Journal of Reproductive and Infant Psychology
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/cjri20

Postnatal posttraumatic stress: A grounded theory model of first-time mothers' experiences

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Published online: 17 Apr 2015.

Journal of Reproductive and Infant Psychology, 2015
Vol. 33, No. 3, 238–255, http://dx.doi.org/10.1080/02646838.2015.1030732

Postnatal posttraumatic stress: A grounded theory model of first-time mothers' experiences

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(*Received 16 July 2014; accepted 14 March 2015*)

Objective: To develop a grounded theory model of first-time mothers' experiences of postnatal posttraumatic stress, with the aim of aiding understanding, formulation and treatment of new mothers. **Background:** Research into postnatal posttraumatic stress is growing, yet evidence-based treatment models have yet to be fully developed. It is unknown whether existing models of posttraumatic stress are directly applicable to postnatal posttraumatic stress, or whether other factors are particularly relevant for symptoms occurring in this context. **Methods:** A qualitative design explored first-time mothers' experiences of pregnancy, labour, birth and the postpartum, following a subjectively identified traumatic labour and/ or childbirth. Eleven mothers were interviewed individually, either reporting full symptoms of posttraumatic stress (n = 6), or partial symptoms (n = 5). Grounded theory methodology was used to code the data and develop a theoretical model of maternal postnatal posttraumatic stress based on these accounts. **Results:** Factors emerged specific to postnatal experiences, including: antenatal expectations and anxieties, constructions of the experience, perceptions of other people's views, social support (from specific sources) and adaptive and maladaptive coping strategies. **Limitations:** The study was based on a small sample of first-time mothers' accounts, and therefore may not be applicable to mothers with previous children, or a wider maternal population. **Conclusions:** The new model highlights important areas for development in clinical practice at various stages of maternal healthcare provision: in the antenatal period, during labour and birth, and into the postpartum. The model can inform formulation and treatment of mothers experiencing postnatal trauma symptoms, providing specific areas of focus for intervention.

Keywords: antenatal; postnatal; posttraumatic stress; anxiety; maternal; cognitive model

Introduction

Approximately 3% of mothers experience posttraumatic stress following childbirth (Grekin & O'Hara, 2014). Associations have been found with a number of predisposing, precipitating and maintaining factors (Slade, 2006), yet these vary between studies and their roles are not fully understood. Qualitative studies have identified important factors in maternal experiences, such as events during labour and birth (e.g. quality of care, communication, pain; Ayers, 2007; Beck, 2004; Nicholls & Ayers, 2007) and postpartum factors (e.g. no continuity of care; Tham,

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Ryding, & Christensson, 2010). However, theoretical understanding of postnatal posttraumatic stress disorder (PTSD) is relatively limited.

General models of posttraumatic stress have been developed to explain trauma symptoms in other populations (e.g. Brewin, Dalgleish, & Joseph, 1996). Ehlers and Clark's Cognitive Model (2000) is widely used for understanding and treating posttraumatic stress. This model incorporates a range of factors explaining development and persistence of posttraumatic stress over time. Ehlers and Clark propose that memories cannot be deliberately recalled due to inadequate integration and elaboration of the event within context and autobiographical memory, such as the event not being placed in the past, or linked to subsequent information such as current safety, leading to a sense of current threat. The model also incorporates cognitive processes occurring during and following the event, including negative appraisals, mental defeat, loss of autonomy and dissociation These increase symptom vulnerability through elevated negative self-schema, perceived reduction in self-coping and inability to intentionally retrieve information essential for processing (Dunmore, Clark, & Ehlers, 1999). The model of Ehlers and Clark has been found to account for 71% of the variance in trauma symptoms 6 months following personal assault (Halligan, Michael, Clark, & Ehlers, 2003).

A small number of studies have begun to explore the model's applicability to postnatal symptoms. Using structural equation modelling, Ford, Ayers and Bradley (2010) found the model accounted for 23% of the variance in acute stress symptoms at 3 weeks postpartum, dropping to just 9% at 3 months. When social support (partially mediated by posttrauma cognitions) was added to the model, an extra 7% of the variance was explained. These results indicate that Ehlers and Clark's model goes some way towards explaining postnatal symptoms, but that other factors may need to be encompassed.

Vossbeck-Elsebusch, Freisfeld and Ehring (2014) explored the predictive value of a new postnatal model using predictors found in previous research (e.g. age, pregnancy well-being, delivery pain, peri-traumatic emotions, quality and quantity of social support), as well as factors based on Ehlers and Clark's model (e.g. dissociation, negative beliefs about the self and others, thought suppression and rumination). Pregnancy well-being and age emerged as significant prenatal variables; when combined with birth-related variables (peri-traumatic emotions and self-reported well-being during birth) these factors accounted for 33% of trauma symptoms (n = 224, 1–6 months post-birth). In contrast to the findings of Ford et al. (2010), social support did not improve the predictive value of the model. However, cognitive variables significantly accounted for a proportion of the variance in symptoms, increasing the predictive value to 68%. This suggests that a combination of factors identified in previous studies into postnatal trauma and those in an existing model of PTSD can start to explain postnatal trauma symptoms. This is promising for clinical application, as it indicates that it may be possible to model postnatal trauma symptoms. However, as a proportion of the variance is still unexplained, and findings vary between studies, a model is still needed to better account for maternal postpartum trauma symptoms.

Slade (2006) presented a two-dimensional conceptual model based upon a review of research findings, with internal and external factors forming one dimension, and predisposing, precipitating and maintaining factors the other. This model provides a good foundation towards conceptualising postnatal posttraumatic stress.

However, Slade (2006) identified that postnatal maintaining factors were largely unknown at the time, and required additional exploration and understanding.

This study aimed to address these gaps in the conceptualisation of maternal postnatal posttraumatic stress through qualitative development of a theoretical model derived from mothers' experiences of traumatic labour or childbirth.

Method

Design

Using a qualitative grounded theory design (Charmaz, 2006; Glaser & Strauss, 1967) the study explored experiences of first-time mothers identifying traumatic labour or childbirth.

Procedure

University Research Ethics approval was obtained. Participants were recruited via five UK websites and support groups for new mothers. Interested mothers were asked to contact the researcher and were emailed the information sheet (n = 63). If interested they were sent a consent form and screening questionnaire (n = 49). Thirty-nine mothers returned questionnaires (79.6%). Interviews were conducted until data reached saturation (n = 11). Following grounded theory methodology, data collection and analysis occurred simultaneously (Glaser & Strauss, 1967).

Participants

Women were required to be 18+, had their first baby within the previous 18 months, perceived labour and/or childbirth as traumatic (Criterion A DSM-IV, 1994, measured with the Posttraumatic Stress Disorder Questionnaire [PTSD-Q; Czarnocka & Slade, 2000]) and reported full or partial symptoms of childbirth-related posttraumatic stress. Previous studies have suggested that primiparous and multiparous women have different perceptions of labour and birth (Czarnocka & Slade, 2000); thus, it was decided to focus on first time-mothers' experiences. Participants were excluded from the interview stage if their baby was on special care 24+ hours.

On the screening questionnaire all women identifying a traumatic labour or birth reported at least partial symptoms of posttraumatic stress (significant symptoms of intrusions, avoidance or hyperarousal). Mothers included in the final interviews therefore all met criterion A for posttraumatic stress (DSM-IV; American Psychiatric Association [APA], 1994) and either reported full (n = 6) or partial (n = 5) trauma symptoms.

Participants were aged 22–40 (mean: 32 years), the majority identified a white British ethnic origin, and all were educated to a high level (A-levels n = 1; degree n = 9; postgraduate qualification n = 1). All mothers had hospital births with the male partner present for at least some of the labour or birth. One participant spent some of labour in a private birth centre and one had a doula. A range of pain relief was used including a water pool, gas and air, pethidine and epidural. See Table 1 for additional participant information.

Measures

A battery of measures was completed prior to interview participation.

(1) Demographic information sheet (e.g. age, ethnicity, work status) and basic information about labour and birth (e.g. place of birth, mode of delivery, pain relief used).
(2) PTSD-Q (Czarnocka & Slade, 2000): a 17-item self-report measure designed to assess symptoms of posttraumatic stress. The scale includes questions to assess whether participants meet criterion A of posttraumatic stress in DSM-IV (APA, 1994). This was a key aspect of the study, thus it was essential that participants answered these questions to be considered for participation in the interview.

The PTSD-Q asks participants to choose from seven frequency options, ranging from 'never' to 'always' (range = 1–7 for each question). To be considered clinically significant, symptoms must occur with a frequency of 'commonly' or above (a score of 4+). To reach threshold for posttraumatic stress, participants must score 4+ on at least one item of intrusions, three items of avoidance and two hyperarousal. The authors report high internal consistency (alpha = .92), test–retest reliability (r = .95), and diagnostic agreement (87%).

(3) Edinburgh Postnatal Depression Scale (EPDS; Cox, Holden, & Sagovsky, 1987): a 10-item self-report measure designed to screen for symptoms of postnatal depression. Scores range from 0 to 30, with higher scores representing higher symptom frequency. Using a cut-off score of 12/13, Cox et al. (1987) report satisfactory sensitivity (73%), split-half reliability (.88) and internal consistency (standardised alpha coefficient = .87) (n = 84). Scores above 13 are generally used to indicate 'at risk' cases. Scores in the current study ranged 2–22 (mean 11.8).

Interviews

The first author conducted the interviews based on a semi-structured interview schedule. This schedule followed a chronological time order, starting with the antenatal period, moving onto labour and birth, and finishing with the postnatal period. The focus lay on exploring thoughts, feelings and behaviours during these stages. The schedule was used flexibly, allowing participants to identify things important to them (Charmaz, 2006). Interviews lasted between 53 minutes and 1 hour 55 minutes (mean 78 minutes).

Data analysis

Interviews were conducted until both authors agreed data reached saturation: six with fully symptomatic mothers and five partially symptomatic. Elliott, Fischer and Rennie's (1999) guidelines to evaluate qualitative research were followed, including situating the sample, grounding the research in examples and using triangulation to

Table 1. Details of participants who completed the interview.

Participant number	Age of baby at interview (months)	PTS symptoms	EPDS score*	Birth details
Full symptoms[a]				
F1	4	Current	15	Caesarean (due to failed induction)
F2	5	Current	22	Induction. Vaginal birth. Episiotomy. Ventouse
F3	9	Current	16	Induction. Emergency caesarean
F4	7	Current	7	Vaginal birth
F5	11	Current	15	Induction. Emergency caesarean
F6	10	Current	18	Emergency caesarean with general anaesthetic
Partial symptoms				
P1	8	Previous intrusions and avoidance	12	Induction. Vaginal birth. Episiotomy. Ventouse
P2	9	Current hyperarousal	2	Induction. Vaginal birth. Episiotomy. Ventouse
P3	3	Current intrusions and hyperarousal	10	Forceps. Emergency caesarean
P4	15	Current hyperarousal	9	Vaginal birth.
P5	8	Previous hyperarousal	4	Vaginal birth. Forceps. Episiotomy

[a]Mothers with 'full' symptoms reported clinical levels of symptoms as defined by the PTSD-Q on all three clusters of symptoms (intrusions, avoidance and hyperarousal). Mothers with partial symptoms reported clinical levels of symptoms on at least one but not all three clusters of symptoms.
*Scores ≥ 13 indicate significant symptoms of postnatal depression (Cox et al., 1987).

validate the emergent theory (Madill, Jordan, & Shirley, 2000). This ensured that important themes were not missed and that labels and interpretations fitted the data well. Grounded theory methodology was followed to generate a theoretical model based on codes extracted directly from the data (Glaser & Strauss, 1967; Figure 1).

Results

Five theoretical codes emerged, with a number of additional subcodes. These are summarised in Table 2 with their supporting definitions and illustrative quotes.

Grounded theory model

The data highlighted that a new model of postnatal posttraumatic stress may enhance understanding of trauma symptoms in new mothers, incorporating factors specific to pregnancy, labour, birth and the postpartum. These event-specific factors take into account that the traumatising event (childbirth) is expected and many anticipatory thoughts, events and coping mechanisms appear to impact on subsequent

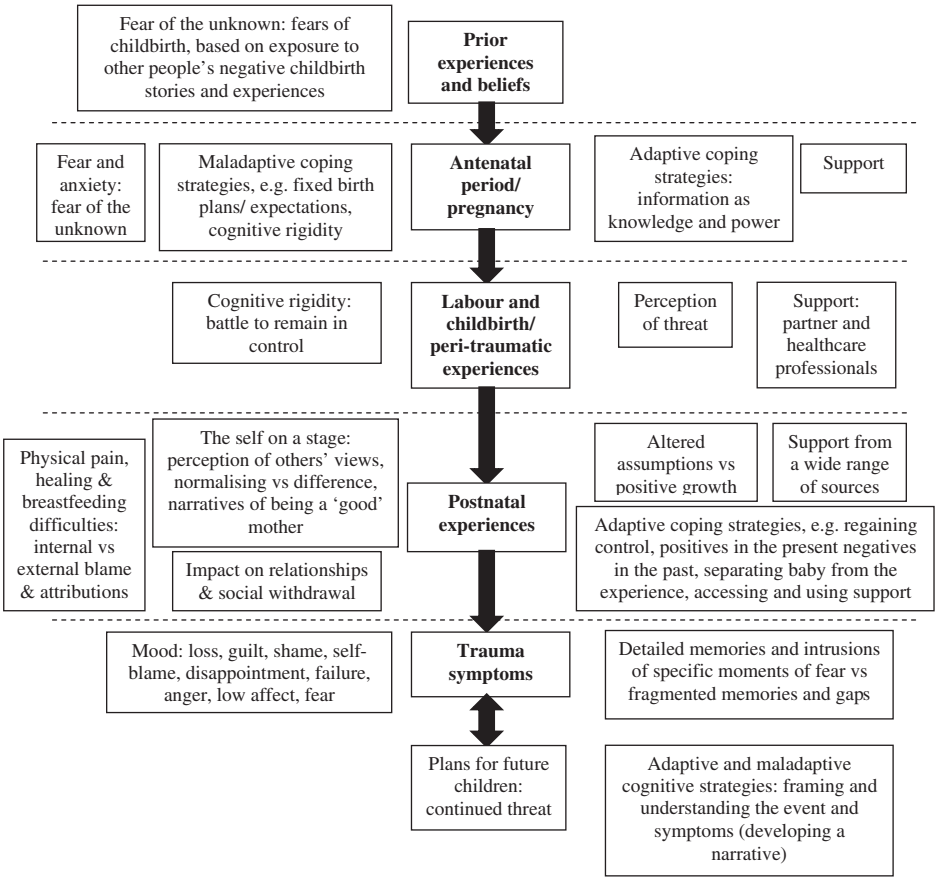

Figure 1. Theoretical cognitive model of postnatal posttraumatic stress.

feelings. In addition, postnatal experiences appear to play a significant role in maintenance of symptoms. The theoretical codes were developed into a model of postnatal trauma symptoms (Figure 1).

Discussion

A qualitative design was used to explore the experiences of first-time mothers who found labour or childbirth traumatic, and reported trauma symptoms within the first 18 months postpartum. Based on interviews with 11 first-time mothers (6 reporting full trauma symptoms, 5 reporting partial symptoms), 5 overall themes emerged (with further subcodes), describing significant aspects of maternal experiences in the antenatal and postnatal periods, as well as during labour and birth itself. These codes were arranged into a preliminary theoretical model, to assist understanding of mothers' postnatal trauma symptoms.

A number of factors were identified which contributed to maternal postnatal trauma symptoms, including pre-existing anxieties, expectations for labour and birth, the way postnatal narratives were developed about the birth, and the meaning

Table 2. Results: theoretical codes, subcodes definitions and quotations.

Theoretical code	Subcode	Definition	Illustrative quotes
1. Fear and anxiety	*Fear of the unknown*	Antenatal fears and anxieties were expressed about pregnancy, labour and birth. These appeared to be accounts of actual levels of fear experienced during the pregnancy, rather than retrospective accounts based on actual experience of birth. During pregnancy these fears were predominantly about stillbirth or the mother's safety. All mothers with partial symptoms mentioned other people's negative experiences of childbirth, whereas mothers with full symptoms appeared to be experiencing more generalised anxieties during pregnancy related to a number of different fears and aspects of labour and birth rather than specifically to others' stories	P3[a]: 'I knew that other friends of mine had lost their babies very late on and things had gone wrong for them and you – you do carry that with you.' F1: 'the fear of the unknown is really scary.'
	Perceived threat	Mothers described strong negative emotions during the labour and birth and fears of things going wrong; this was based on a mixture of actual events not fitting their expectations and increasing need for medical intervention, as well as a perception of serious injury happening to them or their child. Descriptions of specific moments of fear during the labour and birth seemed particularly detailed and vivid for mothers reporting full trauma symptoms	F2: 'I remember during the birth, erm, was quite horrible really. There was just all my blood just gushing out everywhere. I passed out for a bit. And I actually thought I was going to die at one point ... Everyone went really quiet and the blood was just coming out a bit fast. My husband looked ashen-faced. And I passed out for a bit. And I thought "oh, that's it".'
	Negative feelings after a fearful event	Mothers reporting partial symptoms dismissed and downplayed emotional difficulties in the postpartum and described not wanting to be labelled as 'depressed'. Mothers with full symptoms spoke about the severity and lasting impact of a wide range of difficult and distressing emotions, including guilt, anger, shame and low mood. Narratives of the labour and birth were widely intertwined with subsequent postnatal events, such as pain, difficulty healing and breastfeeding	F5: 'I went depressed I think for about two weeks, I didn't go outside the house or anything ... there was one point before I went to the doctors, erm, and I remember thinking I couldn't live with this pain. Erm, and the only thing that made me not want to do anything, hurt myself, was because I had [baby] to look after. So that's when I thought, you know, "something is really wrong here, I need to go to the doctors if I'm thinking about killing myself or something". It was horrible.'

			pressures. These events significantly impacted on postnatal mood and the emotional lens through which the experience was viewed. With regards to breastfeeding difficulties, there was a sense of anger towards healthcare professionals from mothers with partial symptoms, whereas mothers with full symptoms described disappointment with themselves	F6: 'the scar just reminds me that it was just awful, that it was a horrible time. It's a horrible scar. It's getting better but it's a horrible scar, it's a horrible thing. Whether or not as the scar goes down and I get better, whether I'll start to feel better about the whole – but the association is.'
2.	Coping and processing	*Support*	All the mothers described the importance of antenatal support, and support continuing throughout labour, birth and into the postpartum. A range of supportive individuals were important (partner, family, friends and healthcare professionals) and this was most effective when others were empathic, honest and non-dismissive. During labour and birth the partner's presence and support was particularly important, whereas antenatally and postnatally other mothers' support was valued highly. Absence of partner support was reported by mothers with full symptoms. Difficult staff interactions were described by all, including lack of communication, no continuity of care, and feeling dismissed or misunderstood. Based on the accounts, this appeared to have significant lasting emotional impacts on mothers with full trauma symptoms as it was something they still felt extremely emotional about The mothers described an absence of professional postnatal support, and wished for additional care to be offered routinely to all mothers to normalise their needs	F3: '[The midwife was] very patronising ... Confused, deliberately difficult ... She patronised us and ridiculed us and intimidated us "you silly people, you think this is labour, ha" ... The flashbacks I get are of being in the dark, screaming in agony and hearing a child crying in the room next door to me, and nobody helping me, nobody coming to me.' P3: 'My husband being there (during labour and birth) the whole time was absolutely essential ... This is why I think my husband was invaluable. I don't just think him being there to hold your hand and mop your brow; it's having someone who knows what's important to you.' P2: 'it's almost like every time you talk about it you come to terms with it that little tiny bit more, and you, you maybe heal a little tiny bit more.' P2: 'once I'd had the baby no one ever came back to see if I was alright – I mean ever ... it was all a bit – "oh well you're fine – the baby's alright, so off you go" ... the one thing that I think would be amazing if it was ever thought about in the medical world is somebody, I don't even know who would be the right person, to talk – to talk to a mum. Probably four months, six months down the line.'

(*Continued*)

Table 2. (*Continued*).

Theoretical code	Subcode	Definition	Illustrative quotes
	Information as reassurance and power	The mothers actively sought information about labour and birth antenatally, such as from books and antenatal classes. Information generally helped mothers feel knowledgeable, reassured and empowered, whereas lack of knowledge elevated fears. Although this was largely seen as effective by the mothers, in some instances it was driven by anxiety and worries. Postnatally, information was sought to understand experiences, understand general processes and fill in gaps. Information was sought from hospital notes, healthcare professionals, books and television programmes. Although this was discussed by all mothers, it seemed of greater importance to mothers with full symptoms. It is possible these mothers struggled to move on from the experience until they developed a full narrative about their experiences	F3: 'I really wanted to read everything I could get my hands on about it – good and bad, so that I felt well-equipped.' F6: 'I think if I could have had my debrief I don't know whether that would have taken away some of the – because to see it from their point of view, for them to say "this is why we decided to do this and this is why this happened at this, and this is why this happened, and this – and this is why we made the decision to do this" … I think to see it maybe from a – from a very factual point of view – because mine's quite an emotional view, whether or not it would just stop some of those "I don't understand why's" or "could I – ?" – If they said "no, you couldn't have done anything it's just the way it was".'
	Emotional and physical avoidance	Avoidance strategies were used antenatally and postnatally. These largely appeared to be in response to anxiety and fear. Strategies included deliberately trying not to think about labour and birth, creating emotional distance from the unborn baby, keeping busy to prevent rumination and avoiding postnatal discussion of experiences	F6: 'So I try – I am quite busy and I'm probably doing – there are concerns – there are concerns within – within certain people, like my husband and possibly the doctor and the health visitor just nags me, erm, that I'm doing too much. But for me I don't want – I don't want to stop because if I stop it's too much.'
	Positives in the present, negatives in the past	Mothers deliberately focused on the baby as a positive outcome of labour and birth. This coping strategy reduced antenatal anxieties, enabled strength during the experience, and was reassuring postnatally. Developing a positive postnatal narrative about the baby seemed to help distress to be placed in the past, reducing the current threat and danger. However, some mothers spoke about	P1: 'if it wasn't for my love for her I probably would be thinking about it very often. It would be something that I, you know, would take me a very long time to get over. But it's, you know, it's her ... that allows me to push it to the back of my mind and allows me to get on with things.'

			difficulties bonding with their infants (theme 5) which may have prevented use of this strategy. Mothers with partial symptoms deliberately tried to accept what had happened and put the event in the past, which appeared to ease distress	
		Separating the baby from the experience	Mothers described needing to separate the baby from the experience, releasing blame and negative connotations with the infant	F1: 'started looking at – trying to find a way for me to recognise [baby] as a little baby and not just the product of something that had been painful and upsetting. And actually try and start to separate [baby] from that, from those events.'
3.	Choice and Control	*Cognitive rigidity and battles for control*	Making choices, having a role in decision-making and staying in control was frequently spoken about and important to all mothers.	F1: 'nothing was going right. It was just [pause – upset, starts crying]. It just – it just wasn't how it was supposed to be [pause, upset]. And the biggest emotion that I had was that I felt that I was a failure because my body didn't work ... I felt totally out of control. I felt totally reliant on everyone else ... I was this, you know, failure that hadn't been able to give birth properly. I should have been, you know, should have been put in the "failures corner".'
			Fixed antenatal hopes and expectations for labour and birth made it difficult to reconcile differences between wanting the baby to be safe over and above ideas of how labour and birth 'should' be. During labour and birth mothers experienced conflict between needing to stay in control and trusting staff. Loss of control was associated with vulnerability and powerlessness. Disappointment, failure and loss were highly prevalent, alongside difficulty reconciling these differences	F3: 'I knew at the time that you can set your expectations really high, and that you have to be flexible and you have to be realistic about it. But that didn't stop me having really really strong sort've aspirations for what it was that I was expecting out of the experience.'

(*Continued*)

Table 2. (*Continued*).

Theoretical code	Subcode	Definition	Illustrative quotes
	Regaining Control	Mothers with partial symptoms took deliberate steps to regain postnatal control, enabling them to regain a sense of strength and positivity	P1: 'I guess it was a – the light switch goes on you think "oh gosh, I've got to really make a change here because otherwise, you know, I'm just going to go into a darker hole – a deeper and darker hole".'
4. Me and my story	*Developing a narrative*	Participants described memory gaps, and deliberately recalled labour and birth to understand and process their experiences. All spoke about experiencing involuntary visual and cognitive intrusions, such as nightmares and recurrent intrusive images and memories. These were often visual, recalled in graphic detail experienced as upsetting and unwanted, and very different to times when they deliberately thought about the labour and birth. Some mothers were only reminded about their experience when talking about labour and birth; triggers varied for others, including seeing photos of the newborn and experiencing physical sensations similar to those during the event. When constructing their stories mothers with partial symptoms frequently compared their experiences to 'objectively viewed' traumas, such as car accidents. In contrast, those with full symptoms described difficulties framing their experiences as 'traumatic' due to beliefs about what constitutes a 'trauma', subsequently feeling they were therefore to blame and not deserving help	P1: 'now that I'm talking about it I can really – it's almost as if I can feel the amount of pain that I was in, you know, it was that bad ... It's a bit like a horror film. It's a bit like watching a horror film. Erm, I actually – [sighs] – yeah, you know when you see a knife and blood and flashing images in horror movies, it's kind of like that.' F2: 'When it was new and fresh it was, it was quite hard to sort've think about and cope with. And, I don't know, I'd spend a lot of time crying after I'd had a dream like that, and everything. And then that would start him off crying obviously ... That picture up there – that was taken the day he was born. Literally a couple of hours later. And it still sends shivers down my spine [laughs]. I mean, it – everyone goes "oh, cute little baby" and everything, but to me it just makes me think about how – how horrible I felt that day.' F6: '"Trauma" to me sounds really dramatic ... I feel like I am – it's really strange – I feel a bit like I'm cheating. Not cheating, that doesn't sound right. [Sighs] I feel to a certain point though that I don't deserve to have, or I don't need to have the support because actually there's nothing that wrong, there's not that much wrong with me and there's not that much wrong with – there's nothing wrong with [baby].'

		The self on a stage: other people's perceptions and experiences	Fear of judgement, particularly other mothers or health professionals, was extremely high in all the mothers. They described needing to be seen as a 'perfect' mother, leading to fear of admitting their difficult feelings or experiences. Perceived societal norms and expectations seemed to play a significant role in shaping their own experiences.	P2: 'I'd spoken to one friend who'd had a baby a couple of months after me, erm, and she said "oh you should be over it by now" ... and, erh, when I sort of said "oh, I still feel a bit in shock about it, you know, I feel a little bit – I'm just in shock about it all." And she was just like "well, you just should be over it by now." And I just really really found it hard to get my head around how another mum could be that blunt ... two people who had had children their selves had said to me – had turned against me … And I felt like, I just very much felt like well perhaps I just haven't dealt with it well. Perhaps it wasn't such a bad experience, perhaps that's what everybody has and I just haven't for whatever reason coped with it.'
			Perceiving similar experiences to other mothers was helpful and normalising, but perceiving difference was associated with failure, low mood and shame	F4: 'And I didn't really like my health visitor, she kept plying on at me, you know, reading into everything I was saying, and "did I have postnatal depression?" And I didn't have postnatal depression ... I didn't trust any of the people afterwards, any of the sort of health professionals ... because of the fear of postnatal depression and the taboo of social services and having your children taking away from you I wasn't going to admit anything to anyone. So I suffered in silence a long time because of that.'
5.	The power of my experience: outcomes for me and others	*Impact on other people and relationships*	The experience impacted on relationships; some felt closer to partners, friends and family, whereas others reported detrimental impacts. The majority of mothers talked about difficulties forming relationships with their infants, particularly those with full symptoms	P1: 'it's, erh, made me very close, well, closer to my husband.' F6: 'there were times when I just didn't even want to sit with him (husband). I just didn't want anybody. "I want you to stay over there away from me. I want to be left alone." Because it – it always felt like it was my – and it was always like "I've

(*Continued*)

Table 2. (*Continued*).

Theoretical code	Subcode	Definition	Illustrative quotes
			been through it, it's my problem, I've had him." I had his baby and I had all these problems.' F1: 'that's exactly how I didn't want her to arrive ... and it manifested itself very badly later on with me bonding with her ... there was a massive barrier there between me and her to start with.'
	Altered plans, beliefs and assumptions	Previous beliefs about coping abilities and what it means to be a 'good' mother were shattered following the event, leading to low mood and withdrawal from others. All others noticed both positive and negative changes in themselves following the birth. Negative changes included increased awareness of personal limitations; positive included recognition of strengths and abilities.	P3: 'it's had an impact in terms of it's shown me how much strength I can summon up when I need it … how patient I can be … how strong I can be.'
		The mothers described significant impacts on plans for subsequent children. This appeared particularly long-lasting for mothers with full symptoms, who described extreme fear of future pregnancy. Thinking about future children appeared to be a possible mechanism maintaining the sense of threat and fear in the current time rather than being able to put the previous labour and birth in the past	F5: 'I am frightened to death of having another baby. Terrified. The whole – even the thought of getting pregnant makes me feel sick.'

[a]Quotes range from different participants. Mothers reporting partial symptoms are pre-fixed with a 'P', those reporting full symptoms with an 'F'.

of trauma symptoms in their role as a new mother (Figure 1). Some of these factors are congruent with Ehlers and Clark's cognitive model of posttraumatic stress (2000), such as prior experiences and beliefs, processing during the event, and post-event appraisals. However, the new model highlights some very specific aspects related to the perinatal period, as well as some new event-specific factors. This model therefore builds on the existing cognitive model and includes specific adaptations which appear to be helpful when understanding maternal posttraumatic stress, to guide postnatal treatment.

Existing cognitive theories of posttraumatic stress propose that individuals bring a set of pre-existing 'schemas' to an event: beliefs about the self, others and the world (Brewin et al., 1996). These are thought to be incompatible with (or in some cases, confirmed by) traumatic experiences, leading to trauma symptoms if trauma-related information is unsuccessfully processed and integrated within these existing schemas (Brewin et al., 1996). Pre-existing beliefs appeared to be particularly relevant to postnatal trauma symptoms as anticipatory birth-related anxieties and fears were influential. Negative stories of other's difficult or upsetting experiences may have played a role in shaping anxieties and expectations, possibly fuelling fears of labour and birth. These findings suggest that antenatal anxieties and beliefs about birth may be linked to later trauma symptoms (although the retrospective design means causation cannot be drawn). This echoes recommendations made in a recent meta-analysis of postpartum posttraumatic stress that attitudes towards pregnancy and childbirth, and interactions between these and actual experiences during labour and birth, warrant further exploration (Grekin & O'Hara, 2014).

Coping strategies developed to alleviate anticipatory anxieties may influence how the birth is experienced and understood. Having control and making choices was important, yet the need to feel in control may be detrimental when this cannot be surrendered to healthcare professionals when needed. A degree of psychological flexibility seems beneficial; fixed hopes and expectations led to disappointment, guilt and loss if not achieved. In line with recent changes to diagnostic criteria for posttraumatic stress (DSM-V; APA, 2013), the model incorporates a wide range of postnatal emotions, including shame and low mood, indicating other markers for healthcare professionals to be alert to in the postpartum.

Previous models (Brewin et al., 1996; Ehlers & Clark, 2000) propose that trauma memories are poorly elaborated and lack detail. However, the current study partially contradicts this. Although some mothers described fragmented memories for aspects of their experience, mothers with full symptoms provided detailed descriptions of specific moments of fear during labour and birth, and comprehensive accounts of the impact. Treatment of postnatal trauma symptoms may need to help mothers place these memories into time and context (Ehlers & Clark, 2000).

As found by Ford et al. (2010), social support emerged as a significant component. Having supportive people available to listen, empathise and acknowledge difficulties without judgement was important from pregnancy through to the postpartum. Support is thought to be essential in providing a channel through which trauma memories can be accessed and integrated into pre-existing beliefs (Brewin et al., 1996). For some this support may be readily available from friends, family and postnatal groups, yet for others this may be unavailable or avoided due to fears of negative judgement.

Although support was valued from a range of sources, healthcare providers were particularly important throughout. Mothers were disappointed if midwives

seemed uninterested or dismissive, having lasting impacts on mood and symptoms. This is a significant factor for healthcare providers to be aware of, but it is unknown whether these mothers actually received poor or disinterested care, whether this was their subjective experience at the time, or whether this is a belief which developed following the event in light of their subsequent distress. It may be interesting for future studies to try to disentangle these aspects.

In addition to care during labour and birth, the mothers spoke about disappointment at the lack of professional postnatal support available. This is consistent with findings from a recent study exploring use of a counselling intervention following childbirth; women reported wanting greater emotional support after childbirth – space to ask questions, explore feelings and feel cared for (Fenwick et al., 2013).

Social narratives regarding childbirth and becoming a mother played an important role in women's experiences. Social and personal scripts affected hopes and expectations, as well as how the mothers tried to assimilate these with the reality of the experience. Making comparisons to objective traumatic experiences helped 'validate' the birth as traumatic, allowing help-seeking. However, feelings of failure, shame and guilt may have triggered withdrawal from others, possibly preventing successful event-processing. The model gives consideration to the influence of other people's views and beliefs about being a 'good mother'. However, these findings may actually represent underlying negative cognitions about other people being critical and judgemental. These thoughts and expectations play a role in how the event is processed, and are likely to be significant in the treatment of postnatal trauma symptoms.

Ehlers and Clark (2000) propose that negative appraisals of a traumatic event increase the sense of current threat. A cognitive strategy used to reduce this sense of current threat was deliberately placing the event in the past and focusing on the baby's health as a positive outcome. However, it is important that putting the event in the past does not act as a form of cognitive avoidance, preventing full event processing (Joseph & Williams, 2005).

Negative postnatal experiences, such as difficulties breastfeeding and physical healing, were strongly integrated into birth narratives. These greatly impacted on postnatal affect and were appraised as damaging, heightening distress. These may be specific areas for healthcare professionals to be alert to when working with new mothers. Attribution of blame for these experiences was interesting, with an apparent difference in levels of control over events between mothers with full or partial trauma symptoms. These attributions may have been linked to existing schemas and ways of understanding the self and others, or may have threatened existing beliefs (Janoff-Bulman, 1992), impacting on meanings given to the events in the postpartum, and overall processing of the event. It may be interesting for future studies to further explore attribution styles in pregnancy and the postpartum in relation to postnatal PTSD.

The presence of ongoing threat is thought to continually reactivate trauma memories leading to persistence of symptoms (Brewin et al., 1996; Ehlers & Clark, 2000). For the first-time mothers in this study, the sense of danger appears to have been fuelled by fears about future pregnancies, subsequently creating a future threat. Clinically this could have important implications as treatments may need to help mothers put the experience in the past while acknowledging that they may wish for future children.

Clinical implications

This qualitative model of postnatal posttraumatic stress facilitates understanding of women's experiences, guiding clinical formulation and treatment for new mothers. The study highlights the importance of antenatal anxieties, suggesting that interventions may be helpful during pregnancy, as well as postpartum. Helping women manage antenatal anxieties and develop flexible birth plans may be important in decreasing vulnerability to birth-related trauma symptoms. There are currently no single efficacious evidence-based treatments for postnatal posttraumatic stress (Peeler, Chung, Stedmon, & Skirton, 2013). Because this model is grounded directly in women's experiences, it aids understanding of postnatal symptoms and experiences, and may be an important first step towards developing future treatments. This model highlights specific areas which may need to be targeted in cognitive behavioural treatments For example, restructuring techniques could focus on reconciling differences in hopes and expectations with the reality of the experience, deliberately putting the event in the past (creating context) and separating the baby from the event. It may be particularly salient to develop ways to think about future pregnancies without a sense of current threat.

Mothers expressed disappointment at the lack of postnatal care available. Effective support needs to be offered to new mothers, normalising and acknowledging difficulties, reducing fear of judgement. Women experiencing difficulties healing physically or with breastfeeding may be at increased vulnerability and may require additional support.

The study highlights the potential impacts of traumatic labour and birth on new mothers and their families, interfering in maternal–infant bonds and affecting partner relationships. This may prolong symptoms by reducing natural pathways for event-processing (Ehlers & Clark, 2000), and may hold implications for child development (Parfitt, Pike, & Ayers, 2014).

Limitations and recommendations for future research

Data were collected until saturation, yet the qualitative design means a relatively small number of women were included. Therefore, although the model is grounded in data, it may not be applicable to all new mothers. A mixture of mothers reporting full and partial symptoms were included. On the one hand this enables the model to be applicable to a wide range of mothers who found childbirth traumatic, not just those reporting full trauma symptoms. However, this also perhaps deviates focus away from those reporting full and severe symptoms, who may be the group most in need of postnatal intervention. Future studies could therefore focus exclusively on women reporting full trauma symptoms, or perhaps explore differences between women reporting full or no trauma symptoms.

Limited data were collected on socioeconomic details. It would be beneficial to expand the current findings by including a wider and more varied sample, such as multiparous women and those from a wider range of cultural and ethnic backgrounds. No information was collected on previous psychological difficulties or prior traumatic experiences; this may be important information to gather in future studies as these prior experiences may influence feelings and beliefs when entering pregnancy and birth (Grekin & O'Hara, 2014). It would also be interesting to replicate the study with fathers, to see whether this model is also applicable to new fathers experiencing postnatal trauma symptoms.

Mothers in the study reported relatively high levels of depressive symptoms as well as posttraumatic stress, particularly those reporting full trauma symptoms. Although the focus of the interviews lay on the specific effects of traumatic experiences, it is likely that any depressive feelings and cognitions also impacted on their experiences and reports. The women in the study may therefore represent new mothers experiencing a range of postnatal distress rather than specific trauma symptoms. However, due to the known high levels of comorbidity between the two (Grekin & O'Hara, 2014), it is likely that this reflects the reality of mother's experiences in the postpartum.

Conclusions

The study provides a qualitative model to aid clinical formulations of women's postnatal trauma symptoms. Although previous models provide explanations for some aspects of postnatal symptoms, other important factors emerged from this study which are specific to this time period, including antenatal expectations for labour and birth, construction of the birth story, perceptions of negative judgement from others and social support. This highlights important areas for development in clinical practice at various stages of maternal healthcare provision; and can inform formulation and treatment of mothers experiencing postnatal trauma symptoms.

Acknowledgements

The authors would like to thank all the women who gave their time and stories to participate in this study.

Funding

The research was conducted as part of a funded doctorate in Clinical Psychology (funded by the NHS, UK) at Royal Holloway University of London.

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