

**EMOTIONAL CONSEQUENCES  
FOLLOWING EARLY MISCARRIAGE  
AND THE INFLUENCE OF  
PSYCHOLOGICAL FOLLOW-UP INTERVENTION**

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This work has not been submitted to any other institution  
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## Summary

This thesis consists of a literature review, a research report and a critical appraisal of the process of research. A fifth of pregnancies end in miscarriage, and anxiety and depression are observed for several months after the event. Workers have attempted to discover predictive factors of emotional adjustment, but have found conflicting results. Grief has been identified as a common feature following miscarriage, but the traumatic nature of the miscarriage experience has largely been ignored. Despite the recognised psychological impact, there is no routine follow-up care for women following early miscarriage. Anecdotal evidence suggests beneficial effects, but no controlled intervention studies have yet been carried out. Such a study, therefore, was conducted, and is described in the research report. Anxiety, depression, intrusion and avoidance levels were assessed at one week and four months post-miscarriage. Half the women also received a session of psychological debriefing at two weeks post-miscarriage, an intervention chosen to take account of the whole experience of miscarriage. Intrusion and avoidance scores were initially as high as those of post-trauma victims, but had significantly decreased by four months. Although depression was not detected, anxiety was significantly higher than community sample estimates at both time points, and psychological debriefing did not influence emotional adaptation. A variety of hypotheses to explain these results are discussed. Outcome scores at one week significantly predicted outcome at four months. Thus, early assessment would be important in determining which women should be offered intervention. Finally, in the critique section of the thesis, the origins of the project, timescale and progress, and aids and barriers to progress are discussed.

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## **LITERATURE REVIEW**

### **Miscarriage:**

**The psychological impact on women  
and their emotional needs**

### **Abstract**

This review reports on the psychological impact of miscarriage on women, predictors of emotional adjustment, typical features influencing psychological morbidity, emotional support, and suggests possibilities for future research. A high proportion of pregnancies end in miscarriage, and the experience leads to a number of emotional consequences which may last for several months. Depression has been observed post-miscarriage, but the results on anxiety are more varied. Some have explored the focus of anxiety and depression, and attempted to discover what factors predict psychological adjustment, but results are inconclusive. In addressing the reasons for psychological morbidity, grief has been identified as a common feature. Early pregnancy loss is now considered to be a form of bereavement, which may be more complicated than other forms of bereavement. The process of miscarriage itself may also be seen as a traumatic experience, although few researchers have commented on this aspect. Despite the recognised psychological impact, there is a general dissatisfaction with many aspects of professional emotional care, and there is no routine follow-up. There have been no controlled intervention studies with women who miscarry during early pregnancy, although anecdotal evidence suggests beneficial effects. Such studies have concentrated mainly on the experience of loss. It is suggested that future research should consider the whole experience of miscarriage, especially in light of the growing interest into the consequences of traumatic events. An intervention derived from this research has been suggested as a possible strategy for facilitating emotional adjustment in women, and preventing longer term negative responses, following miscarriage.

It has been reported that miscarriage is the most common complication of pregnancy (Smith, 1988). Usually, figures between 12 and 24 per cent have been given for clinically recognised pregnancies which end in miscarriage (Alberman, 1988; Beer, Quebbeman & Semprini, 1987; Friedman & Cohen, 1982; Friedman & Gath, 1989; Huisjes, 1984; Kline, Stein & Susser, 1989; Menning, 1982; Smith, 1988), with most of these miscarriages occurring within the first three months of pregnancy (Alberman, 1988; Friedman & Cohen, 1982; Huisjes, 1984; Menning, 1982). Oakley, McPherson & Roberts (1984) predicted that up to 80 per cent of all conceptions end in miscarriage.

This review will report on the psychological impact of miscarriage, predictor variables of distress post-miscarriage and typical features which may account for psychological morbidity following miscarriage. It will then focus on the short-falls of psychological follow-up support, and suggestions for future intervention. Although it is recognised that miscarriage may impact on significant others, the review will only consider the effect on women who experience the miscarriage.

### *Psychological impact*

Miscarriage may be seen as an everyday occurrence to hospital staff, but it is a highly significant event for the woman who miscarries (cf. Cecil, 1994; Moulder, 1994). Despite this, it is not until recently that studies have reported on the psychological impact of such an event, particularly early miscarriage.

One of the first studies investigating emotional responses to miscarriage was by Simon, Rothman, Goff & Senturia (1969), who reported that over a third of women interviewed experienced feelings of depression and showed grief reactions, which subsided by a few days. However, this

was a retrospective study with interviews taking place between one and seven years after miscarriage.

Seibel & Graves (1980) used a self-report adjective checklist with women awaiting a dilatation and curettage operation (D&C) and found that 53.7 per cent showed symptoms of depression, 51.2 per cent - anxiety, 41.5 per cent - hostility and 44.1 per cent - unhappiness. Hamilton (1989) reported similar results when women were interviewed in hospital prior to discharge: 76 per cent - depression, 57 per cent - irritability, 93 per cent - tearfulness, 38 per cent - sleeping difficulties, and 26 per cent - loss of appetite.

One of the first systematic studies on the emotional consequences following miscarriage was provided by Friedman & Gath (1989), who used a standardised psychiatric measure, the Present State Examination (PSE; Wing, Cooper & Sartorius, 1974) to assess psychiatric "caseness". They found that 48 per cent met the criteria for depressive symptoms and disorder at four weeks post-miscarriage. This figure is four times greater than that found in community samples, which is reported to be between 10 and 12 per cent (Gath, Osborn, Bungay, Iles, Day, Bond & Passingham, 1987; Surtees, Dean, Ingram, Kreitman, Miller & Sashidharan, 1983; Wing, 1976).

Similar results, to Friedman & Gath (1989), were found by Prettyman, Cordle & Cook (1993), using the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983), at one, six and 12 weeks after miscarriage, but their predominant response was anxiety. At one week post-miscarriage, 41 per cent of women were considered "cases" as defined by anxiety symptoms, with 22 per cent having significant depressive symptoms. By week six, significant anxiety cases were reduced to 18 per cent, but rose again to 32 per cent by Week 12. Depression dropped to 8 per cent and 6 per cent at weeks six and 12 respectively, a figure no higher than the general population.

It was speculated (Prettyman *et al.*, 1993) that the rise in anxiety cases at 12 weeks may be as a result of the woman having her first period, and a full realisation that she is no longer pregnant, or a time when the woman, and her partner, may be making decisions as to whether or not to try to conceive again, since medical advice is often to wait three months. Depressive symptoms may also have a later peak, possibly at the time, for example, when the baby should have been due (Hayton, 1988).

Robinson, Stirtzinger, Stewart & Ralevski (1994) found that women's depressive scores were elevated at three months post-miscarriage, had dropped to normal levels at six months, but were again above the cut-off point for "caseness" one year after miscarriage.

Two year follow-up data for women with early miscarriage (Cordle & Prettyman, 1994) showed that 68 per cent were still upset by thoughts of miscarriage, and in 64 per cent of women, their miscarriage had affected decisions regarding subsequent pregnancies. Friedman & Gath (1989) found that at four weeks post-miscarriage, 18 per cent of women feared further miscarriage and were uncertain as to whether they would attempt to conceive again.

In a Northern Ireland study, Cecil & Leslie (1993) used the Stait-Trait Anxiety Inventory (STAI; Spielberger, 1983) to assess the psychological impact after early miscarriage. Women were assessed whilst in hospital, and at two to three weeks, three months and six months post-miscarriage. They found an initial increase in anxiety immediately post-miscarriage, which fell rapidly, and reported that only a few women remained distressed at six months post-miscarriage. However, there was a substantial reduction in sample size over time, which makes generalisation of the results difficult.

Thapar & Thapar (1992) used the General Health Questionnaire (GHQ; Goldberg & Hillier, 1979) and the HAD scale to assess psychological

morbidity at 24 hours and six weeks after D&C operation following miscarriage. Kumar & Robson (1984) have suggested that early pregnancy is a time of increased vulnerability to depression. Thus, Thapar and Thapar used an antenatal control group. They found elevated levels of anxiety at 24 hours and six weeks post-miscarriage, with more somatic symptoms in the miscarriage group at six weeks. Results for depression were less clear, since depressive symptoms were elevated as assessed by the GHQ but not the HADS.

Neugebauer, Kline, O'Connor, Shrout, Johnson, Skodol, Wicks & Susser (1992a) assessed psychological morbidity, using the Center for Epidemiologic Studies - Depression scale (CES-D; Radloff, 1977), at two weeks, six weeks and six months post-miscarriage, and compared results with both antenatal controls and community samples. At two weeks after miscarriage, women were 3.4 times more likely to show depressive symptoms than pregnant women and four times more likely than community controls. For women who had their initial interview at six weeks or six months post-miscarriage, depression rates were still three times that of the community sample. However, if women were re-interviewed at six weeks or six months, there were no elevated symptom levels.

In summary, the experience of miscarriage leads to emotional consequences, such as anxiety and depression, which may last for a number of months post-miscarriage.

#### *Predictor variables of distress*

Some workers have attempted to identify factors which affect emotional adjustment to miscarriage. These include looking at demographic, life history, obstetric, miscarriage process, and support factors.

*Demographic variables* One factor investigated is the effect of age on psychological adaptation after miscarriage. Dyregrov & Matthiesen (1987b) found that in women who had lost a baby, either stillbirth, neonatal death or following Sudden Infant Death Syndrome (SIDS), there was an increase in anxiety with increasing age. However, the majority of studies investigating this factor have found no differences in psychological morbidity between younger and older women after pregnancy loss (Friedman & Gath, 1989; Gareil, Blondel, Lelong, Papin, Bonenfant & Kaminski, 1992; LaRoche, Lalinec-Michaud, Engelsmann, Fuller, Copp, McQuade-Soldatos & Azima, 1984; Neugebauer *et al.*, 1992b; Nicol, Tomkins, Campbell & Syme, 1986; Prettyman *et al.*, 1993; Thapar & Thapar, 1992; Toedter, Lasker & Alhadeff, 1988).

Similarly, contradictory findings exist with the effect of marital status. Friedman & Gath (1989) found that psychiatric 'cases' after miscarriage were more often unmarried. Prettyman *et al.* (1993) and Thapar & Thapar (1992), however, found no relationship of marital status with anxiety or depression. No associations have been found between emotional adaptation after miscarriage and occupational status (Prettyman *et al.*, 1993) or social class (Thapar & Thapar, 1992).

Many workers have addressed the influence of parity status on psychological consequences after miscarriage. It is often assumed that if women have children, then they will be less emotionally distressed, and Reed (1984; 1989) found that emotional support from nursing staff decreases with increased parity.

A higher rate of psychological morbidity, in women with no children, has been documented (Graham, Thompson, Estrada & Yonekura, 1987; Neugebauer *et al.*, 1992b; Thapar & Thapar, 1992; Toedter *et al.*, 1988; Tunaley, Slade & Duncan, 1993), and Neugebauer *et al.* (1992b) even found

that having several children seems to protect against depression, possibly due to indirectly providing social support. However, results are again inconclusive since some have found no association of parity status on emotional adjustment (Friedman & Gath, 1989; Garel *et al.*, 1992; Jackman, McGee & Turner, 1991; Prettyman *et al.*, 1993).

*General life history factors* Friedman & Gath (1989) found that women who were considered as psychiatric 'cases' scored higher on neuroticism measures (emotionality) on the Eysenck Personality Inventory (EPI; Eysenck & Eysenck, 1975). As might be expected, there has been found to be an association between psychiatric history and increased psychological morbidity following miscarriage (Friedman & Gath, 1989; Prettyman *et al.*, 1993). Toedter *et al.* (1988) found that a greater number of mental health problems during pregnancy is associated with higher grief scores. Garel *et al.* (1992) has suggested that deaths in one's personal history may be important for emotional adjustment.

*Factors relating to the pregnancy* Investigations of factors relating to the pregnancy have shown conflicting results. Whilst some have found that when the baby is planned, there is an increased likelihood of reports of unhappiness, depression or anxiety (e.g. Simon *et al.*, 1969), other studies using standardised measures have found no such association (Friedman & Gath, 1989; Jackman *et al.*, 1991). Furthermore, Prettyman *et al.* (1993) and Thapar & Thapar (1992) have found that anxiety levels are higher in women whose pregnancies were unplanned. This may be due to ambivalence and guilt issues.

If a baby is unplanned, it does not necessarily mean that it is unwanted. Garel *et al.* (1992) found decreased levels of depression immediately post-

miscarriage if the pregnancy was undesired, but not at three months post. Neugebauer *et al.* (1992b) found that women losing wanted and unwanted pregnancies were equally depressed, as has been reported by others (Graham *et al.*, 1987; Seibel & Graves, 1980). However, in the Neugebauer *et al.* (1992b) study, the loss of a wanted child produced increases in depression compared to pregnant controls, whereas there was no increase in symptom levels of women with an unwanted pregnancy compared to the pregnant control group. This was due to women with an unwanted pregnancy already having increased symptom levels, and having a miscarriage did not affect this level.

It might be expected that pregnancy characteristics, such as gestational stage, might influence psychological adjustment to miscarriage. However, a number of studies have shown no association of gestational stage with psychological morbidity (Friedman & Gath, 1989; Jackman *et al.*, 1991; Leppert & Pahlka, 1984; Neugebauer *et al.*, 1992a; Nicol *et al.*, 1986; Peppers & Knapp, 1980; Prettyman *et al.*, 1993; Tunaley *et al.*, 1993). On the other hand, Thapar & Thapar (1992) found that, compared to antenatal controls, women who miscarried at less than 16 weeks gestation had elevated depression scores, which was not true of those who miscarried at 16 weeks or later. In this study, a very low number of women in the sample miscarried at 16 weeks or more, making interpretation of the results difficult.

Neugebauer *et al.* (1992b) found that although women who miscarried in early and later pregnancy were equally depressed compared to pregnant women of similar gestational stages, women with a late loss showed a greater rise in depressive symptoms than those with earlier loss. Garel *et al.* (1992) reported an increased chance of depressive episode within three months of those who miscarried at fourteen weeks and above, and Theut, Pedersen, Zaslow, Cain, Rabinovich & Morihisa (1989) and Toedter *et al.* (1988) found

increased psychological morbidity in women experiencing a stillbirth or neonatal death, versus earlier miscarriage.

It is believed that maternal attachment with the child progresses as pregnancy advances, and the impact of the loss corresponds to the strength of the attachment. Others hold the view that bonding occurs at a very early stage in pregnancy (Herz, 1983; Lumley, 1980; Stirtzinger & Robinson, 1989). It has also been pointed out that comparisons between early and later miscarriage, and losses such as neonatal death, are compounded by the different procedures, such as delivery and support associated with the different types of pregnancy loss (cf. Moulder, 1994; Slade, 1994).

*Reproductive history variables* The examination of reproductive history factors provides no clear conclusions as to whether or not previous miscarriage, to the one investigated, affects emotional adjustment. Friedman & Gath (1989) and Thapar & Thapar (1992) found that women who had had a previous miscarriage showed higher symptom levels than those who had not. Likewise, Peppers & Knapp (1980) found increased psychological morbidity in women who had had a previous miscarriage, although there were some methodological problems with this study.

The majority of studies reported, however, have found no association with prior miscarriage (Clarke-Smith & Borgers, 1988; Garel *et al.*, 1992; Jackman *et al.*, 1991; LaRoche *et al.*, 1984; Neugebauer *et al.*, 1992b; Nicol *et al.*, 1986; Toedter *et al.*, 1988) or previous therapeutic abortion (Friedman & Gath, 1989). Conway (1992) found that women with recurrent miscarriage may show less emotional distress. This study has been criticised due to a sampling bias and retrospective methodology. However, it would be expected that after several miscarriages, a woman may predict further ones,

and the predictability of an event may lead it to being less stressful (Foa, Zinberg & Rothbaum, 1992).

It might be assumed that greater psychological morbidity is associated with a history of infertility (cf. Slade, 1994). Garel *et al.* (1992) found a greater risk of depression immediately post-miscarriage, but there was no increased likelihood of a depressive episode in the subsequent three months. Friedman & Gath (1989) found no impact of infertility on emotional adaptation at one month post-miscarriage.

*Factors relating to the process of miscarriage and care* The study of the effect of the process of miscarriage and associated health care on emotional adjustment has been lacking. Jackman *et al.* (1991) assessed the impact of onset of miscarriage (sudden or gradual) on emotional distress, but found no association. In the same study, Jackman *et al.* (1991) reported that care received from health professionals may influence emotional reactions and adjustment subsequent to pregnancy loss.

Murray & Callan (1988) observed that the women who were less depressed after perinatal death were more satisfied with the level of support they received from hospital staff, and Garel *et al.* (1992) found low satisfaction with medical care to be a significant predictor of a depressive episode within three months of miscarriage. Friedman (1989) found no association of GP / hospital care with psychological morbidity at one month post-miscarriage, but methodological problems necessitate cautious interpretation.

Professional care following discharge from hospital is not routinely provided, and no controlled follow-up intervention studies have been reported to date. However, evidence exists which suggests that psychological follow-up has a positive effect on emotional adjustment. Forrest, Standish & Baum (1982), in a study where counselling was provided for women following

perinatal death, found that at six months after the death, the rate of psychiatric disorder was a quarter of that of women who did not receive the intervention.

Hamilton (1989) found that when a follow-up clinic was arranged, 74 per cent of women who had had a miscarriage attended, and that all found the contact helpful. Similarly, Turner, Flannelly, Wingfield, Rasmussen, Ryan, Cullen, Maguire & Stronge (1991) found 79 per cent of women attended follow-up appointments. Jackman *et al.* (1991) reported that women, who were allowed to discuss their feelings at a hospital follow-up appointment, showed better emotional adjustment subsequently. The results of these studies, however, must be interpreted with caution, since there were no appropriate controls.

A study by Neugebauer *et al.* (1992a) revealed particularly interesting results. Women who were interviewed by telephone at two weeks post-miscarriage showed lower levels of depressive symptoms at six weeks and six months post-miscarriage, versus those who were not interviewed at two weeks. It is believed that the emotional adaptation was due to unintended therapeutic and test effects of the interviews, which allowed the women to discuss the pregnancy, circumstances of the miscarriage, and the psychological after-effects. This possibly resembled grief counselling (Forrest *et al.*, 1982; Leppert & Pahlka, 1984).

*Non-professional support* Finally, Garell *et al.* (1992) have suggested that social support may be important in the emotional adaptation to miscarriage. A number of studies have shown lack of support from partner, family and friends to be a risk factor for psychological morbidity following miscarriage and other traumatic events (Dyregrov & Matthiesen, 1987a; 1987b; Feeley & Gottlieb, 1988; Forrest *et al.*, 1982; Kirkley-Best & Kellner,

1982; Sarason & Sarason, 1982; Seitz & Warrick, 1974; Woodward, Pope, Robson & Hagan, 1985).

Overall, results from studies, which have taken into account predictor variables of psychological morbidity post-miscarriage, have been inconclusive. Agreement has been found only for psychiatric history, and professional and non-professional support. Slade (1994) has commented that many of these factors contribute little to the understanding of the personal meaning of the experience, and Tunaley *et al.* (1993) have pointed out that it is necessary to consider the cognitive mediators which influence the psychological adaptation to miscarriage. Cognitive theories state that it is individuals' perceptions of events and their concomitant thoughts, rather than the actual events, which determine the emotional consequences (Scherer, 1984).

*Cognitive factors* Only three studies have considered the experience of miscarriage from a cognitive perspective. Madden (1988) found that whilst self-blame was not associated with depression, blame of the partner did predict depression, and belief in a physical cause was associated with decreased anxiety in the Tunaley *et al.* (1993) study. Increased depression (Madden, 1988) and anxiety (Tunaley *et al.*, 1993) were found in women who perceived that they had control over the outcome of future pregnancies. Having arrived at one's own explanation as to the cause of the miscarriage, with a general reappraisal of values, was associated with lower levels of intrusive thoughts (Tunaley *et al.*, 1993). Finally, Hutti (1992) found that more intense grief reactions were experienced by women who perceived their pregnancy and baby to be real, whose miscarriage experience and care was widely different to what they expected and wanted, and who perceived themselves to be unable to reduce the difference.

With all variables taken together, miscarriage is considered as an adverse life event (Hall, Beresford & Quinones, 1987; Leppert & Pahlka, 1984; Seibel & Graves, 1980; Stirtzinger & Robinson, 1989), and for most it is seen as a significant life crisis (Bright, 1987).

### *What makes miscarriage distressing?*

*Bereavement and grief* Many studies have described grief as a typical feature following miscarriage (Cecil & Leslie, 1993; Friedman, 1989; Friedman & Gath, 1989; Hutti, 1992; Kirkley-Best, 1981; Lasker & Toedter, 1991; Moulder, 1990; 1994; Peppers & Knapp, 1980; Prettyman *et al.*, 1993; Simon *et al.*, 1969; Theut *et al.*, 1989; Toedter *et al.*, 1988). For example, Friedman & Gath (1989) observed features of grief as described by Parkes work on bereavement (cf. Parkes, 1986). More than two thirds of women following miscarriage showed emotional numbness, nearly one third had guilt reactions, and several women likened it to the loss of a family member. Miscarriage represents the loss of pregnancy, of a baby / future child, of motherhood, of self-esteem and of a part of self, and may engender doubts regarding ability to procreate (Friedman, 1989; Furman, 1978; Moulder, 1990; 1994; Neugebauer *et al.*, 1992a; Peppers & Knapp, 1980).

Early miscarriage is increasingly being viewed as "perinatal bereavement" (Iles, 1989). However, bereavement of this kind of loss may be complex, making the grieving process more difficult for a number of reasons. For example, there is no visible child to mourn (Oakley *et al.*, 1984), no memories or shared life experiences (cf. Robinson *et al.*, 1994), the death is sudden (cf. Worden, 1991), and there is often a lack of recognition of the significance of such loss by society (Conway, 1990; Phipps, 1981; Rajan & Oakley, 1993; Stack, 1980; Stirtzinger & Robinson, 1989).

Miscarriage may be dismissed as a necessary loss in that the event prevents the birth of an imperfect baby. In addition, women who miscarry not only lack social and emotional support which is provided with other types of bereavement, but may also be subjected to insensitive and negative attitudes (cf. Rajan & Oakley, 1993). Many workers (Black, Hardoff & Nelki, 1989; Cohen, Zilkha, Middleton & O'Donohue, 1978; Lewis & Page, 1978; Mahan, Schreiner & Green, 1983; Phipps, 1981) have pointed out that the "conspiracy of silence", and the suppression of appropriate mourning due to society's inhibitions, can cause further stress and long-term emotional consequences.

*Trauma and the process of miscarriage and care* The experience of miscarriage may also be a very physically traumatic event (Bright, 1987; Neugebauer *et al.*, 1992a; Prettyman *et al.*, 1993; Slade, 1994), and this aspect has been neglected in the research literature. Miscarriage may involve considerable and sudden pain, loss of blood, rapid hospitalisation and an operation. Stress and emotional responses associated with surgery have been documented (e.g. Levy, 1987), and for many women, a D&C may be their first operation.

In addition, women who miscarry may be subject to inadequate or inappropriate care and support, and there appears to be a general dissatisfaction with many aspects of management and care. Friedman & Gath (1989) found that at four weeks post-miscarriage, twenty-six per cent of women were dissatisfied with GP care prior to their miscarriage, and thirty-five per cent were dissatisfied with information received. The women felt that there were differences in the perceived seriousness of the importance of threatened miscarriage between themselves and their GPs, and that their cases were not treated as emergencies. Women were helped by GPs who acknowledged and discussed the distress of grief involved with miscarriage.

Prettyman & Cordle (1992) note that dissatisfaction with psychological care is widespread despite the fact that most primary health care professionals view it as important.

Dissatisfaction with care in hospital has been reported. Friedman & Gath (1989) found that there was general satisfaction with treatment, but again, women felt that miscarriage was not perceived by medical staff as important or an emergency. Moohan, Ashe & Cecil (1994) found general satisfaction with overall care, but the weaknesses were in information giving regarding medical aspects, such as vaginal bleeding, sexual relations, contraception and resumption of normal activities. Cecil (1994) observed complaints about the adequacy of information given, how medical staff were insensitive and unsympathetic, and about accommodation. Women who have miscarriages are often placed on antenatal and gynaecological wards, and mixed with women who are pregnant, having elective abortions or hysterectomies. Moulder (1990) comments on the fact that there is no ideal location for women who miscarry.

Helstrom & Victor (1987) found that women have to wait a long time in hospital, and that forty-nine per cent felt this to be a problem. Some women (cf. Cecil, 1994) expressed surprise at the speed in which they were in and out of hospital. Friedman & Gath (1989) speculate that the general lack of emotional support reported in hospital (e.g. Campbell, 1988; Cecil, 1994; Hamilton, 1989; Helstrom & Victor, 1987; Jackman *et al.*, 1991) may be as a consequence of the short time spent in hospital, which means that women often do not see a consultant or have the opportunity to form relationships with the nursing staff.

Moulder (1994) comments that despite the increased recognition of the distressing effects of miscarriage, training for dealing with women's emotional

care depends largely on the compassion and understanding of individual health professionals (Roberts, 1989).

#### *The short-falls of follow-up care*

Despite the evidence that miscarriage is a very distressing event for many women, the impact appears to be overlooked (Friedman & Cohen, 1982), and women who have miscarriages tend to receive inadequate attention and support (Robinson *et al.*, 1994). In particular, no routine follow-up care is provided for women following miscarriage, despite the fact that many studies emphasise the need for it (Cecil, 1994; Friedman, 1989; Friedman & Gath, 1989; Hamilton, 1989; Helstrom & Victor, 1987; Knapp & Peppers, 1979; Neugebauer *et al.*, 1992a; Thapar & Thapar, 1992).

Helstrom & Victor (1987) found that levels of satisfaction with care received in hospital decreased between discharge and three weeks post-miscarriage, and concluded that this was due to dissatisfaction with follow-up care. Cecil (1994) also found that women were dissatisfied with lack of follow-up care; some felt that there should be a medical review and some felt that a counselling service should be provided. Similarly, Slade & Wills (1993) found that two-thirds of women want specific follow-up after miscarriage. These women suggested that this would be useful at two to three weeks post-miscarriage, and should cover emotional aspects, and include a physical check.

Friedman (1989) reported that only late miscarriage patients receive routine post-operative follow-up and that with early miscarriage, care falls largely on the primary health care team. It was found that 69 per cent of women consulted their GP within one month post-miscarriage, wanting an explanation for the loss. Moulder (1990) observed that more than three quarters of women had seen their GP post-miscarriage, but only two thirds

found him or her helpful. Similarly, Helstrom & Victor (1987) reported that forty-four per cent of women contact their antenatal clinic after miscarriage, and that thirty-one per cent felt that support was inadequate. Friedman & Gath (1989) noted that anxiety and somatic symptoms were important as they acted as presenting symptoms to see the GP, but also that follow-up was provided on an opportunistic basis.

Anecdotal evidence exists showing that follow-up intervention has a positive effect on psychological morbidity, as already stated (Forrest *et al.*, 1982; Hamilton, 1989; Jackman *et al.*, 1991; Neugebauer *et al.*, 1992a). However, to date, there have been no reported controlled intervention studies with women following early miscarriage. Of those where intervention is provided, there has been a tendency to concentrate on the loss encountered and associated feelings.

However, no studies investigating the psychological impact of miscarriage have aimed for follow-up intervention to include discussion of the process of miscarriage, despite the fact that it is possible that some of the symptoms following miscarriage may relate to the trauma of the event. Since the beginning of the 1970's, there has been growing interest in the consequences of traumatic events (Brom & Kleber, 1989). Traumatic life events may be defined as situations of extreme helplessness, distress and disruption, and may include disasters, sudden bereavement, violence or sudden accidents (Brom, Kleber & Defares, 1986; Kleber, Brom & Defares, 1986).

People who are subject to traumatic events often show a characteristic set of psychological and physiological reactions or symptoms, such as restlessness, irritability, excessive fatigue, sleep disturbances, anxiety, startle reactions, depression, and concentration difficulties. These have been termed the Stress Response Syndrome (SRS; Horowitz, 1974; 1976). The

physical and emotional symptoms which develop are considered to be normal, and are adaptive responses (Coelho, Hamburg & Adams, 1974; Selye, 1973).

It is believed that following a traumatic event, people work through an experience of powerlessness, disruption, and very intense emotions (Bard & Sangrey, 1980; Horowitz, 1976; Parkes, 1986). Following shock, disbelief and bewilderment, the process of adaptation is characterised by an alternation between intrusion and denial, before integration of the event into the individual's life (e.g. Horowitz, 1976).

Denial relates to an intrapsychic process where people deny the implications of the event in order to prevent themselves from being exposed to intense emotions. People may also avoid certain situations, avoid talking about the incident, and feel emotionally numb, whilst being aware of the numbness. Intrusion is the intrusive re-experiencing of feelings and ideas related to the experience, which may manifest as nightmares, startle reactions, 'pangs' of emotion, preoccupation with the event and the wish to repeatedly go over the event. Denial and intrusion do not always alternate, but may occur simultaneously on different levels. For example, in one situation, the person may trivialise the event, but in situations that resemble the original, the person may seem overwhelmed with emotion.

Denial is considered a functional mechanism in that it prevents people from becoming overwhelmed by emotions. It may be used to regulate or "dose" the amount of emotional pain that is bearable (Shuchter & Zisook, 1993). However, complete denial and suppression of feelings may lead to increased chances of poor health outcome (Pennebaker, 1989; Pennebaker, Colder & Sharp, 1990), and disorders such as post-traumatic stress disorder (PTSD; cf. McFarlane, 1991) appearing in the long-run. Intermittent intrusion therefore functions to prevent this, and leads to a revision of the expectations

and ideas of the individual - an integration and working through of the experience (cf. Brom & Kleber, 1989).

Recently, the beneficial effects of a form of crisis intervention, called psychological debriefing (or critical incident stress debriefing) have been reported (cf. Dyregrov, 1989; Mitchell, 1983). It was originally developed for use with groups of emergency workers (Mitchell, 1983), and was arranged as a meeting with the purpose to integrate profound personal experiences on a cognitive and emotional level, thus aiming to prevent the development of adverse reactions.

It is an organised approach which works through a series of stages, including discussion of thoughts and expectations, sensory impressions and emotional reactions to the traumatic event (cf. Dyregrov, 1989; Mitchell, 1983). This format has also been used in other situations, such as for survivors of disasters, bystanders at suicides, and in situations where there have been tragic deaths of children. The process can be used at an individual, as well as at a group, level.

It is emphasised that psychological debriefing accelerates the recovery of normal people experiencing normal reactions to abnormal events. It is a simple procedure. However, its value should not be underestimated, since it has enormous potential in alleviating overwhelming emotional feelings and potentially dangerous physical symptoms (Mitchell, 1983).

### *Future directions*

This review has identified the importance of the experience of miscarriage, but also the need for much future research. There are many contradictory findings, particularly when trying to predict emotional adjustment to miscarriage. It is necessary to accomplish more reliability between the

different studies, and this may be achieved by the use of standardised assessment instruments and methodologies.

It is recognised that grief is a typical feature following miscarriage, but the impact of the process of the miscarriage has been neglected in the research literature. This warrants further investigation. In addition, despite the recognition of the distressing nature of having a miscarriage, little work has been accorded to the investigation of the effects of certain aspects of care. In particular, psychological follow-up support and research into this area have been grossly lacking.

To date, there have been no controlled intervention studies with women who miscarry during early pregnancy, although anecdotal evidence suggests beneficial effects. Such studies have concentrated mainly on the experience of loss and associated feelings, and none reported have looked at the process of miscarriage.

In recent years, there has been growing interest into the consequences of traumatic events. In light of the recent recognition of the traumatic nature of the experience of miscarriage, it would seem sensible to investigate intervention strategies, which would aim to consider the whole experience of miscarriage. A form of crisis intervention, psychological debriefing, has been recently described for trauma victims, and it may prove useful in enabling women to adjust emotionally following miscarriage.

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**RESEARCH REPORT**

**The influence of psychological debriefing  
on emotional adaptation  
of women following early miscarriage**

### **Abstract**

About a fifth of pregnancies end in miscarriage, leading to emotional consequences, such as anxiety and depression, which may last for a number of months. Despite this, women are not routinely provided with follow-up care. Anecdotal evidence shows that emotional follow-up has positive effects on psychological morbidity, but this is the first controlled intervention study with women following early miscarriage. Thirty-nine women, who had a miscarriage within the first trimester of pregnancy, were assessed, using the HADS and IES, at one week and four months post-miscarriage. Half the women also received a session of psychological debriefing, by a female psychologist, at two weeks. Intrusion and avoidance scores were initially as high as those of post-trauma victims, but had significantly decreased by four months. Depression was not detected at any time point. Anxiety was significantly higher than community sample estimates at both one week and four months following miscarriage. It is speculated that high anxiety at four months represents a peak, due to women planning future pregnancies. Psychological debriefing did not influence emotional adaptation, and it is hypothesised that unintended therapeutic effects of questionnaire completion at one week led to the control group effectively receiving follow-up support. It is also speculated that some women, but not others, benefited from psychological debriefing. Outcome scores at one week significantly predicted outcome at four months, suggesting that early assessment would be important in determining which women should be offered intervention. No-one perceived the psychologist to be part of the hospital follow-up service, but psychological debriefing was perceived to be helpful, and fulfilled some of the information and opportunity to talk needs of the women. Implications for future research are considered.

## Introduction

Between 12 and 24 per cent of clinically recognised pregnancies end in miscarriage, with most of these occurring in the first trimester (Alberman, 1988; Beer, Quebbeman & Semprini, 1987; Friedman & Cohen, 1982; Friedman & Gath, 1989; Huisjes, 1984; Kline, Stein & Susser, 1989; Menning, 1982; Smith, 1988). It is seen by many women as an adverse life event or significant life crisis (Bright, 1987; Cecil, 1994; Hall, Beresford & Quinones, 1987; Leppert & Pahlka, 1984; Moulder, 1994; Seibel & Graves, 1980; Stirtzinger & Robinson, 1989). Despite this, only recently have studies reported on the psychological impact of miscarriage.

One of the first studies (Simon, Rothbaum, Goff & Senturia, 1969) showed that over a third of women following miscarriage experienced depression and grief. Later studies reported higher figures, and found anxiety and somatic symptoms in addition to depression (Hamilton, 1989; Seibel & Graves, 1980). Friedman & Gath (1989) provided one of the first systematic studies on the emotional consequences of miscarriage using standardised psychiatric measures. They found that nearly half of women met the criteria for depressive symptoms, which is four times higher than that found in community samples (e.g. Surtees, 1990).

A number of studies, using other standardised assessments, have examined the time course of psychological morbidity post-miscarriage. For example, Prettyman, Cordle & Cook (1993) and Robinson, Stirtzinger, Stewart & Ralevski (1994) found symptoms still present three months after miscarriage, although others have found normal levels by three months (Cecil & Leslie, 1993). Neugebauer, Kline, O'Connor, Shrout, Johnson, Skodol, Wicks & Susser (1992a) reported depression rates to be three times higher than those of community samples at six months after miscarriage. This result was not replicated by Robinson *et al.* (1994), although they found that

"caseness" for depression was evident in many women at one year after miscarriage. Finally, Cordle & Prettyman (1994) found that 68 per cent of women were still upset by thoughts of miscarriage two years after the event.

Although there are some discrepancies in the results between studies, this may have been due to methodological differences. Nevertheless, it is evident that the experience of miscarriage leads to emotional consequences such as anxiety and depression, which may last for a number of months after the event.

Some workers have attempted to identify factors which affect emotional adjustment to pregnancy loss. However, conflicting results have been found for demographic factors such as age (e.g. Dyregrov & Matthiesen, 1987b; Friedman & Gath, 1989; Garel, Blondel, Lelong, Papin, Bonenfant & Kaminski, 1992; Neugebauer *et al.*, 1992b; Prettyman *et al.*, 1993; Toedter, Lasker & Alhadeff, 1988), marital status (e.g. Friedman & Gath, 1989; Prettyman *et al.*, 1993; Thapar & Thapar, 1992), and parity status (e.g. Friedman & Gath, 1989; Garel *et al.*, 1992; Graham, Thompson, Estrada & Yonekura, 1987; Jackman, McGee & Turner, 1991; Neugebauer *et al.*, 1992b; Prettyman *et al.*, 1993; Tunaley, Slade & Duncan, 1993).

Similarly, for factors relating to the pregnancy, findings are not unequivocal. Agreement has not been found for whether or not the pregnancy is planned (Friedman & Gath, 1989; Jackman *et al.*, 1991; Prettyman *et al.*, 1993; Simon *et al.*, 1969; Thapar & Thapar, 1992) or wanted (Garel *et al.*, 1992; Graham *et al.*, 1987; Neugebauer *et al.*, 1992b; Seibel & Graves, 1980), or the effects of gestational stage (Friedman & Gath, 1989; Garel *et al.*, 1992; Jackman *et al.*, 1991; Leppert & Pahlka, 1984; Neugebauer *et al.*, 1992a; 1992b; Nicol, Tomkins, Campbell & Syme, 1986; Peppers & Knapp, 1980; Prettyman *et al.*, 1993; Thapar & Thapar, 1992; Theut,

Pedersen, Zaslow, Cain, Rabinovich & Morihisa, 1989; Toedter *et al.*, 1988; Tunaley *et al.*, 1993) on emotional adjustment.

The examination of reproductive history variables also provides no clear conclusions as to whether or not previous miscarriage (Clarke-Smith & Borgers, 1988; Conway, 1992; Friedman & Gath, 1989; Garel *et al.*, 1992; Jackman *et al.*, 1991; LaRoche, Lalinec-Michaud, Engelsmann, Fuller, Copp, McQuade-Soldatos & Azima, 1984; Neugebauer *et al.*, 1992b; Nicol *et al.*, 1986; Peppers & Knapp, 1980; Thapar & Thapar, 1992; Toedter *et al.*, 1988) or infertility (Friedman & Gath, 1989; Garel *et al.*, 1992) affect adjustment to miscarriage. However, there does seem to be a positive association between psychiatric history and psychological morbidity post-miscarriage (Friedman & Gath, 1989; Prettyman *et al.*, 1993; Toedter *et al.*, 1988).

There have been few studies which have investigated the effect, on emotional adjustment, of factors relating to the process of miscarriage and health care. However, there appears to be a tendency towards better adjustment with higher satisfaction with health care (Garel *et al.*, 1992; Jackman *et al.*, 1991; Murray & Callan, 1988). Professional care following discharge from hospital is not routinely provided, but evidence suggests that psychological follow-up may have a positive effect on emotional adjustment (Forrest, Standish & Baum, 1982; Hamilton, 1989; Jackman *et al.*, 1991; Turner, Flannelly, Wingfield, Rasmussen, Ryan, Cullen, Maguire & Stronge, 1991).

One particularly interesting study (Neugebauer *et al.*, 1992a) found that a telephone interview at two weeks post-miscarriage significantly reduced depression rates in women at six weeks and six months after the event. Finally, it seems to be generally agreed that non-professional support is also important for emotional adaptation following miscarriage and other traumatic

events (Dyregrov & Matthiesen, 1987a; 1987b; Feeley & Gottlieb, 1988; Garel *et al.*, 1992; Woodward, Pope, Robson & Hagan, 1985).

Finally, some workers have considered cognitions, and factors such as blame, control and other perceptions about the self, miscarriage and process, have been associated with anxiety, depression and grief (cf. Hutti, 1992; Madden, 1988; Tunaley *et al.*, 1993).

Many studies have described grief as a typical feature following miscarriage (e.g. Cecil & Leslie, 1993; Friedman, 1989; Friedman & Gath, 1989; Lasker & Toedter, 1991; Moulder, 1990; 1994; Prettyman *et al.*, 1993; Theut *et al.*, 1989; Toedter *et al.*, 1988), and early miscarriage is now being viewed as "perinatal bereavement" (Iles, 1989). The experience of miscarriage may also be a very physically traumatic event (Bright, 1987; Neugebauer *et al.*, 1992a; Prettyman *et al.*, 1993; Slade, 1994), but this aspect has tended to be neglected in the research literature. Miscarriage may involve considerable and sudden pain, loss of blood, rapid hospitalisation and an operation.

In addition, women who miscarry may be subject to inadequate or inappropriate care and support, and there appears to be a general dissatisfaction with many aspects of management and care (Campbell, 1988; Cecil, 1994; Friedman & Gath, 1989; Hamilton, 1989; Helstrom & Victor, 1987; Jackman *et al.*, 1991; Moohan, Ashe & Cecil, 1994; Moulder, 1990; Prettyman & Cordle, 1992).

Thus, despite the distressing nature of miscarriage, there appears to be inadequate attention and support for these women (e.g. Robinson *et al.*, 1994). In particular, no routine follow-up care is provided, despite the studies showing that it is needed (Cecil, 1994; Friedman, 1989; Friedman & Gath, 1989; Hamilton, 1989; Helstrom & Victor, 1987; Knapp & Peppers, 1979; Neugebauer *et al.*, 1992a; Thapar & Thapar, 1992).

Women are dissatisfied with follow-up care or want more (e.g. Cecil, 1994; Helstrom & Victor, 1987; Slade & Wills, 1993), and many seek it through their GPs (Friedman, 1989; Moulder, 1990). Anecdotal evidence shows that follow-up intervention has a positive effect on psychological morbidity (see above). However to date, there has been no reported controlled intervention studies with women following early miscarriage.

Of those studies where intervention is provided, there has been a tendency to concentrate on the loss encountered and associated feelings, and no studies have aimed for follow-up intervention to include discussion of the process of miscarriage, despite the fact that it is possible that some of the symptoms following miscarriage may relate to the trauma of the event.

Recently however, there has been growing interest in the consequences of trauma (Brom & Kleber, 1989), and people subject to traumatic events often show a number of psychological reactions, including anxiety and depression, subsequently (Coelho, Hamburg & Adams, 1974; Horowitz, 1974; 1976). It is believed that following a traumatic event, people adapt through a process characterised by an alternation between intrusion and denial, until the event is integrated into the individual's life (e.g. Horowitz, 1976).

Recently, the beneficial effects of a form of crisis intervention, psychological debriefing, have been reported (cf. Dyregrov, 1989; Mitchell, 1983). This method aims to aid integration of profound personal experiences on a cognitive and emotional level, and accelerate recovery of people experiencing traumatic events. Thus, it aims to prevent the development of longer-term adverse reactions.

The miscarriage literature emphasises the need for controlled intervention studies. Thus, the present study aims to provide this and evaluate the effects of psychological follow-up, for women who miscarry

during early pregnancy, on psychological morbidity. Although it is recognised that miscarriage may impact on others, the study will concentrate on women who experience the miscarriage. In light of the recent recognition of the traumatic nature of miscarriage, the intervention aims to take into account the whole experience of miscarriage. It will take the form of the recently described psychological debriefing. Since discussion of the experience will include the loss of the baby, it is anticipated that the debriefing will also serve to facilitate mourning if complicating factors in miscarriage have prevented the process.

Psychological responses will be examined at two time points post-miscarriage, so it will also provide longitudinal data. In addition, it is hoped to gain insight into which particular aspects, if any, of the intervention are beneficial, and which factors, if any, predict who will most benefit from psychological intervention. It is hypothesised that women who receive psychological debriefing soon after miscarriage, versus those who receive routine care, will experience less emotional distress at four months post-miscarriage.

## **Methods**

The study was approved by the South Sheffield Ethical Committee.

### *Subjects*

66 women were recruited from a hospital, for women, in Sheffield. All women who experienced a miscarriage, who satisfied the inclusion criteria (see below), and who registered at the hospital, were asked by the nurse handling their care if they were willing to participate in a study assessing the psychological impact of miscarriage and the effect of follow-up care. They were given a brief explanation by the nurse and an information letter and

were required to complete a details slip and consent form, if they agreed to participate, prior to discharge from hospital.

The welfare of the women took precedence over the requirements of the study at all times, and participants had the opportunity to withdraw from the study at any time without it affecting their care in any way.

The following exclusion criteria were employed: 1. were less than six weeks or more than 19 weeks pregnant at the time of miscarriage, 2. had had a previous miscarriage, 3. were under 18 years of age, 4. were unable to speak or read English fluently, 5. did not want the pregnancy to continue, 6. were under psychological or psychiatric care at the time of miscarriage, or 7. were taking psychoactive drugs, prescribed by their GP, at the time of miscarriage.

### *Measures*

1. The Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983) is a 14 item scale, standardised on general medical patients, and is apparently free of contamination by physical symptoms. It has been validated against formal psychiatric interviews and was designed for clinical use.

2. The Impact of Events Scale (IES; Horowitz, Wilner & Alvarez, 1979) measures subject levels of intrusive thoughts (involuntary thoughts and images of the event) and avoidance (denial of the meaning and consequences of the event) which are the two commonly observed responses to a stressful life event.

3. Reaction to Miscarriage Questionnaire (RMQ; Cordle, 1993) is used to obtain information such as the woman's feelings and attitudes about the miscarriage, herself in relation to the miscarriage, care and support received, and the future.

4. Questionnaire 1 (QN1) is a self-designed questionnaire to obtain demographic details (e.g. age, marital status, occupation, parity), obstetric details (e.g. length of gestation, whether or not the woman knew she was pregnant, or wanted the pregnancy to continue) and other information such as whether or not the woman had experienced a significant life event within the past year, whether or not she had been offered a follow-up appointment and whether or not she would want one should there be such an opportunity.

5. Questionnaire 2 (QN2) is a self-designed questionnaire to obtain further information on the woman's views of certain aspects of her miscarriage, herself in relation to the miscarriage, the hospital care, and professional and non-professional support.

### *Design*

After recruitment, women were given a code number to aid confidentiality, and were allocated to one of two groups:

- Group 1      intervention
- Group 2      non-intervention control

The study consisted of three phases:

- Phase 1      (Groups 1 and 2) - post-miscarriage / pre-intervention measures
- Phase 2      (Group 1 only) - psychological debriefing
- Phase 3      (Groups 1 and 2) - 3-4 month follow-up measures

### *Procedures*

*Phase 1* At one to two days post-miscarriage, all women recruited by the nursing staff were sent Questionnaire Pack 1 (QN1, HADS, IES, RMQ) through the post, requesting return of the completed questionnaires within five days.

Women who did not complete or return the questionnaires were excluded from the study at this stage.

In addition, women who indicated, on QN1, that they would not like a follow-up appointment, were not offered psychological debriefing regardless of the group to which they had been allocated and were excluded from the data analysis. This was because, had they been allocated to Group 1, it would have been unethical to offer them a follow-up appointment after they had indicated that they did not want one. In addition, women would not have been matched in terms of volition for accepting intervention.

*Phase 2* Following return of completed questionnaires, women who were previously allocated to Group 1 were offered an hour-long session of psychological debriefing, by a female psychologist, in their own homes, to take place as close to two weeks post-miscarriage as possible. Group 2 subjects received a letter thanking them for the completed questionnaires, and reminding them that they would receive a second set in about three to three-and-a-half months' time.

The debriefing process was based on a format, adapted for the women in the study, from those methods described by Dyregrov (1989) and Mitchell (1983), and consisted of six basic phases. The *introductory phase* included introductions, a brief explanation of the study, an explanation of the structure of the session, and confidentiality issues. In the *fact phase*, participants were asked to describe incidents in detail, beginning at pregnancy and ending at the current time. This included the events, the contexts, what people said and did, and the woman's thoughts, expectations and physical sensations.

The women were then requested to describe their feelings (*feeling phase*) around particular incidents from beginning to end. During the fact

and feeling phases, some women needed guiding through the different stages, such as the first news of pregnancy, the first signs of miscarriage, the hospital appointment, the scan, the D&C, the return home and to work. The *symptom phase* consisted of asking the women to describe any unusual sensations, and any changes in their lives since their miscarriage.

The *teaching phase* included validation of symptoms and coping methods, information on stress symptoms which can occur after stressful events (e.g. anxiety, depression, sleep problems, concentration difficulties), and anticipatory guidance - preparing the women in the eventuality of these symptoms occurring at a later date. Finally, the *re-entry phase* included answering outstanding questions, agreeing on a plan of action for the immediate and longer-term future, and disengagement.

*Phase 3* Three-and-a-half to four months after miscarriage, all participants received Questionnaire Pack 2 (HADS, IES, RMQ, QN2) through the post to complete.

#### *Data analysis*

Statistical analysis was performed with the software package SPSS for the Macintosh computer. Inter- and intra-group comparisons were made using t-tests, Mann-Whitney tests, and (Multivariate) Analyses of Variance ((M)ANOVA) where appropriate. Measures of association were made using Chi-square tests, correlations and regression analyses.

## **Results**

### *Sample characteristics*

Of the 66 women asked, and who agreed to participate whilst in hospital, seven did not engage in the study at Phase 1, seventeen were excluded for

not fulfilling the inclusion criteria (14 of whom were excluded on the basis of expressing that they would not desire psychological follow-up if given the opportunity), and three women withdrew from the study at Phase 2, leaving 39 for data analysis. Thus, response rate of women fulfilling the inclusion criteria was 80 per cent if calculated from when women were asked to participate in hospital, or 93 per cent if calculated once women had engaged in the study. Reliable figures of women who refused to participate in the study were not obtained.

The mean age of women was 29.3 years (SD=6.1) with a range of 19 to 42 years. All women were married or living with a partner. Fifty-six per cent of the sample had children, with the majority having no or one child (range=1-4). Seventy-seven per cent of women were employed (with employed partners), 18 per cent of them described themselves as "housewives" (and had employed partners), and five per cent were unemployed (with unemployed partners).

#### *Pregnancy and other event characteristics*

Mean gestation at the time of miscarriage was 10.8 weeks (SD=3.0; range=6-17). Eighty-five per cent of women had a Dilatation and Curettage operation (D&C) under general anaesthesia, the remaining 15 per cent having had a complete miscarriage and were followed up with blood tests. Eighty per cent of women had planned their pregnancies, but all wanted their pregnancies to continue at the time of their miscarriage. Eight women (20.5 per cent) reported having a significant life event within the year preceding their miscarriage.

#### *Phase 1 outcome* (approximately one week post-miscarriage)

The mean HAD anxiety score was 9.2 (SD=3.8; range=1-17) with 35.9 per

cent of women scoring more than or equal to 11, the threshold score for “caseness” (cf. Zigmond & Snaith, 1983). This figure is significantly higher than that quoted for community samples (7.6 per cent; cf. Surtees, 1990). For depression, the mean score was 6.5 (SD=4.0; range=0-18), with only three women (7.7 per cent) reaching “caseness”, a figure comparable to that found in community samples (10-12 per cent; e.g. Gath, Osborn, Bungay, Iles, Day, Bond & Passingham, 1987; Surtees, 1990; Surtees, Dean, Ingram, Kreitman, Miller & Sashidharan, 1983; Wing, 1976).

For IES intrusion, the mean score was 22.2 (SD=8.1; range=4-31), which is similar to that reported by Horowitz *et al.* (1979; M=21.4; SD=9.6; range=0-35) for a sample of people who sought psychotherapy following trauma, and were suffering with stress response syndromes. Similarly, women in the current study had figures close to those of the Horowitz *et al.* sample on the avoidance subscale of the IES (M=19.1; SD=8.7; range=5-31; Horowitz *et al.*: M=18.2; SD=10.8, range=0-38).

Intergroup comparisons revealed no significant differences between groups for any of the measures taken from the questionnaires and scales at Phase 1, with the exception that the percentage of women with children in the group allocated for intervention (Group 1; 38.1 per cent), which was significantly lower than that of women with children in the control group (Group 2; 77.8 per cent;  $z=-2.1$ ,  $p<0.05$ ). Groups 1 and 2 could therefore be considered as adequately matched at baseline.

#### *Phase 2 outcome* (approximately 4 months post-miscarriage)

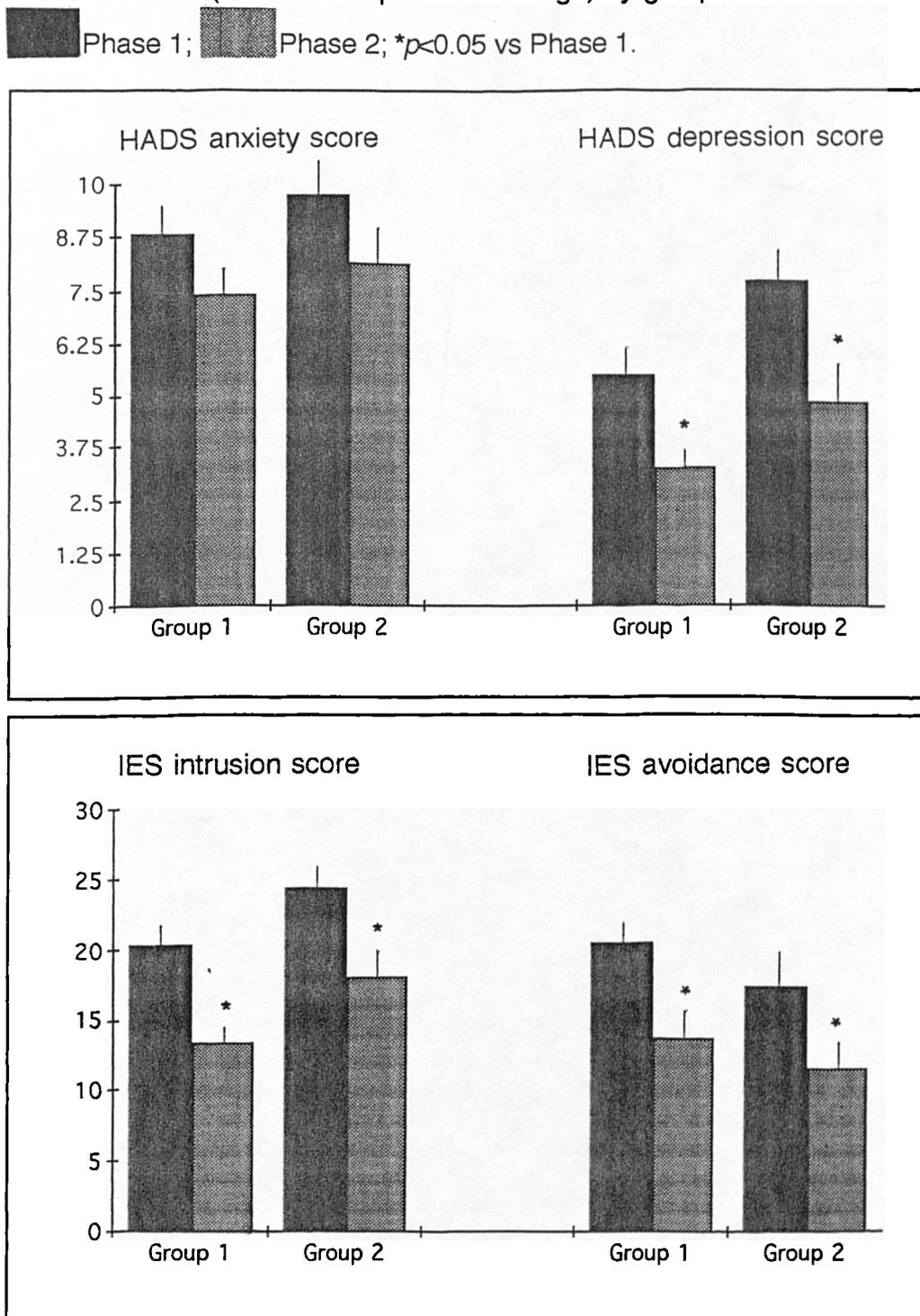
With data obtained at four months post-miscarriage, two-factor ANOVAs (repeated measures on one factor) were carried out to investigate the time, intervention and interaction effects. There were significant main effects of time on all outcome measures, with distress scores being lower at four

months post-miscarriage [Anxiety:  $M=7.7$ ,  $SD=4.3$ ,  $F_{(1,37)}=9.2$ ,  $p<0.01$ ; Depression:  $M=4.0$ ,  $SD=3.9$ ,  $F_{(1,37)}=25.9$ ,  $p<0.01$ ; Intrusion:  $M=15.5$ ,  $SD=8.5$ ,  $F_{(1,37)}=39.1$ ,  $p<0.01$ ; Avoidance:  $M=12.5$ ,  $SD=8.4$ ,  $F_{(1,37)}=23.2$ ,  $p<0.01$ ]. There were no main effects of intervention, nor any interaction effects. When separated by group, there was no significant effect of time for anxiety. See Figure 1 and Table 1 for representation of all measures by group.

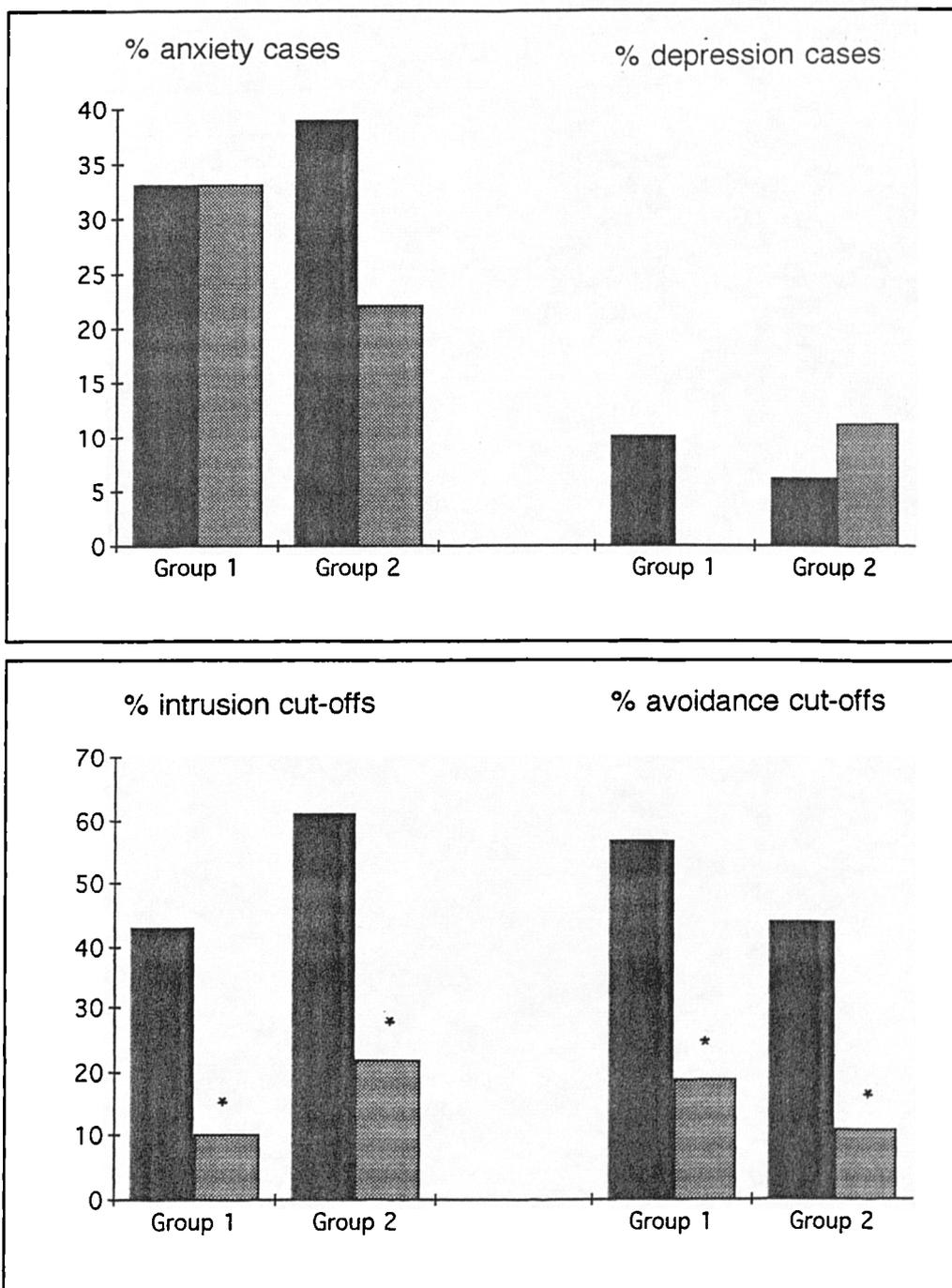
The percentage of women reaching "caseness" had fallen to 28.2 per cent for anxiety and 5.1 per cent for depression, but these figures are not significantly different from Phase 1 measures, and anxiety scores remain well above community sample estimates. On examination of individual group percentages of anxiety caseness in Figure 2 and Table 1, it appears that, whereas the percentage number of cases for Group 1 remains the same, there is a decrease in percentage number of cases for Group 2 at four months. On closer inspection of the raw data, however, similar numbers of cases in the two groups increased, decreased and remained the same, and there were no significant differences between the groups. Similarly, for depression caseness, low numbers of cases made interpretation of the percentages difficult, and there were no significant differences between the groups.

Cut-off scores for intrusion and avoidance were calculated from the median scores from Phase 1, and the percentage of women exceeding these cut-off scores at Phase 2 had decreased from 51.3 per cent to 15.4 per cent for both intrusion and avoidance ( $p<0.05$ ). See Figure 2 and Table 1 for percentages by group.

**Figure 1.** Influence of psychological debriefing (Group 1) and time (Group 2 - control) on HADS anxiety and depression, and IES intrusion and avoidance scores - Comparison of Phase 1 (one week post-miscarriage) and Phase 2 scores (four months post-miscarriage) by group.



**Figure 2.** Influence of psychological debriefing (Group 1) and time (Group 2) on percentage of women reaching HADS anxiety and depression 'caseness', and cut-off scores for IES intrusion and avoidance - Comparison of Phase 1 (one week post-miscarriage) and Phase 2 percentages (four months post-miscarriage) by group. ■ Phase 1; ▨ Phase 2; \*  $p < 0.05$  vs Phase 1.



**Table 1.** Influence of psychological debriefing (Group 1) and time (Group 2 - control) on HADS anxiety and depression, and IES intrusion and avoidance - Comparison of Phase 1 (one week post-miscarriage) and Phase 2 (four months post-miscarriage) by group.

	Group 1		Group 2	
	Phase 1	Phase 2	Phase 1	Phase 2
	(Questionnaire scores: M $\pm$ SD)			
Anxiety	8.8 $\pm$ 5.3	7.4 $\pm$ 5.9	9.7 $\pm$ 5.3	8.1 $\pm$ 6.2
Depression	5.5 $\pm$ 5.4	3.2 $\pm$ 4.2	7.7 $\pm$ 5.5	4.8 $\pm$ 7.0
Intrusion	20.3 $\pm$ 11.1	13.2 $\pm$ 11.3	24.4 $\pm$ 10.8	18.1 $\pm$ 11.5
Avoidance	20.5 $\pm$ 11.1	13.5 $\pm$ 12.0	17.4 $\pm$ 13.1	11.4 $\pm$ 11.3
	(Percentage caseness and cut-off)			
Anxiety	33	33	39	22
Depression	10	0	6	11
Intrusion	43	10	61	22
Avoidance	57	19	44	11

### *Predictors of psychological morbidity at four months post-miscarriage*

Data were analysed to establish if any associations existed between variables measured at Phase 1, and outcome at Phase 2. Measures used were Pearson's and Spearman's correlations (parametric and non-parametric continuous data, respectively), Chi-square tests (categorical data), t-tests and Mann-Whitney U tests (parametric and non-parametric continuous by categorical data, respectively). These were followed up with multiple regression analyses.

Anxiety at Phase 1 significantly correlated with anxiety at Phase 2 ( $r=0.71$ ,  $p<0.01$ ). Similar relationships were found for depression ( $r_s=0.65$ ,  $p<0.01$ ), intrusion ( $r=0.68$ ,  $p<0.01$ ) and avoidance ( $r=0.52$ ,  $p<0.01$ ). Significant results of other variables are summarised in Table 2, and these factors were used in the regression analyses.

Forward stepwise multiple regression analyses revealed a number of predictors of outcome at Phase 2, which are summarised in Table 3. Anxiety at Phase 1 significantly predicted 51 per cent of the variance of anxiety at Phase 2, and the factor of not feeling optimistic about the future significantly predicted a further three per cent. Similarly, Phase 1 depression predicted 48 per cent of the variance of Phase 2 depression alone. However, a total of 77 per cent was predicted when feeling guilty about the miscarriage (24 per cent) and having planned the pregnancy (five percent) were added to the equation.

Fifty-nine per cent of the variance for IES intrusion at Phase 2 was predicted by Phase 1 intrusion (46 per cent), having had the miscarriage after 12 weeks gestation (seven per cent), and having perceived oneself to have experienced a significant life event within the year preceding miscarriage (six per cent). For avoidance, however, only avoidance scores at Phase 1 significantly predicted scores at Phase 2 (27 per cent).

**Table 2.** Significant associations between variables measured at Phase 1 (one week post-miscarriage) and outcome measures at Phase 2 (four months post-miscarriage).

Phase 1 variables	Associations with Phase 2 outcome scores			
	anxiety <sup>a</sup>	depression <sup>b</sup>	intrusion <sup>a</sup>	avoidance <sup>a</sup>
Age (years) <sup>oo</sup>				
Gestation (weeks) <sup>oo</sup>			*	
Number of children <sup>oo</sup>				
D&C <sup>o</sup>				
Pregnancy planned <sup>o</sup>	*	**		*
Life event <sup>o</sup>			*	
Perceived adequate explanation <sup>o</sup>				
Perceived opportunity to talk <sup>o</sup>				- *
Perceived let down by staff <sup>o</sup>	*			*
Perceived self-responsibility for miscarriage <sup>o</sup>	*	**		*
Perceived staff-responsibility for miscarriage <sup>o</sup>	*	*		
Anger re. miscarriage <sup>o</sup>	*	**		
Self-blame for miscarriage <sup>o</sup>				
Perceived self to be failure <sup>o</sup>				*
Guilt re. miscarriage <sup>o</sup>	*	*		*
Optimism re. future <sup>o</sup>	- *	- **		

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; <sup>o</sup> categorical data; <sup>oo</sup> continuous data; - negative correlation

<sup>a</sup> For anxiety, intrusion and avoidance, parametric associations were made using Pearson's correlations for continuous data and student t-tests for categorical data.

<sup>b</sup> For depression, non-parametric associations were made using Spearman's correlations for continuous data and Mann-Whitney U tests for categorical data.

**Table 3.** Predictors of psychological morbidity at Phase 2 (four months post-miscarriage) - Forward stepwise multiple regression analyses between variables measured at Phase 1 (one week post-miscarriage) and outcome measures at Phase 2.

Phase 2 outcome	Phase 1 predictors	R <sup>2</sup>	<i>p</i>
Anxiety	Anxiety	0.51	0.01
	Optimism re. future	0.54	0.05
Depression	Depression	0.48	0.01
	Guilt re. miscarriage	0.72	0.01
	Pregnancy planned	0.77	0.05
Intrusion	Intrusion	0.46	0.01
	Gestation band <sup>a</sup>	0.53	0.01
	Life event	0.59	0.05
Avoidance	Avoidance	0.27	0.01

<sup>a</sup> Gestation (weeks) was split into two bands, forming short gestation ( $\leq 12$  weeks) and longer gestation ( $> 12$  weeks).

### *Predictors of anxiety "caseness" at Phase 2*

Since 28.2 per cent of women still had significant anxiety at four months post-miscarriage, Chi-square, Mann-Whitney U, and *t*-tests were carried out to determine if any associations existed between anxiety caseness at Phase 2 and all other factors. No associations were found, except for those with anxiety scores at Phase 1 (anxiety:  $t_{(37)}=3.4$ ,  $p<0.01$ ; anxiety caseness: Fisher's Exact Test,  $p<0.01$ ).

### *Women's experiences of support*

Women were generally satisfied with the hospital care that they had received. The mean score was 65.4 (SD=29.4; range=4-98), as measured on a 100 mm scale ranging from 'extremely dissatisfied' (0) to 'extremely satisfied' (100) at Phase 2 (QN2), and only five (12.8 per cent) agreed with the statement "I have been let down by all the doctors and nurses who have looked after me in my pregnancy" (RMQ - Phase 2).

When women were asked how important it was for them to have an explanation for their miscarriage, they scored a mean of 91.4 (SD=1.0; mode=98; range=59-98), on a 100 mm scale ranging from 'not at all important' (0) to 'extremely important' (100). However, 46.2 per cent of women felt that they had not been provided with an explanation, for the loss of their baby, from the hospital. Thirty-six per cent of the total sample of women, who provided an answer to the question, disagreed with the statement "I have received adequate explanation / information about why my miscarriage has occurred" (RMQ - Phase 2). Thus, some women felt that not having had an explanation was adequate.

Twenty-two women (56.4 per cent) reported that they had tried to obtain information about their miscarriage (QN2). Eleven had tried to get this information from health care professionals, such as GPs, hospital staff and

health visitors. One woman had tried to obtain information from the library, one from the Miscarriage Association, and thirteen women had tried to get information from friends, three of whom specified friends who had had a miscarriage. Significantly more people in the non-intervention control group (77.8 per cent) had tried to obtain information than those who received psychological debriefing (28.6 per cent;  $t=9.39$ ,  $d.f.=1$ ,  $p<0.01$ ).

Only five women (12.8 per cent) perceived that they had received hospital follow-up. Of these five women, mean satisfaction score for follow-up care, on a scale of 0 ("extremely dissatisfied") to 100 ("extremely satisfied"), was 28.8 (SD=32.8; range=11-77). None of these women belonged to the intervention group. Thus, the psychological debriefing provided by the psychologist was not perceived by anyone to be part of a hospital follow-up procedure. Forty-eight per cent felt that they had not been given the opportunity to talk about how they felt. However, significantly more women in the intervention group (70.6 per cent) felt that they had been given this opportunity compared to non-intervention controls (28.6 per cent;  $t=5.43$ ,  $d.f.=1$ ,  $p<0.05$ ).

Women who received psychological follow-up were asked to rate its helpfulness on a 100 mm scale from 'extremely unhelpful' (0) to 'extremely helpful' (100). The mean score was 73.5 (SD=21.1; range=28-98). They were also invited to comment on which aspects, if any, had been helpful or unhelpful. Fourteen out of the 18 women who received psychological debriefing provided comments, nine of whom gave positive comments only, four provided both positive and negative comments, and only one woman provided negative comments only.

Of those women who identified helpful aspects, three reported that the opportunity to express feelings and thoughts through giving a detailed account of the experience, was what was helpful. Two women felt that the

normalising process was helpful, but the majority of these women (eight) reported that the helpful aspects were from just having someone to talk to who listened to them. Negative comments related to having to relive the experience (two women), and limited medical knowledge (one), little feedback (one) and no shared experience (one) by the psychologist.

## **Discussion**

### *Outcome measures*

The results of this study showed that, at one week post-miscarriage, participants' mean anxiety score was 9.2, as assessed using the HADS, and 36 per cent of women were experiencing significant levels of anxiety. These figures are comparable with those found by Prettyman *et al.* (1993), using the same rating scale at one week post-miscarriage, and are significantly higher than figures quoted for community samples (e.g. Surtees, 1990).

Other workers have found elevated anxiety scores immediately post-miscarriage (Cecil & Leslie, 1993; Thapar & Thapar, 1992), and at six weeks after the event (Thapar & Thapar, 1992). In addition, Friedman & Gath (1989), although not investigating anxiety systematically, reported that some women consulted their GPs with anxiety and somatic symptoms.

Most studies, however, have not reported on the effects of miscarriage on anxiety, and have instead tended to focus on depression. In the current study, less than eight per cent of women reached "caseness" for depression, which is no higher than community sample estimates (e.g. Surtees, 1990), and cannot be assumed to be attributable to the miscarriage experience. Thapar and Thapar (1992) found similar results with the HADS immediately and at six weeks post-miscarriage, although elevated depression scores were found with the General Health Questionnaire (GHQ; Goldberg & Hillier, 1979). Prettyman *et al.* (1993) detected significant depression in women at one week

post-miscarriage with the HADS, and others have found elevated depression scores immediately post-miscarriage (Hamilton, 1989), at two weeks (Neugebauer *et al.*, 1992a), and at four weeks afterwards (Friedman & Gath, 1989).

Mean intrusion and avoidance scores, at one week post-miscarriage, correspond closely to those found by Horowitz *et al.* (1979) for a sample of people who sought psychotherapy following trauma, and were suffering with stress response syndromes. Thus, it may be speculated that the trauma of the process of the miscarriage experience was significant in influencing psychological outcome at this time point. This may help to explain why the predominant response, by women following miscarriage in the current study, was anxiety.

Thus, at one week after miscarriage, women show significant signs of distress, as might be expected following any form of traumatic event. However, the investigation of longer-term effects would seem to be more important. At four months post-miscarriage, current study mean scores had significantly decreased for both anxiety and depression. However, the percentages of women reaching "caseness" were not significantly different from those at one week post-miscarriage. Thus, anxiety figures remained significantly higher than those found in the general population.

These results correspond with those of Prettyman *et al.* (1993), who found significant anxiety, but not depression, at three months post-miscarriage. However, other studies have not found anxiety symptoms to still be present at three months post-miscarriage (Cecil & Leslie, 1993), and others have found depression scores to be elevated at this time-point (Robinson *et al.*, 1994). The contradictory findings between the studies may reflect, as well as different assessment procedures and study methodologies, different health care procedures at the various study sites.

*The influence of psychological debriefing on distress following miscarriage*

Emotional adaptation by women in the current study was not significantly influenced by psychological debriefing. Although no controlled intervention studies have been reported, anecdotal evidence has shown beneficial effects. For example, Jackman *et al.* (1991) reported that women, who were allowed to discuss their feelings at a hospital follow-up appointment, showed better emotional adjustment subsequently, although appropriate controls were not employed in this study. Neugebauer *et al.* (1992a) found that women who were interviewed, by telephone at two weeks post-miscarriage, showed lower depression versus those who were not interviewed at two weeks.

*Why did psychological debriefing not affect emotional adaptation?*

A number of hypotheses have been generated in an attempt to explain the apparent lack of benefit of the psychological intervention implemented in the current study. For example, it is possible that intervention did have an effect on morbidity, but that sample sizes were too small to detect any significant difference in the scores. Alternatively, the passage of time may have allowed the emotional adaptation of women in the control group to 'catch up' with that of the intervention group.

Brom & Kleber (1989) have pointed out that only about twenty per cent of people struggle with pathological coping strategies, and that most people experiencing trauma adapt using their own resources and support (e.g. Card, 1987; Parkes & Weiss, 1983). Indeed, in the current study, significantly more women, who did not receive the psychological debriefing, tried to obtain information about their miscarriage from other sources, including health care professional and friends.

This hypothesis, however, would not account for the continuing elevation in anxiety, in nearly a third of women in the current study, at four months post-miscarriage. It would also not account for the significant distress, reported in a number of studies, which is evident at several months (e.g. Neugebauer *et al.*, 1992a; Prettyman *et al.*, 1993), or even a year (Robinson *et al.*, 1994) or more (Cordle & Prettyman, 1994).

It is possible that in the current study, anxiety was reduced following intervention, but that it rose again by four months post-miscarriage. Fluctuations in levels of distress over time have been reported. Prettyman *et al.* (1993) observed a reduction in anxiety between one and six weeks post-miscarriage, but an increase at three months. Robinson *et al.* (1994) reported depression to be elevated at three months post-miscarriage, lowered by six months, but again raised a year after miscarriage.

These authors have suggested that the peaks in distress may relate to significant time-points post-miscarriage. Prettyman *et al.* (1993) speculated that three months was a time when the women may be making decisions as to whether or not to try to conceive again, since medical advice is often to wait three months. The elevated depression scores in the Robinson *et al.* (1994) study may be due to the anniversary of the miscarriage.

In the current study, results are similar to those of Prettyman *et al.* (1993), and elevated anxiety may well reflect concerns about future pregnancies. Other workers (e.g. Tunaley *et al.*, 1993) have suggested that anxiety involves anticipation of future events. Although psychological debriefing included discussion of future coping strategies, this was not a major part of the intervention, and perhaps this is an aspect which should be given greater emphasis.

It is possible that the absence of effect of the intervention, in the current study, was due to inadequacies of psychological debriefing, the timing, or

other aspects. However, firstly, the type of intervention was specifically selected in order to take account of the whole experience of miscarriage, and thus aimed to cover many, rather than selected aspects of distress, such as would have been covered in a grief intervention, for example.

Secondly, the timing of intervention was chosen due to the beneficial effects found by Neugebauer *et al.* (1992a) of a telephone interview at two weeks post-miscarriage. In addition, women have reported a preferred time of follow-up intervention at two to three weeks following miscarriage (Slade & Wills, 1993).

Thirdly, the perceived purpose of the debriefing visit may have influenced the impact of the intervention. In the current study, a psychologist / research worker facilitated the intervention. Women knew that they were selected (albeit randomly) for intervention, and a visit from a psychologist may have raised anxieties for some who may have feared that something abnormal in their scores had been detected. Those who perceived the debriefer as a research worker, may have also perceived her as someone who had come to obtain information, versus specifically to help them with their distress.

It was interesting to find in the current study, that not one woman perceived the psychologist to be part of a hospital follow-up procedure, despite careful wording of letters and letter-heads. From some women's responses, it was clear that they perceived the psychological follow-up as part of a study rather than part of a service. It was felt important that the debriefer was perceived to be part of the hospital service, as it has implications for the women's expectations of the intervention, and also for the generalisability of the effect. If the service was eventually to be instituted, then it would be provided by someone other than a psychologist / research worker. Thus, it

was perhaps not appropriate for the psychologist to have provided the debriefing in the current study.

In addition, some women in the current study commented on the fact that they would have liked more of a medical explanation, as well as emotional support. Although the psychologist could provide general explanations, she did not have access to the women's medical notes, and could not provide much information about their individual miscarriages. Other workers have reported a desire by women for medical explanations (e.g. Cecil, 1994; Slade & Wills, 1993).

It is generally routine, in the hospital where the current study was undertaken, for staff to provide women with an explanation about their particular miscarriage (although in most cases, it is not possible to provide an explanation for why the miscarriage occurred). It is interesting that nearly half the women felt that they had not had an explanation. However, the importance of the methods and timing of information provision have been documented (e.g. Ley, 1982), and Hamilton (1989) had suggested that giving information soon after miscarriage may not be effective due to the shock and distress the women may be experiencing at the time.

It would seem appropriate, therefore, for the selection of someone who could provide both emotional support and a medical explanation at a time when women felt it would be appropriate for follow-up. A survey of the attitudes of primary health care professionals to psychological aspects of miscarriage (Prettyman & Cordle, 1992), revealed that it was felt that health visitors and community midwives would be the most appropriate members to offer counselling for women after miscarriage.

Finally, on the inadequacies of the intervention in the current study, it is possible that one session of debriefing is not sufficient to affect emotional adaptation. However, previous studies have shown single counselling

sessions to be sufficient to produce beneficial effects (e.g. Jackman *et al.*, 1991).

In the Neugebauer *et al.* (1992a) study, women who were given a structured interview by telephone and by lay personnel, scored lower on depression scales at six weeks and six months post-miscarriage, than those who did not receive the interview at two weeks. The authors attributed this decrease to unintended therapeutic and test effects of the initial telephone interview. Robinson *et al.* (1994) have also entertained the idea that self-report psychological assessment may act as a form of therapy, although they did not use this to interpret the results in their study.

In the current study, the self-report assessments completed at Phase 1 may have acted as a form of therapy. Indeed, a few women actually reported to the psychologist that the questionnaires / scales had had a therapeutic effect in that "it was like going over the events" and "shows that someone's interested". Since both groups received the questionnaires / scales at Phase 1, it could be argued that both received an intervention. It is possible that the psychological debriefing did not offer much over and above the questionnaires / scales, and thus a difference between the groups was not detected due to equal emotional adaptation in both groups following questionnaire / scale completion. Extra controls are needed in order to eliminate possible test effects.

A further explanation for the absence in detecting a beneficial effect of psychological debriefing, could be that the intervention was helpful for some, but not for all, and that it may even have had an adverse effect on some people, cancelling out any beneficial effect. Stroebe (1992-1993) has recently questioned the necessity of "grief work", the active cognitive process of confronting a loss and going over events. Western society believes that this is an essential process if one is to adapt to a loss and prevent long-term

adverse consequences. Stroebe reports that there is little scientific evidence supporting the “grief work hypothesis” for normal (versus pathological) grief, and has found that there are individual and cultural differences in bereavement coping styles.

Similarly, Brom & Kleber (1989) have emphasised the importance of individual differences in coping strategies and support needs, depending on factors such as the circumstances, individual personality and history and social support. In other stress research (e.g. Epstein, 1967; Horowitz, 1983; Janoff-Bulman & Timko, 1987), it is argued that denial is sometimes adaptive, for example in situations where it is too anxiety provoking to accept the reality of the loss. Furthermore, Miller (1987) has identified individual differences in coping styles, and has found that ‘monitors’ (information seekers) tend to benefit from information, whereas ‘blunters’ (distractors) tend to benefit from distraction in response to stressors.

Thus, confrontation and working through of the events, such as in the psychological debriefing in the current study, may be an effective strategy for emotional adaptation for some individuals. However, encouraging this in women whose coping style is to suppress painful memories, may not be beneficial, or may even have an adverse effect. This emphasises the importance of determining which women are and are not likely to benefit from professional support. Miller (1987) has devised a scale (Miller Behavioral Style Scale; MBSS) which categorises people on the monitoring / blunting dimensions, and it may prove useful in determining which women should be offered support.

#### *Can we predict distress at four months?*

Since psychological debriefing did not significantly influence emotional adaptation, and small subgroup numbers prevent further analyses, it is not

possible to determine if certain subgroups of women benefited from psychological follow-up. However, in line with studies attempting to determine which factors predict psychological morbidity (see Introduction), correlation and regression analyses were carried out to investigate which factors, if any, predicted outcome at four months post-miscarriage.

Firstly, outcome measures at one week post-miscarriage were strong predictors of psychological morbidity at four months. This indicates the importance of early assessment, and suggests that women who are highly distressed should be offered some form of intervention. Further analyses were made to determine whether or not any demographic, pregnancy or cognitive factors, measured at Phase 1 of the study, predicted outcome at four months. A number of correlations were found, and are summarised in Table 1. However, regression analyses were carried out in order to remove interference and determine actual predictors of psychological distress.

Having disagreed with the statement "I feel optimistic about the future" significantly predicted three per cent of the variance for anxiety at four months. Thus, not feeling optimistic is likely to correspond with higher anxiety. However, this added little to the predictive power of anxiety, at one week, alone (51 per cent).

For depression, however, when feeling guilty about the miscarriage, and having planned the pregnancy were added to the equation, a further 29 per cent, to the 48 per cent predicted by Phase 1 depression scores alone, was predicted, totalling 77 per cent. Thus, if a woman scored highly on depression and felt guilty about her miscarriage at one week post-miscarriage, and had planned her pregnancy, she would be very likely to have a high depression score at four months post-miscarriage.

Having lost the baby beyond 12 weeks gestation, and perceiving oneself to have experienced a significant life event within the year preceding

the miscarriage, significantly predicted 13 per cent of the variance for intrusion scores at four months, over and above the 46 per cent predicted by intrusion scores at Phase 1. Thus, a longer gestation and a significant life event, and a high intrusion score at Phase 1, predicted 59 per cent of the variance for high intrusion at Phase 2.

Although a number of factors were identified as predicting psychological outcome at four months post-miscarriage, these results simply add to a host of conflicting findings (see Introduction).

#### *Women's experiences of health care and follow-up*

Women were generally satisfied with the care that they had received while in hospital, which has been reported in other studies (Friedman & Gath, 1989; Moohan *et al.*, 1994). However, although women found it extremely important to have an explanation for their miscarriage, less than half felt that they had been provided with one, with the majority feeling that this was inadequate. Moohan *et al.* (1994) and Cecil (1994) have also observed dissatisfaction with the adequacy of information given. Over half of the women had tried to obtain further information from various sources, half of this sample approaching health care professionals.

At four months post-miscarriage, only five women felt that they had received follow-up care, and these women were generally dissatisfied with what they had received. Others have shown dissatisfaction with follow-up care (Cecil, 1994; Helstrom & Victor, 1987). Interestingly, none of these women were in the intervention group. Thus, the psychological follow-up was not perceived to be part of the hospital follow-up procedure.

Nearly half of the women felt that they had not been given the opportunity to talk about how they felt, and significantly more of this sample belonged to the control group, suggesting that the opportunity to talk about

feelings had been met in the debriefing session. In addition, significantly more women in the control group had tried to obtain information about their miscarriage. Similarly, this may suggest that some of the information / explanation requirements had been fulfilled in the debriefing session, assuming that differences in the information seeking is a consequence of receiving the intervention.

However, it may be that individual differences in coping styles, in terms of information seeking, led to this result regardless of whether or not the women received psychological debriefing. It is possible, therefore, that groups were not matched in terms of monitors / blunterners (cf. Miller, 1987) at baseline.

Women generally felt that the psychological follow-up had been helpful. This probably did not significantly reflect socially desirable responses, since women were also critical of the intervention. Although some women identified particular aspects of the psychological debriefing to be helpful, such as being able to give a detailed account of their experiences, and the normalising, the majority found that just having the opportunity to talk to someone who listened, helped.

### *Summary and conclusions*

At one week post-miscarriage, women have anxiety levels significantly higher than the general population, and have intrusion and avoidance scores as high as post-trauma victims, with stress response syndromes. Thus, it could be speculated that elevated anxiety relates partly to the traumatic nature of the miscarriage experience. At four months, although intrusion and avoidance scores had fallen, anxiety remained high. This may reflect a second peak in anxiety, and may relate to further pregnancy planning by this

time. More longitudinal studies are required in order to assess possible fluctuations in distress and the reasons for them.

Psychological debriefing had no influence on emotional adaptation, and a number of hypotheses have been generated in an attempt to account for this apparent absence of effect. For example, it may be that a psychologist was not the appropriate person, and that someone with both medical knowledge and counselling competence, and someone perceived to be part of the health care service, would be more appropriate. The lack of influence by psychological intervention may also have been a result of unintended test and therapeutic effects of completing questionnaires at one week after miscarriage. Thus, it could be argued that the control group also received an intervention. Further studies with extra controls are needed.

Another hypothesis is that psychological debriefing may have had a positive influence on some, but no effect, or an adverse effect on others. This highlights the need to assess who are more likely to be distressed, and who would benefit from intervention. Outcome scores at one week highly predicted outcome scores at four months, and Miller's monitor / blunter scale (MBSS, 1987) may help to predict who would benefit from intervention. Thus, early assessment would provide information regarding which women should be offered some form of help.

In addition to outcome at one week post-miscarriage, other predictors of psychological distress were found, but these findings simply added to myriad conflicting results from previous workers. Further studies, perhaps using standardised methodologies and analyses, are required in order to make sense of these findings.

Women were generally satisfied with health care, but not with the information / explanations which they received, and a number had tried to obtain information about their miscarriages from various sources, including

health care professionals. Only five women had perceived themselves to have received follow-up care, and there was general dissatisfaction with what they had received. None of these women belonged to the intervention group, suggesting that the psychologist was not perceived to be part of the hospital follow-up service.

Psychological debriefing was perceived to be helpful by the women who received it, with most believing that just having someone to talk to, who listened, was what was helpful. Women in this group were less likely to try and obtain information about their miscarriages from other sources, and more likely to perceive that they had been given the opportunity to talk about their feelings. Thus, psychological debriefing did provide some benefits. Despite the less dramatic effects than expected, there still appears to be a need for it. Women are dissatisfied with what they receive, women want follow-up, and beneficial effects have been found. Further intervention studies are required, with appropriate controls.

Since early miscarriage is such a common occurrence, one might question whether we should be intervening with what might be considered to be a normal process. However, people are generally unaware of the frequency of early miscarriage, making it even more of a trauma when it does happen. In addition, people are generally not aware of the impact of miscarriage, and women do not perhaps receive the social supports which are available following other types of bereavement and trauma. This general lack of understanding by society may contribute to the necessity for professional help.

Perhaps we should not be considering routine professional follow-up services, but rather prevention, and providing information and coping strategies prior to pregnancy. More knowledge and acceptance in the

general public may lead to a greater understanding and support by society, reducing the need for additional forms of support.

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## CRITICAL APPRAISAL

### *Origins of the project*

Ideas for the topic of the research stemmed from a general interest in health psychology, and a particular interest in women's health. Since one of the course team (PS) had similar interests, and knowledge and experience of research in the area, I approached her, in the summer of 1992, to discuss particular options which would be feasible in Sheffield.

One area of interest identified was that of the psychological effects of early miscarriage. There has recently been a number of studies reporting on the emotional consequences of miscarriage. Despite these findings, there is no routine follow-up care for these women. From the research literature, it is apparent that it is needed and wanted, and anecdotal evidence suggests beneficial effects of follow-up support. However, to date, there have been no controlled intervention studies with women following early miscarriage, representing a major gap in the research field (cf. literature review and research report).

Sheffield is host to a hospital specifically for women, the staff of which have cooperated in previous research from the psychology department. In addition, one of the consultants in Obstetrics and Gynaecology (SD) had an interest in this area, and had helped with previous psychological research. Furthermore, unlike the other hospital gynaecology departments in Sheffield, no psychology research was being undertaken in this field at the current time, at the women's hospital.

It was felt that the research project would be most useful, satisfying and easy to conduct in an area of obvious need, and in an environment where it would be possible to carry it out smoothly. Thus, it was decided that it would be useful to conduct an intervention study for women following early

miscarriage, in the women's hospital in Sheffield, where the staff would be cooperative and interested in the research area, and possibly motivated to help in the running of the project. PS agreed to act as both academic and clinical supervisor for the study.

### *Timescale and progress*

The planning of the project began in October, 1992, with regular contacts with PS. Between December, 1992 and January, 1993, liaisons extended to the staff of the women's hospital. First, meetings were had with SD in order to discuss plans, and the logistics of carrying out such work, and financial help for the research was offered. Following this, contacts were made with the Matron of the hospital, the Assistant Matron in Gynaecology, and the nursing staff of the wards receiving women with miscarriages.

The wards to be included in the study comprised the assessment unit (gynaecology) and two gynaecology wards. The assessment unit opens between 7.30 a.m. and 9.00 p.m., Monday to Friday, and is the first place of contact for women with threatened or actual miscarriage, as well as for women with other gynaecological problems. In emergencies, outside these hours, women are admitted straight onto one of the two gynaecology wards.

It was suggested that most women recruited for the study would come through the assessment unit. Thus, time was spent on this unit in order to get a feel for the process of care which the women in the study would routinely receive, and to assess how best to involve the nursing staff in the study. One nurse, with a particular interest in research (VL), agreed to help with the collection of data, and act as coordinator for the research project at the hospital end.

In addition, VL obtained estimates of the number of women having miscarriages passing through the system. In the study (cf. research report), it

was originally planned to include one intervention group (questionnaires at one week, psychological debriefing at two weeks and questionnaires at four months post-miscarriage), one group to control for the intervention (questionnaires at one week and four months, but no psychological debriefing), and one group to control for other test effects (questionnaires at four months only, so that repeated testing, for example, would not influence the results). However, based on estimates of possible subjects for the study (approximately 20 per month), and due to timescale factors, it was felt necessary to drop one of the groups (test effects control) to allow adequate sample sizes of the other groups.

Between January and February, 1993, the main research proposal was drafted, and circulated to nursing and medical staff for comment. This was submitted to the clinical psychology course team, and accepted in March, 1993. Similarly, a more concise version, prepared for the South Sheffield Ethics Committee, was submitted and accepted at the same time.

It was expected that the recruitment phase of the study would last for approximately six months. It was hoped that 100 women would be recruited altogether, leaving at least 30 subjects per group for analysis, after allowing drop-out following initial agreement to participate. In April, 1993, piloting of the study began, and the first 10 women recruited were selected for the intervention group, in order to practise the psychological debriefing format. Following this, women were alternately placed in the two groups on recruitment.

Between April and June, 1993, and in parallel with the main study, QN2 (cf. research report) was devised, piloted and amended. Various individuals, groups and agencies were contacted to provide information and help pilot the questionnaire. These included women who agreed to participate in the main study, but did not fit the inclusion criteria, the women's

hospital support group, and local members of the Miscarriage Association. The questionnaire was sent to a medical psychology member of the Ethics Committee, and was approved in June, 1993.

By the beginning of July, 1993, it was realised that only a third of women, that were expected, had been recruited into the study. This was largely due to a reduction in women, fitting the inclusion criteria, being admitted to the hospital. However, very few women for the study had come through the two gynaecology wards, and they admitted that they had probably not asked all women fitting the inclusion criteria to participate. In addition, they had had quite a few women refusing to participate in the study, compared to no refusals by women asked on the assessment unit.

Negotiations were made with the staff involved, including extra prompts, team briefings, and suggestions as to how and when best to approach the women in order to reduce refusal rates, leading to a slight increase in recruitment rates over the subsequent months. It was decided to recruit for an extra three months than originally planned, until the end of December, 1993. This time could not be extended further, since it would take four or five months to obtain all data for analysis after recruitment had ended. The nursing staff were also contacted and given extra prompts during October and November, 1993.

Between January and May, 1994, follow-up questionnaires were sent out and collected, the write-up of the thesis was begun, and data analysis was conducted after all questionnaires had been returned by April, 1994.

### *Aids and barriers to progress*

*Staff relationships* Having conducted research in an NHS setting before, it was known from the start that one of the most important aids to progress is having the goodwill and cooperation from the staff involved in helping with the

research. Getting already overworked nurses to do extra work with no reward requires a certain amount of tact and motivation building. Having someone with an interest in the area (SD) made the first hurdle considerably lower. SD, being involved in the Ethics Committee, accelerated the process of getting the project through the committee, as well as introducing me to the appropriate nursing staff members in the hospital. Spending time and communicating with the staff also led to interest, enthusiasm and motivation from them.

However, throughout the study, and particularly at the beginning of the recruitment period, problems were apparent with involvement of the staff on the two gynaecology wards. Not all women, who were appropriate for the study, were being asked to participate, and others were refusing to participate. This was in contrast to the work being done in the assessment unit.

Possible reasons for these problems could be work load or care procedure differences on these wards. Some nurses on these wards reported that they were apprehensive about approaching women for fear of upsetting them further, despite the evidence that most women were very willing to aid research in an area that was particularly meaningful to them.

It was hypothesised that interest and motivation was lower in these two wards due to less contact and visibility from myself. Although I phoned VL, and other staff on the assessment unit, on a daily basis, communication with the staff on the two gynaecology wards was much more seldom. In addition, many of the staff had never seen me, due to shift work, and difficulties in meeting groups of staff at a time.

It was also particularly difficult for me to find the time to see staff during the first few months of the recruitment period. In addition to continuing to carry out clinical and other academic work requirements for the course, much of my

spare time, including evenings and week-ends was spent providing psychological debriefing for the women in the study. Furthermore, my study time rarely coincided with times when staff were available to see me. Finally, flexibility was reduced by having a clinical placement outside of Sheffield at the time.

Approaching the staff in the gynaecology wards in July, 1993, was quite anxiety-provoking. I was aware that raising concerns could be interpreted as criticism, particularly in light of the success in recruitment on the assessment unit, and the aim to pass on tips on recruitment from the assessment unit to the gynaecology wards. This task was approached extremely cautiously, and paid off by resulting in a higher rate of recruitment from these wards in the subsequent months.

*Resources and design compromises* Time constraints also led to a number of compromises being made in the design of the project, which probably influenced the results of the study (cf. research report). First, I had originally planned to train the nursing staff, or certain members of it, to carry out the psychological debriefing, since I felt it was important that the psychological follow-up was perceived to be part of the hospital service (cf. research report discussion for reasons).

It was quite obvious from the start that training the staff would have been very time-consuming, and they might not have been prepared to provide this service. Thus, it was decided that I would do the debriefing myself, and that it would be done in the women's own homes, since I had no appropriate base. Although I tried to appear to be part of the hospital service, not one woman who received psychological debriefing perceived herself to have received hospital follow-up support (cf. research report), which may have affected their emotional adaptation at four months post-miscarriage.

Secondly, as mentioned above, one of the control groups was dropped from the study before it began, due to estimates of women appropriate for the study being lower than expected. In the study, no differences in outcome measures were found between the intervention and non-intervention control group. One of the hypotheses generated to account for this was that the control group also effectively received a follow-up intervention. This was because a number of women had reported therapeutic effects of completing the questionnaires, and other workers have found accidental therapeutic effects of certain test procedures (cf. research report). The extra control group would have taken this into account, and provided valuable information. A third group of women, to act as test-procedure controls, are currently being recruited.

Thirdly, the small number of subject data available for final statistical analysis, meant that I could not reliably interpret results from particular subgroups of women, and thus could not answer the question of which women benefited from psychological follow-up intervention.

*Aspects realised in hindsight* On the subject of data analysis, this was a task which produced some anxiety. Having done research in the past, I had ensured that my data could be analysed by statistical methods. However, I had not considered carefully enough specific details, such as the form of the data produced from the questionnaires, and realised that it would have been useful to plan more carefully the design of the study and questionnaires around statistical methods which would be available at the point of data analysis. For example, for some of the questions, it would have been useful to obtain continuous data (e.g. rating from 0-100) rather than categorical data (yes / no), in order to obtain a clearer picture of the relationship with outcome scores (continuous data).

Conducting a longitudinal study within a limited time period was quite ambitious. I had rushed to begin the study early, with less preparation than could have been done, in anticipation of having to wait four or five months for data to arrive after recruitment of women to the study had ended. In hindsight, I might have saved this type of design for less pressured research projects.

### *Conclusion*

Having carried out research prior to this project, I had been careful to avoid mistakes and omissions made in previous research. In particular, I was aware of the importance of careful planning of the design, and ensuring that appropriate statistical tests could be carried out on the data collected. In addition, I was alert to the fact that creating good relationships, with the people required to help, is paramount.

Despite careful planning, the study did not go perfectly smoothly, and in future research, I would aim to do more careful statistical planning prior to commencement of the project, and spend more time communicating with *all* staff involved in helping with the study.

Conducting the research was a little frustrating in some respects, mainly due to the time constraints leading to a number of compromises being made in terms of the design of the project. Carrying out research on a part-time basis meant that effective time management strategies were important. Doing research alongside many other demands, made me realise that planning a study to fit well within the resources and time available was crucial if it was to be of good quality. Doing a longitudinal study added to the time pressures, and I would aim to be less ambitious in future research with similar constraints.

One aspect which influenced my motivation for the study negatively, was the issue of having no base to do the research. As well as using home

as a base being difficult, I felt it was also inappropriate, and it raises ethical issues. In addition, it is not usual to conduct research projects without basic resources, and it gave the message that the work was less important than other research.

Overall, however, I thought the project went very well, and that many of the constraints are experienced in any research being undertaken in NHS settings. I had a good relationship with most of the staff involved, and I think I planned the work adequately. I believe that problems with design, realised in hindsight, are also experienced in most research studies. The study was an enjoyable and useful project.

## Appendix 1

### HAD scale

code no.

This questionnaire is designed to help us know how you feel. Read each item and place a tick in the box opposite the reply which comes closest to how you have been feeling in the past week. Don't take too long over your replies: your immediate reaction to each item will probably be more accurate than a long thought-out response.

*Tick only one box in each section*

<i>I feel tense or 'wound up':</i>	<input type="checkbox"/>	<i>I feel as if I am slowed down:</i>	<input type="checkbox"/>
Most of the time.....	<input type="checkbox"/>	Nearly all the time.....	<input type="checkbox"/>
A lot of the time.....	<input type="checkbox"/>	Very often.....	<input type="checkbox"/>
Time to time, occasionally.....	<input type="checkbox"/>	Sometimes.....	<input type="checkbox"/>
Not at all.....	<input type="checkbox"/>	Not at all.....	<input type="checkbox"/>
<i>I still enjoy the things I used to enjoy:</i>	<input type="checkbox"/>	<i>I get a sort of frightened feeling like butterflies' in the stomach:</i>	<input type="checkbox"/>
Definitely as much.....	<input type="checkbox"/>	Not at all.....	<input type="checkbox"/>
Not quite so much.....	<input type="checkbox"/>	Occasionally.....	<input type="checkbox"/>
Only a little.....	<input type="checkbox"/>	Quite often.....	<input type="checkbox"/>
Hardly at all.....	<input type="checkbox"/>	Very often.....	<input type="checkbox"/>
<i>I get a sort of frightened feeling as if something awful is about to happen:</i>	<input type="checkbox"/>	<i>I have lost interest in my appearance:</i>	<input type="checkbox"/>
Very definitely and quite badly.....	<input type="checkbox"/>	Definitely.....	<input type="checkbox"/>
Yes, but not too badly.....	<input type="checkbox"/>	I don't take so much care as I should..	<input type="checkbox"/>
A little, but it doesn't worry me.....	<input type="checkbox"/>	I may not take quite as much care.....	<input type="checkbox"/>
Not at all.....	<input type="checkbox"/>	I take just as much care as ever.....	<input type="checkbox"/>
<i>I can laugh and see the funny side of things:</i>	<input type="checkbox"/>	<i>I feel restless as if I have to be on the move:</i>	<input type="checkbox"/>
As much as I always could.....	<input type="checkbox"/>	Very much indeed.....	<input type="checkbox"/>
Not quite so much now.....	<input type="checkbox"/>	Quite a lot.....	<input type="checkbox"/>
Definitely not so much now.....	<input type="checkbox"/>	Not very much.....	<input type="checkbox"/>
Not at all.....	<input type="checkbox"/>	Not at all.....	<input type="checkbox"/>
<i>Worrying thoughts go through my mind:</i>	<input type="checkbox"/>	<i>I look forward with enjoyment to things:</i>	<input type="checkbox"/>
A great deal of the time.....	<input type="checkbox"/>	As much as ever I did.....	<input type="checkbox"/>
A lot of the time.....	<input type="checkbox"/>	Rather less than I used to.....	<input type="checkbox"/>
From time to time but not too often..	<input type="checkbox"/>	Definitely less than I used to.....	<input type="checkbox"/>
Only occasionally.....	<input type="checkbox"/>	Hardly at all.....	<input type="checkbox"/>
<i>I feel cheerful:</i>	<input type="checkbox"/>	<i>I get sudden feelings of panic:</i>	<input type="checkbox"/>
Not at all.....	<input type="checkbox"/>	Very often indeed.....	<input type="checkbox"/>
Not often.....	<input type="checkbox"/>	Quite often.....	<input type="checkbox"/>
Sometimes.....	<input type="checkbox"/>	Not very often.....	<input type="checkbox"/>
Most of the time.....	<input type="checkbox"/>	Not at all.....	<input type="checkbox"/>
<i>I can sit at ease and feel relaxed:</i>	<input type="checkbox"/>	<i>I can enjoy a good book or radio or TV programme:</i>	<input type="checkbox"/>
Definitely.....	<input type="checkbox"/>	Often.....	<input type="checkbox"/>
Usually.....	<input type="checkbox"/>	Sometimes.....	<input type="checkbox"/>
Not often.....	<input type="checkbox"/>	Not often.....	<input type="checkbox"/>
Not at all.....	<input type="checkbox"/>	Very seldom.....	<input type="checkbox"/>

**Appendix 2**

**IES**

**code no.**

Below is a list of comments made by people after stressful life events. Please check each item, indicating how frequently these comments were true for DURING THE PAST SEVEN DAYS. If they did not occur during that time, please mark the "not at all" column.

		<i>frequency</i>			
		<i>not at all</i>	<i>rarely</i>	<i>sometimes</i>	<i>often</i>
1.	I thought about it when I didn't mean to.				
2.	I avoided letting myself get upset when I thought about it or was reminded of it.				
3.	I tried to remove it from memory.				
4.	I had trouble falling sleep or staying asleep, because of pictures or thoughts about it that came into my mind.				
5.	I had waves of strong feelings about it.				
6.	I had dreams about it.				
7.	I stayed away from reminders of it.				
8.	I felt as if it hadn't happened or it wasn't real.				
9.	I tried not to talk about it.				
10.	Pictures about it popped into my mind.				
11.	Other things kept making me think about it.				
12.	I was aware that I still had a lot of feelings about it, but I didn't deal with them.				
13.	I tried not to think about it.				
14.	Any reminder brought back feelings about it.				
15.	My feelings about it were kind of numb.				

### Appendix 3

#### RMQ

**code no.**

Please rate your agreement with each of the following statements by placing a tick in the appropriate column. Please answer each question according to how you have been feeling over the past week, including today.

*strongly*   *slightly*   *neither*   *slightly*   *strongly*  
*agree*   *agree*   *agree nor*   *disagree*   *disagree*  
*disagree*

1.	I accept that no-one could have done anything to prevent my miscarriage.					
2.	Other people do not seem to understand how I feel.					
3.	I feel responsible for my miscarriage.					
4.	I do not feel that I have come to terms with the fact that the pregnancy is over.					
5.	I feel a failure because of miscarrying.					
6.	I do not blame myself for the miscarriage.					
7.	I feel a sense of relief following the miscarriage.					
8.	This was the wrong time to become pregnant.					
9.	I feel guilty about the miscarriage.					
10.	I have not been given the opportunity to talk about how I feel.					
11.	I feel angry about the miscarriage.					
12.	I feel I have let my family / husband / partner down because of the miscarriage.					
13.	I feel optimistic about the future.					
14.	I have received adequate explanation / information about why my miscarriage occurred.					
15.	I feel very much alone through this experience.					
16.	I feel 'why me?' when I think about the miscarriage.					
17.	I feel let down by all the doctors and nurses who have looked after me in my pregnancy.					
18.	I feel the miscarriage was a punishment for something I have done or failed to do.					
19.	I am preoccupied with thoughts about the baby I lost.					
20.	I avoid talking about my experience of miscarriage.					

**Appendix 4**

**QN2**

code no.

This questionnaire is designed to help us to understand your experiences, feelings and beliefs about miscarriage.

Some questions will require you to rate your response on a scale like the one below, where there is an extreme answer at either end. For these questions, place a cross on the line where it best reflects your experiences / feelings / beliefs.

Example question:

*How satisfied are you with the standard of food provided while you were in hospital?*

If, for example, you were very satisfied, you might mark a cross close to the one on the scale below:

*extremely dissatisfied* |-----X-----| *extremely satisfied*

If, for example, you were slightly dissatisfied, you might mark a cross close to the one on the scale below:

*extremely dissatisfied* |-----X-----| *extremely satisfied*

There are no right or wrong answers.

Please answer each question as fully as possible

1. What, do you believe, caused your miscarriage to occur? \_\_\_\_\_  
 \_\_\_\_\_

2. What, do you believe, was the reason for this happening? \_\_\_\_\_  
 \_\_\_\_\_

3. Did the staff at the hospital, or your GP, provide you with an explanation for the loss of your baby?

Yes \_\_\_ No \_\_\_

3a. If yes, what was this? \_\_\_\_\_  
 \_\_\_\_\_

4. How important was it for you to have an explanation for your miscarriage?

*not important at all* |-----| *extremely important*

5. Has your miscarriage brought any negative changes to your life? Yes \_ \_ No

5a. If yes, what are these? \_\_\_\_\_  
\_\_\_\_\_

6. Has your miscarriage brought any positive changes to your life? Yes \_ \_ \_ No

6a. If yes, what are these? \_\_\_\_\_  
\_\_\_\_\_

7. Have you made any deliberate changes to your life as a result of miscarriage?

Yes \_ \_ \_ No

7a. If yes, what are these? \_\_\_\_\_  
\_\_\_\_\_

8. Are you currently pregnant?

Yes \_ \_ \_ No \_

8a. If yes, how many weeks pregnant are you? \_\_\_\_\_

8b. If no, do you wish to become pregnant again, either now or at some point in the future?

Now: Yes \_ \_ \_ No                      Unsure

In the future: Yes \_ \_ \_ No \_ \_ \_ Unsure \_ \_ \_

9. If at all, how has your miscarriage influenced your wishes / feelings about future pregnancies?

\_\_\_\_\_  
\_\_\_\_\_

10. If at all, how responsible do you feel for the miscarriage occurring?

*completely responsible* |-----| *not at all responsible*

11. Do you feel anyone else is responsible, in any way, for your miscarriage?

Yes \_ \_ \_ No \_ \_ \_

11a. If yes, who? \_\_\_\_\_  
\_\_\_\_\_

11b. How responsible do you feel they are for your miscarriage?

*completely responsible* |-----| *not at all responsible*

**12.** How much control do think you have over the chances of a miscarriage happening to you again in the future?

*complete control* |-----| *no control at all*

**13.** Would you make specific changes in your diet, smoking habits, drinking habits, physical activities, sex-life, drug-intake, etc. in future pregnancies?

Yes \_\_\_\_\_ No

**13a.** If yes, what? -----

-----

**14.** How confident are you about the effectiveness of these changes to prevent future miscarriage?

*not confident at all* |-----| *totally confident*

**15.** How much do you believe your doctor / the hospital is able to prevent you miscarrying again?

*extremely able* |-----| *not able at all*

**16.** Have you read any articles or watched any programmes about miscarriage since your miscarriage occurred?

Yes No

**16a.** If yes, please specify -----

-----

**17.** Have you tried to obtain information from others about miscarriage, e.g. your GP, nurses, friends?

Yes \_\_\_\_\_ No

**17a.** If yes, who? -----

**17b.** How many times? -----

-----

**18.** Did you receive any written information about miscarriage from the hospital?

Yes \_\_\_\_\_ No

**18a.** If yes, how helpful was it?

*extremely helpful* |-----| *extremely unhelpful*

**18b.** If no, do you think you would have found some helpful?

Yes \_\_\_\_\_ No \_\_\_\_\_ Don't know

19. Have you ever compared yourself, in your thoughts, with other women who have miscarried?

Yes No

19a. If yes, what form have these comparisons taken? \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_

20. Have you had contact with support groups?

Jessop Miscarriage Support Group: Yes No

The Miscarriage Association: Yes \_\_\_\_\_ No \_\_\_\_

Other (specify): Yes No

\_\_\_\_\_

20a. If so, how helpful was the group support?

*extremely unhelpful* |-----| *extremely helpful*

20ai. If any, which aspects in particular were helpful? \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_

20a.ii. If any, which aspects in particular were not helpful? \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_

20b. If you did not have contact with support groups, do you think you would have found attendance at a group helpful?

Yes \_\_\_\_\_ No \_\_\_\_\_ Don't know

21. Who have you told about your miscarriage (including close family and friends)? \_\_\_\_\_

\_\_\_\_\_

22. How do you feel about others (except close family and friends) knowing that you have miscarried?

\_\_\_\_\_  
 \_\_\_\_\_

23. Have you discussed your feelings about the miscarriage with anyone?

Partner: Yes \_\_\_\_\_ No \_\_\_\_\_ How many times? \_ \_ \_ \_

Mother: Yes \_\_\_\_\_ No \_\_\_\_\_ How many times? \_ \_ \_ \_

Father: Yes \_\_\_\_\_ No \_\_\_\_\_ How many times?  
 Sister: Yes \_\_\_\_\_ No \_\_\_\_\_ How many times?  
 Brother: Yes \_\_\_\_\_ No \_\_\_\_\_ How many times? \_  
 Friend 1: Yes \_\_\_\_\_ No \_\_\_\_\_ How many times?  
 Friend 2: Yes \_\_\_\_\_ No \_\_\_\_\_ How many times? \_\_  
 GP: Yes \_\_\_\_\_ No \_\_\_\_\_ How many times?  
 Other professional: Yes \_\_\_\_\_ No \_\_\_\_\_ How many times?  
 Other (specify): \_\_\_\_\_ How many times? \_

**23a.** Overall, how easy was it to discuss?

*extremely easy* |-----| *extremely difficult*

**24.** Were you offered a follow-up appointment to talk about your miscarriage with a psychologist / research worker?

Yes No

**24a.** If yes, how helpful did you find it?

*extremely unhelpful* |-----| *extremely helpful*

**24ai.** If any, which aspects in particular were helpful? \_\_\_\_\_

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 -----

**24aii.** If any, which aspects in particular were not helpful? \_\_\_\_\_

-----  
 -----

**24b.** If you did not have a follow-up appointment to talk about your miscarriage with a psychologist / research worker, do you think you would have found one helpful?

Yes \_\_\_\_\_ No \_\_\_\_\_ Don't know

**25.** Who has been the most helpful person for you since your miscarriage (e.g. partner, friend, relative, GP, counsellor)?

-----

**25a.** Why is this? \_\_\_\_\_

-----

26. Who has been the most unhelpful person for you since your miscarriage? \_

-----

26a. Why is this? -----

-----

27. Have you had any contact with your GP for anything since your miscarriage?

Yes \_\_\_ No

27a. If yes, for what reason? -----

27ai. Did you receive any treatment? Yes \_\_\_ No

27a.ii. If yes, what? -----

28. Since your miscarriage, have you received any psychological or psychiatric care (**not** including the follow-up appointment provided for some women by a psychologist / research worker)?

Yes \_\_\_ No

28a. If yes, please explain further? -----

-----

29. Are you currently receiving any psychological or psychiatric care? Yes \_\_\_ No \_

30. How satisfied are you with the hospital care you've received for your miscarriage?

*extremely satisfied* |-----| *extremely dissatisfied*

31. Have you had any follow-up care from the hospital? Yes \_\_\_ No \_\_\_

31a. How satisfied are you with the hospital follow-up care you've received?

*extremely satisfied* |-----| *extremely dissatisfied*

32. Have you had any follow-up care from your GP? Yes \_ No

32a. How satisfied are you with the GP follow-up care you've received?

*extremely satisfied* |-----| *extremely dissatisfied*

33. What was the most upsetting aspect about having a miscarriage? -----

-----

-----

34. If anything, what was the most positive aspect about having a miscarriage? \_ \_

-----  
-----

35. Did you know you were pregnant before you had your miscarriage? Yes \_\_\_ No \_

36. Was your pregnancy planned? Yes \_ No

36a. If yes, how long had you been trying to get pregnant? \_\_\_\_\_

37. How did you feel when you knew you were pregnant? \_\_\_\_\_

38. Did you have a name, or nick-name, for your baby? Yes \_\_\_ No \_

39. How did you feel when you knew you were miscarrying / had miscarried? \_ \_ \_ \_

-----  
-----  
-----

40. Does having had a miscarriage make you feel any different as a person?  
Yes \_ \_ No \_

If yes, explain further \_\_\_\_\_

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**Please provide below further comments you may have about any aspects of your experience of miscarriage or the care which you've received following your miscarriage:**

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## Appendix 5

### QN1

**code no.**

D.O.B. \_\_\_\_\_

Marital status: Single \_\_\_\_\_ Married / living with partner \_\_\_\_\_ Separated / divorced \_\_\_\_\_

Education: Last school, college, etc attended \_\_\_\_\_

If applicable, highest qualification(s) obtained: \_\_\_\_\_

Occupation: \_\_\_\_\_

If housewife or unemployed, previous occupation: \_\_\_\_\_

If applicable, occupation of partner: \_\_\_\_\_

If partner unemployed, previous occupation of partner: \_\_\_\_\_

Number of children: \_\_\_\_\_

If applicable, ages of children: \_\_\_\_\_

Name of GP: \_\_\_\_\_

Address of GP: \_\_\_\_\_

Is this your first miscarriage? Yes \_\_\_\_\_ No \_\_\_\_\_

At the time of miscarriage:

How many weeks pregnant were you? \_\_\_\_\_

Did you know you were pregnant? \_\_\_\_\_

Did you want the pregnancy to continue? \_\_\_\_\_

Were you on any medication from your GP? \_\_\_\_\_

If so, what and what for? \_\_\_\_\_

Were you receiving psychological or psychiatric care? \_\_\_\_\_

If so, what and what for? \_\_\_\_\_

Have you experienced a significant life event in the past year? \_\_\_\_\_

If so, what and when? \_\_\_\_\_

Have you been offered a follow-up appointment? \_\_\_\_\_

If so, are you going to / have you taken it up? \_\_\_\_\_

If not, do you think you would find it useful? \_\_\_\_\_