

UNIVERSITY OF SOUTHAMPTON

**An Investigation of Post-Traumatic Stress Disorder Symptoms Following
Traumatic Labour Experiences:
Causal Factors, Mediating Variables and Consequences**

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ABSTRACT

The relationship between distressing labour experiences and development of Post-Traumatic Stress Disorder (PTSD) symptoms was explored in a cohort of women eight months post-childbirth. Positive correlations were found between PTSD symptoms (measured by the Impact of Event Scale (IES)) and levels of distress, both at being reminded of labour and for recollections of distress during labour. A sub-group of women (N=20), who perceived their labour experience as traumatic, were interviewed. Processes occurring during traumatic labour and impact on postpartum adaptation were investigated using qualitative methodology. Pain, past experiences and beliefs that their baby would be harmed led to feeling out of control which was maintained by failed attempts to elicit practical and emotional support from staff and partners. Consequences of continued distress related to an impact on self, relationships with others and fear of future childbirth. The relationship between PTSD and Postnatal Depression and factors mediating development of PTSD symptoms were assessed using the IES, the Edinburgh Postnatal Depression Scale (EPDS), the Perceived Social Support Scales (PSSS), the COPE and the Distressing Events in Labour Questionnaire (DELQ). PTSD symptoms were inversely correlated with PSSS scores and COPE strategies relating to seeking social support, active coping, planning and humour. PTSD symptoms were positively correlated with COPE strategies relating to mental and behavioural disengagement, EPDS scores and stressful communication with staff, threat to baby and total score on the DELQ. Results are discussed in relation to previous research and implications for clinical practice and future research directions.

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INTRODUCTION

1.1. PSYCHOLOGICAL DISTRESS FOLLOWING CHILDBIRTH

Childbirth has been described as one of the most important events in a woman's life and a woman's experience during labour is important for her own psychological well-being as well as influencing her relationships with her infant and partner (Niven, 1992). The threat of maternal and infant mortality has led to the medicalisation of childbirth with increasing reliance on technology and procedures, often to the detriment of addressing the fears, preferences and needs of the mother. Childbirth, even when straightforward, is inherently stressful due to physical stresses placed on both mother and infant. Although a distressing labour experience can be partly determined by physiological factors, the view that biological and hormonal effects of delivery result in pathological outcomes has been challenged by psychological and sociological literature which shows the importance of psychological functioning and social context to postpartum emotional distress. However, previous research has mainly concentrated on overall satisfaction with the birth or on postnatal depression, with relatively little focus on how women's subjective experiences of labour are relevant to their postpartum psychological state (Green, Coupland & Kitzinger, 1990).

Postpartum psychological distress has been distinguished within the literature as maternity blues, a transient mood disturbance occurring 24 -72 hours post-labour; postpartum psychosis, characterised by delusions and hallucinations; and postnatal depression, defined as depression occurring within one year of childbirth, which is further classified as major or

minor according to symptomology. Although there has been reference within the postnatal literature to women experiencing post traumatic stress disorder (PTSD) symptoms following childbirth, e.g. Ballard, Stanley & Brockington (1995), clinically, women with PTSD may currently be missed by health professionals or treated for postnatal depression (PND). Researching the nature of PTSD symptoms may lead to clearer identification of women who show PTSD reactions following childbirth and provide greater awareness of the effect of experiencing PTSD symptoms and factors mediating the effects of distressing labours. However, Oakley & Rajan (1991) warn that identifying postnatal distress can lead to pathologising women, therefore, research should facilitate prevention and psychological intervention rather than psychiatric labelling.

The aim of this study is to explore the relationship between distressing labour experiences and the development of PTSD symptoms. Further objectives involve investigating factors which may predict or mediate the development of PTSD, exploring the impact that PTSD symptoms have on women's postpartum adaptation and establishing whether PND symptoms are also present for women with PTSD symptoms or whether these present independently.

1.2. IS CHILDBIRTH A TRIGGER FOR PTSD ?

Diagnostic criteria (American Psychiatric Association (APA), 1987; 1994) describes PTSD in terms of behavioural, social and emotional difficulties which follow a trauma of sufficient magnitude to evoke extreme stress. PTSD can involve a person persistently re-experiencing the traumatic event, avoiding stimuli associated with the trauma, experiencing numbing of

general responsiveness and persistent symptoms of increased arousal. War experiences, natural disasters, road traffic accidents and rape (Davis & Breslau, 1994) have all been shown to meet the DSM III-R (APA; 1987) qualification of a stressor being 'an event outside the range of usual human experience'. There is also a growing literature which suggests that some women experience significant PTSD symptoms following traumatic experiences of childbirth, e.g. Ballard et al. (1995); Lyons (1994); Ryding (1993); Kitzinger (1992); Moleman, van der Hart & van der Kolk (1992); Niven (1992); Beech & Robinson (1985). Ralph & Alexander (1994) argue that the PTSD symptoms exhibited by women following childbirth are rarely acknowledged by health professionals because they consider labour, even when traumatic, to be a 'usual' event. Ralph & Alexander (1994) assert that labour is a momentous event and however straightforward, is not 'usual' to the woman experiencing it.

Feinstein & Dolan (1991) criticise the limitations of the DSM III-R trigger criteria and suggest that because not all individuals exposed to the DSM III-R defined stressors develop PTSD, it is an individual's subjective interpretation of an experience which determines whether and to what extent they develop PTSD. Emotional processing theory (Rachman, 1980) suggests that sudden, uncontrollable, dangerous and unpredictable stimuli are more likely to give rise to emotional problems. Lindy, Green & Grace (1987) state that although features i.e. sudden onset, lack of preparation, threat to life, violence, loss and exposure to the grotesque are common characteristics of stressors, a multidimensional model of PTSD should not consider the stressor in isolation but also involve personal, environmental and event-processing factors.

The more recent DSM IV (APA, 1994) has redefined the stressor criterion for PTSD as

occurring when a person has experienced, witnessed or was confronted with a traumatic event that involved actual or threatened death or serious injury, a threat to their or another's physical integrity and the person's response involved intense fear, helplessness or horror. For some women, labour is frightening, painful and she may fear for her own or infant's life and physical integrity. Medical procedures during labour can also be invasive, associated with feelings of lack of control and events during labour may not allow for adequate preparation from professionals. PTSD has been recognised as occurring after stressful medical and surgical procedures involving intense pain (Fisch & Tadmore, 1989), invasive medical procedures (Shalev, Scheiber, Galai-Gat & Melmed, 1993) and obstetric and gynaecological procedures (Menage, 1993) suggesting that it is relevant to consider traumatic labour experiences as potential stressors for PTSD symptoms.

1.3. LITERATURE RELATING TO PTSD SYMPTOMS FOLLOWING CHILDBIRTH

Lyons' (1994) prospective study of the prevalence of PTSD symptoms in mothers one month post-childbirth found that 15 of the 42 participants reported PTSD symptoms on the Impact of Event Scale above the mean for a female population (Horowitz, Wilner & Alvarez, 1979), with a small sub-group reporting clinically significant PTSD symptoms. Lyons (1994) found that PTSD symptoms were positively correlated with medical procedures involving inducing the baby and epidural pain relief, not feeling in control during labour, experiencing a difficult labour and high Neuroticism scores measured by the Eysenck Personality Inventory (EPI). Higher socio-economic status and higher scores for perceived support from family correlated with lower PTSD scores. Lyons stated that her cohort of women were unrepresentative of

the general population as they tended to be from higher socio-economic groups and the maternity unit had higher standards of care than found in other studies. The number of participants in the study were too small to generalise findings to the general population, but to date there have not been any large scale prevalence studies published and studies tend to be retrospective or anecdotal.

Moleman, van der Hart & van der Kolk (1992) discussed three case reports of women who, following labours in which they all became extremely fearful that they would lose their babies, experienced dissociative feelings, intrusive recollections about their delivery and did not meaningfully attach to their infants. Moleman et al. (1992) suggested that because all the women had histories of infertility and complicated pregnancies this led to their subjective interpretation of the deliveries as extraordinarily stressful. Two of the women developed significant PTSD symptoms, although the authors argue that because childbirth does not meet the criteria for DSM III-R's (APA, 1987) stressor of '*an event outside of the usual range of human experience*', their experiences should be termed a partus stress reaction (PSR).

Ballard et al. (1995) also presented case reports of four women and related their problems to PTSD. The authors suggested that possible aetiological factors were emotional trauma due to the threat to the baby's life for one woman and intense pain for three women. Complicated labour and feelings of lack of control were described as important for all women.

Ryding (1993) conducted a study to obtain a better understanding of women demanding a caesarian section not considered medically necessary by obstetricians and found evidence of PTSD symptoms with fear of losing their baby being the most powerful stressor. The women

recalled their delivery pain as vividly as immediately after the birth and experienced memories of loosing control which contained fears of dying and insanity.

In a qualitative analysis of birth and violence, Kitzinger (1992) draws parallels between traumatic childbirth experiences and sexual assault and states that survivors often feel that they should be coping better and their anger at their brutal treatment is turned inwards as depression. She argues that obstetric management that uses high technology controls women's bodies rather than facilitating unique and special childbirth experiences, therefore institutionalising violence against women in Western culture with postnatal depression resulting from the helplessness and grief that the women experience.

Beech & Robinson (1985) also stated that women they had had contact with likened their traumatic labour experiences to 'technological rape' and felt unable to discuss their feelings with male doctors. This paper did not describe the clinical picture or course of the women's problems, but stated that they were reliving their labours through nightmares at least a year post-childbirth suggesting they were experiencing intrusive symptoms associated with PTSD. The authors argue that these women's problems were largely untreated because any criticism of their care during labour elicits antagonism and loss of therapeutic listening from future doctors who label them hysterical in order to diffuse future complaint or litigation.

In a follow-up to a previous study on factors affecting labour pain Niven (1992) found that three to four years later, five out of 33 respondents recalled their labour with anxiety and distress. Three persistently re-experienced their labour, one reported postnatal problems in sexual adjustment and four were reluctant to give birth again. At the time of the birth, two

mothers had reported very high pain levels and three mothers had rated their labour as very stressful. Factors associated with distress concerned medical intervention, larger than average babies, dissatisfaction with analgesia and lack of support from staff, although no data at the time of birth or the follow-up pointed to a clear source of trauma or why some women who had also experienced negative factors did not become traumatised.

A review of the literature indicates that there has been limited research using standardised measures specifically concerned with investigating variables predicting PTSD symptoms or reporting the affect of PTSD symptoms following childbirth as women have mainly been identified in the course of related areas of research or in clinical practice.

1.4. FACTORS PREDICTING PTSD SYMPTOMS FOLLOWING CHILDBIRTH

1.4.1. Threat to Life, Physical Injury & Physical Integrity

Part one of the DSM IV (APA, 1994) PTSD criteria suggests that for childbirth, stressors may relate to whether the labour involved actual or threatened death, injury or a threat to the physical integrity of the mother or infant. Relating the DSM IV stressors to the postnatal literature suggests that PTSD symptoms may be triggered by factors such as pain, medical interventions and processes during childbirth that result in the mother perceiving herself or child at risk.

1.4.1.1. Pain

Normal labour involves pain, however, the intensity of the pain varies from woman to woman. Melzack (1984) found that approximately 10% of primiparous women reported mild or very mild pain, 30% moderate pain and 60% reported severe or very severe pain. Among multiparas, 25% had mild pain, 30% moderate pain and 45% severe or very severe pain. The anticipation of labour pain can also influence anxiety levels and levels of pain can be exacerbated by anxiety due to tension (e.g. Ray & Fitzgibbon, 1981). Green et al. (1990) found that women who expected labour to be painful were more likely to find it was and women who were very anxious about pain experienced less satisfaction and more depression six weeks post-labour. Studies have also found a significant relationship between high levels of labour pain and assessments of stress and anxiety (e.g. Niven & Gijsbers, 1984). Case studies of women experiencing PTSD symptoms have found that pain during labour has been an important factor in making the experience traumatic (e.g. Ballard et al., 1995; Ryding, 1993; Beech & Robinson, 1985) although Lyons (1994) found reported pain intensity was not associated with PTSD symptoms one month post childbirth. Related studies into pain from obstetric and gynaecological interventions (Menage, 1993) and pain resulting from physical injury have also presented evidence that pain can be a core trauma in PTSD (Schreiber & Galai-Gat; 1993).

1.4.1.2. Threat to Physical Injury or Integrity from Obstetric Procedures

Research has shown that the prevalence of PTSD among injured survivors of stressful events is higher than for survivors without physical injury (Schreiber & Galai-Gat; 1993). During labour physical injury may result from obstetric interventions, e.g. caesarian section, forceps

delivery, episiotomy and inductions and also cause pain, making the labour more distressing (Kitzinger, 1975). The PTSD and childbirth literature suggest that obstetric interventions are possible stressors (Ballard et al. 1995; Beech & Robinson, 1985; Lyons, 1994). However, Lyons found that it was the unexpectedness of procedures and the mother's perception of the experience which related to the reported number of PTSD symptoms rather than mode of delivery or particular intervention.

1.4.1.3. Past Unpleasant Memories

Kitzinger (1975, 1992) has reported that some women perceive the intrusiveness of obstetric procedures as violating and Menage (1993) found that nine of the 30 women who experienced PTSD symptoms following obstetric and genealogical procedures gave a previous history of sexual abuse or rape. Menage hypothesised that although the PTSD symptoms may have been present prior to interventions, it may be the combination of both traumas which led to the disorder which implies that women with such histories may be more susceptible to obstetric traumas. McFarlane (1988) and Shalev, Galai-Gat & Eth (1993) also suggest that traumas are cumulative although research into the impact of pre-traumatic stress on PTSD in combat traumas has been inconsistent (Watson, Brown, Kucala, Juba, Davenport & Anderson, 1992).

1.4.1.4. Fear of Losing the Infant

Ryding (1993) found that PTSD symptoms in mothers were strongly related to fear that their infant may die. Of the 28 women who elected for a caesarian section because their previous

childbirth experiences were traumatic, two had had babies that died, five had become ill afterwards, one with severe brain damage and for three who were not ill, their mothers had believed that they were saved at the last minute. Moleman et al. (1992) also suggested that PTSD symptoms for the three women they described occurred due to fears of losing their infants. However, Lyons (1994) did not support this relationship, possibly due to a ceiling effect as one third of her 42 participants felt that their child had been distressed and over half perceived that there had been a complication during the labour.

1.4.2. Responses to Traumatic Events

Part two of the DSM IV criteria for PTSD suggests that a person's response to the traumatic situation should involve fear, helplessness or horror. These responses have been identified within the PTSD and childbirth literature. One woman described her labour as "*the whole experience turned to more or less a torture*" (Ballard et al., 1995. p. 526) and another stated that she "*went into shock and disbelief*" (Ballard et al., 1995. p. 527) when told she was expected to continue labour without analgesia. Lyons (1994) found that one respondent with high PTSD symptoms described her labour as "*harrowing*" whereas other respondents experienced fear due to factors identified previously, i.e. pain, fear of infant or self dying, medical procedures. A review of the childbirth literature suggests that such responses are linked to the following factors: control, choice, communication and support from professionals.

1.4.2.1. Control

The concept of control within the childbirth literature distinguishes between control over the environment (external control) and women maintaining a control over their behaviour whilst in labour (internal control). Feelings of being 'out of control' have been identified as important factors which may be a precursor to PTSD symptoms, with events that are perceived as uncontrollable and/or unpredictable being more likely to induce intense alarm (Jones & Barlow, 1990).

Lyons (1994) found that feelings of not being in control during delivery were predictive of PTSD symptoms with unexpectedness of medical procedures showing a significant relationship with number of PTSD symptoms at one month post-delivery. Green, Coupland & Kitzinger (1988) also reported that feeling in control was associated with positive psychological outcomes, but argued that in practice it is difficult to distinguish between perceived control and actual control and suggest that it is the subjective feeling of control that is important in determining a woman's reaction to her birth experience. They also assert that hospitalisation and obstetric interventions, both major, i.e. caesarian section and minor i.e. enemas, were more likely to lead to a mother feeling control was taken away from her. Ballard et al. (1995) stated that a lack of control was an important factor for all the women they identified with PTSD and Menage (1993) found that there were significant differences between women who did and did not experience PTSD following obstetric and gynaecological procedures in terms of feelings of powerlessness. Relating more to internal control, Ryding (1993) reported that three participants had had brief moments of profound loss of control during the late stage of delivery and were terrified of these memories which



also contained notions of dying and fear of insanity.

1.4.2.2. Choice, Communication & Support from Health Professionals

External control can be partly achieved through women's participation in decision-making concerning their labour care and research has shown that women feel more positive about their labour if they receive frequent and full explanations and are consulted about aspects of their care (Oakley, 1980; Kitzinger, 1984). Menage (1993) found that lack of information and a lack of clearly-understood consent for medical procedures were important variables for women reporting PTSD symptoms. However, the area of choice within childbirth has contradictory findings. Green et al. (1988) argue that having a choice does not necessarily lead to a sense of external or internal control as choice can increase anxiety which in turn can affect a woman's sense of being in control. Furthermore, Crowe & von Baeyer (1989) found that women who believed that delivery was mostly controlled by chance rather than by themselves or powerful others, experienced less pain during childbirth.

Attendance at antenatal classes has been identified as an important means of gaining information and preparing women for what to expect during labour. Crowe & Baeyer (1989) found that women who demonstrated a greater knowledge of childbirth and higher confidence following antenatal classes reported more positive childbirth experiences. However, Stewart (1985) stated that some women experience psychiatric symptoms following failed attempts to have a 'natural' (i.e. obstetric procedure-free) delivery proposed by some antenatal classes. Melzack (1992) argues that giving women choice and control may lead to them experiencing 'guilt, anger and failure' when they are unable to reach unrealistic

objectives concerning control over physical events.

Green et al. (1988) found that decision-making is only one aspect of external control and feeling in control related more to the type of relationship women felt they had with staff and whether they were included in influencing events or simply 'had things done to them'. Ballard et al. (1995), Menage (1993), Niven (1992) and Beech & Robinson (1985) all reported that women with PTSD symptoms experienced lack of a supportive relationship with carers.

1.5. MODELS OF PTSD

A variety of conceptual models have been postulated to explain PTSD with the most influential being the information - processing model (Horowitz, 1976), the behavioural/learning theory model (Keane, Fairbank, Caddell, Zimering & Bender, 1985) and the psychosocial framework (Green, Wilson & Lindy, 1985).

1.5.1. The Information - Processing Model.

This model suggests that PTSD is a consequence of an individual's inability to successfully integrate a traumatic event. Because a trauma involves cognitive processing of information outside of a person's normal experience, information overload occurs whilst schematic changes attempt to understand the nature of the experience and implications for the future. The information remains in an unprocessed form with denial and numbing strategies being employed in an attempt to keep the traumatic information unconscious. However, the event

continues to be re-experienced until the information is fully processed and integrated as part of the person's view of themselves. This model has been very influential in forming the diagnostic criteria of PTSD, although it does not provide an understanding of individual differences in response to the same trauma.

1.5.2. The Behavioural Model

Keane et al. (1985) proposed a two-factor learning theory which states that psychopathology is a both a) classical conditioning in which fear is a response learned through associative principles and b) instrumental learning cues that evoke anxiety. This model provides successful treatments for PTSD (Peterson, Prait & Schwarz, 1991) although it does not account for environmental variables such as social support and individual characteristics which mediate the effect of trauma.

1.5.3. The Psychosocial Model

This model, proposed by Green, Wilson & Lindy (1985), builds upon Horowitz's information-processing model to focus on the interaction between the stressor, individual characteristics and the social/cultural environment in which the trauma is experienced and recovery occurs (Peterson, Prait & Schwarz, 1991). Green et al. (1985) proposed that specific characteristics relating to severity and duration of stressor, degree of life threat and amount of perceived control over re-occurrence lead to a greater or lesser likelihood of a person developing PTSD. This is compatible with the information-processing view which argues that the nature of the trauma reflects the amount of information processing that is

required.

However, this model also suggests that individual characteristics are important i.e. presence of pre-existing psychopathology, prior stressful experiences and demographic variables. These factors interact with environmental surroundings and it is also argued that the quality of social support, protectiveness of family and friends, attitudes of society and cultural characteristics affect the speed of recovery from trauma.

Using this framework to investigate PTSD symptoms following childbirth suggests that if events during labour are perceived as life threatening, extraordinarily painful and beyond the mother's control, labour is more likely to be perceived as traumatic. An interaction between stressors and ineffectual coping strategies, prior traumatic experiences and lower socio-economic status potentially increase the likelihood of PTSD symptoms occurring, although outcome can be mediated by both the support a woman receives during her labour and whilst attempting to process the traumatic experience.

1.6. FACTORS MEDIATING THE DEVELOPMENT OF PTSD SYMPTOMS

The postnatal and PTSD literature suggests that there are mediating factors concerning social support, coping style and socio-economic status which increase vulnerability in the development of PTSD following childbirth.

1.6.1. Social Support

Social support is a broad concept referring to social, emotional and other supports which are provided by an individual's social contacts whether personal, formal or professional (Weinman, Wright & Johnston, 1995). Quine, Rutter & Gowen (1993) found that women who felt supported prior to labour reported less pain and greater satisfaction with the birth experience. Oakley & Rajan (1991) found similar results with their participants indicating that emotional support and company were the types of support most valued. Tarkka & Paunonen (1996) investigated the affect of social support on mothers' experiences of childbirth and reported that, on average, mothers had seven support persons each, with their partner, close friends and relatives being the most important. Cronenwett (1985) found that family members and other close relatives were the most important source of social support following childbirth. Niven (1992) did not find any relationship between partner's presence during labour and pain *per se*, but rather that pain was reduced for women who positively welcomed their partner's presence.

Social support during pregnancy and labour can also be given by the health professions and Tarkka & Paunonen (1996) reported that although mothers found support from their partners important during childbirth, they considered the midwife to be their main source of emotional support. Ballard et al. (1995), Menage (1993), Niven (1992) and Beech & Robinson (1985) all reported that women with PTSD symptoms following labour experienced lack of a supportive relationship with carers. Green et al. (1990) also showed that the way a woman is treated by professionals during labour has a powerful long-term positive or negative impact.

Lyons (1994) found an association between higher scores for perceived social support from families and lower numbers of reported PTSD symptoms and several studies focusing on PTSD as a consequence of other traumatic experiences have shown social support to be involved in the etiology, maintenance and development of PTSD (Jones & Barlow, 1990). The nature, degree and quality of support received is seen as either buffering or exacerbating PTSD symptoms. However, although earlier research indicated that social support was directly related to lower levels of psychological and physical symptomology, later findings showed that it may not always be beneficial (e.g. Lazarus & Folkman, 1984). The Buffering Hypothesis model (Cohen & Wills, 1985) suggests that social support will only be related to well-being when an individual is under high-stress conditions as real need for help only arises when stress disrupts the individual's equilibrium. It is here that support may intervene between a stressful event and a stress reaction by providing resources to redefine appraisals of the potential harmfulness of the situation and/or strengthen the individual's perception of ability to cope. Power, Champion & Aris (1988) distinguish between emotional support and practical support, with emotional support being related to improved adaptation to stressful circumstances (e.g. Turner, 1981) and improved levels of mental health (e.g. Brown, Bhrolchain & Harris, 1975). A further distinction is made between measuring perceived and actual support, with perception of support having the most impact on the individual as it refers to the extent that they believe their needs are fulfilled (Procidano & Heller, 1983).

1.6.2. Coping Style

Lazarus' transactional model of coping (1966, 1980) proposes that there is a reciprocal relationship between a person and their environment and when stressful events occur this

relationship is mediated by the processes of appraisal and coping. Appraisal is defined as the individual's perceptions and judgements about the nature of a stressful event, the significance of the stressor for them and the resources they have available to manage the stress. A definition of coping encompasses cognitive and/or behavioural efforts which are employed to overcome, tolerate or reduce stress and moderate associated feelings of tension (Folkman & Lazarus, 1980).

Lazarus (1980) considers coping to be an ongoing process where the relationship between coping and appraisal continues to influence each other. For each individual, patterns of coping can change depending on type of stressor as well as over time for the same stressor due to the influence of changes in the demands of the stressor and the individual's mood and competence (Weinman et al., 1995). Folkman & Lazarus (1980) further suggested that coping behaviour fulfils two functions: a) a problem-focused function - involving channelling resources to manage or alter the person-environment relationship that is creating the stress and b) an emotion-focused function - to regulate the tension which is aroused by the threat using intrapsychic activity i.e. denying or changing one's attitude towards the threat.

Folkman (1984) proposed that optimal coping style consists of using the largest possible repertoire of resources and Suls & Fletcher (1985) concluded that non-avoidant strategies (i.e. focusing on the stressor and one's reaction to it) are more adaptive than avoidant coping strategies (i.e. distraction). This is supported in the childbirth literature by Gotlib, Whiffen, Wallace & Mount (1991) who found a greater use of escape-avoidance strategies in women who became depressed postnatally. Research has also found that individuals who fail to use problem-focused strategies are more likely to experience psychological problems and

Solomon, Mikulincer & Avitzur (1988) reported that more intense PTSD symptoms were associated with emotion-focused coping style and insufficient perceived social support.

Carver, Scheier & Weintraub (1989) argue that Folkman & Lazarus' (1980) distinction between problem-focused and emotion-focused coping is too simplistic. They proposed that people use a wide range of coping strategies and devised the COPE scale to measure 15 distinct aspects of coping. This inventory was also developed so that questions could be answered to examine both coping dispositions to assess whether people have preferred strategies that they use across situations, and coping strategies specific to certain situations. The latter of which is the most pertinent to the present study. Carver et al. (1989) found that if participants considered a stressful situation to be changeable they used active coping, planning, suppression of competing activities or seeking instrumental support. Strategies involving acceptance and denial tended to be employed if it was believed that the situation was not amenable to change. Patterns of coping reported by Carver et al. (1989) were consistent with those demonstrated by Folkman & Lazarus (1980) in their study of the coping strategies employed by a community sample. However, Carver et al. (1989) argue that the COPE allowed elaboration of Folkman & Lazarus' (1980) findings.

Further dimensions of coping style concern perceived personal control. Parkes (1984) suggested that perceived personal control can influence a person's appraisal of a stressor, especially in appraising their ability to alter the stressor, with greater control leading to more beneficial outcomes. During childbirth, this may relate to the woman's perceptions concerning her control over events and actions carried out by staff. Slade, McPherson, Hune & Maresh (1990) also showed that satisfaction with labour was related to a woman's control over

labour pain, her use of coping strategies, the efficacy of coping strategies and her perception of support from professionals. Social support and control have been discussed in previous sections and the literature suggests a complex interaction between perceived social support, coping style and control over stressors.

1.6.3. Socio-Economic Status

Research into socio-economic status as a factor associated with postpartum psychiatric distress has been equivocal. Paykel, Emms, Fletcher & Rassaby (1980) and Henshaw & Cox (1995) showed no evidence of an association. However, Lyons (1994) found a significant relationship between socio-economic status and PTSD symptoms following childbirth, with higher socio-economic groupings reporting less PTSD symptoms. Quine, Rutter & Gowen (1993) also showed that mothers' satisfaction with their labour experience postpartum was mediated by social class as middle-class women were more likely to feel they had been prepared for labour, were better supported by partners, family and friends and were more satisfied with their childbirth experience. Similarly, Oakley & Rajan (1991) reported that women from lower socio-economic groups often lacked social support from friends, family and partners. A further finding from Quine et al. (1993) was that working class women were less satisfied with information given by professionals relating to labour and were more likely to attribute both health and illness to chance. Kirkham (1989) suggested that information given relating to childbirth can alleviate worries and lower anxiety and stress during labour. She found that women in higher socio-economic groups were given more information by midwives whereas lower socio-economic groups, who knew less and therefore needed more information, received less.

1.7. RELEVANCE OF STUDYING PTSD FOLLOWING CHILDBIRTH

The literature has shown examples of women who have experienced PTSD symptoms following childbirth, but to the author's knowledge, there has not been a study specifically investigating the impact significant PTSD symptoms has on postpartum adaptation. However, there have been a small number of short discussions of impact identified in the course of related areas of research or in clinical practice relating to the following areas:

1.7.1. Impact of PTSD on the Mother/Child Relationship

Affonso (1987) found that negative feelings towards infants were associated with mothers' reports of postpartum adaptation difficulties. Ballard et al. (1995) presented case reports of four women with PTSD and found that three reported the need to avoid contact with their infants following a traumatic birth. Two of the women continued to experience problems in the mother/child relationship which they attributed to their child reminding them of the birth experience. One woman reported that she had no love for the child and had an intense desire to run away, whilst another felt like shaking her baby and saying "I hate you. Why did I have to have you?". A third woman experienced intrusive images of her infant looking white-faced and waxen following a labour in which the infant suffered cardiac arrest but survived and she became extremely anxious about the child to the extent of having her in bed each night to listen to her breathing. Famularo, Fenton, Kinscherff, Ayoub & Bartnum (1994) also found that 15.6% of women attending family court due to maltreatment of their children of sufficient severity to warrant removal from the family home, were currently experiencing symptoms of PTSD related to various traumatic incidents. Furthermore, of their children,

35.8% also met criteria for PTSD and the authors suggest that among abusive families, a diagnosis of PTSD in one generation warrants diagnostic consideration of PTSD in another generation.

1.7.2. Impact of PTSD on Relationships with Partners

Stewart (1982) suggested that marital and sexual relationships suffer following births which were distressing and traumatic. O'Driscoll (1994) also cites examples of cases where women experienced problems associated with PTSD and developed sexual difficulties with her partner as she was unable to have a sexual relationship without mentally reliving the pain of labour and also related her worries to a fear of future pregnancy.

1.7.3. Fear of Future Childbirth

Lyons (1994) presented two cases of women with high PTSD symptoms following childbirth who reported that they would not have another child. One women expressed joint concerns over her experience of childbirth and fears that another child would also be deformed. Another woman was concerned about the traumatic nature of her experience and feared a re-occurrence of problems that led to an emergency caesarian being necessary. Niven (1992) found that three to four years post labour three out of five respondents who reported anxiety and distress recalling their labour experiences stated that they were reluctant to give birth again and Menage (1993) cited evidence of women with PTSD following obstetric and gynaecological procedures avoiding pregnancy. Ryding (1993) reported that out of 28 women who had experienced previous distressing childbirth, 10 respondents stated that fear

of the excruciating and intractable labour pain which they could recall as vividly as immediately after the delivery was their reason for demanding a caesarian labour deemed obstetrically unnecessary.

1.8. POST TRAUMATIC STRESS DISORDER & POSTNATAL DEPRESSION

Research on the impact of postnatal depression has also identified disturbance in relationships with partners (e.g. Paykel et al., 1980; Watson, Elliott, Rugg & Brugh, 1984) and mother-infant attachment (e.g. Lyons-Ruth, Zoll, Connell & Grunebaum, 1986; Zekoski, O'Hara & Wills, 1987). Children of depressed mothers also have a greater risk of behaviour problems (Carro, Grant, Gotlib & Compas, 1993) and may be at risk of depression themselves (Hammen, 1991). The relationship between PTSD and PND requires consideration as any impact of PTSD may be confounded by the presence of depression.

Brewin, Joseph & Kuyken (1993) suggest that co-morbidity of PTSD and depression (i.e. not specifically PND) is common and explain this in terms of depression being a reaction to chronic PTSD as failure to prevent the persistent recollections of the trauma leads to hopelessness and apathy. Muran & Motta (1993) found that people with PTSD can also be depressed but tend to experience fewer irrational beliefs than people with depression only. Within the postnatal PTSD literature, Lyons (1994) found cases of PTSD following childbirth where PTSD and PND symptoms both co-existed and presented independently.

1.9 RATIONALE FOR THE PRESENT STUDY

Research concerning PTSD symptoms following childbirth is a growing area of interest in the postnatal field but the literature review indicates that there is a paucity of studies that do not rely on case study or anecdotal evidence. The majority of studies also limit their focus to describing the existence of PTSD symptoms without consideration of triggering factors or mediating variables deemed to be pertinent by the general PTSD literature. One exception is Lyons' (1994) study which explored the prevalence of PTSD symptoms for 42 first-time mothers, one month post childbirth and the findings have been presented in the literature review. Lyons (1994) used standardised measures to assess pain, personality, PTSD symptoms, perceived social support and socio-economic status and investigated factors influencing the development of PTSD symptoms using a questionnaire specifically developed for her study.

The present study aims to identify the prevalence of high PTSD symptoms within a cohort of mothers who have given birth within a four week period eight months prior to the investigation. By enlisting the assistance of health visitors, questionnaires were given to all willing participants attending their baby's eight month check-up. This has enabled a larger-scale study of PTSD symptoms following childbirth than previously reported in the literature. This method also enables the identification of women who considered their labour to be extremely distressing with varying numbers of PTSD symptoms, so that the relationship between PTSD and factors predicting PTSD, mediating variables of coping style, social support and socio-economic status and the impact upon postpartum adaptation can be investigated.

This study therefore, aims to further develop Lyons' (1994) findings by including the mediating effects of coping style in investigating protective variables following traumatic childbirth. Factors identified by Lyons (1994) as being triggers for PTSD are included in the present study, although further factors identified by the literature are included and the questionnaire for the present study was designed using the DSM IV (APA, 1994) criteria for PTSD as a framework. Data on triggering factors will also be supplemented by qualitative analysis of descriptions of extremely distressing labours. Qualitative analysis of interviews with women who have rated their labour as extremely distressing will also provide information on the affect experiencing high PTSD symptoms has on postpartum adaptation and which coping strategies and social support they have found most useful, or not, in coping with a traumatic labour. Sieber (1973) suggests that qualitative analysis can strengthen data analysis by validating, clarifying and illustrating quantitative findings and provide a richer and more elaborate study of data. The present study also uses a larger sample of women than any previously published study and the use of standardised measures and qualitative analysis will bring more valid and more in-depth knowledge to this research area.

1.10. RESEARCH QUESTIONS

Because there is no or limited previous research in these areas the following research questions will be investigated:

1.10.1. Is there a relationship between recollections of distress experienced during labour (on a scale of 0 - no distress to 3 - extremely distressed designed specifically for this study) and the presence of PTSD symptoms eight months post-labour ? Throughout the study PTSD symptoms refer to symptoms measured by the Impact of Event Scale (Horowitz, 1979).

1.10.2. Is there a relationship between distress experienced when reminded of labour experience (on a scale of 0 - no distress to 3 - extremely distressed designed specifically for this study) and the presence of PTSD symptoms eight months post-labour ?

1.10.3. Is there a relationship between number of PTSD symptoms reported at eight to ten months following an extremely distressing childbirth and type of coping strategies used as measured by the COPE (Carver et al., 1989) ?

1.10.4. What factors during labour led to women becoming distressed ?

1.10.5. What strategies have women found to be useful / not useful to cope with extremely distressing labours and subsequent distress ?

1.10.6. What impact does high PTSD symptoms have upon the postpartum adaptation of mothers who have experienced an extremely distressing labour ?

1.11. RESEARCH HYPOTHESES

On the basis of a review of the literature on PTSD and childbirth the following hypotheses have been identified:

1.11.1. A minority of women will report a clinically significant level of PTSD symptoms eight months post-childbirth (above Horowitz et al.'s (1979) IES mean of 42 for a female population experiencing stress after a variety of traumatic events).

1.11.2. There will be a relationship between intensity of stress experienced during labour (on a scale of 0 - not at all to 3 - intensely) on the Distressing Events in Labour Questionnaire (which was specifically designed for this study and corresponds to factors identified in the literature as being trauma-inducing) and reported level of PTSD symptoms for women who state that they have experienced an extremely distressing labour, specifically:

1.11.2.1. Intensity of stress experienced during labour due to pain will show a positive relationship with reported number of PTSD symptoms.

1.11.2.2. Intensity of stress experienced due to medical interventions will show a positive relationship with reported number of PTSD symptoms.

1.11.2.3. The extent to which past unpleasant memories are triggered during labour will show a positive relationship with reported number of PTSD symptoms.

1.11.2.4. Intensity of stress experienced due to the care received from professional staff will show a positive relationship with reported number of PTSD symptoms.

1.11.2.5. Intensity of stress due to the communication with the professional staff will show a positive relationship with reported number of PTSD symptoms.

1.11.2.6. Intensity of feelings of not being in control of events during labour will show a positive relationship with reported number of PTSD symptoms.

1.11.2.7. Intensity of feelings of not being in control of themselves will show a positive relationship with reported number of PTSD symptoms.

1.11.2.8. Thoughts relating to threat of own life will show a positive relationship with reported number of PTSD symptoms.

1.11.2.9. Thoughts relating to threat of infant's life will show a positive relationship with reported number of PTSD symptoms.

1.11.2.10. Thoughts relating to threat of damage to self will show a positive relationship with reported number of PTSD symptoms.

1.11.2.11. Thoughts relating to threat of damage to infant will show a positive relationship with reported number of PTSD symptoms.

1.11.2.12. Intensity of fear experienced during labour will show a positive relationship with reported number of PTSD symptoms.

1.11.2.13. Intensity of horror experienced during labour will show a positive relationship with reported number of PTSD symptoms.

1.11.2.14. Intensity of helplessness experienced during labour will show a positive relationship with reported number of PTSD symptoms.

1.11.2.15. Total score of intensity of stress during labour for all questions will show a positive relationship with reported number of PTSD symptoms.

1.11.3. There will be mediating factors relating to the development of PTSD symptoms:

1.11.3.1. There will be an inverse relationship between perceived social support from friends (measured by the Perceived Social Support Scale, Procidano & Heller, 1983) and PTSD symptoms for women who have experienced an extremely distressing labour.

1.11.3.2. There will be an inverse relationship between perceived social support from family (measured by the Perceived Social Support Scale, Procidano & Heller, 1983) and PTSD symptoms for women who have experienced an extremely distressing labour.

1.11.3.3. There will be an inverse relationship between socio-economic status (based on assignment to one of six categories of socio-economic status identified by the Registrar General (1996)) and PTSD symptoms for women who have experienced an extremely distressing labour.

1.11.4. Clinically significant levels of PTSD symptoms (i.e. total IES scores above Horowitz et al.'s (1979) mean of 42) will be present both independently and in co-existence with postnatal depression (measured by scores above 12 on the Edinburgh Postnatal Depression Scale, Cox et al., 1987) for women who have experienced extremely distressing labours.

1.11.5. There will be a positive relationship between postnatal depression scores (measured by the Edinburgh Postnatal Depression Scale, Cox et al., 1987) and PTSD symptoms for women who have experienced extremely distressing labours.

1.11.6. Scores on the COPE, the Distressing Events in Labour questionnaire, the Perceived Social Support Scale and socio-economic status can predict total IES score for women who have experienced extremely distressing labours.

METHOD

2.1. EXPERIMENTAL DESIGN

The study consisted of two stages. The aim of stage one was to investigate the relationship between levels of labour-induced distress and PTSD symptoms and to screen for women who had experienced labours which they considered were traumatic. These women were then followed up in stage two to explore why their labours had been traumatic, the impact of experiencing a traumatic labour and factors mediating the presentation of PTSD symptoms at 10 months post-labour. All measures are described in full in the section entitled 'Measures'.

Stage One

All women in the catchment area accompanying their infants to their eighth month developmental check-up were offered a set of self-report measures by their health visitor. A correlation design was utilised to investigate the relationship between the following factors: recollection of level of distress experienced during their last labour, level of distress at being reminded of this labour, and PTSD symptoms.

Stage Two

A correlation design was utilised to investigate the relationship between the following factors: PTSD symptoms, depression symptoms, events during labour considered distressing, coping strategies, social support, and socio-economic status. Questions developed from themes identified by the literature and the pilot study were presented in a semi-structured interview

to investigate: whether the women considered their labour to have been traumatic, factors during labour causing extreme distress, the impact upon postpartum adaptation, available social support and coping strategies used in relation to their experience of a distressing labour and subsequent PTSD symptoms.

2.2 PARTICIPANTS

Participants were all women recruited during an eight week period by health visitors whilst accompanying their infants to their eight month developmental check-up, although, the ages of the infants actually ranged from seven to nine months old. This time period was chosen in discussion with health visitors as the women were routinely attending the clinic and not only attending because they were experiencing problems. Although figures were not available concerning the proportion of women who choose not to attend this check-up, health visitors' opinions considered non-attendance rates to be low and this method of was seen as a way to gain a large and representative sample.

The catchment area included both rural and small urban areas and was relatively prosperous with a predominately white population. Ethnic background and age of participants were not investigated.

Health visitors from 22 of the 23 G.P. practices in the catchment area carried out 223 eight month check-ups during the study time period. From these contacts, 145 mothers agreed to participate in the first stage of the study.

From the first stage sample, 26 mothers had experienced an extremely distressing labour. Of these, 23 consented to participate in the second stage of the study, although two women had moved from the area and one was no longer willing to participate when contacted by the researcher. Therefore, a total of 20 women participated in the second stage of the study and the time period between experiencing an extremely distressing labour and second stage interview ranged from eight to 10 months.

2.3 MEASURES

Both quantitative and qualitative measures were utilised. Sieber (1973) suggests that qualitative analysis can strengthen data analysis by validating, clarifying and illustrating quantitative findings. The process of combining methodologies in the study of the same phenomenon is termed 'triangulation' (Denzin, 1978). This provides a means of cross-validating data from two sources and assumes that the use of both qualitative and quantitative data can provide a richer and more elaborate study of data.

2.3.1. Quantitative Measures used During Stage One

2.3.1.1. Questionnaire 1:

This self-report questionnaire was designed for the study to assess participants' recollections of distress during their labour and when being reminded of their labour (Appendix 1). These items were included to investigate whether there is a relationship between high levels of recollections of distress during labour and development of PTSD symptoms and high levels

of distress at being reminded of their labour experience and the development of PTSD symptoms. Participants were asked to rate their distress on a four point scale (0 - 3) where 3 is extremely, 2 moderately, 1 mildly and 0 not at all. Diagnostic criteria (APA; 1994) defines a trauma as needing to be an event of sufficient magnitude to evoke extreme stress. Initially, the term 'stress' was used but replaced by 'distress' when the pilot study revealed that women regarded 'stress' as a too general term and were unclear about what emotion it was describing. The term 'traumatised' could not be substituted as the concept of being 'mildly traumatised' is contradictory. The term 'distress' was therefore utilised as it was seen to be a meaningful descriptor of feelings experienced. Participants were also requested to rate their experience of joyfulness during labour. Although not relevant to the hypotheses, this item was included to balance the nature of the questions so that they did not only focus on negative feelings.

2.3.1.2. Questionnaire 2:

The Impact of Event Scale (IES) (Horowitz, Wilner & Alvarez, 1979) (Appendix 1).

This 15 item scale was developed as a self-report measure of PTSD symptoms. It can be used with any life event and provides a measure of intrusion and avoidance experiences which are the two most characteristic aspects of PTSD. Participants were required to record how frequently they have experienced behaviours described by the items during the previous seven days using a four point scale (0 - 5) where 5 is often, 3 sometimes, 1 rarely and 0 not at all. The seven day time period has been found to be a more clinically valid measure of subjective distress than relating experiences from when the life event occurred (Horowitz, Wilner, Kaltreider & Alvarez, 1980). The item scores are summed to obtain a total score for each of the sub-scales of intrusion and avoidance symptoms.

Horowitz et al. (1979) state that the reliability of the scale is supported by test-retest reliability (intrusion subscale 0.89, avoidance subscale 0.79) and a high split-half reliability (0.86). Internal consistency of the sub-scales is also high (0.78 for intrusion, 0.82 for avoidance) and a correlation of 0.42 ($p > 0.0002$) between subscale scores indicates that although the two sub-scales are associated, they do not measure identical dimensions. Horowitz et al. (1979) also report that the scale discriminates between persons from different populations who have experienced different life events and that it is a sensitive indicator of change in frequency of symptoms over time, with sensitivity being supported by clinical impressions by experienced observers. The item content of the scale was derived from clinical experience and from statements most frequently used to describe episodes of distress by persons who had experienced recent life changes. Item content was found to be relevant to people attending an outpatient clinic due to experiencing stress in response to a variety of traumatic life events (mean female score = 42.1) which the authors suggest supports the construct validity of the scale (Horowitz et al., 1979). The IES is reported to be the most widely used instrument for the study of PTSD in adults (Yule, Udwin & Murdoch, 1990).

2.3.1.3. Questionnaire 3: (Appendix 1).

This self-report questionnaire was designed for the study and participants were requested to complete it if they experienced an extremely distressing labour. Item one asked participants to describe the events during labour that they found distressing. This was included to provide information about the nature of events during labour that cause distress and although more in-depth information relating to these events is requested in the second stage of the study, information was also requested here so that information pertaining to participants who did

not consent to be included in the follow-up stage could be gathered. Item two related to the period of time that the participant had experienced distress when being reminded of their labour as DSM IV (APA, 1994) states that PTSD symptoms must be present for at least one month for PTSD to be diagnosed. Item three gave the participants an opportunity to indicate that they would like to talk to their health visitor about their distress. When collecting the questionnaire from the participant the health visitor checked this question and where appropriate, offered an appointment. This was included for ethical reasons so that participants not wishing to consent to inclusion in the follow-up stage would be able to discuss their distress.

2.3.2. Quantitative Measures Utilised During Stage Two

The Impact of Event Scale was again administered to ensure that participants still maintained their previous level of PTSD symptoms as the DSM IV (APA, 1994) criteria for PTSD states that PTSD symptoms must be present for one month for PTSD to be diagnosed.

2.3.2.1. Questionnaire 4:

The Edinburgh Postnatal Depression Scale (EPDS) (Cox, Holden & Sagovsky, 1987).

This 10 item self-report scale was developed as a screening tool for postnatal depression. The mother is asked to underline a response which comes closest to how she has been feeling in the past seven days and the responses are scored on a four point scale (0, 1, 2 and 3) according to increased severity of symptoms with scores being summed to obtain an overall score. Total scores above the threshold of 12/13 indicate the likelihood of depression, of varying severity, being experienced.

Cox et al. (1987) report satisfactory predictive validity of the scale as 83% of the results of the EPDS matched the Research Diagnostic Criteria for depression. A split-half reliability of 0.88 supported the reliability of the scale and positive identification of significant changes using both the EPDS and the Research Diagnostic Criteria at a second interview 11 weeks later supports the scale's sensitivity to changes in the severity of depression being experienced over time.

2.3.2.2. Questionnaire 5:

Distressing Events in Labour Questionnaire (Appendix 2).

This questionnaire was designed for the study to investigate aspects for labour which may be predictive of a high number of PTSD symptoms developing. Participants rated the relevance of 14 items to themselves using a four point scale (0 - 3) where 3 is intensely, 2 moderately, 1 mildly and 0 not at all. As, to the researcher's knowledge, there are no standardised measures available at present, item content was generated from the current PTSD and general childbirth literature; pain (Ballard et al., 1995; Menage, 1993; Ryding, 1993; Beech & Robinson, 1985), obstetric interventions (Ballard et al. 1995; Lyons, 1994; Beech & Robinson, 1985; Kitzinger, 1975), unpleasant memories of past experiences (Menage, 1993; Kitzinger, 1975, 1992), care from professionals (Ballard et al.;1995, Menage, 1993; Niven, 1992; Beech & Robinson, 1985), communication with professionals (Menage, 1993; Kitzinger, 1984; Oakley, 1980), control over events (Menage, 1993) and control over self (Ryding, 1993). Items relating to perceived threat to the women's own or infant's life or their physical integrity (Schreiber & Galai-Gat, 1993) and feelings of fear, horror and helplessness (Ballard, 1995; Lyons, 1994) were also chosen to directly relate to the DSM IV (APA, 1994) criteria for events to be classified as traumatic. Participants were also asked to describe any

other event(s) relevant to themselves that were not described on the questionnaire.

2.3.2.3. Questionnaire 6:

The COPE (Carver, Scheier & Weintraub, 1989).

The COPE is a multidimensional coping inventory consisting of 60 questions which relate to 15 different coping styles; active coping, planning, seeking instrumental social support, seeking emotional support, suppression of competing activities, turning to religion, positive reinterpretation and growth, restraint coping, acceptance, focusing on and venting emotions, denial, mental disengagement, behavioural disengagement, alcohol/drug use and humour.

Each coping style is measured by four questions each scored on a scale of 0 - 4, with a total score for each style ranging from 4 - 16 where the higher score indicates a greater use of that strategy. The scores therefore indicate the extent to which each type of coping strategy is used by an individual, or group, which can then be related to dependent variables i.e. the IES scores.

The COPE can be used to assess dispositional coping, but for the purpose of this study situational coping was assessed. This involves asking the participant to think about their distressing labour and then indicate the extent to which they utilized the strategies described by the statements. Test-retest reliability ranged from 0.42 to 0.89 for different scales and construct validity was found to be acceptable and was tested using correlations between the scale and several measures of personality reflecting tendencies either for or against active coping. Carver et al. (1989) also found that the internal consistency for all scales except mental disengagement was acceptably high (Cronbach's alpha 0.6). Comparison of dispositional and situational coping styles indicates that in dealing with specific stressors

rather than general responses to stress, people report using less active coping, less seeking of social support for instrumental reasons, less positive reinterpretation and growth, less turning to religion and less mental disengagement. Carver et al. (1989) do not present normative data and at present, to the researcher's knowledge, there are no studies of PTSD symptoms following childbirth and coping style.

2.3.2.4. Questionnaire 7:

The Perceived Social Support Scales (PSSS) (Procidano & Heller, 1983).

This is a 40 item self-report questionnaire designed to measure an individual's perception of social support and has two sub-scales which relate to support received from friends and from family. Each sub-scale has 20 declarative statements regarding the extent to which their need for support, communication and feedback is being fulfilled and participants are requested to answer either yes, no or don't know to each statement. Scores are summed and can be compared with norms for clinical and non-clinical samples with norms derived from these two groups showing a highly significant difference between the two populations. Wade & Procidano's (1988) study of perceived social support for mothers of young children provides mean scores relevant to the present study (mean PSSfamily score = 15.15; mean PSSfriends score = 12.88). Procidano & Heller (1983) report that the sub-scales have good internal consistency (0.9) and that the sub-scales proved to be homogenous measures (Cronbach's alpha 0.88 for friends and 0.9 for family sub-scales). Both sub-scales were inversely related to symptoms of distress and psychopathology suggesting construct validity (Procidano & Heller, 1983). Test-retest reliability ranges from 0.8 - 0.86 for non-clinical samples and 0.84 for clinical samples (Louis, 1986).

2.3.2.5. Questionnaire 8: (Appendix 3).

This was a summary sheet, completed by the researcher, which contained scores for each of the self-report measures, demographic data and occupation details of the participant. If the participant had not been in employment recently, details of her partner's occupation was taken. Each participant was then assigned to one of the Registrar-General's six categories of socio-economic classification.

2.3.3. Qualitative Measures Utilised During Stage Two

2.3.3.1. Semi-Structured Interview

The aims of this part of the study were to:

1. Obtain a fuller understanding of events associated with extremely distressing labour experiences.
2. Obtain a fuller understanding of the use of coping strategies and social support in relation to the extremely distressing labour experience.
3. Investigate the impact of experiencing a high number of PTSD symptoms following an extremely distressing labour.
4. Investigate how the impact of experiencing an extremely distressing labour might differ between participants with and without high levels of PTSD symptoms.

2.3.3.2. Rationale for Including a Semi-Structured Interview

This method was therefore utilised to obtain a clearer and fuller understanding of factors associated with distressing labour experiences by supplementing and cross-validating data obtained by Questionnaire 5, a rating scale investigating aspects for labour which may be traumatic, the COPE, which investigated coping styles and the PSSS, which provided a measure of perceived social support.

Qualitative data analysis is also a useful means of generating a coding system for looking at data when a pre-determined set of categories is not available (Dey, 1993). Due to the paucity of research on the effect of experiencing PTSD symptoms following a distressing labour, it was not possible to obtain or devise a predetermined coding system with which to analyse the data. An exploratory framework was therefore necessary as the coding system needed to be generated from the data, suggesting that a qualitative approach was appropriate.

2.3.3.3. Semi-Structured Interview Format

During the interview the researcher utilised non-directive counselling skills of reflection, summarising and open-ended questions to allow participants to describe their experiences in their own words. Clarifying questions such as "Could you tell me more about that ?" or "What do you mean by that ?" were used where appropriate throughout the interview. Silverman (1993) advises the use of open-ended questions as the most effective means of obtaining authentic responses and states that they should be based upon prior detailed review of the research area.

The interview questions were based on four broad themes: what it was about their labour that they found so distressing; what coping strategies they used and found to be effective or ineffective to cope with feelings caused by a distressing labour; what social support systems they utilise in the context of their distressing labour experience; and what effects had experiencing a distressing labour had on their lives. Further questions related to the impact of the distressing labour were asked when themes were not covered spontaneously by the participant. These questions were based on the small amount of literature available and topics arising from the pilot study interviews and related to effects on: self, relationships with others and future pregnancy. (See Appendix 4 for interview protocol).

2.4. PROCEDURE

2.4.1. Ethical Approval

Local health district and university in-house ethical approval was obtained for the study (see Appendix 5). The manager of the community health visitors was approached and a meeting between her, the researcher and three health visitors was arranged to discuss the procedure for the screening stage of the study. This resulted in permission being obtained on the proviso that the majority of the health visitors agreed to participate. An information sheet (see Appendix 6) was circulated to all health visitors. The study outline and instructions for their involvement was then presented to all health visitors, opportunity for questions was provided and their permission was obtained. The G.P.s in the catchment area were informed of the study and alerted to the possibility that their patients may be identified as requiring

psychological intervention (see Appendix 7).

2.4.2. Pilot Study

The study was first piloted to test the design of the questionnaires specifically developed for the study, the composition of the semi-structured interview and the time required to administer each questionnaire. Changes, based on finding from the pilot study, were made to Questionnaire One and the format of the Semi-structured Interview (these are detailed in the relevant sub-section of the Measures section).

Stage One

Participants were approached by their health visitor when accompanying their infant to the eight month developmental check-up and asked to participate in a study of women's feelings following childbirth. Participants were given a handout (see Appendix 1) which comprised: a covering letter explaining the nature and design of the study; rating scales pertaining to the participants' level of joy and level of distress experienced during their last labour and level of distress at being reminded of this labour; the Impact of Event Scale (IES) to measure PTSD symptoms; a questionnaire asking participants to provide a description of the events during labour which they found distressing, the length of time they have felt distressed when reminded of their labour, whether they wished to discuss any of the issues raised with the health visitor; and a consent form with a section for name and address if they wished to be included in the second stage of the design. Confidentiality of responses was emphasised.

Stage Two

Participants who had rated their labour as extremely distressing and agreed to inclusion in the second stage were contacted and an appointment was offered at either their home or the hospital. The format of the interview and approximate time allocated to each measure is detailed in the Interview Protocol (Appendix 4). Confidentiality was again assured and the assignment of codes to data and audiotaped material to maintain anonymity was explained. The participants completed the Impact of Event Scale for the second time, the Edinburgh Postnatal Depression Scale, the Distressing Events in Labour Questionnaire, the Cope and the Perceived Social Support Scale from Family and Friends. The researcher then asked occupation details and whether they considered their labour to have been traumatic. The tape recorder was introduced and permission for its use sought. The participant was asked to verbally describe what it was about their labour that they found so distressing; what coping strategies they used for dealing with distress resulting from childbirth and which ones they found to be effective; what social support systems they utilise to deal with their distressing labour; and what effects had experiencing a distressing labour had on themselves and their relationships with others.

Participants were asked whether any other important events had occurred from around the time of the birth until the present and if they had any questions for the researcher. When participants were so distressed that they either asked or the researcher's clinical judgement considered that they would benefit from psychological interventions, the referral process was explained to them. The participant was informed that if they went to their G.P. he/she would refer them to the Clinical Psychology Service at the District Hospital and that they would be

seen by either the researcher or other Clinical Psychologists in the Department. The participant's permission was sought to notify their G.P. of the need for psychological intervention when appropriate. Following the interview, the researcher completed a contact sheet to summarise the information generated by the interview (Appendix 8).

2.5. DATA PROCESSING

2.5.1. Quantitative Analysis

Data from the questionnaires were collated and analysed using appropriate statistical techniques on the SPSS computer statistical package. As the aim of using the quantitative measures was to investigate how the measures related to each other, correlations were utilised. As there is an increased likelihood of significant correlations occurring by chance as size of sample is increased, correlations for measures used in stage one of the study accepted a higher significance level of $p<0.01$ to control for type I errors. Due to the small sample in stage two of the study, significance levels of $p<0.05$ were used. Non-parametric statistics were used throughout the analyses as the measures produced non-interval data and there was no reason to assume that the data would be normally distributed as the second stage of the study included a small sample size.

2.5.2. Qualitative Analysis

The semi-structured interviews were audio-taped and transcribed in full. A summary was made for each participant from their transcript and field notes (information written by the

researcher during the interview) highlighting key topics and feelings expressed about the following areas; what events make labour distressing; what coping strategies are used and found to be effective or ineffective to cope with feelings caused by a distressing labour; what social support systems are utilised to deal with distressing labour experiences; and what effects can experiencing a distressing labour have on a person's life.

Information was then coded following techniques identified by Strauss & Corbin (1990) to analyse themes arising from the semi-structured interviews. **Open coding** refers to naming and categorising the phenomena under investigation by closely examining the data. Data were broken down into meaningful parts and the concepts within it were obtained by labelling the phenomena. Strauss & Corbin (1990, p.63) describe this as " taking apart an observation, sentence or paragraph and giving each discrete incident, idea or event, a name that stands for or represents the phenomena". Concepts that relate to the same phenomena were then grouped into categories and each transcript was re-read to saturate each category by finding every example of it.

The next stage, termed **axial coding**, looked for linkages and connections between the categories. This stage is achieved by means of the paradigm model in which categories and sub-categories are described in terms of causal conditions, action strategies and consequences. Therefore, the processes by which participants become extremely distressed during labour, the intervening conditions and the strategies they use to deal with their distress and the consequences of experiencing the trauma are identified. These procedures were followed to analyse the first interviews and then subsequent transcripts were analysed using these categories. If data on the remaining transcripts highlighted evidence of further

categories, previous transcripts were analysed in more depth to identify whether these additional categories had not previously been accounted for.

A further stage termed **Selective coding** can be used for theory development and involves selecting a core category which is the central phenomenon around which all other categories that have been indicated during axial coding are integrated. Patterns identified during axial coding are grouped into conditions so that the process under different circumstances is identified. The relating of categories to the core category is done by means of the paradigm model, e.g. the process is described in terms of causal conditions lead to the phenomenon which leads to action which then leads to consequences. The theory was then validated by re-reading the transcripts to ensure that the model fits the story represented in each transcript.

RESULTS

3.1 STAGE ONE

Health visitors within one catchment area conducted 225 eighth month infant check-ups and from these, 147 women (65 %) agreed to participate in the screening stage of the study. They completed ratings of recollections of distress experienced during labour, present distress at being reminded of their labour and the Impact of Event Scale (IES) to measure PTSD symptoms. The period between the date of labour to completion of questionnaires ranged from seven to nine months, with a mean value of eight months.

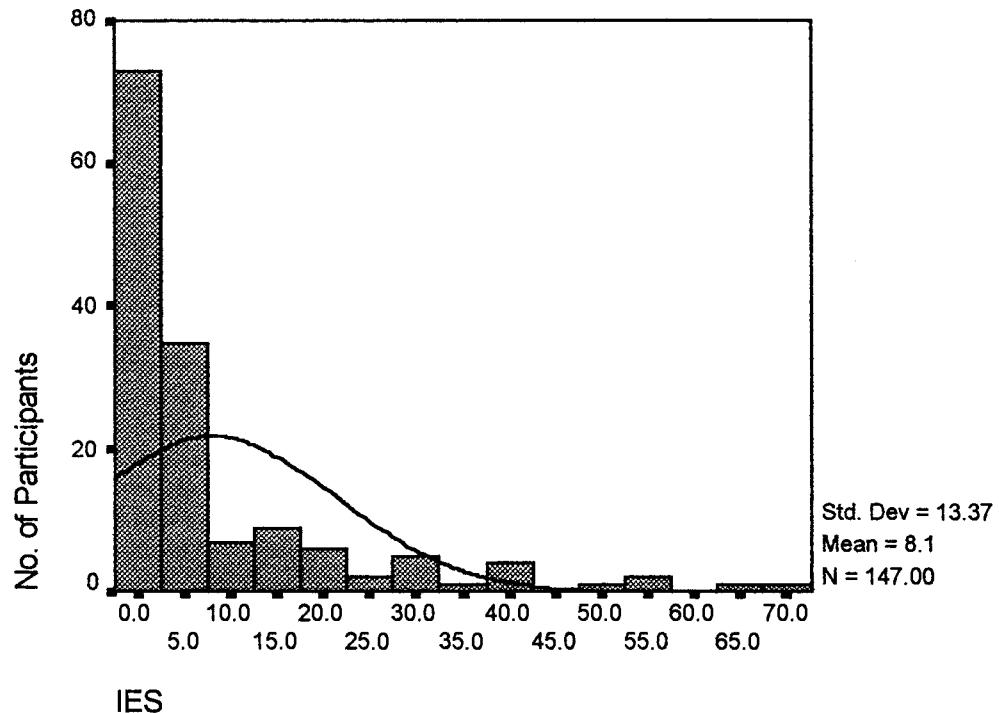
3.1.1. Distress Experienced During Labour & When Reminded of Labour Experience

Thirty-six women (24.5 %) rated their labour as not at all distressing, 51 (34.7 %) as mildly distressing, 34 (23.1 %) as moderately distressing and 26 (17.7 %) as extremely distressing. When asked how distressed they felt at being reminded of the labour, the largest proportion of women, 108 (73.5 %), stated that they were not at all distressed, 26 (17.7 %) were mildly distressed, 10 (6.8 %) were moderately distressed and 3 (2 %) were extremely distressed.

3.1.2. PTSD Symptoms of Participants in the Screening Stage (Relating to Hypothesis 1.11.1)

Figure 1 shows the frequency of total IES scores for the screening stage sample. The data show a skewed distribution, with the majority of participants scoring nil. The total score mean was 8 (SD 13.4) with a range of 0 - 69. Five participants reported total scores above Horowitz et al.'s (1979) mean of 42 for a female population experiencing stress after a

variety of traumatic events which was taken as indicating clinical significance. Two further participants reported total IES scores of 41. Hypothesis 1.11.1, that some women's experience of labour are so traumatic that they report clinically significant PTSD symptoms eight months post childbirth, is therefore confirmed.



Key: IES = Impact of Event Scale Scores (Horowitz et al., 1979)

Figure 1: The Distribution of Total Impact of Event Scale Scores for Stage One Participants

3.1.3. The Relationship Between Distress and PTSD Symptoms (Relating to Research Questions 1.10.1 & 1.10.2)

Total IES scores were correlated with ratings of recollections of distress experienced during labour and distress at being reminded of the labour experience using Spearman Rank

Correlation Coefficient as the data was non-parametric. Results showed a positive correlation between PTSD symptoms and levels of recollections of distress during labour ($r = 0.3779$, $p < 0.01$, 2 tailed) and a positive correlation between PTSD symptoms and being reminded of the labour eight months post-labour ($r = 0.4325$, $p < 0.01$, 2 tailed).

3.2. STAGE TWO

Twenty of the 26 women who stated that their labours had been extremely distressing participated in the second stage of the study. All women included considered their labour to have been traumatic. Out of the six women not included, three did not consent to being contacted for stage two of the research, two had moved from the area and one stated that she was no longer willing to participate. Data were collected between four and eight weeks after participants had completed the screening questionnaires and interviews ranged from eight to 10 months post-labour.

3.2.1. Demographic Data

Of the 20 participants in the second stage sample, 19 spoke English as their first language, and 1 German, although she did not experience any language difficulties answering the questions. None of the sample were from ethnic minorities. Eighteen of the women lived with a husband/ partner, one lived with her parents and one with her children only. For nine of the women, the labour under discussion was their first, six women had one older child, two women had two older children, two women had three older children and one woman had four

older children. Table 1 shows the socio-economic groupings of the sample.

Table 1: Socio-Economic Groupings of Mothers Included in Stage Two

Socio-Economic Group	N = 20
I	7 (35%)
II	5 (25%)
III Non-manual	2 (10%)
III Manual	3 (15%)
IV	1 (5%)
V	2 (10%)

3.2.2. Comparison of PTSD Symptoms Stages One & Two

The total IES score mean in stage two was 24.0 (SD 23.5) with a range from 0 - 65. Six participants' scores (in contrast to five in stage one) exceeded Horowitz et al.'s (1979) mean of 42 for a female population experiencing stress after a variety of traumatic events, and again two participants reported total scores of 41 which is just below the mean, indicating that women continued to report clinically significant PTSD symptoms at stage two of the research. As some IES scores had decreased and others had increased since stage one, the Wilcoxon Matched-Pairs Test was utilised to assess the changes in IES scores. This revealed no statistically significant difference in mean scores between evaluations ($W = -0.5688$, NS).

3.2.3. Relationship Between PTSD Symptoms & Coping Strategies (Relating to Research Question 1.10.3.)

Each of the 15 sub-categories of the COPE was correlated with the total IES scores to investigate the relationship between type of coping strategies used and PTSD symptoms. Spearman Rank Correlation Coefficient was utilised as the data was non-parametric. Table 2 shows that seven correlations achieved statistical significance. The use of coping strategies relating to active coping, planning, humour, seeking emotional and instrumental social support showed a statistically significant inverse relationship with IES scores symptoms suggesting that their use is linked with experiencing fewer PTSD symptoms. Coping strategies relating to behavioural and mental disengagement showed a statistically significant positive relationship with IES scores suggesting that experiencing a greater number of PTSD symptoms is associated with use of these coping strategies.

Table 2: Statistically Significant Correlations between COPE & Impact of Event Scale Scores

Coping Strategy	r	Significance Level $p < 0.05$
Active coping	-.5197	.019
Planning	-.5732	.008
Humour	-.5793	.007
Seeking emotional social support	-.5166	.020
Seeking instrumental social support	-.5939	.006
Behavioural disengagement	.5674	.009
Mental disengagement	.5034	.024

3.2.4. Relationship Between PTSD Symptoms & Events Identified as Being Trauma-Inducing (Relating to Hypotheses 1.11.2.1. - 1.11.2.15.)

Ratings for each of the 14 questions on the Distressing Events in Labour Questionnaire were correlated with the total IES scores to investigate the relationship between PTSD symptoms and factors during the women's labours that caused them to experience stress. Spearman Rank Correlation Coefficient was utilised as the data was non-parametric. Table 3 shows which factors achieved statistical significance.

Table 3: Statistically Significant Correlations between Distressing Events in Labour Questionnaire & Impact of Event Scale Scores

Factor Causing Stress	r	Significance Level $p < 0.05$
Stressful communication with professional staff	.4770	.033
Thoughts relating to threat to infant's life	.5169	.020
Thoughts relating to infant being damaged	.4757	.034
Total score on Distressing Events Questionnaire	.4922	.027

The mean score on the Distressing Events in Labour questionnaire was 25.45 (SD 7.33) with a range of 12 -39. Only three factors of the 14 factors were identified as having a statistically significant positive relationship with higher PTSD symptoms; risk of damage to baby, threat to baby's life and stressful communication with professional staff. However, the overall score was also related to increased PTSD symptoms suggesting that it was the cumulative amount

of stressful experiences rather than particular events that relates to increases in PTSD symptoms. Hypotheses 1.11.2.5., 1.11.2.9., 1.11.2.11. and 1.11.2.15. were therefore confirmed.

3.2.5. Relationship Between PTSD Symptoms & Perceived Social Support from Friends & Family (Relating to Hypotheses 1.11. 3.1. & 1.11.3.2.)

Spearman Rank Correlation Coefficient was utilised to explore the relationships between scores on the Perceived Social Support Scale (PSSS) for friends and family and total IES scores. Perceived support from both friends and family showed statistically significant inverse relationships with reported PTSD symptoms (Friends: $r = -0.5917$, $p < 0.01$, 1 tailed) (Family: $r = -0.4684$, $p < 0.05$, 1 tailed). The hypotheses that perceived social support from friends and/ or family mediates the development of PTSD symptoms is supported by the data. The scores on the friends sub-scale ranged from 1 - 20, mean 11.2 (SD 5.4) and family sub-scale scores ranged from 3 - 20, mean 12.5 (SD 6.5). The means for both friends and family are below Procidano & Heller's (1983) means concerning perceived social support for mothers of young children (mean PSSfriends 12.88, mean PSSfamily 15.15) suggesting that this sample do not have as much perceived social support as other similar samples.

3.2.6. Relationship Between PTSD Symptoms & Socio-Economic Status (Relating to Hypothesis 1.11.3.3.)

A Kruskal-Wallis test was used to explore whether there were significant differences in IES scores between the Registrar General's six socio-economic status categories ($H = 4.3205$, NS). As there was no significant difference for PTSD symptoms between socio-economic

groupings, the hypothesis that PTSD symptoms would be mediated by belonging to higher socio-economic groupings is rejected.

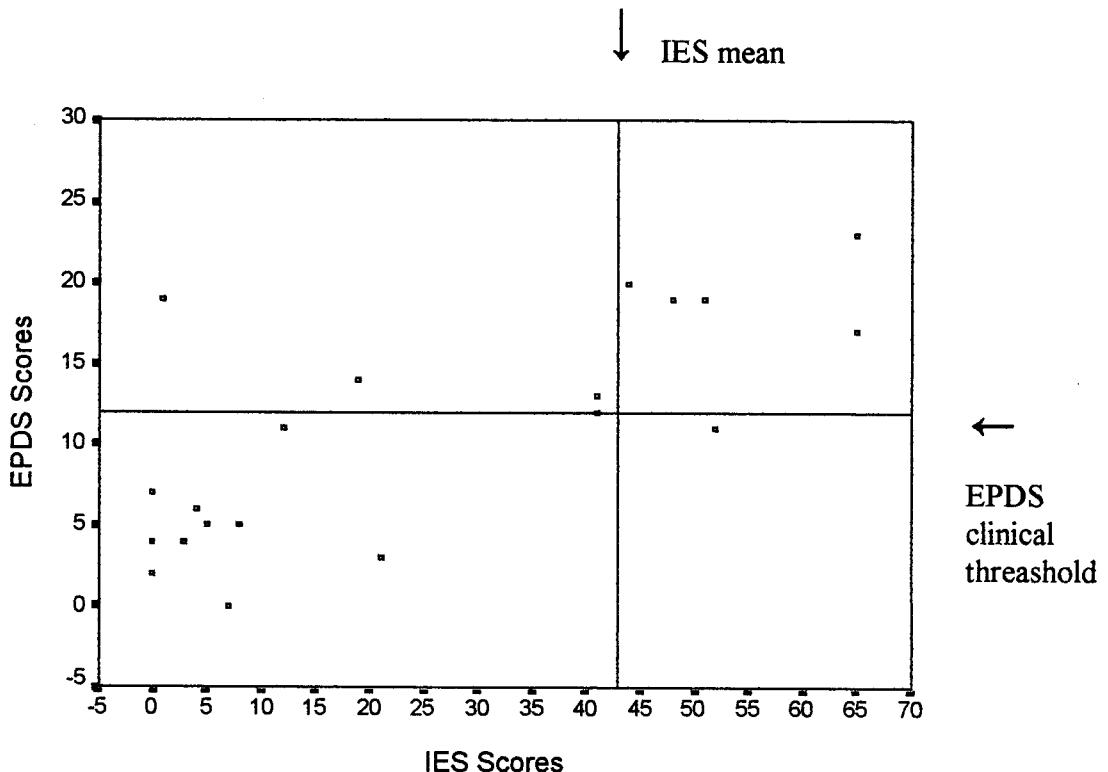
3.2.7. Relationship Between PTSD Symptoms & Postnatal Depression (Relating to Hypotheses 1.11.4. & 1.11.5.)

The Edinburgh Postnatal Depression Scale (EPDS) scores were not normally distributed as 9 women (45 %) scored on or above the threshold score of 12/13, indicating depression symptoms were present. The mean score was 10.7 (SD 7) and scores ranged from 0 - 23.

Of the six participants whose total IES scores were above Horowitz et al.'s (1979) mean of 42, five scored within the depressed range. The hypothesis that clinically significant levels of PTSD symptoms will present both independently and in co-existence with postnatal depression is therefore rejected. Figure 2 presents a scattergram of the participants' IES and EPDS scores.

The Spearman Rank Correlation Coefficient was utilised to explore the relationship between total IES and EPDS scores ($r = 0.6445$, $p < 0.01$, 1 tailed). This confirms the hypothesis that there will be a positive relationship between postnatal depression and PTSD symptoms as measured by the EPDS and the IES.

Figure 2: Scattergram Showing the Relationship Between Impact of Event Scale & Edinburgh Postnatal Depression Scale Scores



Key: IES = Impact of Event Scale (Horowitz et al., 1979)
 EPDS = Edinburgh Postnatal Depression Scale (Cox et al., 1987)

3.2.8. Prediction of PTSD Symptoms Following Traumatic Labour Experiences (Relating to Hypothesis 1.11.6.)

Stepwise multiple regression analyses were performed to explore the possibility of whether coping strategies, factors during labour seen as stressful as identified by the Distressing Events in Labour questionnaire, perceived social support from family and friends and socio-economic status can predict total IES score. In the stepwise multiple regression analyses alpha to enter was 0.05 level of significance and alpha to remove was 0.1 level of significance (Dillon & Goldstein, 1984). Table 4 summarises variables of a statistically significant level

to be included in the multiple regression equation. The analyses show that the coping strategy of seeking emotional social support and the total score on the Distressing Events in Labour Questionnaire were important in explaining the variance of PTSD symptoms as recorded on the IES.

Table 4: Stepwise Multiple Regression Analysis Using Total Impact of Event Scale Score of the Participant as the Dependent Variable.

Step	Variable Entered	Beta	R	Contribution to R ²	Cumulative R ²
1	Seeking emotional social support (COPE)	-.531	.649	.422	.422
2	Distressing Events in Labour Questionnaire total score	.444	.778	.182	.605

3.3. QUALITATIVE RESULTS (Relating to Research Questions 1.10.4 - 1.10.6)

Grounded theory (Strauss & Corbin, 1990) suggests that to conceptualise qualitative material within a theory, a core category must be identified in terms of label and properties and other categories identified during analysis are then related to the core. The paradigm model is used to present the processes by which participants become extremely distressed during labour, the intervening conditions and the strategies they use to deal with their distress and the consequences of experiencing the trauma. Extracts from transcripts are included to enhance understanding of the categories and processes being described.

3.3.1. The Core Category

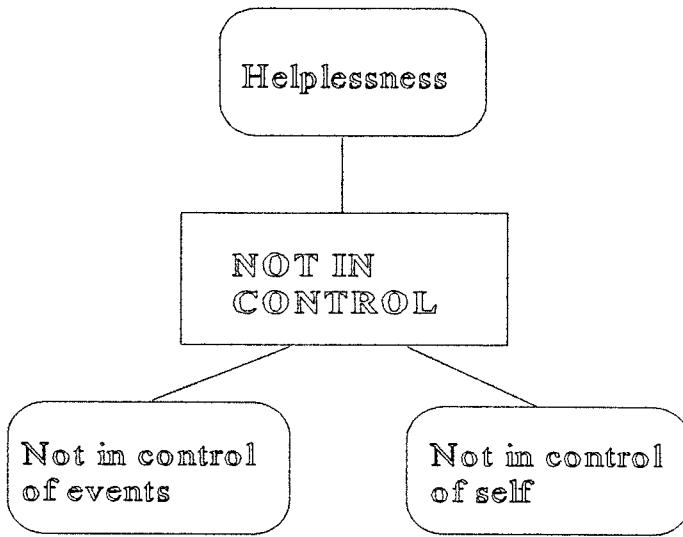


Figure 3: Diagrammatic Representation of the Core Category

All participants (n=20) stated that during their labour they had experienced intense feelings of **not being in control** and this is presented as the core category which all other categories relate to. The properties of the core category relate to not being in control of events (n=20), not being in control of own behaviour (n=17) and intense feelings of helplessness (n=20).

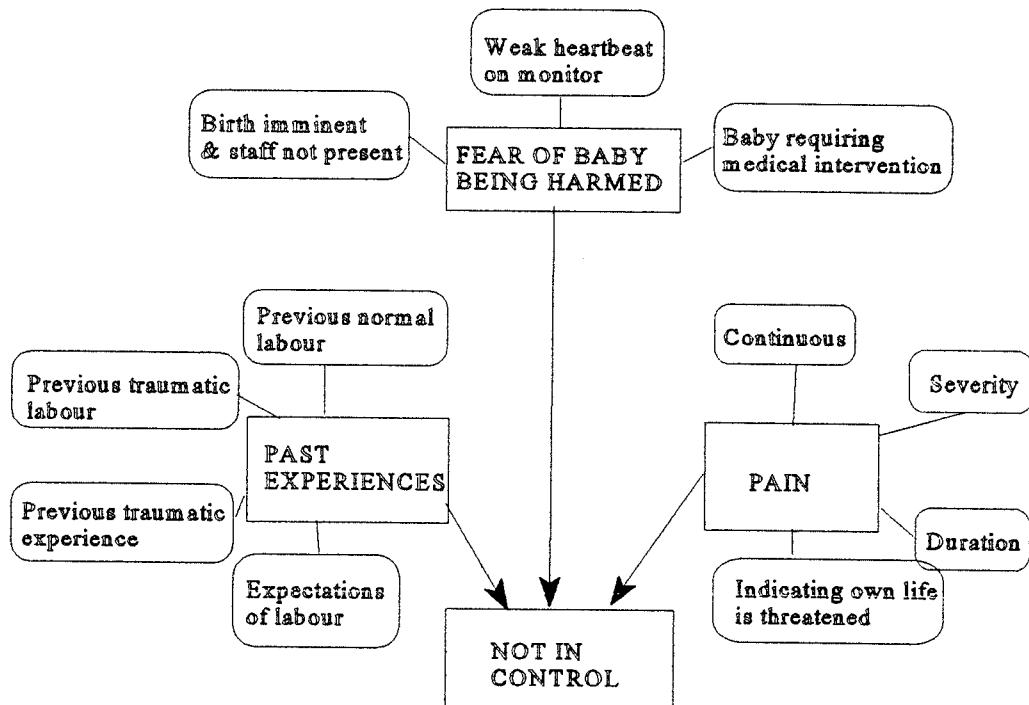
3.3.2. The Process Leading to the Core Category

Strauss & Corbin's (1990) paradigm model is used to describe the processes during labour leading to the core category.

3.3.2.1. Causal Conditions

Strauss & Corbin (1990) state that causal conditions refer to the events or incidents that lead to the occurrence or development of the phenomenon which is the core category. Each main causal category and relating sub-categories identified during the analysis will be illustrated diagrammatically and described with examples.

Figure 4: Diagrammatic Representation of Causal Factors Influencing the Core Category



Belief that Baby will be Harmed

Beliefs that the baby would be harmed led to feelings of helplessness and a perception that events were out of the woman's control. Eleven women required either emergency caesarian

or other medical intervention because the baby had become distressed and unassisted vaginal delivery was not considered possible by staff:

P9: "After a while they found she was stuck. When my hind waters broke they had to puncture the front waters and they said there was a risk of her arm flying out. I thought she was going to shoot out and half of her would still to be stuck there".

P16: "I was rushed to the theatre and the doctor said "We are not happy, I'm going to do a caesarian as the baby has passed faeces and we need to get her out" ".

Two women believed that the monitor showing the baby's heartbeat indicated that the baby was distressed:

P12: "I kept thinking "Why do they want to monitor the baby? Is it going to die? "".

Four women feared that their baby was about to be born without any staff being present:

P5: "(The midwife) felt my tummy and said that nothing was happening. I asked them to phone my husband but they wouldn't. I was in the dark because I was in so much pain I couldn't switch the light on. By now I could feel him coming down".

Pain

Eighteen of the women described pain during labour as a factor influencing their distress. The pain resulted from contractions, internal examinations and medical interventions. Ten women perceived the pain as indicating that their own life was being threatened. All 18 women mentioned the severity of the pain, five women also considered the long duration of the pain to be important and two women described the continuous unrelenting nature of the pain as being distressing as they could not do anything to prevent it:

P2: "I just thought I was going to die. The pain was coming from the roots of my hair, I could feel it keep coming ... eventually it was horrific and there was nothing I could do".

Past Experiences

Seven women stated that they were reminded of traumatic past experiences during labour. One women was reminded of the death of her father by a mask placed over her face leading to her panicking that she was not in control of her behaviour. One woman did not state what her experience was and five women were reminded of previous difficult labours, in which two had lost babies, and their fears related to whether this labour would be similar:

P11: "I just got panicky because I thought I may end up going down the same road as I had with the first one so I was afraid that the same thing was going to happen".

P89: "I had gas and air through a mask on my face, and my father, when he died, he had one of those on his face and as they put it on me, it completely freaked me out ".

For two women, their expectations of childbirth from previous positive experiences of labour were not met, leading to the belief that this time something was going wrong:

P2 ; 26: "the pain was so severe, so bad, I mean, I had gas and air and the pethidine with the first child and I thought that was bad enough, but it was nothing in comparison".

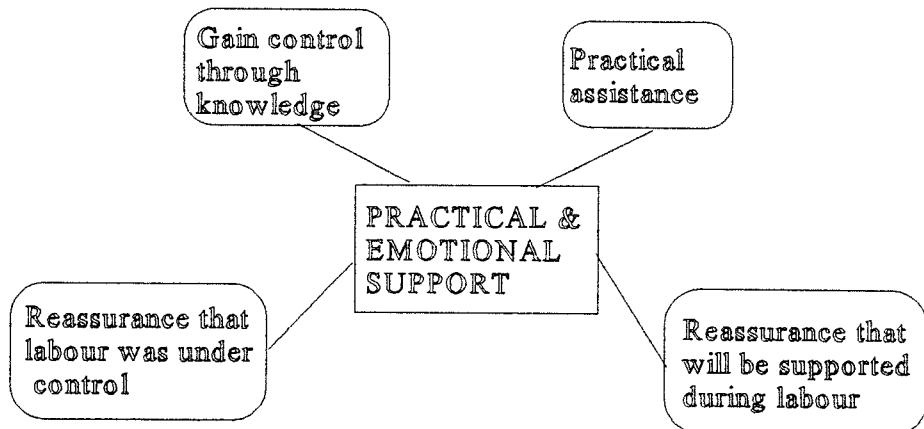
Fifteen women stated that their expectations of what the labour would be like were not met and the unexpectedness led to feelings of not being in control:

P88: "NCT classes explained that things can happen and to have an open mind but I always thought I'd have some control and I had absolutely none".

3.3.2.2. Action Strategies

Strauss & Corbin (1990) describe action strategies as purposeful actions which are a response to or to manage the phenomenon. In response to the core category belief that they were not in control 18 women described processes where they attempted to access practical and emotional support during labour to reduce the perceived threat. For all the women, the action strategies failed to allay their fears and examples are given of attempts to access support and reasons why they failed.

Figure 5: Diagrammatic Representation of Action Strategies During Labour



Fourteen of the participants looked to the staff to provide **practical assistance** in the form of medical intervention and pain relief. When errors occurred during interventions or pain relief was ineffective the belief that they were not in control was maintained:

PI3: "She (the surgeon) was cutting through the skin (during a caesarian) and I could feel

it and it really hurt. A chap who was standing by to top up the epidural, he had not given me enough, so once I felt the pain, my stomach tensed up so she had a lot of trouble to get him out".

P86: (After having a forceps delivery) "I had an allergic reaction to the drugs in theatre. I blew up like a balloon and was very frightened as I didn't know what had caused it".

Women also requested staff to help them with the pain through pain relief but distress was maintained when it was not given:

P88: "When you ask for it (pain relief) you want it there and then but they couldn't give it to me as they had to find the anaesthetist and it seemed like forever. I was by then in such pain I was banging my head from side to side like a mental patient".

P3: "I wanted an epidural to stop the pain but there wasn't anyone available. When you are in that situation you think everyone around you should be looking after you but that wasn't the case".

Twelve women attempted to gain **reassurance that their labour was under control** from both staff and partners. Distress was maintained when others were also seen to be panicking, supporting their belief that the labour was out of everyone's control:

P88: "I just panicked because the baby was nearly there and they (midwives) had left the room. When they came back they started screaming at me "Don't push".

P12: "I wanted him to be big and strong, manly if you like. The fact that he wasn't happy, it made me more scared. If I could have thought "he's calm", it would have calmed me".

In order for reassurance to be given, distress has to be acknowledged, but staff were

perceived as ignoring the women's distress and their knowledge of their own bodies and needs, therefore maintaining their belief that they had no control over what was happening:

P89: "I completely freaked out when they put the mask on, I was crying but the midwife was very forceful and said that I had to have the examination, but after what I had been through I needed time to compose myself".

P7: "I said that I had to push but they said "No, you don't want to push yet" but I did and 10 minutes later he was born".

Sixteen women attempted to **gain control through knowledge** but staff were seen as being too busy to explain what was happening so the women continued to perceive a threat even when there was none:

P12: "I thought it was going to come out dead. I think if someone had said why (the baby needed to be monitored) I am sure it makes a difference".

P6: "All she did was stand at the bottom of the bed doing her paperwork and then she was off again. The heartbeat went up and I called her but she was very dismissive and said not to call her again".

Eleven women also sought **reassurance that they would be supported during the experience** from both staff and partners. Distress was maintained when women did not receive comfort or empathy and they spoke of a sense of isolation and a belief that they would have to cope alone but feeling unable to:

P9: "(the anaesthetist) told me to tell him when I was having a contraction as it is dangerous to move when inserting the epidural needle but they seemed to be coming one

after another and I kept telling him to stop and he couldn't get it in. After a while he threw all the stuff down and left".

P2: "He was in a panic because he had been with me all through the pain and there was nothing for him to do. When I had the caesarian he could not stand it and left so I was totally alone on this operating table".

P141: "My partner was supposed to be there for support, but while they had me screaming and squirming on the bed, he was sat in the corner, nose in a newspaper. So, I felt as if I was left on my own to cope".

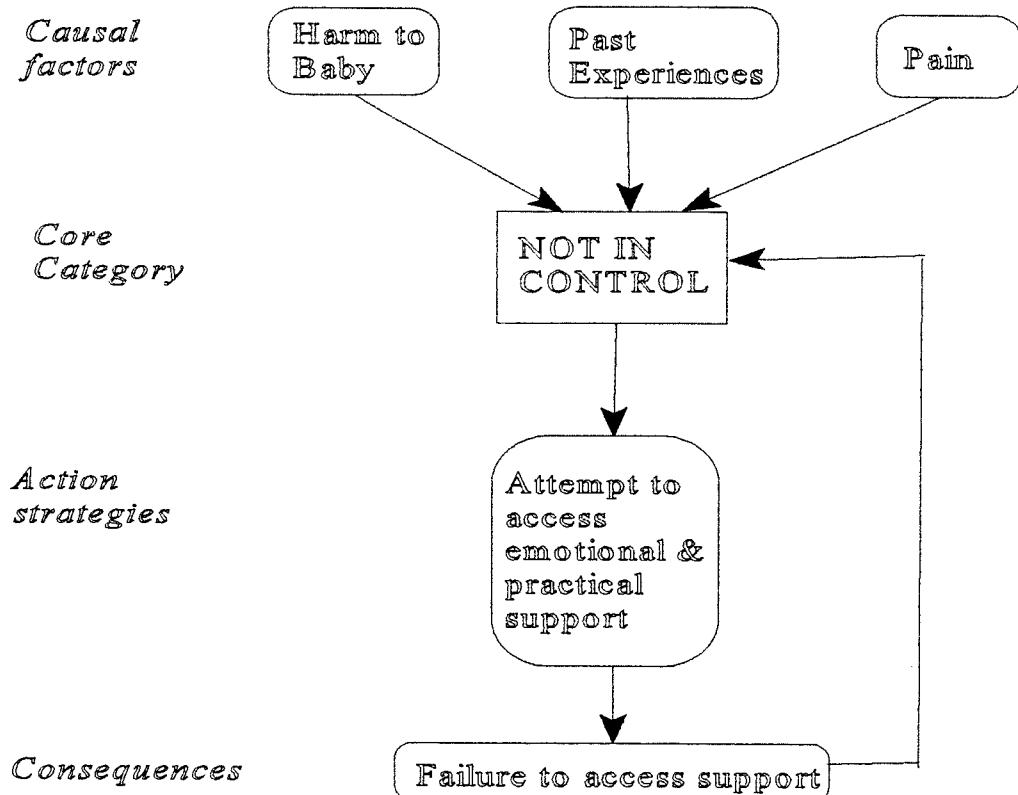
Two women felt that they were unable to attempt to access support and their belief that labour was out of control was maintained because it was not challenged:

P10: "I thought that the baby was stuck but because the contractions were so strong I couldn't get the breath to ask what was happening. By this stage I was also having hallucinations of death scenes".

3.3.2.3. Consequences of Ineffective Action Strategies

When attempts to access practical assistance and support from staff and partners failed, the women's belief that labour was out of control was maintained. Figure 6 provides an overview, using the paradigm model, of the process during labour influencing women's perception that they had experienced a traumatic labour.

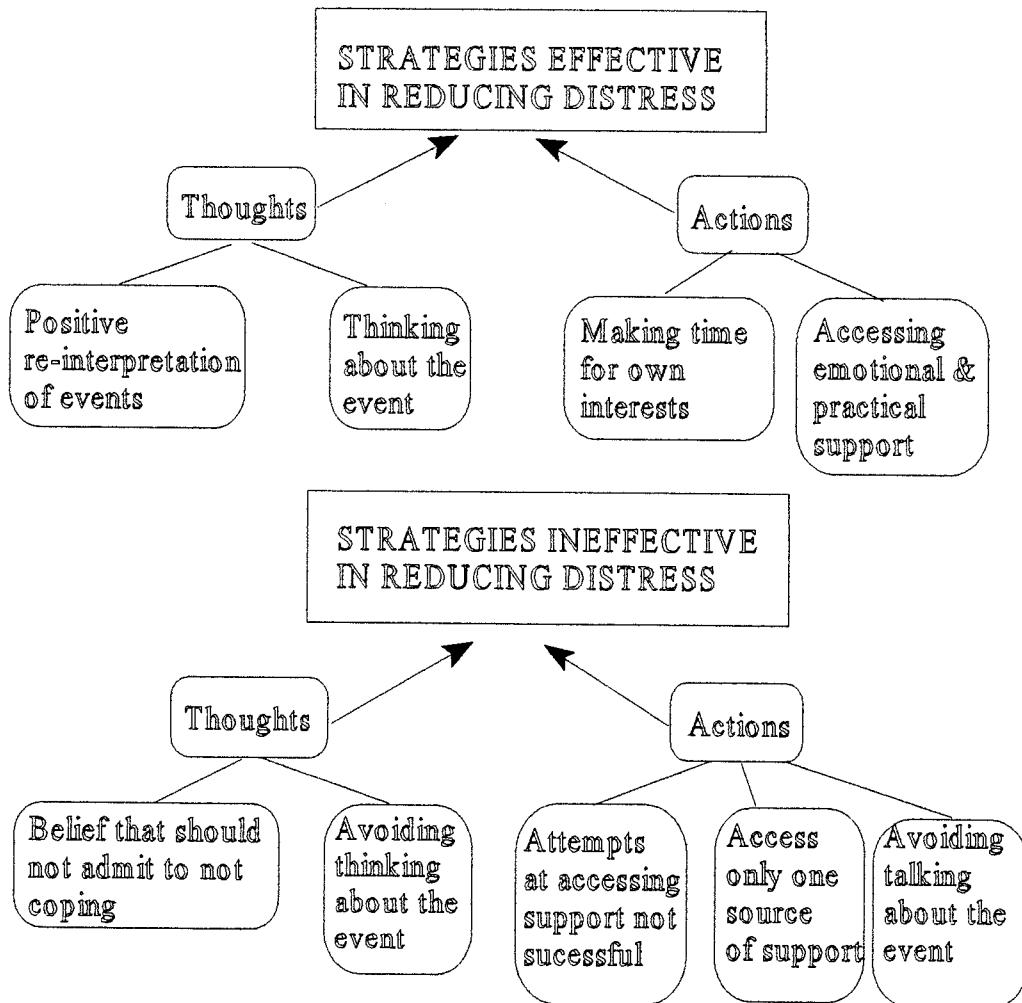
Figure 6: Diagrammatic Representation of Paradigm Model of Traumatic Labour Experiences



3.3.3. Action Strategies used Following Labour

The action strategies used by women following labours emerged as thoughts and actions which produced two processes, one where distress was reduced and the other where distress was maintained at 10 months post-labour. Out of the twenty women, eight were still distressed by their experience, four had been distressed for between four and nine months post-labour and eight were distressed up to two weeks following their experience.

Figure 7: Diagrammatic Overview of Action Strategies used Following labour.



3.4.3.1. Thoughts & Actions Described by Women Distressed for a Short Period

Distress-reducing thoughts were associated with re-interpreting the event positively by dwelling more on the joy of delivering a healthy baby (4/8), thinking of oneself as not being the type of person who dwells on things (2/8) and giving oneself time to think why events occurred (1/8). Four women tried to gain control over what happened by trying to understand the experience through seeking information about why the labour was traumatic,

i.e. from midwives, partners. All eight women whose distress was short-lived, successfully accessed emotional support from more than one source.

3.3.3.2. Thoughts & Actions Described by Women Distressed for up to Nine Months

The women who had found the first few months following a traumatic labour distressing (n=4) were those who following labour, had limited emotional or practical support, but had during that time period before the interview managed to gain access to more helpful support. Two of the women stated that they had found it useful to admit to somebody that they were finding it difficult to cope and in two cases, women had sought help following answering the screening questionnaire when realising that other women may also be feeling distressed following labour. Three of the four women had found that they were happier once they had made time for themselves and their own interests away from the baby and found that returning to work meant that they had less time to dwell on distressing events.

3.3.3.3. Thoughts & Actions Described by Women Still Distressed at Stage Two

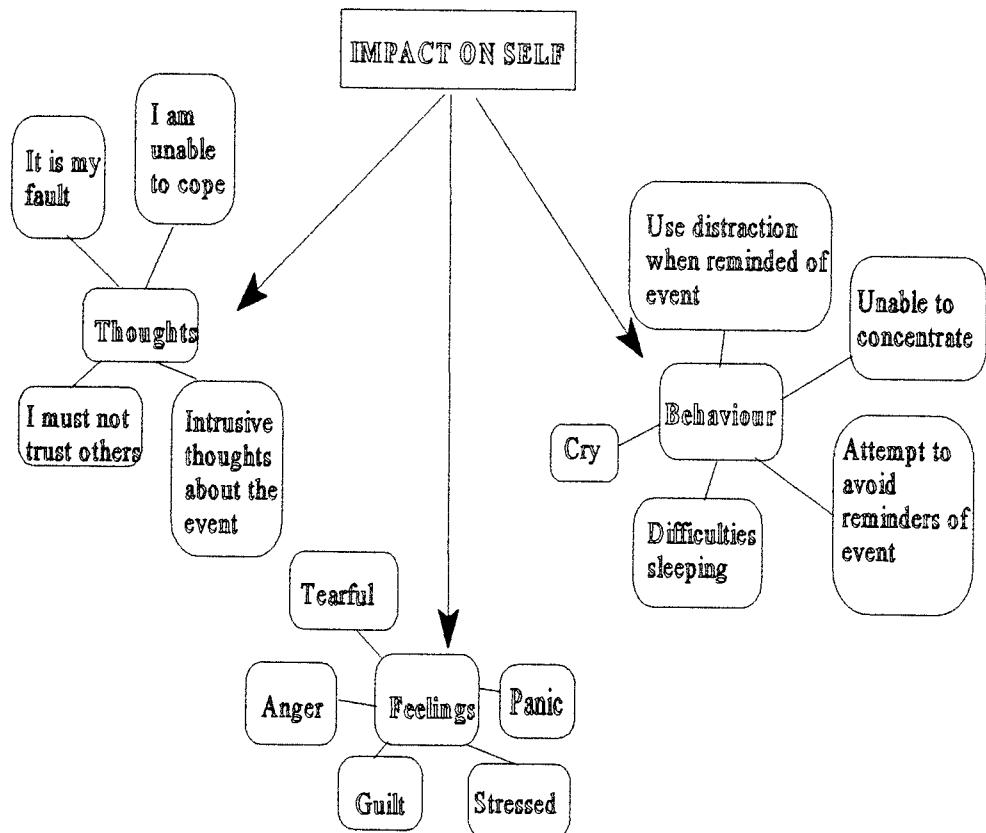
All of the women with IES scores above 40 had limited social support. Three women had one source of emotional support, whereas five had none. They had either tried to access support and it had not been available to them (7/8) or not wanted to admit to anyone that they were distressed (1/8). None of these women had access to practical support with looking after the baby. Thoughts maintaining the distress related to the idea that people should not find out that one is finding motherhood difficult and that the best way to cope with intrusive thoughts about the experience is to use distraction and avoid situations that remind one of it.

3.3.4. Consequences of Experiencing a Traumatic Labour

Strauss & Corbin (1990) describe consequences within the paradigm model as being what the core category means for those involved. Those whose distress had lasted for short periods stated that the experience had either no effect upon them (4/8) or limited consequences (4/8) relating only to avoidance of future childbirth. Those whose distress had lasted for longer periods (n=12) reported effects in their own behaviour, fear of future childbirth and in their relationships with others. Those with IES scores above 40 reported the most effects.

3.3.4.1. Effects to Self

Figure 8: Diagrammatic Overview of Effects on Thoughts, Behaviour and Feelings Related to Self



Ten women reported that their labour experiences had effected their thoughts, feelings and behaviour. A process emerged in which these sub-categories were interlinked, e.g. thoughts relating to the trauma led to feelings of panic and tearfulness and attempts to establish control using avoidance and distraction. These strategies produced a vicious cycle which led to thoughts concerning inability to cope and further negative feelings.

P13: "I have great difficulty in concentrating because I keep remembering lying there with it all happening, you know, and then I feel panicky. I used to be very efficient but I'm not able to cope with things any more (Researcher: "How do you feel about that?") I get upset but I try and focus on (baby), try and keep busy with him".

For eight women, feelings were also vented against meaningful others. This process was usually identified afterwards as being unfair to the other person and invoked feelings of guilt and thoughts that everything was their own fault.

P87: "I always used to be patient, but now I fly off the handle. I just need to get rid of the frustration, but the next day I think "God, I was so unreasonable" and then I'd feel bad and that it has put even more of a strain on my relationship with (husband)".

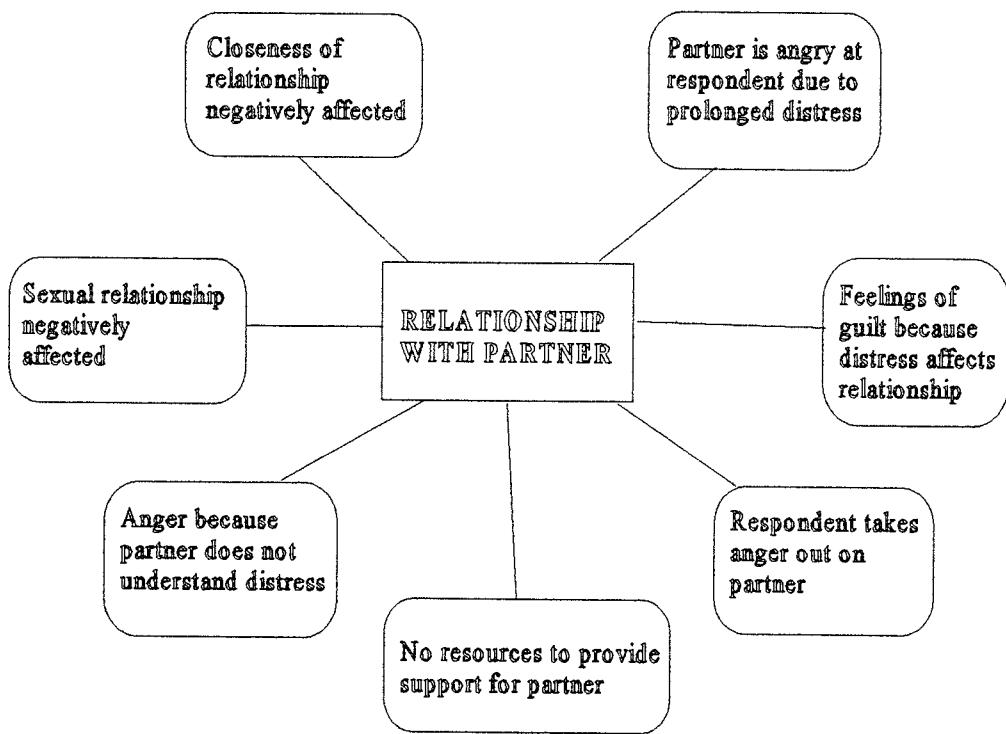
A further cycle was also identified for four women in which the intrusive thoughts evoked anger at the professionals'/partner's behaviour during the labour, leading to a mistrust of others and avoidance of social contact.

P16: "I want to get back at the professionals. I get an image of what a womb would look like being cut. I am left now with this anger bubbling around, you know, a mistrust of people and I am scared that my body will not heal and scared of having a coil fitted. I am not able to endure any pressure or stress now. If I really have to deal with anything I try to be cold and

shut off. If I go out to see people or make phone calls I have to really prepare. Sometimes I just don't bother".

3.3.4.2. Relationship with Partner

Figure 9: Diagrammatic Overview of Effects to Women's Relationship with Their Partners



All women whose IES scores were above 40 and three of the four women who had been distressed, reported that their relationship was not as close as it was before the labour. Six women were angry with their partner for not seeming to understand their distress and five reported taking their anger out on their partner.

P16: "I'm angry at him for just accepting what happened. I feel he has let me down. He's

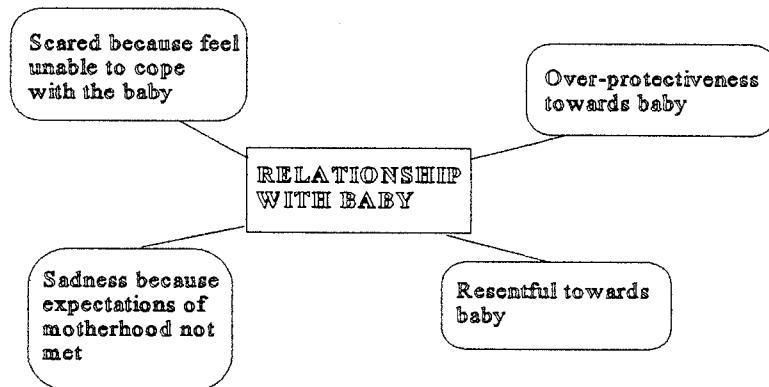
not one to argue so I hurt him with words and exclude him from things I do with the baby".

Two women reported that their sex lives had been affected and two stated that their own emotional resources were so depleted that they could no longer provide any support for their partner.

P86: "We're not as close, I used to be the one to help him with things, feelings and things, but I can't any more, I'm just not able to".

3.3.4.3. Relationship with Infant

Figure 10: Diagrammatic Overview of Effects to Women's Relationship with Infant



One of the four women who had been, but was no longer distressed, stated that she had been emotionally detached from the baby. Six of the women with IES scores above 40 thought that their relationship had been affected by their labour; two resented the baby for causing

the trauma, one remained emotionally detached, three felt over-protective because of the experience the baby had been through, and one was scared of the baby because of her perceived inability to cope and was further distressed because her expectations of motherhood had not been met.

P12: "All I wanted was to hug her, I didn't want her to get any pain or anything. I cuddle her much more than the other two".

P141: "I thought "God, if I had not had this baby I would not be going through this now" I try to distance myself, I don't really want to know".

3.3.4.4. Relationship with Others

Three women thought that their continued distress following labour had led to them being less patient with their other children. Two women discussed that they did not have the emotional energy for dealing with other peoples' problems.

P88: "I feel like saying "Oh God, you haven't been there so how can you understand". Their problems seem so trivial, I'm just trying to cope with my own".

3.3.4.5. Future Pregnancy

Thirteen of the 20 women stated that they would not have any more children, eight because of their labour experience and five because of financial or other reasons. Of the seven women who would have more children, two would only contemplate it if elective caesareans were available. Out of the eight women with IES scores above 40, six would not have any more children and two would only do so with elective caesareans.

3.3.5. Theory of Distress Following Traumatic Childbirth

The core category **out of control** has been identified. Three main factors were identified as conditions leading to the core category; **pain, past experiences and belief baby will be harmed**. All categories were not experienced by every person, although the majority experienced more than one. Women attempted to reduce the perceived threat by **accessing practical and emotional support from staff and partners** but when attempts were ineffective they were left with feelings of **helplessness** and beliefs relating to **being out of control of events and oneself**, and the core category was maintained.

Following labour, women applied strategies to control their distress. Successfully accessing helpful **emotional and practical support** appears to be the most crucial intervention strategy in alleviating distress. Other thoughts and actions also appear to influence successful coping, but used in isolation they were not enough to influence the process of reducing distress. If women used successful interventions within the first few weeks, the consequences of experiencing a traumatic labour were minimal except for fear of future pregnancy. When distress continued, there were effects on the women's **own behaviour, thoughts and feelings, relationships with their baby, partner and others and fear of future pregnancy**.

3.4. SUMMARY OF RESULTS

3.4.1. Results Pertaining to Research Questions

1.10.1. Is there a relationship between recollections of distress experienced during labour and the presence of PTSD symptoms eight months post-labour ?

There is a statistically significant positive relationship.

1.10.2. Is there a relationship between distress experienced when reminded of labour experience and the presence of PTSD symptoms eight months post-labour ?

There is a statistically significant positive relationship.

1.10.3. Is there a relationship between number of PTSD symptoms reported at eight to ten months following an extremely distressing childbirth and type of coping strategies used (as measured by the COPE)?

Coping strategies relating to active coping, planning, humour and seeking emotional and instrumental social support showed a statistically significant inverse relationship with PTSD symptoms. Behavioural and mental disengagement showed a statistically significant positive relationship with PTSD symptoms.

1.10.4. What factors during labour led to women becoming distressed ?

Factors relating to pain, past experiences and beliefs about possible harm to the baby led to women attempting to gain control by accessing practical and emotional support. When attempts were ineffective, women experienced feelings of helplessness and beliefs that self

and events were out of their control, and beliefs relating to being out of control were maintained.

1.10.5. What strategies have women found to be useful / not useful to cope following extremely distressing labours and subsequent distress ?

Actions involving accessing more than one source of social support and gaining information about events during labour and thoughts relating to positive re-interpretation of the trauma and belief that self does not dwell on negative events were helpful in reducing distress following labour. Inability to access social support, avoiding thinking about the trauma and thoughts relating to unacceptability of admitting failure to cope related to maintained distress.

1.10.6. What impact does PTSD symptoms have upon the postpartum adaptation of mothers who have experienced an extremely distressing labour ?

Continued PTSD symptoms effected women's own behaviour, thoughts and feelings, relationships with their baby, partner and others, and fear of future pregnancy.

3.4.2. Results Pertaining to Research Hypotheses

1.11.1. A minority of women will report a clinically significant level of PTSD symptoms eight months post-childbirth.

Accepted

1.11.2. There will be a relationship between scores on each of the questions on the Distressing Events in Labour Questionnaire and reported level of PTSD symptoms for women who state that they have experienced an extremely distressing labour.

Partially accepted. There were statistically significant positive relationships between questions relating to stressful communication with professional staff (1.11.2.5.), threat to baby's life (1.11.2.9.), risk of damage to baby (1.11.2.11.) and total score (1.11.2.15.) and PTSD symptoms.

1.11.3.1. There will be an inverse relationship between perceived social support from friends and PTSD symptoms for women who have experienced an extremely distressing labour.

Accepted.

1.11.3.2. There will be an inverse relationship between perceived social support from family and PTSD symptoms for women who have experienced an extremely distressing labour.

Accepted.

1.11.3.3. There will be an inverse relationship between socio-economic status and PTSD symptoms for women who have experienced an extremely distressing labour.

Rejected.

1.11.4. Clinically significant levels of PTSD symptoms will be present both independently and in co-existence with postnatal depression for women who have experienced extremely distressing labours.

Rejected.

1.11.5. There will be a positive relationship between EPDS scores and IES scores for women who have experienced extremely distressing labours.

Accepted.

1.11.6. Scores on the COPE, the Distressing Events in Labour questionnaire, the Perceived Social Support Scale and socio-economic status can explain variance in total IES score for women who have experienced extremely distressing labours.

Partially accepted. Scores on the COPE relating to seeking emotional social support and the total score on the Distressing Events in Labour Questionnaire were statistically significant in explaining the variance in total IES scores.

DISCUSSION

The present study has explored the relationship between distressing labour experiences and the development of PTSD symptoms in a cohort of women eight months post-childbirth. From this population, labour experiences for a sub-group of women, who perceived their labour as having been traumatic, were further investigated to explore the processes occurring during traumatic labour, factors predicting and mediating the development of PTSD symptoms and the impact on postpartum adaptation.

4.1. RELATIONSHIP BETWEEN DISTRESS & PTSD SYMPTOMS

The majority of participants rated their labour as having been either mildly or not at all distressing and nearly three-quarters of the sample were not distressed by their labour eight months post-childbirth. The study found that there was a positive relationship between PTSD symptoms and levels of distress women recollected experiencing during labour, and also present distress at being reminded of their labour. The distribution of IES scores was skewed, suggesting that the majority of women do not experience PTSD symptoms following labour and that there was not a continuum of symptoms, but rather a sub-group experiencing clinically significant symptoms. The mean score was less than Lyons' (1994) mean for a population of first-time mothers. This sample may have reported less PTSD symptoms because it consisted of both first-time and experienced mothers. Alternatively, as Lyons' study was one month post-labour, higher frequency of PTSD symptoms may occur

nearer the event but by eight months, prevalence declined because over time more women successfully accessed distress-reducing strategies.

4.2. PREVALENCE OF PTSD SYMPTOMS

Five women in stage one and six women in stage two of the study reported total scores above Horowitz et al.'s (1979) mean of 42 for a female population experiencing stress which was taken as a cut-off point indicating clinically significant scores. Two women at either stage also had borderline scores of 41. Although PTSD scores, for women who stated they perceived their labour as traumatic, varied between stage one and two, this difference was not statistically significant. The present findings therefore support the evidence from the PTSD and childbirth literature that some women do report clinically significant levels of PTSD symptoms following labour (e.g. Ballard et al., 1995; Lyons, 1994).

4.3. PROCESSES LEADING TO A TRAUMATIC LABOUR EXPERIENCE

4.3.1. Factors Influencing Feelings of Being Out of Control

Qualitative analysis looked at the process of experiencing a traumatic labour and found that the main condition experienced by all the women who perceived their labour as traumatic related to feelings of not being in control. This supports Parkes' (1984) view that perceived personal control influences peoples' appraisal of stressors. Events leading to these appraisals

were associated with pain, past experiences which influenced expectations and the belief that the baby would be harmed.

4.3.1.1. Pain

The severity, duration and continuous nature of pain resulting from contractions, medical interventions and internal examinations were cited as influencing distress, and for half of the women, pain was perceived as life threatening. Although Lyons (1994) found that pain intensity was not associated with PTSD symptoms, the present study's findings support Kitzinger's (1975) research which showed that pain resulting from medical interventions influences distress. Schreiber & Galai-Gat (1993) found that pain resulting from physical injury can be a core trauma in PTSD and case studies (e.g. Ballard et al., 1995; Ryding, 1993; Beech & Robinson, 1985) have also found that pain is described as an important factor in making a labour traumatic.

4.3.1.2. Past Experiences

Past experiences related to previous traumatic events, previous normal labours, and expectations, which although linked to the previous two factors, could also result from other sources, i.e. antenatal classes. Previous traumatic events involved the death of a father and five reminders of previous traumatic labours. Menage (1993) suggests that histories of rape or abuse may influence trauma, however none of the participants indicated this during the data collection although the information was not directly requested and the limited contact of one interview may not have build up a rapport for such disclosure.

Social learning theory (Bandura, 1977) suggests that when an event occurs, a person will make attributions to reduce the threat posed by the situation on the basis of past experiences and therefore women looked to past experiences in an attempt to understand present events. When present labour did not match memories of prior ‘normal’ labour, women were concerned that this indicated something was wrong. When present labours resembled previous traumatic events, fears arose that prior traumatic events would re-occur. It is possible that the women reminded of previous traumatic labours were already experiencing PTSD symptoms or that it was a combination of past trauma and present events that led to the present labour being seen as traumatic as PTSD research suggests that trauma may be cumulative (McFarlane, 1988). This implies that women with such histories may be more susceptible to trauma in subsequent labours.

The majority of the women stated that their expectations of labour were not met and the unexpectedness of events, i.e. medical interventions, pain, led to feelings of not being in control. Crowe & von Baeyer (1989) suggest that inaccurate expectations may lead to shock during childbirth and the present findings support previous research (e.g. Stewart, 1982; Green et al., 1988) suggesting that there is a significant relationship between expectations and emotional well-being.

4.2.1.3. Fear Baby Will Be Harmed

Women’s beliefs that their baby may be harmed related to the emergency nature of medical interventions, fear that they would deliver the baby alone and belief that electronic monitoring indicated foetal distress. None of the women did deliver alone and the monitors

did not always indicate distress, which emphasises the importance of women's subjective interpretation in influencing whether events are perceived as traumatic (Feinstein & Dolan, 1991).

Results also indicate significant positive relationships between PTSD symptoms and thoughts relating to threat to infant's life and fear of infant being damaged. This is consistent with DSM IV's (APA, 1994) criteria which suggests that PTSD stressors can relate to threatened death, injury or threatened physical integrity of other persons. Although Lyons (1994) did not find a relationship between concerns over baby's welfare and PTSD symptoms, other research (Moleman et al., 1992; Ryding, 1993) has also shown this to be an important factor in the development of PTSD symptoms.

4.3.1.4. Distressing Events in Labour Questionnaire

This questionnaire was designed for the study to identify distressing events during labour and statistically significant relationships between IES scores and questions relating to stressful communication with staff, thoughts relating to damage to and threat to infant's life and total score. This provides support for the qualitative findings that perceived harm to baby and lack of support from professionals influenced feelings of distress. Also, the relationship between PTSD symptoms and overall intensity of stress experienced, as well as cumulative number of events found stressful, is important. The multiple regression analysis also found the total score to be predictive of IES scores. It may therefore be beneficial to use this questionnaire shortly following labour to identify women who have experienced a traumatic labour so intervention to prevent PTSD symptoms may occur. However, these results are tentative and

further research is required to obtain cut-off scores and to compare scores for women who do and do not consider their labour to have been traumatic.

4.3.2. Strategies Attempted to Reduce Feelings of Lack of Control

The women in this study attempted to gain control by trying to access practical and social support from partners and medical staff by seeking practical assistance, i.e. pain relief, medical intervention, knowledge about occurrences during labour, and reassurance that others felt in control and would give them support to cope. However, these strategies failed to elicit the support they wanted, maintaining feelings of being out of control. Similarly, Green et al. (1988) found that feeling in control related to the type of relationship women had with staff and Niven (1992) reported that distress with pain relief and lack of support from staff were associated with distress during labour. Tarkka & Paunonen (1996) found a significant relationship between support from midwives and positive experiences of childbirth. Niven (1992) also suggests that the presence of a supportive partner during labour can reduce pain because women feel less anxious and partners can assist them with pain-coping strategies. The present study showed that there is a positive relationship between PTSD symptoms and stressful communication with staff. This supports case study reports that women with PTSD symptoms following labour lacked a supportive relationship with carers (Ballard et al., 1995; Beech & Robinson, 1985) and Menage's (1993) finding that lack of information during medical procedures was an important variable for women reporting PTSD symptoms.

4.3.3. Core Category ‘Out of Control’

The belief relating to control was maintained when action strategies were either not employed or failed. The present study identified that the properties of feeling out of control related to feelings of helplessness and distinguished between out of control of events and of own behaviour. These concepts differ from the ‘internal’ and ‘external’ control categories identified by the locus of control literature which suggests that a person perceives what is happening to them as either being within their own control or being controlled by others. Locus of control measures were not taken during this study. Green et al. (1988) argue that sense of control over external events is frequently lost as hospitals and medical interventions institutionalise labour and options actually available highly constrain choices. Also, the fact that the baby has to be born and there is not the choice whether to continue with labour or not, limits women’s real control over events. Studies on PTSD following childbirth (e.g. Ballard et al., 1995; Moleman et al., 1992; Lyons, 1994) also reported that women felt out of control during labour. Ryding (1993) and Moleman et al. (1992) also discuss women who reported dissociative feelings and moments of loss of control of themselves. Women’s reports that they felt labour was traumatic because they were helpless links in with DSM IV (APA, 1994) criteria that the traumatic situation should involve fear, helplessness or horror and Menage’s (1993) study indicating feelings of powerlessness as an important trauma variable following obstetric procedures. Many women in the present study also stated they experienced fear and horror, but all discussed feelings of helplessness.

4.4. DISTRESS REDUCING STRATEGIES FOLLOWING LABOUR

Analysis of the process of experiencing a traumatic labour indicated that thinking and talking about the event following labour, to gain more information as well as emotional support, was effective in reducing distress. This is compatible with the information-processing model of PTSD (Horowitz, 1980) which argues that traumatic information is re-experienced until information is fully processed, therefore, by using these strategies women are processing information about their traumatic labour experience. Thoughts held by women were also important in mediating distress. Positive reinterpretation of events, i.e. dwelling on the healthy baby that resulted from labour rather than negative events, reduced distress, but believing that you should not admit to not coping, maintained distress. A major factor that also emerged was that it is not enough to only access one source of support. Many women who had only spoken to one person, usually their partner, stated that after a while they felt they were going on too much about the event and felt it necessary to stop as their partner was getting bored, angry etc..

Support also referred to practical help and it is interesting to note that all the women who continued to be distressed ten months following labour had no assistance with their baby. It would also appear that receiving support is effective even if delayed, as women who were not supported after the event reported no longer being distressed once they had accessed support, up to nine months later. This study's findings can therefore be explained within the framework of the Psychosocial model of PTSD (Green et al., 1985) which incorporates the information-processing model, but also asserts that individual characteristics and environmental surroundings are important variables effecting speed of recovery from trauma.

Results from the present study supported the hypotheses that perceived social support from friends and from families show an inverse relationship with PTSD symptoms. This supports previous findings that social support is important in the development and maintenance of PTSD (Jones & Barlow, 1990). The results also affirm the notion that support both during and following labour acts as a 'buffer' to mediate the effects of stressful events and Cohen & Wills (1985) suggest that support may intervene between a stressful event and stress reaction by redefining appraisals of harmfulness and/ or strengthen ability to cope.

This study also found a significant inverse relationship between PTSD symptoms and coping strategies relating to; active coping, planning, humour, seeking emotional and instrumental support. Carver et al. (1989) suggest that active coping and planning are adaptive strategies for dealing with stressors. Seeking emotional and instrumental support are also problem-focussed strategies which challenge resources to manage the person-environment relationship that created the stress (Folkman & Lazarus, 1980). Multiple regression analysis showed that the non-use of 'seeking emotional support' was an important factor in predicting variances of IES scores. Promotion of the use of this coping strategy following experiences of traumatic labour could therefore influence a decline in PTSD symptoms.

A comprehensive literature search failed to reveal any other studies concerning coping strategies and PTSD symptoms following labour, however, results can be linked with previous findings that individuals who fail to use problem-solving strategies following trauma are more likely to experience psychological problems (Solomon et al., 1988). The present study also showed a positive relationship between PTSD symptoms and behavioural and mental disengagement. This adds support to the qualitative data that showed that distress

continued for women who avoided thinking and talking about their labour. Suls & Fletcher (1985) found that non-avoidant strategies are more adaptive than avoidant coping strategies and this is supported by the childbirth literature which showed greater use of escape-avoidance strategies in women who became depressed postnatally (Gotlib et al., 1991).

In contrast to Lyons (1994), the present study did not find an inverse relationship between socio-economic status and PTSD symptoms. Previous research linking socio-economic status and postpartum psychiatric distress has been equivocal. However, the present findings may also illustrate the over-representation (60%) of social classes I and II in the second stage sample.

4.5. PTSD & POSTNATAL DEPRESSION SYMPTOMS

The significant relationship between scores on the IES and the EPDS supports the hypothesis that PTSD and PND symptoms co-exist. This lends support to Brewin et al.'s (1993) assertion that co-morbidity of post-traumatic stress and depression symptoms is due to depression being a reaction to the inability to prevent persistent recollections of the trauma. However, in contrast to Lyons (1994), the clinically significant scores in the present study were not found to exist independently, however, the small numbers involved ($n=6$) make it difficult to draw conclusions about the etiologies and influences of these different variables.

4.6. CONSEQUENCES OF EXPERIENCING A TRAUMATIC LABOUR

Where distress was short-lived, consequences of experiencing a traumatic labour were limited and related only to fear of future pregnancy. Not surprisingly, the greater number of effects were experienced by women with clinically significant PTSD symptoms, although women who had been, but were no longer distressed, also reported that they had experienced an impact on their own behaviour, fear of future childbirth and in their relationships with others.

Reported impact on themselves related to avoidant behaviour, intrusive imagery concerning the labour and disordered arousal. Unhelpful thoughts maintaining distress related to self-blame, inability to cope and mistrust of others, whilst reported emotions included anger, tearfulness, guilt, panic and feeling stressed. These effects link in with typical PTSD symptoms (DSM IV; APA, 1994) giving credence to the assertion that the women were experiencing PTSD symptoms rather than other psychological distress.

The results also support previous findings that experiencing a traumatic birth can impact relationships with partners (Stewart, 1982; O'Driscoll, 1994) and infant (Affonso, 1987; Ballard et al., 1995). Previous literature has not reported the impact on relationships with others, but this study found that participants reported having less patience with others and lacked resources to sympathise with others' problems as they found it difficult to cope with their own. However, caution must be taken when relating these findings to PTSD symptoms as the high level of PND scores must also be taken into account as previous literature has identified PND as influencing disturbance in relationships with partners and infants (e.g. Watson et al., 1984; Zekoski et al., 1987).

A finding of major importance was that as a direct result of their traumatic labour experience, half of the women would either not have any more children or would only contemplate it if elective cesareans were available. This supports previous findings of this phenomenon (Lyons, 1994; Menage, 1993; Ryding, 1993; Niven, 1992).

4.7. CLINICAL IMPLICATIONS

The results indicate that labour can be an appropriate stressor for PTSD symptoms and that some women experience clinically significant PTSD symptoms following labour. This has important implications for clinical practice. Analysis of the processes during labour indicate that women attempted, but failed, to access practical and emotional support to feel in control. Maternity professionals should therefore attempt to produce an environment that provides optimal support, however, it is acknowledged that practicalities, i.e. staff shortages, busy wards, mean that this ideal is not always possible. Therefore:

- * Maternity professionals need to be aware that labour can be a PTSD stressor so that a screening process can be implemented and intervention to prevent PTSD symptoms can be accessed. Preliminary results indicate that the Distressing Events in Labour Questionnaire may be appropriate, although future research is required before it can be accepted as a screening tool.

- * Primary care workers also need to be aware of the occurrence of PTSD symptoms following labour to identify women experiencing such symptoms so referral to appropriate sources of psychological help can be made.
- * Training is also required to address the issue of women with previous traumatic experiences being more susceptible to trauma in subsequent labours. Detection of such women would enable professionals to be more attentive in allaying fears during labour hopefully increasing the women's sense of control.
- * Interventions should be offered to all women identified as experiencing a traumatic labour and occur within an environment that allows women to admit to feeling distressed and unable to cope. BPS guidelines (BPS, 1995) relating to clinical psychology services to obstetrics and gynaecology state that services should be provided to women with post-traumatic stress reactions following traumatic births and the present results are useful in guiding intervention strategies. Distress-reducing strategies include the provision of emotional and practical support to enable women to talk through their experience and gain information about labour so events can be made sense of and processed. It may also be appropriate for midwives to provide interventions shortly after labour to prevent development of PTSD symptoms. Oxford and Winchester (Smith & Armstrong, 1995) already provide a service for women to access more information about their labour. However, intervention could also be geared to encouraging women to elicit support from more than one source, use non-avoidant strategies and adopt problem-focussed coping strategies relating to active coping and planning.

4.8. CRITICAL REVIEW

A literature review indicated a paucity of studies in this area that did not rely on case study or anecdotal evidence. The aim of the current methodology was therefore to use rigorous research methods and standardised measures to explore traumatic labour experiences and resulting PTSD symptoms and their impact. This was achieved, however the following methodological constraints require comment:

* Although the study gained a response rate of 65% from a cohort of women giving birth in one NHS Trust catchment area and a comprehensive literature review indicates it is the largest study in the field to date, the small number of women experiencing a traumatic labour led to a small sample size for the second stage, in-depth investigation. Furthermore, the participants resided in a rural and small urban area and tended to be from higher socio-economic groupings than the general population. These factors clearly limit the conclusions that can be drawn from the study. However, I feel it was justified to study this population because if clinically significant levels of PTSD symptoms can be found in this sample, the likelihood is that incidence within the general population will be greater; furthermore, the sample size was large enough to be statistically viable.

* Stronger inferences might have been made from the data exploring the processes during traumatic labours if comparisons had been made between labours perceived as traumatic and non-traumatic. However, the main focus of the study was an investigation of traumatic labour and PTSD symptoms and such a comparison was outside of the remit of the study, although

this area warrants further investigation.

* The use of health visitors to approach mothers was employed to gain access to a large body of women, and distribution of questionnaires at the eight-month check-up provided an opportunity to standardise the time lapse between labour and evaluation. However, practical constraints meant that health visitors actually saw women between seven and nine months post-labour which reduced control over the variables under study.

* A practical difficulty with the research method was that women were interviewed in their own home, mostly with their infants present. Some mothers, especially those with additional older children, had difficulty in being able to give the interview their full attention and distractions meant that interviews were sometimes lengthy or quality of information was reduced. However, I consider that the inevitable decrease in response rates which would have arisen if interviews were not home-based outweighed these disadvantages.

4.9. FUTURE RESEARCH DIRECTIONS

Research into PTSD symptoms following labour is in its infancy and possible directions for future research include:

* Validation of the findings by replication of the study using a larger sample size, including greater variation in participants demographic characteristics.

- * Replication of the research using a multi-centre study would show that the findings can be generalised and do not just relate to the practices of one hospital's obstetrics and gynaecology department.
- * Investigation of PTSD symptoms at longer time periods from delivery would provide more information on the course of symptoms and long-term consequences and the process of adaptation.
- * Identification of a larger sample of women with clinically significant PTSD symptoms would enable more in-depth investigation of the relationship between clinically significant PND and PTSD symptoms and the consequences of experiencing such symptoms. The present findings were tentative because clinically significant PTSD symptoms did not occur independently from PND symptoms.
- * A larger-scale comparison of labours perceived as traumatic and non-traumatic would enable development of the theory of processes that occur during traumatic labours.
- * The present study did not investigate the relationship between PTSD symptoms and personality differences. The interaction between personality and use of social support and coping strategies is an area for future exploration.

- * As all the women who perceived their labour as traumatic held the core belief relating to being out of control, the issue of control could be explored further using locus of control measures.
- * As a relationship between PTSD symptoms and the total score on the Distressing Events in Labour Questionnaire was found, this measure may be useful as a screening device. Further prospective research is indicated to identify cut-off points of PTSD symptoms and to enable prediction of PTSD symptoms from a sample which also includes women who do not perceive their labour as traumatic.
- * The results indicate that treatment intervention, involving provision of emotional and practical support, encouragement to elicit support from more than one source and the use non-avoidant strategies and adopt problem-focussed coping strategies, may reduce distress. Evaluation of such intervention is necessary before its value can be established.

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APPENDICES

APPENDIX 1 - Handout given to participants in Stage One of the research. Comprising of information letter, Questionnaires 1, 2 & 3 and consent form.

APPENDIX 2 - Questionnaire 5 - Distressing Events in Labour Questionnaire.

APPENDIX 3 - General Information Sheet. Summary sheet for each participant of information collected in Stage Two of the research including quantitative measures totals.

APPENDIX 4 - Stage Two Interview Protocol.

APPENDIX 5 - Ethical Committee submission and approval letter.

APPENDIX 6 - Research Information Sheet given to Health Visitors.

APPENDIX 7 - Letter to G.P.s in the district to inform them of the research.

APPENDIX 8 - Contact Sheet. Summary sheet for each participant of information collected by the taped interview in Stage Two of the research.

APPENDIX 1

Clinical Psychology Services
Wessex Rehabilitation Centre
Salisbury District Hospital
Salisbury Wiltshire SP2 8BJ
Telephone (01722) 336262
Extension 2105

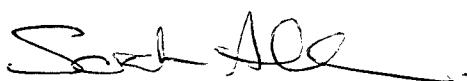
Women's Feelings After Childbirth

We are asking mothers in the Salisbury area if they would be willing to help with some research.

The experience of childbirth can leave women experiencing a wide range of emotions. Occasionally some women experience stressful labours and we are hoping that by asking women about the nature of their feelings about their labour we will learn more about problems that can occur and the affect these may have on women's lives. This will enable us to develop skills for helping mothers who do have difficulties. Also, by interviewing women about the impact childbirth has had on them we can begin to understand how women in general cope with such an important life event.

If you would like to take part in this study, please complete the attached questionnaires and sign the consent form which is on the last page. Whether or not you did experiencing any problems at childbirth, your answers will be very appreciated. We would also like to contact a small number of women to complete a more in depth study which will involve further questionnaires and a discussion with a researcher, either at your home or the hospital, which ever is the most convenient for you. If you are willing to take part please give your address and telephone number. You will be free to withdraw from the study at any time and all information will be coded to ensure confidentiality and no-one except myself will have access to any personal details.

Thank you for your assistance. Please hand your completed questionnaire to your Health Visitor before the end of her visit/ clinic.



Sarah Allen

Clinical Psychologist in Training

Supervised by Dr. N. North, Consultant Clinical Psychologist

STRICTLY CONFIDENTIAL

Questionnaire 1

(Please circle as appropriate)

1. How joyful did you find your labour experience ?	Not at all joyful	Mildly joyful	Moderately joyful	Extremely joyful
2. How distressing did you find your labour whilst you were experiencing it ?	Not at all distressing	Mildly distressing	Moderately distressing	Extremely distressing
3. How distressed do you feel now when reminded of your labour experience ?	Not at all distressed	Mildly distressed	Moderately distressed	Extremely distressed

Questionnaire 2

On _____ (date of child's birth)

You experienced **LABOUR** (life event)

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 you **DURING THE PAST SEVEN DAYS**. If they did not occur during that time please mark the "not at all" column.

FREQUENCY					
		0 Not at all	1 Rarely	3 Sometimes	5 Often
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 asleep or staying asleep because 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				

Please turn the page

Women's Feelings After Childbirth

Questionnaire 3

All Information is Strictly Confidential

1. If you experienced a moderately or extremely distressing labour can you please describe what caused you distress. (If you require more space, please use the other side of the page).

2. If you experience distress when reminded of your labour, please state how long (e.g. days, months) the memory of labour has distressed you.

3. Would you like to talk to the Health Visitor about your distress ? (Please circle).

Yes

No

Now please complete the consent form and if you are willing to participate in a more in depth study, please fill in your address and telephone number.

I am willing to take part in the study researching women's feelings following childbirth. I understand that I will be free to withdraw at any time and all information given will be kept strictly confidential.

Name (Block capitals please)

Signature _____

I am willing to be contacted by Sarah Allen (the researcher)

YES / NO (delete as appropriate)

Address _____

Telephone Number _____

Date _____

Thank you very much for your help.

Please return the QUESTIONNAIRES and CONSENT FORM To Your Health Visitor before the end of her visit/ clinic.

APPENDIX 2

Questionnaire 5

DISTRESSING EVENTS IN LABOUR QUESTIONNAIRE

Below are some statements about labour and childbirth. Please rate each statement by ticking the box that is most appropriate to your labour experience.

		Not at all	Mildly	Moderately	Intensely
1	I found the pain experienced during labour stressful.				
2	I found the medical interventions / procedures used during labour stressful.				
3	My labour experience triggered unpleasant past memories.				
4	I found the care I received from the professional staff stressful.				
5	I found communication with the professional staff stressful				
6	I experienced feelings of not being in control of events during labour				
7	I experienced feelings of not being in control of myself during labour				
8	I thought I was going to die during labour.				
9	I thought my baby was going to die during labour.				
10	I thought there was a risk of damage to myself.				
11	I thought there was a risk of damage to my baby.				
12	I experienced fear during my labour.				
13	I experienced horror during my labour.				
14	I experienced helplessness during my labour.				
15	Other(s) (please state)				

APPENDIX 3

GENERAL INFORMATION SHEET

Mother's Name: _____

Child's Name: _____

Address: _____

Date of Delivery / Age: _____

Level of Distress Scores 1: labour _____ when reminded _____

IES Score 1: _____ I _____ A _____

Level of Distress Scores 2: labour _____ when reminded _____

IES Score 2: _____ I _____ A _____

EPND Score: _____ Trauma Score: _____

PSSS Score: Family _____ Friends _____

Occupation now/ prior to birth: _____

How many people do they manage: _____

Living with Husband / Partner / Alone / Other _____

Occupation of husband /partner: _____

COPE SUMMARY SHEET

1	2	3	4	TOTAL
---	---	---	---	-------

ACTIVE COPING

PLANNING

SEEKING INSTRUMENTAL SOC. SUPP.

SEEKING EMOTIONAL SOC. SUPP.

SUPPRESSION OF COMPETING ACTIV.

TURNING TO RELIGION

POS. REINTERPRETATION & GROWTH

RESTRAINT COPING

ACCEPTANCE

FOCUS ON & VENTING EMOTIONS

DENIAL

MENTAL DISENGAGEMENT

BEHAVIOURAL DISENGAGEMENT

ALCOHOL/ DRUGS

HUMOUR

APPENDIX 4

Interview Schedule

Brief outline of study

Stress that all information is confidential, I will not be giving out names to anyone and data will be stored anonymously.

Impact of Event Scale

Administer scale (3 minutes)

Edinburgh Postnatal Depression Scale

Administer scale (3-5 minutes)

Distressing Events in Labour Questionnaire

Administer questionnaire (5 minutes)

Perceived Social Support Scales

Administer scales (10 minutes)

COPE

Administer cope (5-10 minutes)

General Information Sheet

Ask questions (5 minutes)

Qualitative Interview (30 minutes)

Introduce use of tape-recorder, explain tape will be coded and so anonymous and no-one else will have access to it.

What was it about your labour that you found distressing ?

What effect has experiencing a distressing labour had on you ?

How did you/ do you now cope with experiencing an extremely distressing labour ? What was/is effective / not effective.

Who do you talk to about your distress relating to your labour ? Does it help?

Has there been anything else important going on in your life since the birth of the baby ?

Ask mother - If she has any questions for me (5 minutes)

If appropriate - explain that I would like to refer them for psychological help and explain what it would entail. (5 - 10 minutes) (total 80 - 90 minutes approx).

APPENDIX 5

11 September 1995

Salisbury District Hospital
Salisbury Wiltshire SP2 8BJ
Telephone (01722) 336262

Ms Sarah Allen
Department of Clinical Psychology
Salisbury District Hospital
Salisbury
Wiltshire
SP2 8BJ

Dear Ms Allen

SA35/95 (*This number must be quoted in all correspondence*)

An Investigation of Post Traumatic Stress Disorder Following Childbirth

The above application, which included the documents listed below, was considered at the meeting of the Salisbury Research Ethics Meeting on 6 September 1995:

- a) Protocol
- b) Patient Information Sheet, and Consent Form

This Study was approved.

Yours sincerely



Dr H Parry
Chairman

APPENDIX 6

RESEARCH STUDY ON WOMEN'S FEELINGS AFTER A DISTRESSING LABOUR

I am a third year post graduate trainee from Southampton University Clinical Psychology Training Course presently doing a specialist placement in Health Psychology at Salisbury District Hospital. I am undertaking a research dissertation investigating distressing labour experiences and the impact they may or may not have on women.

Recent studies have suggested that after distressing labours, some women experience psychological problems that can be related to post traumatic stress disorder. When a person experiences a traumatic event, usually associated with a threat to life or to physical or emotional integrity, they may become horrified or fearful and feelings of helplessness or of being out of control are triggered. Such an event can lead to people becoming highly aroused, anxious, easily startled and apprehensive. Reminders of the event can bring upsetting feelings and some become numb and avoid all reminders of the event. There have been few studies in this area, most published work contains case studies and none to date have looked in detail at the impact this may have on the woman and her relationships with her infant and partner, or what mediating factors make some women who experience distressing labours vulnerable to post traumatic stress symptoms.

The prevalence of post traumatic stress symptoms following childbirth in the general population is unclear and I will need to screen a large number of women to firstly find a significant number who have experienced distressing labours and secondly to identify women with post traumatic stress symptoms. I am asking Health Visitors for their assistance with the screening stage as you are able to be in contact with a large number of women and at preliminary talks with three Health Visitors it was suggested that infant's eighth month check-up would be an appropriate time to give out the initial questionnaires. I will be attending the Health Visitor Professional's meeting on 11 December 1995 to discuss the study more fully and go through the questionnaire I am asking you to distribute.

This research will contribute to clearer identification of women who show post traumatic stress reactions following childbirth and provide greater awareness of its impact and factors mediating the effects of distressing labours which could provide increased efficacy of therapeutic interventions offered to this client group. Thank you for your assistance.



Sarah Allen, Clinical Psychologist in Training

Supervisor: Nigel North, Consultant Clinical Psychologist

APPENDIX 7

Dr

For Information Only

Clinical Psychology Services
Wessex Rehabilitation Centre
Salisbury District Hospital
Salisbury Wiltshire SP2 8BJ
Telephone (01722) 336262
Extension 2105

Dear (GP),

I am a third year post-graduate studying Clinical Psychology at Southampton University currently working within Salisbury Trust.

I am presently undertaking a research dissertation investigating the impact of distressing childbirth, with specific reference to Post Traumatic Stress Disorder (PTSD) symptoms. At present women experiencing these symptoms are frequently missed by health professionals or treated for postnatal depression. Researching the nature of PTSD symptoms may lead to clearer identification of women experiencing these reactions and provide greater awareness of its impact and factors mediating the effects of distressing labours.

I have already discussed this research with the District Health Visitors and they have agreed to assist in the screening stage by handing out questionnaires to all women accompanying their infants at the eight month developmental check-up during December and January 1996. This will enable the identification of women who have experienced distressing labours, with and without high PTSD symptoms. Any women who is identified as experiencing clinically significant PTSD symptoms will be asked for her consent for you to be notified and therapeutic treatment will be available at the Clinical Psychology Service based in Salisbury District Hospital.

Please contact me if you require any additional information concerning the research.

Yours sincerely,

Sarah Allen, Clinical Psychologist in Training
Supervised by Dr Nigel North, Consultant Clinical Psychologist

APPENDIX 8

CONTACT SUMMARY FORM

Contact date:

Participants Identifier No:

1. What were the main issues/ themes that struck you with this contact ?

2. Summarize the information you got or failed to get on each target question:

What was it about the labour that she found distressing ?

What effect has experiencing a distressing labour had ?

Coping strategies ?

Support from others ?

Anything else important going on in life since birth ?

3. Anything that struck you as salient, interesting, important ?

4. What new target questions does this contact generate ?

5. Misc. Information