessing bathroom, water, picking up baby and eating.		
13	Partner not allowed out of birthing room, so couldn't walk corridors or get food or drinks.		
14	Struggled accessing bathroom on postnatal ward.	Postnatal ward felt cramped. Lack of visitors felt like a shame.	
19	Was initially now allowed to use a fan during bith, and felt unable to sleep on postnatal ward as nobody to watch baby.		Husband had to leave soon after c section which meant very rushed decision on baby name.
20	Felt like couldn't shower on postnatal ward, staff would not watch baby.		Midwives found some mats for husband to lie on as he has back problems.
21		Hospital chaotic, everything ran late.	Had to ring buzzer for help with anything at all, even lifting baby. Needed parter there.
26		Hospital very relaxed, no sense of panic or fear.	
29		Didn't feel comfortable phoning husband during induction due to other ladies on the ward.	
32	Lack of sleep on postnatal ward.	Busy postnatal ward environment.	
33			Struggled to get essentials needed for baby, e.g. mattress, nappies, steriliser, maternity pads.
34		Hospital 'nice and quiet'.	
35	Not being changed or given pain relief on postnatal ward.	Wards were 'too busy'.	

36	Not allowed to leave the delivery room to get water to drink.	Hospital environment felt like 'little bubble of normality'.	
39	Struggled to access bathroom in postnatal ward.		
40		Perception that hospitals had no clue what their own rules were.	
41		Empty waiting room was 'crazy'.	
42		Busy wards. Lack of daylight, decent nutrition and support from loved ones.	NCT classes cancelled meant nobody to direct questions about induction towards.
46	No pain relief during labour. Struggled with things like moving, lifting baby and and carrying bags on postnatal ward.	First three hours birthing 'not in the calming relaxing circumstances I'd planned or hoped for' due to still being in triage.	
48			Worried about getting COVID on possessions, quarantined them after returning home from hospital.
49		Room opposite was barricaded off for a COVID patient, pandemic felt more real and scary in hospital environment compared to at home.	
50		Clapping for the NHS, 'surreal'. Atmosphere 'a bit fraught'.	
51		Paediatrician standing on other side of room, not wanting to come close.	
52		'Weirdness of everyone wearing PPE'.	
53			Hospital suspended car park charges which was a positive.
54	Struggling with carrying bags and accessing showers on postnatal ward.	Was nice to be able to chat to other Mums on the ward, and also nice when wards were quiet, like having a private room.	
55		Perception that hospital over focussed on covid.	
56	Husband unable to access food during labour.	Felt like nobody knew what they were doing. Chaotic.	
58		Feeling of discomfort and suspicion, not helped by PPE. Perception of 'crisis', understaffing.	
60		Was on a ward for people in early pregnancy which felt like wrong environment and slowed progression of labour. Appreciated that the postnatal ward wasn't busy with lots of visitors.	

62		Appreciated not having visitors on postnatal ward.	
63		Covid 'hung in the air' over birth experience.	Desperately needed respite (sleep) on postnatal ward.
65		Lack of visitors and perception that midwives less hands on, felt 'abandoned'.	
66		Felt treated 'as primarily infection risks', narrative of health professionals risking their lives. Implied hostile feeling environment.	
67	Not allowed to close curtain or fill up water cup due to infection prevention measures.	Felt not a welcome presence in the hospital.	
68		Security at hospital entrance. 'Difficult to disentangle my labour and birth experience from the backdrop of the pandemic'.	
69		Hospitals in state of panic and crisis.	

Theme: thoughts and feelings					
Participant	Fear	Loneliness	Relief	(Not) thinking about COVID	Other
1	Fear of being turned away when arriving at hospital. Fear of being alone during the birth,				
3					Anxious as some stuff were not wearing PPE. After birth, experienced anxiety and low mood.
4	Birth was a scary experience. Labouring alone was 'terrifying'.	Birth was a lonely experience.			Birth was sad, scary, lonely.
5	Fear when approaching the birth. Fearful of hospital, public attitudes.		Relief in c section of being able to 'relinquish control', relief from the 'pressure of trying to keep safe'.		Looking back on birth, feels sad and like 'can't believe' it was how it was.
6			Relief when husband able to join on ward.		Induction period painful and distressing, 'cried most of the time'. Sadness on postnatal ward as nobody to celebrate arrival of baby.
10					Overwhelmed and confused when baby placed on chest, as couldn't see him due to mask.
11				Didn't think about COVID once during birth.	
12	Fear about partner not being able to attend birth, particularly if partner were to catch COVID.				
13	Frightened when transferred to postnatal ward.				Sadness now when looking back on birth.
14				Didn't think about COVID at all during birth, until husband asked to leave when being moved to postnatal ward.	
15	Frightened on postnatal ward	Lonely on postnatal ward without partner.			
16		Lonely during induction and on postnatal ward without partner.			
17	Frightened when alone during first 15 hours of labour.				

18				Didn't think about COVID at all from time admitted until leaving hospital.	
20	Frightened during early labour as alone and didn't know what was happening.				
24					Exhausted, emotional and missing family on postnatal ward.
25			Relief when leaving the hospital		
26		Lonely on postnatal ward without partner.		COVID not a topic of conversation at hospital which was appreciated.	Nervous about birth as didn't know what to expect.
28	Frightened about possibility of birthing alone and about birthing in a hospital environment (not preferred environment).				
29	Fearful of catching COVID and at hospital and of possibility of birthing alone.			Covid didn't play on mind during labour.	Worried about how husband would locate postnatal ward.
30	Felt frightened when being transferred to postnatal ward.				Overwhelming when finally able to go home and be with husband.
31	Fearful of possibility of husband not being allowed to stay in the room during birth, husband also experienced this fear.			'whilst giving birth, even a global pandemic seems insignificant ... I didn't think about covid once'	Felt safe during birth.
36	Fear of catching COVID and impact this might have on baby and/or on care received at hospital.				Overwhelmed with emotion when ready to leave hospital.
37					Felt anxious when alone waiting for c section.
38	Fearful of 'unknown' of labour. Also fearful of possibility of birthing alone.				
39					Feel sad and hurt when thinking back on birth.
40	Frightening time, rules at hospital changing constantly.				

42			Relief that not alone any more when reunited with husband going into theatre for c section.		Felt immense guilt towards baby and husband about uncontrollable aspects of birth. Very happy when allowed to go home.
43	Frightened of being alone during labour.				
46					Waiting in triage, felt nervous but excited. Birth was stressful and traumatic.
48					Anxious time, wondering what will happen next.
49			Relief when able to go home as needed the help from husband with baby.		
51					Feelings of loss and upset that partner couldn't come into hospital.
56	Fear in society generally, trying to stay calm in context of this was hard.				Feeling worried, 'what's next?'. Labour was daunting.
58		Birth was a lonely experience.			Feelings of discomfort and suspicion in hospital. Looking back on birth, struck by feelings of being left alone and thoughts of what could have gone wrong.
59	Blue lighted to hospital alone, this was very scary. Fear during c section.				Anxiety about whether husband would be allowed to attend birth was 'hard to deal with'. Still feels sad that husband missed out on birth. Feeling tired and drained during postnatal period whilst baby in SCBU is 'something won't ever get over or forget'.
60		Period in hospital after waters broke but before active labour (2 days) was lonely due to partner not allowed to be present.			
61	Scared during birth.	Birth was lonely.			Anxious that could end up giving birth alone. Experience of birth was 'debilitating' and 'filled with unhappiness'.

63		Week on postnatal ward with baby and without husband was lonely, 'all I remember of this time is crying'.		'mind was racing' during birth as didn't have the distraction of someone with me. Covid 'hung in air' over experience.	'Trauma is my overriding emotion about the birth of my baby'. Labouring alone until active stage was 'deeply upsetting'.
65	Scared during birth, didn't understand what was happening.				Reflecting on birth, feels angry and sad. Didn't process emotions at the time. Felt abandoned on postnatal ward.
66		Loneliness on postnatal ward ('absolute despair').			Anxiety in lead up to birth, thought that could be alone for part of labour was 'all consuming'. Feeling let down and angry when reflecting on birth experience.
68					Tried hard to stay calm in lead up to birth. Pandemic circumstances negatively impacted confidence and feelings of safety during birth.
69	Lead up to birth was frightening. Hospitals in a state of crisis which added to fears.				

Theme: relational (un)safety											
Participant	(Mis)trust in staff or systems	(Un)attuned communications with staff	Absence of own Mother	Compassionate care and acts of kindness	Consistency of care	Feeling unattended to or neglected	PPE	Public attitudes and fear of judgement	Separation from partner	Supportive presence of birth partner	Other
1										Partner present for birth, implied that this was positive/protective.	
2						'Left alone in the postnatal ward with almost no midwife attending me'.			'They sent my partner away' when arrived at hospital. Then again 1-2 hours post birth.		
3						'In and out of hospital quickly', 'felt like we had little support'.	Staff wearing PPE added to anxieties.		Separation from partner for induction was distressing.		
4	Hospital was slow in recognising emergency situation, perception that this due to staff shortages and systemic failings (miscommunication between teams).	'Your baby's in trouble, but the good news is you're allowed to call your husband now'. After being told this, was left alone believing baby had died.				'Left alone for 12 hours' before staff realised baby at risk. Felt unsupported by midwives during early labour when husband also not present. Struggled with care for baby post c section on postnatal ward, implied lack of support from staff.			Separation during labour and again 45 mins post birth, 'terrifying'.		

5	Trust in surgical team, relief of relinquishing control during c section, felt safe.					'Shut in' hospital room alone on postnatal ward, implied lack of support from or absence of staff.		Scared of public attitudes.			
6				Midwife poured baths and 'held me as I sobbed'. Perception that midwife maybe not allowed to do this but did it anyway, and appreciated as 'I craved any form of comfort'.					Separation from husband for induction was distressing, 'was desperate for my husband'. Distressing scene described with husband watching from other side of a pane of glass.		
7				Feeling that midwives were particularly understanding due to the circumstances.						Once partner was present, felt nothing else different to non-covid times.	
8				Midwives took baby so that could get some sleep on postnatal ward.	Gave birth at different hospital than planned, and some differences between how things are managed and/or things not	Nobody to help with walk to the ward whilst contracting.			Separation from husband post birth was hard, surreal.	Once husband could be present, everything was as hoped.	

					communicate d between the hospitals.						
9				Hospital staff were emotionally supportive and tried to make hospital stay 'as homely as possible'.					Separation from partner when arrived at hospital, and kept separated when waiting to be taken to theatre, reunited at theatre doors.		
10						Perception that staff 'running around' stressed with things, felt alone and frustrated by lack of help.	Was wearing a mask, and then when son was placed on chest, couldn't see son due to mask which was distressing.	Struggled with breastfeeding on postnatal ward and felt a lot of pressure to do it.	Partner had to leave after 30 mins post c section, mental health immediately started to deteriorate.		
11									Husband had to wait in the car outside.	Partner present for birth, positive birth experience.	
12						Midwives 'busy', couldn't get help with self care and care for baby.	Birthing person and partner allowed to take of masks once in active labour.		Partner having to wait outside when being assessed, having to leave 'fairly promptly' after birth. Feels if partner could have been present on postnatal ward this would have improved		

									recovery and wellbeing.		
13			Desperately wanted parents to visit on postnatal ward.				Perception that nurses and midwives struggled to adjust to PPE. PPE impacted sense of relational safety or trust, 'you don't realise how much you rely on someone's facial expressions until it's not there'.		Partner not able to join until established labour, going onto ward without partner 'difficult and daunting'. Then had to leave post birth after initial skin to skin.		
14						Implied lack of support from ward staff with self care and care for baby.			Separation from husband when arrived at hospital, then again 3 hours post birth. Felt like a shame not to have husband present on postnatal ward.		
15					Staff rotated therefore 'rarely saw the same person twice' on ward.				Missed husband 'terribly' on postnatal ward. Separation was very distressing.		

16						'Chasing answers and updates from the midwives', added to feeling of loneliness.			Separation from husband during induction was distressing, feels this contributed to birth not progressing and traumatic delivery.		
17									Had to 'endure' first 15 hours of labour without husband.		
18	Confidence in midwifery team. 'I didn't feel unsafe at any point'.	Midwifery team 'put me at ease', felt safe.		Helped with breastfeeding by a 'lovely midwife' on postnatal ward.		One nurse looking after 10 women, 'she wasn't able to help all of us'. Felt helpless.			Separation from partner at 5am, not allowed to return until visiting hours.	Partner present for birth due to hospital not yet having covid procedure in place, implied that his was positive/protective.	
19		Hospital care was positive during birth, 'did not feel rushed or pressured'.							Separation from husband 1 hour post c section meant a rushed decision on baby name.		
20	Confidence in skills of midwife ('she was very good', 'excellent').	Asked midwife for help, but midwife either did not understand or not willing/able to help.				Felt unsupported by midwives on postnatal ward with self care and care for baby.			2 hours with husband post birth 'flew by' and didn't feel like enough time. Separation was 'very hard'.		
21						Midwife 'just disappeared			Partner not allowed into		

						when we were in recovery', felt unhelped on postnatal ward.			theatre for c section, then had to leave a few hours post birth.		
22									Hospital didn't allow partner to be present for painful induction, is implied this separation was distressing.		
23									Partner 'sent home' two hours post birth, was 'quite traumatic'.	Partner present during induction 'which was good'.	
24		Support from professionals was 'amazing' during birth, very supportive, however professional care still not a substitute for support from loved ones.							Separation for induction and again a couple of hours post birth. Missed family.		
25									Separation from partner once baby born.		
26		Good care from midwives during birth, 'made us feel like nothing was strange'. 'No sense of panic or fear'.		Midwife 'snuck me a hug' when cried due to feeling nervous about birth.			Professionals wore masks but birthing people and partner didn't have to which		Separation from husband 'a short time' after c section was 'very hard'.		

		Felt as though 'they [professionals] were only interested in you and the baby.					was appreciated.				
27									Husband had to leave 4 hours post birth and then only saw him on facetime for three days.	Partner present throughout birth, isolated in lead up to due to date to ensue this could happen. Birth went well.	
28		Care from midwives and nurses was good, 'supportive', 'made me feel at ease'.									
29		During birth, didn't feel listened to be agency midwife and had no advocate due to partner not being allowed on ward. However had positive experience with a different midwife who 'kept talking to me' and also kept husband updated by phone.					Unbothered by PPE as expect PPE in hospitals. Staff 'flashed faces' to introduce themselves which was appreciated.		Separation from husband when arrived at hospital was distressing, and struggled with separation during 2 days of induction, worried about how husband would find the ward. Separated again postnatal for three days.		

30									Thought of partner leaving after baby arrived was difficult.		
31				Staff acted as emotional support. Nurse gave hug at a crucial moment, 'an act of kindness that I will never forget'.			Staff wore 'appropriate PPE' which helped birthing person to feel safe.		Only one visitor allowed on NICU, so parents swapping in and out, effectively separated from each other.	Husband permitted to stay the entire time during the birth, implied that this was protective/positive.	
32						Struggling with exhaustion on postnatal ward and hallucinating, but midwives 'so stressed and busy they couldn't really help'.			Husband 'made to leave straight after the emergency c section', experienced this as 'brutal'.		
33		Felt well supported by midwives during birth.				Was not offered support with breastfeeding.	Midwives wore PPE.		Only separated from partner one night post birth, implied that this was ok/tolerable.		
34							Midwife wore a mask (implied negative).			Husband present the whole time, birth was 'all okay'.	
35	Asked for painkillers and midwives were told by doctors to give these	Perception of 'power struggle' between doctors, nurses and management. Poster on wall				Felt neglected on postnatal ward, not being changed or given pain relief. 'Lack of care' and					

	but ignored instruction. 'I trusted them [midwives] and they just ignored his [doctor's] advice'. Perception of a power struggle between doctors, nurses and management , to detriment of patients.	with values, 'respecting patients first', sense that this incongruent to participants' experience.				'withholding of pain medication'.					
36	Fearful that quality of care would be impacted by pandemic.			Midwife gave a hug which 'really meant a lot to me'.					Partner not allowed in when arrived at hospital, distressing scene described with partner looking 'hopelessly' through door.		
37		Told baby had ectopic beat 'flippantly' by staff as leaving ward, without further explanation.				Waited for c section 'alone with no support', sense of abandonment.			Husband had to sit separately on ward whilst waited alone for c section. Had to leave 30 mins post birth.		
38									Distressed by separation from husband during labour, 'didn't want to to and didn't think I		

									could do it without my husband'.		
39		Medical staff 'very kind and helpful'.	'If I could have had my mother with me [the birth] would have been different'.			Many patients and few staff, implied lack of attention from or availability of staff.			Separation from husband post birth was 'horrible'.		
40							Initially hospital wouldn't let partner into theatre for c section (they eventually relented on this) and stated this was due to lack of PPE.				
41			Had to be on facetime to own Mother, sense of loss that she couldn't be there for the birth.			Nurses wouldn't come close due to COVID, felt unhelped.			Separation postnatal was difficult.		
42									Separation for induction		
43									Separation from husband one hour post birth.		
44									Separation from partner in		

									early labour and then again after baby born for 7 days.		
45						Lack of help from staff on postnatal ward meant was discharged early.					
46	Asked for epidural, told this could happen but then didn't happen due to 'emergency' ('emergency' written in speech marks). Left without pain relief for whole labour.					Felt was left alone for a lot of birth, perception that this due to midwife shortages. Postnatal felt unsupported, struggled alone with self care and care for baby, again perception that this due to midwife shortages and staff being 'stretched thin'.	Perception that staff were reluctant to respond to call button due to the challenges of needing to change PPE between patients.		Separation for triage and whilst being prepped for theatre, then again less than an hour post birth, was 'told to go home'.		Had to carry own bags, in hindsight too many bags to be carrying post c section 'but there was no one else to help'.
47									Separation from husband during induction and then again a few hours post birth.		
48						Felt 'forgotten' by staff when waiting to be discharged.	Midwife 'head to toe' in PPE.				

49	Care was 'fantastic', 'brilliant'.								Separation from husband post birth 'really tough', cried with relief when reunited.		
50	Midwives struggled to insert catheter, query whether this was because their glasses were steaming up and midwives unused to this.						First day of hospital using PPE, midwives struggled with glasses steaming up, perception that this may be why they were unable to insert a catheter.				
51		Pediatrician standing on other side of room, 'didn't want to get too close'.							Separation from husband when arrived at hospital was upsetting, had to keep husband updated via text during induction. Separated again post birth.		
52		Staff made birth experience 'positive and reassuring.					'Weirdness' of staff wearing PPE and so not being able to see people's faces.			Partner present from the start, just not allowed to leave and return. Implied that this was positive/protective.	

53							Midwife 'nearly missed the baby arriving' due to trying to apply full PPE.				
54		Told to go to the showers carrying own bags whilst in recovery from c section. Experienced this as perhaps uncaring or dismissive.							Separation from husband was difficult, felt like had to make decisions alone.		Struggled with lack of support post c section on ward, feeling of unreasonable expectations, 'I was expected to be up within four hours of surgery and walking around'.
55	Perception that 'hospital seemed more concerned about covid than keeping me safe and well', and 'hospital so paranoid about covid that they missed the vital signs of how ill I was'.				Midwives wearing PPE added to anxieties because 'I was never sure who I was speaking to'.		Midwives wearing masks 'added to anxiety levels' due to feeling unsure 'who I was speaking to'.				
56	Chaos in hospital, felt like nobody knew what they were doing.										

57	Anterior pelvic tilt not picked up on, perception that this an oversight due to not being checked properly by midwives when presented at labour ward.	'Practically kicked out' of hospital, felt pressure from staff to be discharged quickly after birth.							Separation from husband one hour post birth, 'absolutely terrible'.		
58	Unsure how much of what was unsatisfactory about birth experience due to pandemic, or how much due to understaffing in NHS maternity services generally.	Perception that PPE and social distancing made it difficult for staff to convey trust and security, 'no matter how many reassuring words are exchanged'.				Feelings of being 'left alone' during birth, implied lack of support from or absence of staff.	Feelings of 'discomfort and suspicion' created by not being able to see people's faces due to PPE.				
59									Separation from husband 30 mins post birth for three days, was very hard.		staff support 'not the same as having your partner with you'.
60									Separation from partner for 2 days in early labour and		

									again 2 hours post birth.		
61						Perception that 'staff were overstretched and were trying their best'. Implied lack of support from or absence of staff during birth.			Separation from husband for 3 days for induction, and again for 3 days post birth.		
62	Felt that pandemic made it easier for professionals to coerce birthing people into unwanted procedures or exams.	Perception that pandemic made it easier for professionals to coerce birthing people into particular choices around birth.				Lack of support from staff during birth, perception that this in part perhaps due to staff themselves being inadequately supported.					
63						Lonely and struggled to care for baby alone on postnatal ward, implied lack of support from or absence of staff.			Separation from husband very distressing, 'all I remember of this time is crying'.		
64						Lack of support from midwives during birth, perception that this 'due to the pandemic'.			Separation from husband post birth.		
65		Told by midwife to 'sleep when baby sleeps' on postnatal ward,				Perception that 'pandemic meant midwives were			Separation from husband when arrived at hospital, 'I was		

		experienced this as frustrating/unhelpful advice as baby would only sleep on Mum.				not as hands on'. Felt 'abandoned'.			desperate to have him hold my hand. Worst moment in birth was when husband had to leave.		
66	Felt 'let down' by system and that 'every possible corner was cut'.					'No staff around and no support' on postnatal ward. Care from staff 'felt negligent at times'.			Separated from husband 'immediately' post birth, felt like a 'punishment'.	Was allowed eventually to have husband present for induction, but 'had to have break down for this to be enabled'.	
67		Told 'coldly' that partner could not join until active labour, and to avoid closing curtain or filling up water cup.				'Lack of support' from staff. Felt an unwelcome presence in the hospital.					
68				Staff 'turned a blind eye' to allow husband to stay for a few hours post birth.		Placed isolation room and staff reluctant to respond to buzzer due to needing to change into PPE. Felt uncared for by staff, 'it really felt like no-one wanted to help me'. Needed support with breastfeeding and didn't get this.	In isolation room whilst being tested for COVID, perception that staff reluctant to respond to buzzer due to needing to apply full PPE to enter room.		Separation from husband post birth very distressing, remembers 'begging' staff to permit husband to visit.	Husband allowed to be present for whole of birth, implied that this was positive/protective.	

69	Perception that hospitals in a state of panic and crisis, not knowing how to react to pandemic situation.										
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Theme: isolation and aloneness								
Participant	Aloneness during birth	Aloneness during induction or whilst waiting for c-section	Aloneness on postnatal ward	Anticipating aloneness	Positives or 'silver linings' of isolation	Private rooms	The walk to the ward	Other
1			Alone (no partner) on postnatal ward, left ward earlier than feels should have because of this, wanted to be with partner.	'Terrified' by possibility of having to birth alone, caused 'unnecessary stress' and also meant went to hospital sooner than would have otherwise.				
2		More than a day at hospital alone (no partner).	Alone (no partner) on postnatal ward and felt unsupported by staff.					
3		Alone (no partner) during induction, was distressing.						
4		'Left alone' for 12 hours in early labour.	Alone (no partner) on postnatal ward for 2 days, struggled to care for baby.					Alone when told in labour that baby in trouble, then 'left alone believing my baby had died'.
5			Alone (no partner) on postnatal ward, was distressing.					
6		Alone (no partner) for 32 hours during induction, was distressing.	Alone (no partner) on postnatal ward, felt sad that nobody celebrating arrival of babies.	Uncertainty about whether or not husband able to attend birth was 'unbearable'.		Private room was 'deeply isolating and lonely', nobody to celebrate arrival of baby.		
7		Alone (no partner) during induction.						Alone when waters were broken and going into intense labour.

8			Alone (no partner) on postnatal ward, hard surreal experience but staff were supportive and even took baby for an hour so could get sleep.				Gave birth in different hospital to planned, so finding the ward alone was difficult. 'I was wadding through dark hospitals all while contracting trying to find the right place'.	
9		Alone (no partner) waiting for c-section.						In hospital for a month before birth alone as partner not allowed to visit. After birth, had to isolate due to exposure to a positive case which meant for two weeks was unable to visit baby on NICU.
10			Alone (no partner) on postnatal ward and frustrated by lack of help from staff.		In lead up to birth, had a lot of time for sleeping, hobbying and nesting, which meant felt prepared for birth.			
11				Fear of possibility of husband not being allowed in for birth.	'Quiet time' in lead up to birth was a positive, helped to feel more relaxed going into birth than would have been the case in normal circumstances.		Had to walk to ward alone in middle of the night, dilated and contracting, was a struggle.	
12		Alone in early stages of labour	Alone (no partner) on postnatal ward for two night due to haemorrhage, difficult to get help from midwives.	High levels of anxiety and fear about possibility of partner not being able to attend birth.			Had to walk in alone, up stairs, whilst contracting.	

13		Alone (no partner) in early stages of labour.	Alone (no partner) on postnatal ward, felt afraid.				Had to carry own bags and walk to ward whilst contracting, 'was both difficult and daunting'.	
14			Alone (no partner) on postnatal ward, felt 'a shame' not to have partner there, struggled with caring for baby and could have used 'another pair of hands'.	Fear of induction as could mean spending days in hospital alone.	Able to 'nest' and concentrate on being prepared for birth.			
15			Alone (no partner) on postnatal ward, lonely and scared.					
16		Alone (no partner) during induction for 2 days on ward, feels aloneness contributed to birth not progressing and traumatic delivery.	Alone (no partner) on postnatal ward, struggled to cope.					
17		Had to 'endure' first 15 hours of labour alone (no partner).		Worry about how would cope if having to stay in hospital alone (without partner).				
18			Alone (no partner) on postnatal ward, lack of staff support and unable to interact with other Mums due to restrictions.	Anxiety about prospect of being in hospital alone.				
20		Alone (no partner) in early stages of labour, had to keep partner updated by phone, scary as wasn't sure what was happening.	Alone (no partner) on postnatal ward, found this very hard, felt couldn't shower as nobody to watch baby.					

21			Alone (no partner) on postnatal ward, struggled caring for babies and felt unsupported, midwife 'disappeared'.			Private room was 'awful' - had to ring the buzzer and wait for help with everything.		Partner not allowed to be in theatre for c section.
22		Alone (no partner) during induction, was distressing.			Was positive that didn't have to do stressful things like travel in the lead up to birth.			
23			Alone (no partner) on postnatal ward, feels had to move out of bed earlier than would have if partner could have been there, found this traumatic.					
24			Alone (no partner) for 3 days on postnatal ward, exhausted and missing family.				Had to walk into hospital alone.	
25			Alone (no partner) on postnatal ward.					
26		Alone (no partner) during induction, was 'daunting'.	Alone (no partner) on postnatal ward for five days, found this lonely and hard to look after baby.					
27			Alone (no partner) on postnatal ward for 3 days, communicated with partner via facetime.	Worry about husband not being allowed to attend birth.	Maternity unit felt like 'being away at a spa weekend'.			
28				Terrified that may have to birth alone.	Having chance to bond with baby without visitors was a positive.			

29		Alone (no partner) during induction for 2 days and felt uncomfortable calling husband due to others on ward.	Alone (no partner) on postnatal ward, not all bad as felt supported on ward and partner got sleep, but were happy to be reunited.	Fearful of prospect of birthing alone.				
30			Alone (no partner) on postnatal ward, felt scared.	Thought of possibly not having partner present at birth was stressful.				
31				Possibility of partner not being able to attend birth was 'terrifying'.				Aloneness and isolation whilst baby in NICU immediately following birth, only on visitor permitted at time which meant parents took turns and didn't have each other for support.
32			Alone (no partner) on postnatal ward, was 'brutal', struggled caring for baby and felt unsupported by midwives.					
33				Worry about partner possibly not being allowed into hospital for birth.				
34					Hospital 'nice and quiet'	Private room was 'okay'		
35					Not going to work in lead up to work, helped with feeling prepared.			
36				'Desperate' not to have to stay in hospital without partner.		Private room was 'lovely'		

37		Separated from partner on ward whilst waiting for c-section, felt alone.		Uncertainty before birth about whether or not husband would be allowed to attend, contributed to birth experience overall being traumatic.				
38				Fearful of possibly having to give birth without partner present, tried to stay home as long as possible, which in hindsight possibly compromised safety, because fear of birthing alone was so huge.	Positives of days spent alone with baby were that it provided a unique chance to bond 'without interference', although it was also 'incredibly difficult'.			
39	Birth partner only allowed to be present for part of delivery.	Few days in antenatal alone before birth, didn't mind this much.	Alone (no partner) on postnatal ward, in 'survival mode' struggling to care for self and baby whilst very poorly.					
40					Positive of partner not being allowed to be present for induction, was that became close to the other women in the bay.			
41	Aloneness during delivery	3 days alone (no partner) during induction.	Alone (no partner) on postnatal ward for two days, felt unsupported and that nurses didn't want to come close due to Covid, had to teach self how to care for baby.	Knew for just over a week that Mum wouldn't be able to join and partner wouldn't be able to join until active labour.				

42		Alone (no partner) during induction and had to make difficult decisions about birth alone, was distressing.	Alone (no partner) on postnatal ward for best part of a week, struggled to care for baby whilst poorly.				Had to walk up two flights of stairs alone, find the ward alone.	
43			Alone (no partner) on postnatal ward.	Fearful about possibility of birthing alone (without partner) until active labour.				
44	Gave birth 'alone' (absence of birth partner).		Alone (no partner) on postnatal ward for 7 days, was 'awful'.					
45	Felt alone during labour.		Alone (no partner) on postnatal ward, went home early due to lack of support on ward.					
46	Did a lot of the birth 'alone' (no partner), and also when partner joined felt they were 'left alone' in the birth.	Alone (no partner) in early labour and then when being prepped for theatre, was distressing especially for partner.	Alone (no partner) on postnatal ward, struggled to care for baby whilst poorly.					
47		Alone (no partner) during induction, but could walk laps of car park with partner.	Alone (no partner) on postnatal ward, in isolation ward whilst being tested for COVID.			Private room 'both a blessing and curse'.		
48				Anxious time, anticipating birth without husband present.				
49			Alone (no partner) on postnatal ward, was really tough caring for baby alone.	Apprehensive and fearful about partner not being present for some of labour.				
51		Alone (no partner) during induction, had to	Alone (no partner) on postnatal ward.	Anticipatory loss/grief about husband not being				

		send text updates to partner.		able to join when going into hospital.				
52						Private room was a positive as it meant that husband was allowed to be present from the start.		
54		Alone (no partner) for a week prior to c section, felt as though had to make decisions about birth alone.	Alone (no partner) on postnatal ward, missed support would have had from partner.		'I could watch films and get food made for me for a week alone', and getting to know other Mums on ward.	Private room was 'surreal', 'I kind of enjoyed it'		
55			Alone (no partner) on postnatal ward for 8 days, very impacted by this, missed out on 'magical time' with baby as a couple.					Had to make important decisions about the birth alone.
56							Walked 6 miles to hospital to avoid using public transport. 'Empty streets, beautiful weather which made it all even more odd'.	
57			Alone (no partner) on postnatal ward, terrible, struggled to care for baby and self.					
58	Reflecting on birth, feelings of 'being left alone'.							
59		Alone (no partner) in ambulance when blue lighted to hospital, was scary.	Alone (no partner) on postnatal ward, hardest days ever had, struggled to care for baby whilst	Anxiety and unknowns about whether or not husband would be able to attend birth,			Blue lighted to hospital alone, 'so scary'.	

			poorly, sadness that partner missed out on first days of baby's life.	was 'really hard to deal with'.				
60		Alone (no partner) for 2 days after waters broke, was lonely.	Alone (no partner) on postnatal ward, liked the quietness due to not many visitors but missed partner.		Extra time spent with partner in lead to up birth meant felt like 'a strong family unit' by the time baby was born.			
61		Alone (no partner) for three days during induction, was lonely and scary.	Alone (no partner) on postnatal ward for three days and placed in isolation room with baby.	Anxious that could end up birthing alone.				
62					Appreciated not having visitors on postnatal ward.			
63	Labouring alone (no partner) until active labour was distressing.		Alone (no partner) in hospital whilst baby on neonatal unit, found this distressing as needed respite and struggled to care for baby.	Worried a lot in lead up to birth about whether partner would be able to attend.				
64			Alone (no partner) on postnatal ward, felt unsupported by midwives.					
65		Alone (no partner) during induction.	Alone (no partner) on postnatal ward, was scared and felt abandoned, on reflection feel angry about this.					
66			Alone (no partner) on postnatal ward, found this distressing and felt unsupported by staff.					

67		Alone (no partner) during induction.						
68			Alone (no partner) on postnatal ward, put in isolation due to showing signs of infection which meant staff were reluctant to come in. Struggled to care for baby alone, badly effected by this.			Private room was difficult as staff reluctant to respond to buzzer. However also 'a blessing in a way' as able to have extended video calls to husband.		

Theme: Making sense of the experience					
Participant	Expectations and expectancy violation	Loss or grief	Luck'	Social comparison	Other
4	Antenatal classes cancelled meant missed out on important info about what to expect during birth. Had an expectation that quality of care would be negatively impacted by pandemic.		'Lucky' that baby survived birth complication.		Feels 'owe it to self' to remember how difficult the experience was.
5					The more distance gained on experience, the more sadness felt looking back on it.
6	Had planned to stay home as long as possible to minimise time alone in hospital, but ultimately had to be induced which disrupted this plan.			From the point husband allowed to join, experience was as 'imagines' everyone else's would be.	
7		Missed out on 'newborn joy' and experience of others being excited.			
8	Gave birth in a different hospital to one expecting to give birth in. Was not expecting to need to stay postnatally for observation due to low dose SSRI, had not been forewarned of this.				
9			'Lucky' that partner permitted to visit baby on NICU.		
10	Felt mentally prepared as had a planned c section.	Feel 'robbed' of desired experience.		Birth experience was as relaxed as can imagine any birth being.	
11	Birth went 'to plan' or as hoped.				
12				Must be first generation to become parents in this type of circumstances.	Reflection that 'must be the first generation' to become parents in such an isolated situation.
13		Loss of desired experience, feels will never get over this, sadness.			
14	Though COVID situation would be 'over' by time of birth.				First baby, therefore nothing to compare experience with.

18				Was allowed to have partner present for whole of birth and grateful for this, as knew women birthing at other hospitals where this wasn't the case.	
21	Would have expected support to have increased during COVID, but instead felt as though support was reduced.				
24		At time just 'got on with it', but in retrospect feels sadness.			
26	Was induced and didn't know what to expect.				
29	Didn't mind PPE as expected it in hospital environment.				
34			'Lucky' that birth not too affected by pandemic'		
36	Fearful about NHS being overwhelmed, had an expectation of possibly not experiencing adequate care.				
38			'Lucky' to go into natural labour.	Silver lining of isolation was felt able to bond with baby in a way that doesn't imagine other mothers could.	
39					Thinking back a lot on birth, feeling sad and hurt.
41	Gave birth a week into lockdown, so expectations for birth and plans for first week of baby's life were shattered.				
42	'Not the new born joy you would expect'.	Loss of 'new born joy'.		NCT classes cancelled therefore didn't get a chance to bond with group in the way that had heard about from friends.	Feelings of guilt (towards baby and husband) for experience.
44		Partner 'missed out' on birth.			
46	Had planned a homebirth.				
48			'Lucky' that labour was quick.		

49	Didn't get to use birthing facilities had hoped to use.				'Didn't know what I was missing' due to being first time parent.
50	Had wanted a home birth.				
52			'Lucky' that hospital allowed husband to be present throughout whole birth.		
54			'Lucky' that baby took to breastfeeding quickly so no extended stay at hospital.		
55		Loss of 'magical time', 'covid took that away from us'. Will never forget.			Felt that hospital so paranoid about COVID, they overlooked important things about health of self (mother).
56	Had birth planned and knew what to expect, then COVID disrupted this.				On reflection, restriction around partner attendance at birth seems 'ridiculous'.
58				Through talking to other parents who gave birth in 2021, has come to interpret own birth experience as traumatic.	Enjoyed experience of labour at the time, but on reflection is struck by feelings 'of being left alone'.
59		Husband 'missed out', sadness about this particularly as baby a 'longed for IVF baby'.			
60	Hadn't expected to be in hospital so long and hadn't brought enough stuff for the duration.			Was on a ward with people in early pregnancy, which felt like wrong environment and caused contractions to stop.	
61		Loss of what 'should have been a joyful time'.			
62	Had planned home birth which was cancelled.				
64					Tries not to think back on difficult memories of birth.
65					Feels 'didn't process' birth at the time, but in hindsight feels angry and scared.
66					Looking back on experience feels angry and let down. Interpretation that hospital treated birthing person as infection risk, narrative of health

					professionals 'risking lives' for patients.
68	Had planned home birth or birth in birth centre, but neither were possible. Felt 'in shock' on postnatal ward after unexpected c section.				Difficult to disentangle labour experience from backdrop of pandemic, no other birth experience to compare it to. Postnatal hospital experience had more negative affect than birth experience.
69	Expected labour to be hard, but was not expecting mental health 'nose dive' experienced afterwards.				

Theme: lasting impact				
Participant	Lasting impact: On infant feeding	Lasting impact: On mood	Lasting impact: Post-traumatic growth	Lasting impact: Other
1	Feels went home 'too soon' due to wanting to be with partner, and believes this contributing to not being able to breastfeed.			
2	Believes went home 'earlier than should have' in order to be with partner, and consequently missed out on breastfeeding support on postnatal ward.			
3		'Mood deteriorated after giving birth', experienced postnatal anxiety and low mood.		
4		Long term (over a year) impact of birth experience on mental health, experienced severe postnatal anxiety and insomnia.		
5		Experience on postnatal ward was traumatic. Last impact of this, over a year later, feel sad and tearful when thinking back on birth experience.		
10		Mental health started to deteriorate within 30 mins of partner having to leave postnatal ward.		
11			'I had a baby during the first lockdown, I can do anything'.	
12		Feels that they and partner both traumatised by the birth and 'the hours after'.		
13				Loss of experience wanted, feels will never get over that loss.
18		Felt very low after birth.		
21	Lack of immediate help with breastfeeding on postnatal ward. Believes that this contributed directly to difficulties with breastfeeding postnatally.			
22			Feels drew on resilience to get through the experience.	
26		Struggled with anxiety postnatally.		
30			In retrospect, feels proud.	
39		Felt lonely, depressed, burnt out, after birth.		

40				Made friends on postnatal ward, due to partners not being present, and these friendships have endured.
45		Negative impact on mental health		
52			'We've realised how resilient we are'.	
55		Birth (c section) difficult to 'get over', experienced postnatal anxiety and depression.		
58		First weeks and months after birth were 'hideous', experienced postpartum anxiety.		Feels in retrospect that experience of birth was traumatic, but has only come to this understanding through comparison with experiences of others.
59				Negative experience 'something we won't ever get over or forget'.
60		Experienced postnatal depression and anxiety.		
63	Stressful time at hospital for a week after birth due to not having partner support, this 'even affected things like feeding'.	Experienced postnatal depression, accredits this entirely to experiences in hospital the week after baby was born.		
64				Stops self from thinking back on birth due to difficult or upsetting memories.
65		Cried for two month after baby was born, feels if not for support of partner this could have developed into postnatal depression.		
66		Feels that emotional impact on women of COVID restrictions during birth was not adequately considered.		
67		Experienced depression and PTSD following birth.		
68		Experience on postnatal ward had biggest negative impact, bigger than experience of the birth itself.		
69		Mental health 'nose dived' after birth. Feels may have experience postnatal depression.		

Appendix L

Extracts from reflexivity journal kept throughout analysis

Stage of analysis	Extract(s)
Familiarisation	Some of the main things I am noticing are feelings of sadness and anger. I had expected the experiences to be largely negative in tone, but some of the experiences are quite shocking to me, perhaps because I have no personal experience of birth and might have a romanticised view of maternity services. Something that particularly stands out to me is all the accounts of women struggling to walk to the labour ward on their own - this in particular makes me feel quite angry, as it feels so unnecessary?
Developing the Thematic Framework	After the collaborative day, I'm noticing that I read and understand some of these accounts differently after learning from the perspectives of midwives. I definitely feel more attuned to the perspectives of professionals and am more able to mentalise what their experiences might have been, in the context of some of the stories I am reading. This seems important because one of the aims of this project is to produce findings which will have clinical utility. [...] Reading some of these accounts is making me realise how I've almost forgotten the feeling of fear about catching COVID that existed in the early days and months of the pandemic. It feels easy to dismiss or undervalue this in hindsight, but it was absolutely huge at the time and will have really coloured all of the experiences included in my dataset, even though it isn't mentioned very often. [...] I notice that I'm having a strong reaction when I see people talk about difficulties e.g. getting food or getting to the bathroom. I can have a tendency to think about things from a rights-based perspective, and therefore am horrified by this. Trying to be mindful not to project too much of my own feelings onto the data however, as the tone in which people

	have written it isn't always suggestive that it was a big deal for them.
Indexing	I'm doing this stage in regular small 'bursts' with breaks between, because I've noticed that if I try to do long stretches there's a risk that I start to 'switch off' and attend less carefully to what I'm reading. This might be happening in part because it's quite repetitive. But I think it's also due to the content being very emotional, and I've been immersed in the data now for quite a while, there's a natural self-protective urge to 'pull away' from the stories sometimes.
Summarising and charting	I'm finding that my memories of conversations from the collaborative day are coming back to me with a lot of clarity and really informing some of my decision making at this stage. Particularly in regards to conversations had around relational safety and emotional attunement. This feels appropriate as this is the stage where I start to apply some interpretation, bringing a trauma-informed perspective to the data. I've looked back over the notes made during the collaborative day, to help with my awareness of what ideas I am applying from this.
Mapping and interpretation	At this stage I am having to make some decisions about which themes to consolidate, which to give weight to, and how to position them in the final map. I'm trying to balance using more objective considerations such as looking at the frequency table from the Indexing phase, with more subjective considerations such as 'salience'. I can feel the inevitability of my own perspectives and experiences becoming involved in this. For example, I feel a pull to give weight to experiences of 'aloneness', perhaps partially because for me personally, the prospect of giving birth without my partner would be extremely scary. I'm trying to counterbalance by looking back at notes from earlier stages of the analysis and looking for 'exceptions' to dominant patterns in the data.