A mixed-methods investigation into the experiences of women sustaining varying degrees of perineal trauma during childbirth: The PEACH Study

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Thesis submitted to the University of Liverpool, Institute of Psychology, Health and Society for the degree of Doctor of Philosophy in Psychology (Clinical)

October 2017

ACKNOWLEDGEMENTS

I would firstly like to thank my supervisor, Professor Pauline Slade. I will forever be grateful for your guidance, expertise and reassurance throughout this process. I would also like to thank my supervisory team at the Liverpool Women's Hospital, Ms Gillian Fowler and Caroline Wood for your help, advice and words of wisdom, and all of the midwives who helped with the recruitment, especially Amy Mahdi. I would like to thank my Fiancé Thomas Molyneux, who even when starting his demanding new career as a fire fighter, always had the time to listen and support me. My parents Carol and Michael for their unwavering love and support and enabling me to believe I can do anything if I work hard enough. Thank you to my friends and colleagues in G04, especially Dr Kayleigh Sheen, thank you for listening to me and keeping me smiling.

Finally, I would like to thank all of the women who took part. I will be eternally grateful to you all for allowing me to be a part of your journey as a first-time mother and I wish you all the best for the future with your little ones.

I would also like to acknowledge the Liverpool women's medical education fund for awarding a grant that enabled the completion of this project.

Contents

ABSTRACT

Objective: Obstetric interventions during labour and birth can be a risk factor for experiencing birth negatively, and experiencing postpartum psychological distress. Perineal trauma is the most frequent obstetric complication to occur during childbirth, yet its effects on wellbeing are relatively unexplored. This research aimed to explore women's experiences of different degrees of perineal trauma sustained during childbirth. **Methods**: The 'PEACH' study (Psychological health and relationships Experiences After vaginal CHildbirth) was a mixed-methods study that used questionnaires at 48 hours, 6-12 weeks and 6-10 months after a first vaginal childbirth, to assess experience of birth and symptoms of psychological distress. Women were classified into three groups according to the perineal trauma experienced i.e. a $1^{st}/2^{nd}$ degree tear, an episiotomy or an Obstetric Anal Sphincter Injury (OASI). A sub-sample of women who experienced OASI were interviewed about their experiences between 6-10 months after they had given birth. **Findings**: Women with OASI and those who experienced an episiotomy were more likely to report their birth as a traumatic event, and report a more negative experience of birth than those with a $1^{st}/2^{nd}$ degree tear. Those who experienced an episiotomy experienced a more negative perceived body image at 6-12 weeks and more anxiety symptoms at 6-10 months postpartum. A clear variation in women's responses to OASI was observed in their interviews, whereby some women were distressed by their experiences and others were not so distressed. **Key conclusions:** Experiencing psychological distress after OASI is not as inevitable as previously thought. Adequate care/support of women who experience perineal trauma may increase psychological resilience and facilitate adaptation to the challenges experiencing perineal trauma may propose. Women's experiences of episiotomy may be underestimated and further research is required to establish the care needs of women with episiotomies and other degrees of perineal trauma.

Conferences/presentations/awards

1) **Conference**: Society for Reproductive and Infant health Psychology (SRIP) annual meeting, September 2014 – Valetta (Malta) – '*A systematic review of women's experienced of perineal trauma during childbirth'* (Student bursary awarded to attend)
2) **Conference**: SRIP annual meeting, September 2016 – Leeds (UK) – '*The effects of perineal trauma on immediate self-reported birth experience'*
3) **Grant**: The Liverpool Women's Hospital medical education fund – Grant awarded to facilitate completion of the research (2016)

List of Tables and Figures

Chapter 1: Introduction

Section 1: Women's psychological health and wellbeing following childbirth

The experience of giving birth is complex and can lead to a variety of both positive and negative responses (Simkin, 1996). Although childbirth is considered a normative occurrence that has never been safer in the western world (Walsh, 2010), adverse events can occur, placing the mother and/or infant at risk of death or serious injury. Such events may influence how a woman feels about her birth experience. Research suggests that a negative experience of birth is associated with an increased likelihood of experiencing psychological distress in the postpartum period (Bell & Andersson, 2016). Previous research has focused on identifying the risk factors associated with a negative birth experience (Bryanton, Gagnon, Johnston, & Hatem, 2008; Carquillat, Boulvain, & Guittier, 2016; Mei, Afshar, Gregory, Kilpatrick, & Esakoff, 2016) and the prevalence of maternal psychological distress in the postpartum period (Ayers, Bond, Bertullies, & Wijma, 2016; Brummelte & Galea, 2016; Norhayati, Nik Hazlina, Asrenee, & Wan Emilin, 2015; Yildiz, Ayers, & Phillips, 2016). The causes of maternal psychological distress following childbirth are multifaceted and include a variety of internal and external vulnerability factors (Ayers et al., 2016; Bell & Andersson, 2016).

The postpartum period (i.e. the first 12 months after giving birth) is an important time for the formation of the maternal-infant relationship, for establishing parenting roles, and the transition into motherhood (Nelson, 2001). Poor psychological health after childbirth can disrupt this process, and has the potential to negatively affect maternal and infant wellbeing, and have negative implications for relationships with other family members (Eastwood, Jalaludin, Kemp, Phung, & Barnett, 2012; Elmir, Schmied, Wilkes, & Jackson, 2010; Fenech & Thomson, 2014). Research has attempted to identify the aetiology, prevalence, and risk factors associated with symptoms of depression, anxiety and posttraumatic stress disorder, under umbrella terms of 'maternal distress' or 'psychological distress'. There is now evidence that women can experience a range of symptoms of psychological distress following childbirth, including posttraumatic stress disorder (PTSD: Olde, van der Hart, Kleber,

& van Son, 2006; Yildiz et al., 2016), and postpartum depression (Bell & Andersson, 2016; Gavin et al., 2005; White, Matthey, Boyd, & Barnett, 2006).

1.1. Posttraumatic stress disorder following childbirth (PTSDFC)

Although the majority of women have safe and satisfying birth experiences in the United Kingdom, a significant number of women report experiencing their birth as traumatic and develop PTSDFC (Ayers & Pickering, 2001; Czarnocka & Slade, 2000). The experience of childbirth differs from other traumatic events as it has both elements of predictability, the woman is aware of an impending birth, and unpredictability in the sense that she does not know the exact events of her birth until it occurs, and this can be perceived as threatening (Söderquist, Wijma, & Wijma, 2004). The potential for childbirth to fulfil criteria for a traumatic event, as it may also involve adverse events that place the mother and/or baby to be at risk of serious injury or death, has been acknowledged (Ayers, 2004; Czarnocka & Slade, 2000).

The majority of researchers assess PTSDFC according to Diagnostic and Statistical manual of mental disorders 4th edition criteria (DSM-IV: American Psychiatric Association, 2000). To fulfil criteria for a traumatic event, a woman must report perceiving threat of injury or death to herself or her baby during her labour/birth, and respond to this perception of threat with intense feelings of fear, helpless or horror. In the DSM-IV, symptoms of PTSD are grouped into three clusters: 1) Intrusion: Re-experiencing of the event through intrusive thoughts, flashbacks or nightmares; 2) Avoidance: persistent avoidance of any reminders of the event/numbing of responses related to the event, 3) Hyperarousal: increased arousal such as hypervigilance, difficulty concentrating, irritability and/or difficulties with regulating emotions. To be diagnosed with PTSDFC, a women must have experienced her birth/labour as a traumatic event, and report at least one intrusion symptom, three avoidance symptoms and two symptoms of hyperarousal, symptoms must also cause significant distress and impairment in functioning (APA, 2000). To date, four reviews have been published providing data on postpartum prevalence of PTSD, suggesting that it ranges from 1.5%-18.95% depending on the type of sample (community vs. high risk), the timing of the measurement, the measurement tool used to assess symptoms, and whether

partial fulfilment of criteria is included (Andersen, Melvaer, Videbech, Lamont, & Joergensen, 2012; Grekin & O'Hara, 2014; Olde et al., 2006; Yildiz et al., 2016).

The prevalence rates of PTSDFC is an important public health issue, especially as there is evidence that it can have a negative impact on women on both a short and long-term basis (Beck, 2004, 2009). For example, the presence of posttraumatic symptoms (and not necessarily a full diagnosis of PTSD) have been shown to have a negative effect on relationships (Iles, Slade, & Spiby, 2011), and infant emotion regulation and development (Parfitt, Pike, & Ayers, 2014). Women may also have fewer subsequent children after a traumatic birth (Gottvall & Waldenström, 2002) and may distance themselves from motherhood (Beck, 2004).

Given the wide-ranging negative implications of PTSDFC for women and their families, conceptual frameworks of the aetiology of PTSDFC have attempted to draw together the vulnerability, risk, and maintaining factors that are thought to be important in the development of symptoms (Czarnocka & Slade, 2000; Slade 2006; Andersen et al., 2012; Ayers et al., 2016; Ayers, 2004). A recent meta-analysis reported that some of the most strongly associated risk factors for birth-related PTSD were depression in pregnancy, fear of childbirth, a history of PTSD or previous counselling for pregnancy or birth related factors (Ayers et al., 2016). The same study also reported that risk factors during the birth that were strongly associated with PTSDFC were, subjective birth experience (lack of control and negative emotions during birth), operative birth, and a perceived lack of support from healthcare providers during the birth.

A wide range of other anxiety symptoms and disorders may also be prevalent in the perinatal period. These may include symptoms of generalised anxiety, obsessive-compulsive, panic, and social anxiety (O'Hara & Wisner, 2014). A recent review found that postpartum prevalence of any anxiety disorder ranged between 3.7% and 20% (Leach, Poyser, & Fairweather-Schmidt, 2017). Generalised anxiety specifically has been reported to range between 0.6-12% (Goodman, Watson, & Stubbs, 2016). As is the case with PTSDFC, although the severity of other anxiety symptoms may not rise to clinical levels that would warrant a formal diagnosis, symptoms may nevertheless cause distress and impairment.

1.2. Co-morbidity of PTSDFC and depression/depressive symptoms following childbirth

Comorbidity of depression with PTSDFC has been reported to be relatively high with rates ranging from 20-75% (Stramrood et al., 2011; White et al., 2006). Perinatal depression refers to a major depressive episode occurring during pregnancy or within 4 weeks after the birth. It should be noted that the time-frame for the onset of postpartum depression symptoms based on this criteria has been debated, in light of evidence that new depressive symptoms are most likely to occur 2-3 months after childbirth (Gavin et al., 2005). The prevalence of postpartum depressive symptoms is estimated to range between 10-15% and can be as high as 30% depending on the criteria used to diagnose symptoms (Darcy et al., 2011; Gavin et al., 2005). The presence of depressive symptoms during the postnatal period can have an impact on maternal infant interaction for example; depressed mothers may show more negative and disengaged behaviour towards their children (Lovejoy, Graczyk, O'Hare, & Neuman, 2000), affectionately engage with their infants less (Ferber, Feldman, & Makhoul, 2008) and engage in less vocal and visual communication with their infant i.e. smiling or infant-directed speech (Field, 2010) than non-depressed mothers. Such differences have been shown to have an impact on the child's emotional and cognitive development (Liu et al., 2017; Pratt, Goldstein, Levy, & Feldman, 2017). As has already been stated with other symptoms of psychological distress, depressive symptoms that may not reach a clinical diagnosis can still have an effect on functioning and quality of life and should be considered.

1.3.Perineal trauma during childbirth

As already discussed, obstetric complications during childbirth can increase the likelihood of experiencing childbirth as a traumatic event, and can be a risk factor for psychological distress in the postpartum period (Ayers, Bond, Bertullies, & Wijma, 2016; Ayers, McKenzie-McHarg, & Slade, 2015). One of the most frequent obstetric complications during childbirth is trauma to the perineum, yet the effects of perineal trauma on a woman's experience of birth and psychological wellbeing have been relatively overlooked. Perineal trauma is defined as a spontaneous tear of varying

severity (or an intentional cut known as an episiotomy) between the vagina and the anus and is classified according to extent of damage to the tissues (See table 1.1). The most recent NHS maternity statistics (2014-2015) revealed that 41.3% of women experienced a perineal laceration during childbirth (NHS maternity statistics, 2015). This figure may even be higher as a national survey conducted between January 2009 and January 2010 concluded that approximately 53% of women giving birth vaginally experienced perineal trauma with 96.9% needing to be repaired (Thiagamoorthy, Johnson, Thakar, & Sultan, 2014).

Table 1.1 ***Classifications of perineal trauma according to NICE guidelines (2007)***

Obstetric Anal Sphincter Injuries (OASI))	**1st degree**	Injury to the perineal skin and vaginal epithelium only
	2nd degree	Involves an injury that extends into the muscles of the perineum but not the anal sphincter
	Episiotomy	Surgical incision of the vaginal and perineal skin and the perineal muscles
	3rd degree	
	3a	Less than 50% of the external anal sphincter torn
	3b	More than 50% of the external anal sphincter torn
	3c	Both external and internal anal sphincter torn
	4th degree	Perineal muscles, External and internal anal sphincter torn and also the anal epithelium

It is acknowledged amongst medical professionals that perineal trauma, especially when severe, can lead to unpleasant and enduring physiological symptoms such as urinary/anal incontinence, dyspareunia, pelvic organ prolapse and sexual problems (East, Sherburn, Nagle, Said, & Forster, 2012; Khajehei, Doherty, Tilley, & Sauer, 2015; Macarthur & Macarthur, 2004; Thom & Rortveit, 2010). It is therefore imperative that an attempt is made to understand women's experiences of such an intimate injury and if their experiences hold any implications for their psychological and emotional wellbeing after the birth of their baby.

Section 2: The implications of experiencing perineal trauma during childbirth – A systematic review

Before establishing where research should build on existing knowledge of women's experiences of perineal trauma, it was important to establish what data are already available and therefore a mixed-methods systematic review was carried out and the results presented in this section.

1.1 Aim(s)

The aim of this review was to explore the quantitative and qualitative literature reporting on women's experiences of perineal trauma of any degree, including episiotomy. We aimed to answer the following questions:

2.1.1 What do we know about women's experiences of perineal trauma during childbirth and their experiences afterwards?

2.1.2 Does experiencing perineal trauma continue to affect a woman's psychological health after the birth of her baby and in the longer-term?

2.1.3 What should be the focus of future research on women's experiences of perineal trauma during childbirth?

2.1.4 What are the implications for intrapartum and postpartum care?

1.2. Design

An integrative design was used to determine current knowledge about women's experiences of perineal trauma. This method is useful when analysing and synthesising the results of independent studies of diverse methodology in order to contribute positively towards the quality of care given to women after the birth of their baby (De Souza & Carvalho, 2010). A plan for data abstraction and synthesis was devised and is detailed below.

1.3. Method

1.3.1. Search method

To identify relevant literature, Web of Knowledge, CINAHL, MEDLINE, AMED, PsycArticles, PsycInfo via the Ebscohost database were consulted to include refereed journal articles, published in English up to September 2016. Search terms included combinations of the following keywords:((Birth OR Childbirth OR birth OR labour OR labor) AND (Pain OR Psychol* OR Depressi* OR Anxi* OR Stress OR Emotion* OR Wellbeing OR Well-Being) AND (Perineal OR Perineum OR Anal Sphincter OR Vaginal) AND (Tear OR Laceration OR Third OR Fourth OR Second OR episiotomy OR first OR Trauma*)). Reference lists were also hand searched for relevant papers.

1.3.2. Inclusion and exclusion criteria

Papers published in English with a quantitative, qualitative or mixed methodology were included. Exploration of women's experiences of perineal trauma did not have to be the focus of the study. Quantitative papers were included if they contained a self-report measure for psychological health, emotional/social functioning or quality of life, which had been completed by women who had sustained perineal trauma of any degree. Qualitative papers were included if they explored women's experiences of perineal trauma as described by the women themselves and any qualitative methodology was considered (e.g. interviews/focus groups). All experiences of perineal trauma were included regardless of the timing of the measurement/interview (e.g. during the suturing process or any time after the birth). Perineal status could be

determined by self-report or by information from medical records. Specific issues relating to this are discussed. Papers were excluded if they included physiological measures only or if they used observational measures only, as these would not reflect women's self-reported experiences. Papers utilising basic measures solely of sexual functioning (i.e. time to resumption or dyspareunia) were excluded, as these do not report on women's experiences of sexual functioning after experiencing perineal trauma. No papers were excluded for using non-validated measurement tools; instead these are considered and discussed with regards to validity and generalizability. Full inclusion and exclusion criteria can be found in Table 1.2.

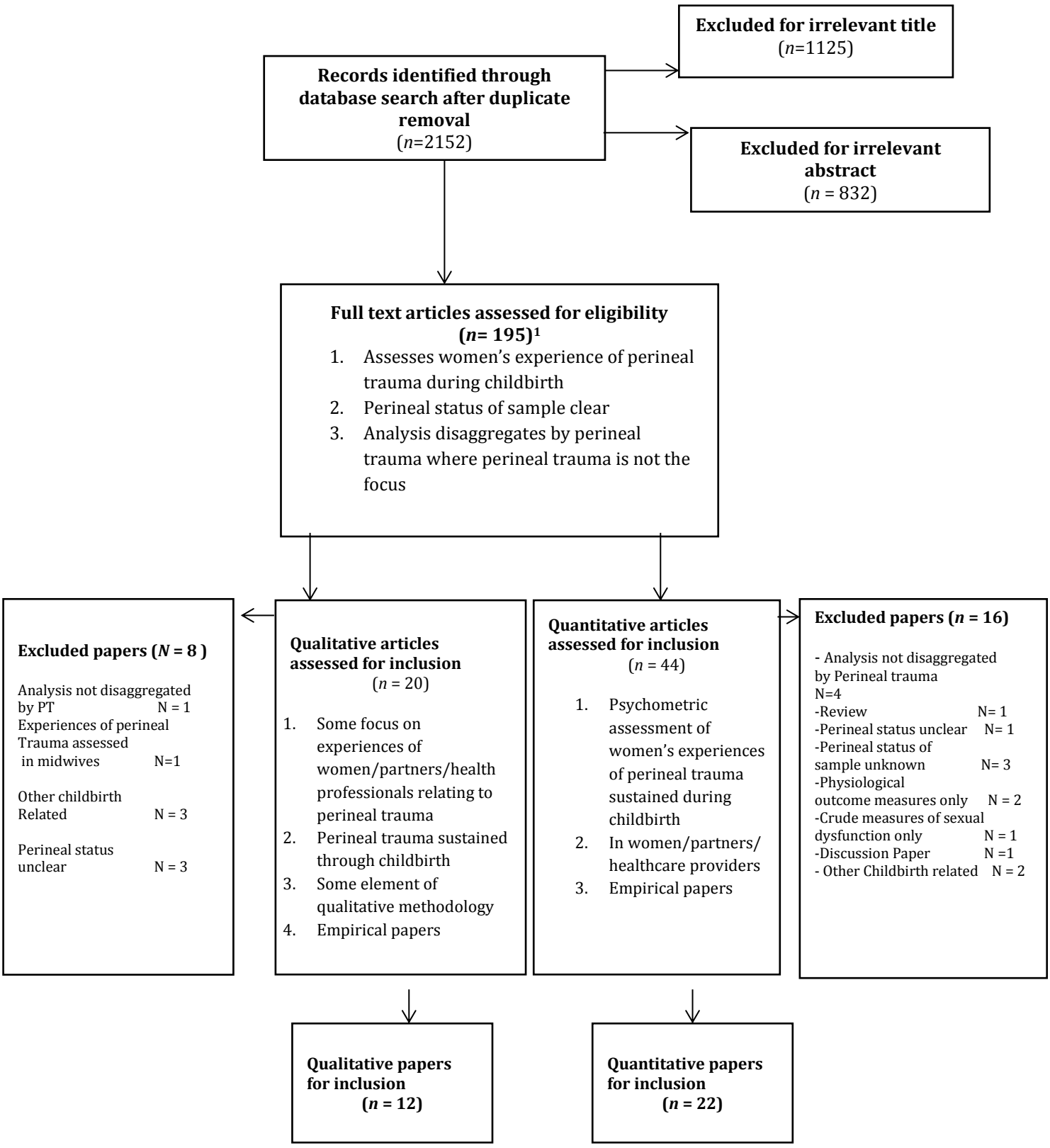
Table 1.2. ***Inclusion and Exclusion criteria for identified papers***

Inclusion Criteria	**Exclusion Criteria**
Women who have sustained perineal trauma during childbirth (spontaneous or episiotomy) as identified by obstetric records	Female Genital Mutilation
Self-report measure completed during childbirth/any time afterwards	Medical papers (Medical intervention, suture materials etc.) i.e. physiological outcome only
Quantitative: A measure of psychological health, emotional/social functioning, quality of life **Qualitative**: Any qualitative method used to explore women's self-reported experiences of perineal trauma during childbirth and their experiences any time afterwards	Sample <16 years of age Crude measures of postpartum sexual function i.e. time to resumption, dyspareunia

1.3.3. Search outcome

A total of 3148 papers were identified and 2152 papers remained after removal of duplicates. Titles and abstracts of these papers were then screened and any papers meeting the exclusion criteria (Table 1.2) were excluded (n=1957). The remaining papers (n=195) were organised according to methodology and read in their entirety. After applying the inclusion/exclusion criteria, 12 qualitative, 22 quantitative papers remained. These papers were hand-searched for relevant references of which none were deemed relevant for this review. Figure 1 depicts the screening and selection process used for this review. The screening and categorisation of papers for inclusion or exclusion was cross-checked by another researcher to ensure the reliability of the process.

Figure 1.1. ***PRISMA flow diagram depicting screening and selection process***



1.3.4. Quality appraisal

All papers were appraised for their quality to determine potential biases and relevance to the research questions. A proforma for appraising empirical research based on suggestions for critical appraisal provided by Bowling (2014) was adapted to aid the appraisal of studies identified by this mixed methods review (See Appendix 1). The adapted checklist allowed for the appraisal of quantitative, qualitative and mixed methods studies using criteria based on the four basic questions proposed by Bowling (2014) as follows:

1. Was the study question clear and focused?
2. Was the study design valid (i.e. was the research design appropriate to address the study question)?
3. Were the results reliable and valid?
4. Can the study results be generalised to inform routine practice/care?

Studies were categorised as low (0-33% of criteria fulfilled), medium (34-66% of criteria fulfilled) or high (67-100% of criteria fulfilled) quality, based on their fulfilment of the criteria set out in the checklist (Table 1.3). The majority of quantitative studies were categorised as medium/high quality (N=20), with 12 categorised as high quality. None of the qualitative/mixed methods studies were categorised as low quality. Nine qualitative studies and the mixed methods study were categorised high quality. Although 2 of the quantitative studies were categorised as low quality, they were not excluded from the review. Instead of excluding any study based on its quality, design/methodological limitations and any specific issues relating to the research are discussed.

Table 1.3. ***Summary of appraisal of studies included in the systematic review***

Study Quality	Quantitative (N=22)	Qualitative	Mixed Methods
Low (0-33%)	Firouzkhi Moghadam et al., (2015) 10% Boij et al., (2007) 30%		
Medium (34-66%)	Larsson et al., (2011) 50% Leal et al., (2013) 50% Lurie et al., (2013) 50% Pastore et al., (2007) 50% Wegnelius & Hammerstrom (2011) 50% Evers et al., (2012) 60% Macleod et al., (2013) 60% Thompson & Miller (2015) 60%	Stramrood et al., (2012)44% Salmon (1999) 55%	
High (67-100%)	Dunn et al., (2015) 70% Khajehei et al., (2015) 70% Otero et al., (2006) 70% Storksen et al., (2013) 70% Symon & Dobb (2011) 70% De Souza et al., (2015) 80% Ejegard et al., (2008) 80% Jawed-Wessel et al., (2013) Rikard-Bell et al., (2014) 80% Rogers et al., (2009) 80% Safarinejad et al., (2009) 80% Fleming et al., (2008) 90%	Herron-Marx et al., (2007) 67% Priddis et al., (2014)a 67% Priddis et al., (2014)b Thompson & Walsh (2015) 67% Tucker, Clifton & Wilson (2014) 67% Way (2012) 67% Williams et al., (2005) 78% Gillard & Shamley (2010) 78% O'Reilly et al., (2009) 78%	Briscoe et al., (2015) 67%

1.3.5. Data abstraction and synthesis

There were two stages to data abstraction and synthesis. Phase one involved transforming the findings from the relevant qualitative studies (Table 1.4) into common themes using thematic analysis, which consisted of considering the content of the proposed themes by the original authors, and translating this into common themes across the studies (presented in Table 1.6). Phase two involved grouping the findings from all the relevant quantitative studies based on the outcome variables measured by the original authors e.g. sexual functioning, birth experience, depressive symptoms etc. (Table 1.5). Themes derived from the thematic analysis of the included qualitative studies are presented representing women's experiences of perineal trauma and then findings from the quantitative literature (i.e. the groupings generated by the outcome variables) are presented to identify where similarities or differences across the two methodologies exist and to identify any knowledge gaps. Themes derived from the thematic analysis and groupings of the outcome variables from the quantitative studies were checked with another researcher to ensure reliability.

Table 1.4. ***Qualitative papers included in the systematic review***

Author	Method	Focus	Sample/Perineal Status	Themes
Briscoe et al., (2015) Liverpool, UK	**Mixed methods** - Observations of perineal suturing, interviews with women, HADS and MPQ-SF questionnaire	Women's experiences of pain during suturing	40 women, most with a 2nd degree tear, episiotomy, mean age 28.7 21 women interviewed - all had undergone perineal suturing	1. Previous experience and psychological distress 2. Style of communication during suturing
Gillard & Shamley (2010) UK	Cross-sectional, retrospective interview study within 6-10 weeks of giving birth	Determining what motivates women to adhere to pelvic floor exercises	10 women, mean age 32.8, 6 were primiparous 2 sustained 2nd degree, 7 a 3rd degree and 1 a 4th degree tear	1. Knowledge and understanding of perineal injury and PFMEs 2. Personal experience of symptoms and motivation for PFMEs 3. Fear of experiencing symptoms 4. Perceived self-efficacy for PFMEs
Herron-Marx et al., (2007) Birmingham, UK	Retrospective Q methodology - Postal response grid and use of interviews	Examining women's experiences of enduring perineal morbidity	20 women 12-18 months postnatal (interview), 14 in the response grid stage - 7 had a 2nd degree tear, 4 had an episiotomy, 1 had a 3rd degree tear, 1 had an intact perineum and 1 had a caesarean section	1. A Morbidity of minor inconvenience 2. Insufficient support and services 3. The taboo of perineal morbidity 4. Normalising perineal morbidity 5. Isolation of perineal morbidity
O'Reilly et al., (2009) NSW, Australia	Phenomenology using narrative data from in depth interviews (symbolic drawings presented elsewhere)	Women's experiences of recovery from childbirth in the presence of pelvic problems	Purposive sample of 10 mothers 6 weeks to 5 years postnatal who had experienced persistent pelvic problems, 5 primiparous and 5 multiparous	1. Fearing intimacy 2. Managing an unpredictable body 3. Being resigned 4. Feeling devalued and dismissed

Table 1.4 ***Continued***

Author	Method	Focus	Sample/Perineal Status	Themes
Priddis et al., (2014a) Australia	Qualitative interviews with an interpretive feminist perspective	Explore how women make meaning of living with OASI	Self-selected sample 12 women from 7 weeks postnatal to 12 years , 11 women experienced a 3rd degree tear and 1 a 4th degree tear Snowball sampling also used	1. The abandoned mother a. Vulnerable and exposed I feel like a piece of meat b. If only they told me 2. The fractured fairytale a. A broken body b. Achieving a vaginal birth c. The contaminated uncontrolled body d. They lived happily ever after 3. A completely different normal a. Defining a new sense of self
Priddis et al., (2014b) Australia	Semi-structured interviews (method cited in Priddis et al.,2014a)	Describe current health service provided to women with OASI	12 women who had sustained OASI (Method in Priddis et al., 2014a)	1. Patchwork of policy and process 2. Beliefs about causes of OASI 3. Attitudes of health professionals 4. Falling through the gaps 5. Continuity of carer
Salmon (1999) UK	In-depth, unstructured interviews analysed using feminist analysis	Provide an account of women's experiences of perineal trauma immediately post birth	Snowball sample of 6 women who had experienced some degree of perineal trauma (Not specified) All white British aged 25-40, all employed	1. Experiences of interpersonal relationships during suturing 2. The experiences of social support and inter-personal relationships during healing 3. Feelings associated with coming to terms with perineal trauma
Stramrood et al., 2012 Netherlands	Descriptive case study EMDR (*EMDR: Eye movement desensitisation and processing)* protocol	Use of EMDR to reduce PTS symptoms during subsequent pregnancy	Case study – woman who experienced 2nd degree tear during previous delivery which was continuing to cause her distress	Described first birth as 'one big trauma' - greatest fear of experiencing trauma and sutures a reality – Panic attacks when attempting intercourse and felt would never heal - after two treatment sessions felt calmer and more confident about upcoming birth

Table 1.4 ***Continued***

Author	Method	Focus	Sample/Perineal Status	Themes
Thompson (2015) UK	Interviews with a phenomenological methodology	Women's perceptions of perineal repair	11 women were interviewed within 1 month of giving birth, 10 sustained a 2nd degree tear	1. The mystery of perineal repair 2. Perineal repair and transition to motherhood 3. Midwife facilitated repair a completely normal experience
Tucker, Clifton & Wilson (2014) Australia	Interviews Interpretive phenomenological study	Describing women's experiences of AI after a history of OASI	10 women aged 26-56 (no data on time since birth when interviewed or other obstetric information)	1. Grieving for loss a. Near the edge b. Loss of young adulthood c. Loss of middle adulthood 2. Silence a. Keeping silent b. Professional silence c. Breaking the silence 3. Striving for normality a. Retreating inside b. Compromise
Way (2012) UK	Interviews and diaries Analysed using constant comparative method	Women's experiences of their perineum following childbirth	11 women aged 20-42 who had experienced vaginal birth 6 primiparous women and 5 multiparous women 4 women had an intact perineum, 4 had a spontaneous tear and 3 experienced an episiotomy	1. Striving for normality 2. Preparing for the unknown 3. Experiencing the unexpected 4. Adjusting to reality 5. Getting back to normal 6. Recovery of self
Williams et al., (2005) UK	Focus groups	Explore the views and experiences of women in the PP period after experiencing a 3rd degree tear	FG 1 - women from 7 months to 21 months postpartum – 6 women mean age 31.5 all primips FG 2 – 30 months to 42 months postpartum 4 women pregnant after experiencing OASI mean age 32	1. Apprehension 2. Information/communication 3. Support 4. Physical impact 5. Emotional Impact 6. Sexual relationships 7. Lack of involvement in decision for subsequent delivery

Table 1.5. ***Quantitative papers included in the systematic review***

Author	Focus	Sample	Method/Measures	Findings of interest	Outcome variables
Boij et al., 2007 Sweden	The effects of sphincter injuries on women's Sexual Functioning (SF), wellbeing and thoughts on future pregnancies	38 women with OASI/ control group of 34 women without OASI -5 years after birth	25 item **author-developed** YES/NO or VAS based questionnaire	OASI more likely to not have resumed 6 months postpartum (12 vs. 3, P<0.05). Having a more positive/negative attitude towards body image and increased/decreased self-esteem N.S OASI more likely to hesitate becoming pregnant again (14 vs. 5, *p*=0.05) citing fear of physiological problems. OASI more likely to experience difficulties resuming hobbies (15 vs. 5 *p*= 0.05). Women OASI felt information was inadequate and did not know where to seek help	**Sexual functioning** **Psychological Health** **Social Functioning**
De Souza et al., 2015 Australia	Effects of mode of birth and perineal trauma on SF	286/437 completed all three time-points	**FSFI** antenatally, 6 months PP and 12 months PP	Sexual function, desire, arousal, orgasm and pain were all negatively affected by perineal injury with deterioration seen at 6 months PP. Subsequent improvement to baseline levels by 12 months PP with no difference in overall SF between women with an intact perineum or who sustained any type of injury	**Sexual Functioning**
Dunn et al., (2015) USA	Relationship between perineal lacerations, inflammatory pathways and depressive symptoms	155, 64% experienced perineal trauma of any degree, 32% 2nd or more severe	**EPDS** and **PSS** AN, 1 week, 2 weeks, 1, 2, 3, and 6 months PP	Any degree of PT associated with higher EPDS at 1 week PP Compared to no injury (4.6 vs 3.12, *p*=0.02). Persistent significant higher EPDS in 2nd or more severe vs. less than 2nd at 1 month (3.05 vs 4.55 *p*=0.04) to 3 months PP (2.81 vs 4.15, *p*= 0.03). PSS N.S between those with vs. without injury, PSS significantly higher at 3 months PP in women with 2nd degree or more severe vs. less than 2nd degree	**Psychological Health**
Ejegard et al., 2008 Sweden	SF 12-18 months after first episiotomy-assisted birth	111 women who had experienced episiotomy vs. 153 aged matched controls	**MFSQ** **Self-Developed** Questionnaire from previous study (Sjögren, 1998) at 12-18 months	No difference in sexual satisfaction or sexual functioning. Episiotomy group reported more severe pain, felt less strengthened by childbirth and reported the birth as worse/much worse than expected (*p*=0.018)	**Sexual Functioning** **Experience of birth**

Table 1.5 continued

Author	Focus	Sample	Method/Measures	Findings of interest	Outcome variables
Evers et al., 2012 USA	Long term impact of OASI and AI	449 completed measure, 48 OASI, 146 non OASI, 255 c-section	**EPIQ** and **CRAIQ-7** 5-10 years after birth	Those with OASI and AI reported higher degrees of impairment on QoL than those in without OASI OASI group more likely to report symptoms having an effect on physical activities, social activities away from the home and ability to travel by care for more than 30 minutes	**QoL** **Social Functioning**
Firouzkouhi Moghaddam et al., 2015 Iran	Prevalence of PTSD among PP women in Iran	400 women 6-24 weeks PP	**PSS-I**, 2 questions assessing sense of threat and 2 with emotional response/appraisal	38.2% of women who had experienced an episiotomy showed PTSD symptoms, 28% of those without episiotomy showed symptoms	**Psychological Health**
Fleming et al., 2003	Differences in outcomes when $1^{st}/2^{nd}$ degree trauma is/is not sutured	74 randomised to sutured or not sutured	**EPDS** 1, 10 and 6 days PP	EPDS N.S at 10 days and 6 weeks	**Psychological Health**
Jawed-Wessel et al., 2013 USA	Assess SFW and MIS in first time mothers 1 year PP	213 primips 1-52 weeks PP, Epis (N=42) PT stitches (N=128)	**SFQ-MIS** **PSS**	Women who had undergone perineal suturing had significantly higher scores on the SFQ-MIS than those who did not (2.58 vs 2.40, F3.62, $p<0.05$) SFQ-MIS positively correlated with PSS	**Sexual Functioning**
Khajehei et al., 2015 Australia	Female sexual dysfunction (FSD) after childbirth	325 women 0-12 months PP	**FSFI** **PHQ** **RAS**	No significant difference in proportion of women with FSD who had experienced a tear/episiotomy and those who had not	**Sexual Functioning**

Table 1.5 continued

Author	Focus	Sample	Method/Measures	Findings of interest	Outcome variables
Larsson et al., 2011 Sweden	Impact of socio-demographic and obstetric factors on birth exp. in first-time mothers	541 women, 460 experienced PT of any degree	**W-DEQ-B Experience of birth VAS (negative to positive)**	Perineal lacerations and wound healing not sig correlated with experience of birth at 9 months (p=0.417, p=0.364). Perineal pain negatively correlated with experience of birth at 3 months PP (t=-0.13, p=0.006, N=443)	**Experience of Birth**
Leal et al., 2013 Portugal	SF in pregnancy and 3 months PP after episiotomy	93/108 completed 3 month PP measures	**FSFI**	Significantly lower mean levels of sexual desire postnatally compared to prenatal score (2.79 vs 3.42 T(56)=4.33, p<0.001)	**Sexual functioning**
Lurie et al., 2013 Portugal	Mode of birth and sexual functioning	79 completed 3 months PP	**FSFI**	No sig differences between NVD, VDE and OVD groups at 6, 12 or 24 weeks	**Sexual Functioning**
Macleod et al., 2013	Impact of restrictive vs routine episiotomy during OVD	198 randomised to routine (N=98) or restrictive episiotomy (N=100)	**EPDS**	Mean EPDS higher following restrictive use of episiotomy at 6 weeks PP (6.7 vs 5.1, p=0.01), N.S at 1 year	**Psychological functioning**
Otero et al., 2006 Switzerland	Maternal health 18 years after AST	445 AST 445 controls 540 returned questionnaire	**SF-12 FSFI**	Mental health score on SF-12 marginally lower in women with AST (45.3 ± 6.0 vs 46.4 ± 6.0, 95% CI 0-2.1, p=0.05) No difference in FSFI between groups No difference in impact of incontinence symptoms on QoL	**Psychological Functioning** -
Pastore et al., 2007 USA	Sexuality concerns of first time parents	205 4 months 205 12 months - non-overlap	**Author Developed Questionnaire**	No significant differences in concerns when stratified by those with/without episiotomy/tear	**Sexual Functioning**

Table 1.5 continued

Author	Focus	Sample	Method/Measures	Findings of interest	Outcome variables
Rikard-Bell et al., 2014 Australia	Influence of Pelvic floor dysfunction on QoL	766 women, 79% had a perineal injury, 60% spontaneous tear 19% episiotomy, 5% sustained $3^{rd}/4^{th}$	**PFDI-20** **PISQ-12** 6 months PP	No significant differences in rates of bother caused by sexual dysfunction Although women with an intact perineum reported highest rate of UI, Women with an episiotomy reported least amount of bother, those with a spontaneous tear were most distressed with UI symptoms. Colorectal, POP, SF N.S	**Sexual functioning**
Rogers et al., 2009 USA	Presence and severity of spontaneous perineal trauma on sexual functioning	276 - minor trauma (N=83, no trauma, 1^{st} degree/unsutured), major trauma (N=193, $2^{nd}/3^{rd}/4^{th}$ degree)	**IRS** 3 months PP	IRS lower in 'major' group (33.5 vs 35.5, p=0.02) and stronger relationship in subset of women who were sutured (31.8 vs 35.5, p=0.007). Major trauma reported less satisfaction, less desire to be held/touched, more likely to report pain and much less satisfaction with appearance (66% vs 47% p=0.003). Controlling for parity: desire to be held was still lower in women with 'major' trauma (p=0.01) and subset of women with major trauma and stitches continued to have poorer SF scores (p=0.03) and reported less or much less satisfaction with their bodily appearance (p=0.01)	**Sexual functioning** **Psychological health**
Safarinejad et al., 2009 Iran	Method of birth SF and QoL	836 women	**FSFI** AN and 12 months PP SF-36	Vaginal delivery or any other form of assisted delivery was consistently related to incidence of SD compared to a planned c-section. All values for QoL lower for VDE than SVD however referent group PCS so significance unknown	**Sexual functioning** **Psychological health**
Storksen et al., 2013 Norway	Impact of previous birth experiences on maternal fear of childbirth	1357 women, 51 experienced AST	**Overall experience of birth on NRS 0-10**	Of those who experienced OASI at previous delivery, 7 reported a negative overall experience and 6 had FoC Those with OASI no more likely to report negative experiences (p=0.0186) and no more likely to show FoC (p=0.149) than those who had not experienced OASI	**Psychological health** **Experience of birth**

Table 1.5 continued

Author	Focus	Sample	Method/Measures	Findings of interest	Outcome variables
Symon & Dobb 2011 UK	Using the mother-generated index postnatally to assess QoL	34 women AN and 19 PN	**MGI GHQ** 28-36 weeks AN and 6 weeks PP	Degree of PT was predictive of PN MGI, Each degree of PT associated with 0.9 decrease in QoL compared to AN score prediction alone (=0.86, *p<0.001)*	**Psychological health**
Thompson and Miller 2015 Australia	Decision making processes for 9 pregnancy labour and birth procedures	421 women who reported having an episiotomy	**Author Developed survey** 4-5 months PP	42.5% of women felt they were not informed about the risks/benefits of episiotomy (*n*=421) 34.4% felt it wasn't their decision. Of those feeling 'informed' (*n*=242) 13.6% their decision, 72.4% shared decision, 14% not their decision. Of those who were uninformed (*n*=179) 1% their decision, 36.9% shared decision, 62% not their decision	**Experience of Birth/Care**
Wegnelius and Hammarstrom 2011 Sweden	Long term effects of OASI on Pelvic floor dysfunction	OASI at first delivery N=136 and two control groups NVD N=211 and ElCs N=121	**Author Developed** **3-8** Years after first delivery	More women in OASI group wanted to postpone subsequent birth compared to caesarean/NVD groups (32.8% vs 17.4% vs 16.1%, *p*=0.0007) similar trend for wanting to abandon plans for more children (17.6% vs 13.2% vs 4.7% *p*=0.0005)	**Psychological Health**

***Note**: PP: Postpartum, NVD: normal vaginal delivery, OVD: operative vaginal delivery, NVE, Normal vaginal with episiotomy, AI: Anal Incontinence, ElCs: Elective Caesarean section, QoL: Quality of life, SF: Sexual functioning, FSD: female sexual dysfunction, PT: Perineal Trauma, FoC: Fear of Childbirth, NRS: Numeric Rating Scale, VAS: Visual Analogue Scale, FSFI: Female sexual functioning index, EPDS: Edinburgh postnatal depression scale, PSS: Perceived Stress Scale, MFSQ:McCoy Female Sexuality Questionnaire, EPIQ: Epidemiology of Prolapse and Incontinence Questionnaire, CRAIQ-7: Colorectal-Anal Impact Questionnaire, PSS-I: PTSD symptom scale-Interview, SFQ-MIS: sexual function questionnaire medical impact scale, PHQ:Patient Health Questionnaire , RAS: Relationship Assessment Scale, W-DEQ-B: Wijma Delivery Expectation Questionnaire Section B,, SF-12: Short form Health survey, PFDI-20: Pelvic floor distress inventory, PISQ-12: Prolapse urinary incontinence questionnaire, IRS: Intimate relationship scale, MGI: Mother Generated Index, GHQ: General Health Questionnaire.*

Table 1.6. Relationship between the themes derived from thematic analysis and themes in qualitative papers

	The Mystery of Perineal Trauma	The Misery of Perineal Suturing	The Postnatal Perineum	Normalisation and Feeling Dismissed	Adjusting to a New Normal
Briscoe et al., (2015)		1, 2			
Gillard & Shamley (2010)	1		2, 3		
Herron-Marx et al., (2007)	4, 5		2, 3, 4, 5	1, 3, 4, 5	4,
O'Reilly et al., (2009)			1, 2,	2, 3, 4	2
Priddis et al., (2014a)	1b, 2c, 3	1a,b,	2a,c,d,	1c, 2d, 3	3
Priddis et al., (2014b)*	2	3		4	
Salmon (1999)		1		2, 3	
Thompson & Walsh (2015)	1, 3	1	2	3	
Tucker et al., (2014)			1a,b,c, 2a,c, 3a	2a, b,c,	3b
Way (2012)	2		1, 2, 3, 4,		1, 4, 5, 6
Williams (2005)	2, 5		4, 5, 6,	1, 3, 5	

**** Study uses data from interviews in former study by same authors***

1.4. Results

Five themes were derived from the thematic analysis of the included qualitative papers; 'The mystery of perineal trauma', 'The misery of perineal suturing', 'The postnatal perineum', 'Normalisation and feeling dismissed' and 'Adjusting to a new normal – Coping and compromise'. Within the quantitative literature 6 '*types*' of outcome variable were identified: experience of birth and care (N=4), Sexual functioning (N=12), Social functioning (N=2), Psychological health (N=8) and Quality of Life (N=5). The findings are discussed relative to where the two methodologies overlap in providing information on similar themes/outcome variables in an attempt to interpret/explain women's experiences by using both types of methodology.

1.4.1 The Mystery of Perineal Trauma

This theme describes how women seek to understand the causes of their perineal trauma and what their injuries may mean for future functioning. Women's accounts in the literature suggest that perineal trauma is poorly understood. Women described how they sought to find an explanation for their injuries and this was evident in those who had experienced severe perineal trauma (Priddis, Schmied, & Dahlen, 2014a) and those with less severe trauma i.e. a 2nd degree tear (Gillard & Shamley, 2010). The women in both of these studies described how they had being given little or no information, and those with obstetric anal sphincter injuries (OASI) described how the lack of adequate information about their tear contributed to their feelings of being abandoned by their care providers (Priddis et al., 2014a).

Without information provided to them, women with OASI and those with prolonged symptoms of incontinence speculated about the cause of their tear. Beliefs surrounding the cause seemed to be either internally focussed, i.e. due to a defect in their anatomy or pushing incorrectly, whereas other beliefs were externally focussed whereby they felt their tear was

due to the use of instruments during the birth and described how they felt *'let down*' by the system (Priddis, Schmied, Kettle, Sneddon, & Dahlen, 2014b; Priddis et al., 2014a). Similarly, those with a 2nd degree tear also speculated about the cause of their perineal trauma and described the physiology of the birth process stating that it was 'not surprising' and also not knowing if they were to blame (Thompson & Walsh, 2015), although their accounts were less emotionally salient than those from women with OASI, who seemed quite distressed from their accounts (Priddis et al., 2014b). Those with less severe tears described how they were unaware of the different types of perineal trauma, stating that they didn't realise '*you can only tear a bit'* and believed that every tear is severe and traumatic, as this was the only type of tear they heard about from others (Thompson & Walsh, 2015). Similarly, those who experienced OASI were also unaware of the different 'levels' of perineal trauma (Priddis et al., 2014a).

Although some women described how they felt ill-informed about perineal trauma (Priddis et al., 2014a; Thompson & Walsh, 2015), a focus-group study of women who had experienced OASI and had access to a specialist perineal clinic, found that women were grateful for the information received about their injuries (Williams, Lavender, Richmond, & Tincello, 2005). However, there were some issues described by the women pertaining to the timing and content of the information they received. For example, some described the difficulties they had understanding the information given to them when it was delivered in a rushed way or when they felt '*out of it*' (i.e. too soon after the birth). Difficulties in understanding information about perineal trauma seem not to be limited to those with OASI. Similar findings from an interview study investigating women's perceptions of perineal repair for a 2nd degree tear, found that some of the women were unable to recall or repeat the information they were given about their tear (Thompson & Walsh, 2015). Although these findings suggest that future care could be improved by providing information about perineal trauma to women antenatally, this may not be acceptable to all women. In women's accounts where they explore the possibility of knowing about perineal trauma before their birth, some of the

women described how they felt it was best not to know before the birth as it may have '*made it worse'* (Way, 2012) or because they felt that '*ignorance is better'* (Thompson & Walsh, 2015).

1.4.2. The Misery of Perineal Suturing

It is acknowledged by healthcare professionals that perineal repair after childbirth can be a painful and potentially traumatic experience for women(RCM, 2012). This review found that most women's accounts of perineal suturing in the literature were negative in content. One of the first interview studies to explore women's experiences of perineal trauma, found that the procedure was described by women as one to be '*got through'*, and healthcare providers were described as '*brutal'* and *'cruel'* (Salmon, 1999). In a more recent study, women with OASI described how they felt like a piece of meat during the procedure, how their care providers talked about them and not to them, and how they felt dissociated from their experience or attempted to use humour to engage their healthcare provider and cope with their distress (Priddis et al., 2014a). Interactions with healthcare providers during such a vulnerable time seemed to shape women's experiences and have a lasting effect as some of the women described being able to recall facial expressions and negative interactions even years after the event (Priddis et al., 2014a, 2014b; Salmon, 1999). In another study, women with various levels of perineal trauma, and specifically those injuries that required suturing, described how their memories of the pain during the suturing procedure led to their avoidance of intimacy, even up to 5 years after the birth (O'Reilly, Peters, Beale, & Jackson, 2009).

Acknowledging that the suturing procedure can be traumatic for women, and noting that there may be issues surrounding appropriate pain relief for women during such a an intimate procedure, a mixed-methods study observed the perineal repair of women who had experienced a 2nd degree tear or episiotomy (Briscoe et al., 2015). Supporting the findings of

previous research that women find compassion and communication important during this procedure, this study found that women described a preference for a more discursive partnership style of communication, compared to a short factual style that left little opportunity for them to ask questions. Similarly, a minority of those who experienced a severe tear described how they felt cared for, informed and safe when they observed their care provider as '*present'* and supportive (Priddis et al., 2014a).

1.4.3. Quantitative Evidence - Perineal Trauma and Experience of Birth

Two of the themes identified from the qualitative studies in this review describe women's early experiences of perineal trauma, their understanding of it and their experiences during their perineal repair. Women with OASI and those with a 2nd degree tear describe how they feel ill-informed about perineal trauma and speculate about the cause of their injuries. Although no qualitative studies exploring women's experiences of undergoing an episiotomy were identified by this review, one quantitative study was identified that found that 43% of women who underwent an episiotomy felt that they were not informed about the risks and benefits of the procedure (Thompson & Miller, 2014). These findings, in addition to those of women's accounts, may suggest that information surrounding perineal trauma, regardless of severity, is lacking.

Although some of the women describe their negative interactions with healthcare providers and their resulting distress during their perineal repair, it is unclear from their accounts if they feel their experience of birth was affected as a result. Three quantitative studies identified by this review provided data on perineal trauma and birth experience. One quantitative study considered the impact of OASI on ratings of birth experience and maternal fear of childbirth (Storksen et al., 2013). Their findings indicated that those who had experienced OASI were no more likely to report a negative birth experience (p=0.186) or experience fear of childbirth

(p=0.149) than those who did not experience OASI. Similarly, Larsson, Saltvedt, Edman, Wiklund & Andolf (2011), investigated the impact of obstetric factors on birth experience and found that perineal lacerations (extent unknown) were not significantly correlated with experience of delivery rated at 9 months postpartum (p=0.417). Although these findings suggest that perineal trauma may not affect birth experience; a closer examination of the methodologies used suggest that further exploration is needed. The first study considered OASI and no other form of perineal injury and the group size for this obstetric complication was small (n=51) given the overall sample size (n=1357). With regards to the second study by Larsson et al., although they disclose the number of perineal lacerations in the sample (n=460) the severity of perineal trauma for this subsample is not disclosed. It is therefore difficult to draw conclusions with regards to the type/degree of perineal trauma in this sample and how it may or may not affect experience of birth.

Within the qualitative literature, those with on-going symptoms (i.e. incontinence etc.) described their initial experiences of perineal trauma and perineal repair very negatively. Although Larsson's study did not find a significant relationship between perineal lacerations and experience of birth, they did report a significant negative correlation between perineal pain at 3 months postpartum and ratings of birth experience (t=-0.13, n=443, p=0.006). Therefore, given the qualitative evidence, there may be an association between perineal trauma, the experiencing of negative symptoms such as pain and/or incontinence, and ratings of birth experience. One quantitative study was identified that provided data exploring all three of these elements (Ejedard, Ryding & Sjogren, 2008). Their findings indicated that those who experienced an episiotomy experienced more pain at 12-18 months postpartum, reported feeling less strengthened by childbirth (Hardly/not at all 13.6% vs 4.2%, p=0.018) and reported their delivery as worse/much worse than expected (55.5% vs 38.5%, p=0.018) than age-matched controls who had not experienced an episiotomy. These findings, although suggestive of a link between symptoms and reported birth experience, should be regarded with caution as the experimental group and control group were significantly different with

regards to a variety of confounding variables known to influence birth experience which were not controlled for (Dencker et al., 2010), and they did not analyse the associations between symptoms and reported birth experience. The findings from this study however suggest that experiencing an episiotomy may affect birth experience reported at 12-18 months after the birth.

1.4.4. The Postnatal Perineum

The theme of 'the postnatal perineum' describes the effects of pain and incontinence on becoming a new mother, relationships/intimacy, and a woman's social life. These experiences were usually from women who had experienced OASI or those who were specifically interviewed about on-going physical symptoms regardless of the level of perineal trauma experienced.

For women suffering from urinary or anal incontinence, there was a profound impact on their social life following the birth of their baby. They described how unexpected episodes of incontinence impacted upon previously taken for granted activities which inevitably placed restrictions on their social life (Herron-Marx, Williams, & Hicks, 2007; O'Reilly et al., 2009). Women also described their daily struggle with their symptoms and the overwhelming psychological responses they felt as a result, such as isolation and loneliness when keeping incontinence hidden from others, particularly anal incontinence (Tucker, Clifton, & Wilson, 2014). A sense of embarrassment was salient throughout these accounts as women described their uncontrollable symptoms. They believed it was not culturally appropriate to talk about their difficulties with friends or family, due to the social stigma of being incontinent which is seen as an individual being dirty and/or lazy (Gillard & Shamley, 2010; Herron-Marx et al., 2007; Priddis et al., 2014; Tucker et al., 2014)

Women with on-going symptoms also described the daily struggle of maintaining the social ideals of a 'good mother', and expressed their guilt when they would have to put their needs before that of their infant or partner (Tucker et al., 2014). In addition to the stigma of incontinence and upholding the social ideals of a 'good mother' women described how sexual problems were also a taboo subject, with some feeling reluctant to discuss their concerns with their partner as they felt it made them sexually indifferent (Williams et al., 2005). Others avoided speaking to their partner about their concerns as they were fearful of a negative reaction which would be detrimental to an already fragile self-worth (Tucker et al., 2014).

Sexual problems were frequently cited by women who experienced perineal trauma, especially those who experienced OASI (Priddis et al., 2014). Women described their fear of pain or episodes of incontinence as a reason for abstinence or delay of sexual intimacy (O'Reilly et al., 2009; Priddis et al., 2014; Tucker et al., 2014; Williams et al., 2005). Women with OASI also described a fear of becoming pregnant and having to endure perineal trauma for a second time (Priddis et al., 2014). Although some women felt that sexual contact was a necessary part of their romantic relationship, others felt it was simply a 'fulfilment of their duty' with an emphasis on being 'back to normal' by 6 weeks after the birth, presumably as this is the usual 'standard' advice given to mothers after they have given birth (Priddis et al., 2014)

1.4.5. Quantitative Evidence – The effects of symptoms of perineal trauma on social functioning and sexual functioning

Within the qualitative literature women described how their bladder and bowel symptoms impacted on their social activities. One quantitative study found that women with OASI were significantly more likely to experience difficulties resuming their hobbies than those who gave birth vaginally without OASI (15 vs. 5, p=0.05). They found no significant differences between the groups for difficulties returning to work, or avoidance of friends (Boij,

Matthiesen, Krantz, & Boij, 2007). Similarly, another study also found that women who experienced OASI were significantly more likely to report that bowel symptoms impacted upon their ability to undertake physical or social activities away from the home, compared to those who gave birth via caesarean section (Evers, Blomquist, McDermott, & Handa, 2012). Although these studies considered the long-term effects of OASI, collecting data 5 and 10 years after the birth respectively, the former study had a relatively small sample size (n=101) and did not make use of a validated measurement tool. The latter study in comparison had a large sample size (n=847) and used validated measures.

In the qualitative literature, women describe the sexual difficulties they experience as a result of their perineal trauma. Although women describe how physical problems such as incontinence, or even the fear of such physical problems, impacted upon their sex lives and how this affected them emotionally, the results from the quantitative literature are less clear. One study that considers all three did not find a significant association between perineal trauma, its impact on sexual functioning, and effects on quality of life (Rikard-Bell et al., 2014). However, 98% of women in the sample did report some degree of sexual dysfunction (Rikard-Bell, Iyer, & Rane, 2014).

It is apparent from women's accounts that sexual difficulties after experiencing perineal trauma are complex and multi-faceted, ranging from fear of pain or embarrassment to fear of becoming pregnant. As such, quality of life measures may not truly capture the effects of perineal trauma on sexual functioning. In addition, crude measures of resumption that are frequently used in quantitative research may not truly reflect women's experiences. It was therefore decided to omit these from the review. Twelve studies were subsequently identified in the quantitative literature investigating the effects of perineal trauma on sexual functioning using multidimensional scales. Six used the Female Sexual Function Index (FSFI: Rosen et al., 2000) to explore sexual functioning (De Souza et al., 2015; Khajehei et al., 2015; Leal, Lourenço, Oliveira, Carvalheira, & Maroco, 2013; Lurie et al., 2013; Otero et al., 2006;

Safarinejad, Kolahi, & Hosseini, 2009). Three of the studies using the FSFI found that experiencing perineal trauma negatively affected sexual functioning up to 12 months after the birth (De Souza et al., 2015; Leal et al., 2013; Safarinejad et al., 2009), whereas the remaining three found no effect of perineal trauma on FSFI scores (Khajehei et al., 2015; Lurie et al., 2013; Otero et al., 2006). The contradictory nature of these results may be due to the methodology used. Although two of the studies helpfully provide information on the perineal status of the women taking part, (De Souza et al., 2015; Leal et al., 2013), three are unclear in their descriptions of the perineal status in their comparison groups (Khajehei et al., 2015; Lurie et al., 2013; Safarinejad et al., 2009) and the remaining study does not provide perineal status details for their control group. These studies simply state that they did not experience OASI and therefore it is not clear whether the effects are due to perineal trauma of any degree, or OASI.

Three other studies were also identified reporting the effects of perineal trauma and sexual functioning and used alternative multi-dimensional and validated scales (Jawed-Wessel, Schick, & Herbenick, 2013; Rikard-Bell et al., 2014; Rogers, Borders, Leeman, & Albers, 2009). One study found that when controlling for parity and education, women who had experienced major perineal trauma (which they classified as $2^{nd}/3^{rd}/4^{th}$ degree) expressed less desire for sexual contact than those with less severe trauma 3 months after the birth ($p=0.01$). They also found that when disaggregating sexual functioning by perineal suturing, those who had been sutured had poorer sexual functioning scores than those who were not sutured (Rogers et al., 2009). This study suggests that it may be perineal suturing in particular that influences women's sexual functioning. Supporting this, Jawed-Wessel et al. (2013) found that women who had experienced perineal suturing experienced significantly poorer sexual functioning up to 12 months after the birth than those who did not experience perineal suturing (2.58 vs 2.40, $p=0.05$). Unfortunately, the latter study did not disclose the degree of perineal trauma experienced in the sample and both studies did not collect baseline measures for sexual functioning. The lack of baseline measures could be mitigated by the way the

questionnaire is structured, especially if women were asked to consider how they feel their sexual functioning has changed since the birth. This was highlighted in women's accounts where they felt that memories of the suturing process were responsible for avoidance of intimacy even up to five years after the birth (O'Reilly et al., 2009).

There were no qualitative studies providing data on women's experiences of sexual functioning after an episiotomy identified by this review. Two quantitative studies were identified that provide data on the effects of experiencing an episiotomy on sexual functioning. One of the studies, also using the FSFI, reported that having an episiotomy negatively affected sexual functioning 3 months after the birth (Leal et al., 2013). However, another study using the McCoy Female Sexuality Questionnaire (McCoy, 2000) found no association between those who experienced an episiotomy and those who did not 12-18 months after the birth (Ejegård et al., 2008). Although these differences in findings may be the result of a difference in measurement tools, it may also suggest that although issues may arise initially (i.e. in the first initial postpartum months), these issues may resolve over time for the majority of women. This finding is supported by the findings of De Souza et al., (2015) where sexual functioning in women with a perineal tear or episiotomy returned to baseline levels across at 12 months postpartum for all perineal status groups.

Two studies used self-developed tools and both found no effect of perineal trauma on sexual functioning. Boij et al (2007) found differences between those who had and had not experienced AST in terms of timing to resumption but no significant differences in enjoyment or difficulties prior to or after the birth. Finally, one study investigated sexuality concerns amongst first time parents stratifying their results by delivery parameters, one of which was the occurrence of a tear or episiotomy. They found no significant differences in sexuality concerns at 4-12 months postpartum between those with or without perineal trauma. Although this was the first study to consider sexuality concerns after experiencing perineal

trauma, the perineal status of the sample in terms of degree of tear or episiotomy is not specified.

1.4.6. Normalisation and being dismissed

The lack of information given to women about their injuries from the initial theme of 'The Mystery of Perineal Trauma' seemed to extend into the postpartum period for women with severe perineal trauma (Priddis et al., 2014a; Williams et al., 2005). Women describe how the lack of information and education about symptoms associated with their injuries left them feeling abandoned and surprised when they experienced the unexpected (Priddis et al., 2014a,b). Women described that even when given the opportunity to ask their health providers questions about their concerns, their expectations were often unfulfilled and their questions often unanswered (Williams et al., 2005). This projected their healthcare provider in an unfavourable and unknowledgeable light, which contributed to their feelings of frustration (Priddis et al., 2014a; Williams et al., 2005).

Women with different degrees of perineal trauma who were interviewed about their on-going symptoms, described the overwhelming impact on their quality of life (Herron-Marx et al., 2007; O'Reilly et al., 2009; Tucker et al., 2014). If women were able to discuss their issues and source support from healthcare professionals, then this seemed to alleviate the distress women experienced (Williams et al., 2005). Unfortunately, the majority of women described a 'professional silence' from healthcare professionals which reinforced the idea that these issues are not culturally acceptable to be discussed and also made them feel that their issues are simply a normal consequence of childbirth and something to be 'got on with' (Herron-Marx et al., 2007; Tucker et al., 2014).

Women describe their anger and frustration with the lack of information and signposting to appropriate services (Priddis et al., 2014a; Tucker et al., 2014). In addition, those who did not know where to seek help or advice when experiencing problems were left feeling abandoned

and isolated (Herron-Marx et al., 2007; Priddis et al., 2014a). For those who were able to speak to a healthcare provider, the general consensus is that they felt there was a lack of specialized and appropriate services provided to women (Priddis et al., 2014a; Priddis et al., 2014). These findings highlight a need for specialist services to be provided to women who experienced severe perineal trauma, and those with on-going symptoms despite the level of perineal trauma experienced (Herron-Marx et al., 2007). This is supported by findings from one study where women with a 3rd degree tear who were provided access to a specialist perineal clinic (Williams, 2005). The women in this study praised their healthcare providers for their knowledge and use of tools such as anatomical models to explain the location and type of tear they had experienced which they felt aided their understanding.

1.4.7. Quantitative evidence – need for specialist care

Within the qualitative literature, women who were experiencing difficulties relating to their perineal trauma described how they become further isolated and distressed when they are not provided with adequate support. They described how they would like access to specialist care and services and those who had such access where satisfied with such care. Although there were no quantitative studies identified relating to these findings, one survey identified that women who had experienced OASI preferred to receive support from a gynaecologist as indicated by their comments at the end of their questionnaires (Boij et al., 2007).

1.4.8. Adjusting to a new normal – Coping and Compromise

This theme, although not as salient as the others, describes how women adapt to the changes imposed by their perineal trauma and how they adjust to their 'new kind of normal'. This theme overlaps with the former theme of normalisation whereby women try to adapt to their new situation whilst experiencing a lack of advice and treatment.

Women described the impact symptoms such as pain, urinary incontinence and anal incontinence had on their sexual functioning and how this affected them emotionally. Five studies report on these experiences where women described how they adapt to these changes. Two studies included women with various levels of perineal trauma with enduring symptoms (Herron-Marx et al, 2007; O'Reilly et al, 2009), two included women with OASI (Priddis et al., 2014a; Tucker et al., 2014) and one included women with various levels of trauma that were not specifically recruited to investigate on-going symptoms (Way, 2012). For those who were specifically interviewed about enduring symptoms, they described they adapted to episodes of urinary and anal incontinence. Some described it as a minor inconvenience that they would not 'bother' their healthcare provider with, whereas others described their symptoms as being more severe and impacting significantly upon their sexual relationships and social life. Most women described resigning to their symptoms and adapting their lives accordingly (Herron-Marx et al, 2007; O'Reilly et al., 2009). Others however described an overwhelming and negative psychological response to the struggles of basic bowel control (Tucker, 2014). In this study, women referred to themselves as dirty and disgusting, which impacted on their self-esteem and the younger women in the sample described their frustration at the loss of their sexual and social freedom. Coping was not a word used by the women in this study; instead they described how they had sacrificed their social lives due to bowel symptoms and as a result felt a sense of hopelessness and isolation.

1.4.9. Quantitative evidence – Perineal trauma and psychological wellbeing

This review found no quantitative studies surrounding the theme of adapting to symptoms resulting from perineal trauma. However, there was a consistent over-arching theme relating to the psychological effects of experiencing perineal trauma in the qualitative literature, and women described how they felt isolated, frustrated and abandoned. In addition, they described experiencing a variety of other negative emotions resulting from a lack of support

and services available to them and also the difficulties of becoming a new mother in the context of experiencing unpleasant and sometimes embarrassing symptoms they felt they could not discuss. Although for some of the qualitative themes the quantitative literature does not directly 'map' across, this review identified 8 quantitative studies investigating the effects of perineal trauma on psychological health that could be considered to be relevant.

One study investigating the relationship between perineal lacerations and depressive symptoms, found that those who experienced any degree of perineal trauma displayed higher scores on the Edinburgh Postnatal Depression scale (EPDS: Cox, 1987) 1 week after the birth than those with no injury at all (Dunn, Paul, Ware, & Corwin, 2015). The same authors also found a persistent and significantly higher EPDS score in women with a 2nd degree or more severe tear compared to those with less than a 2nd degree tear at 1 months and 3 months after the birth (4.55 vs. 3.05, p=0.04 and 4.15 vs. 2.81, p=0.03 respectively). Additionally, they also found higher scores for stress in women with a 2nd degree or more severe tear compared to those with less severe tears. These findings suggest that experiencing any degree of perineal trauma is associated with a higher risk of experiencing depressive symptoms and that this can persist in the long-term for those with a more severe tear. This may be due to the increased likelihood of experiencing perineal suturing with more severe degrees of tear. As already discussed, those with sutured perineal tears are more likely to experience sexual difficulties (Rogers et al., 2009; Jawed-Wessel et al., 2013) and believe that the suturing procedure was the reason for their abstinence from sexual contact (O'Reilly et al., 2009). However, another study also using the EPDS found no effect of sutured vs unsutured 2nd degree tears and EPDS scores at 10 days and 6 weeks after the birth (Fleming, Hagen, & Niven, 2003). These differences in findings between the two studies using the EPDS (Dunn et al., 2015; Fleming et al., 2003) may be due to the differences in discomfort and healing between the two studies. In the former study, scores for depressive symptoms were positively correlated with inflammatory markers analysed via blood samples, suggesting that inflammation and possibly pain is positively associated with experiencing more depressive

symptoms. In the latter study, were no association was found, there were no significant differences in pain scores between those who were sutured and those who were not sutured. There were also differences between the studies in the degree of trauma considered/compared. The first study investigated all levels of perineal trauma whereas the latter investigated 1st and 2nd degree tears only. It may the case that the significant results were due to the inclusion of more severe levels of perineal trauma in the findings from Dunn et al. (2015).

The findings above suggest that psychological difficulties such as depressive symptoms may be the result of on-going symptoms such as perineal pain. This would also be supported by women's accounts of their difficulties in the qualitative literature, as those with enduring physical symptoms also expressed the negative impact it had on their emotional and psychological health (Tucker et al., 2014). Although there was a lack of evidence in the qualitative literature exploring the effects of episiotomy on psychological health, one quantitative study investigated the approach to episiotomy on various postnatal variables, one of which was EPDS scores (Macleod et al., 2013). Women were randomised to receive a restrictive episiotomy (only when necessary) or routine (in all cases) when having an assisted vaginal birth. Their findings indicated that in the immediate postpartum, mean EPDS scores were significantly higher for those women assigned to the restrictive group compared to those assigned to the routine group (6.7 vs. 5.1, p=0.01). If we examine the other variables, the women in the restrictive group also experienced more physiological symptoms, such as urinary incontinence and pain, than those who were assigned to a routine use of episiotomy. At subsequent time points there were no significant differences in incontinence or pain between the groups and subsequently no significant differences in EPDS scores. This may further suggest that the symptoms associated with perineal trauma may contribute to psychological distress as opposed to the physical level of injury. In the case of the qualitative accounts this distress may then be exacerbated by a lack of support for women experiencing problems as a result of their injuries.

There was a paucity of quantitative research investigating other types of psychological difficulties in women who have experienced perineal trauma. One study found that 18 years after the birth, women who had experienced OASI had a marginally lower mental health score on the SF-12 health survey than those who did not experience OASI (Otero et al, 2006). Another however found no significant differences in psychological health between those with and without OASI at 5 years postpartum based on a self-developed questionnaire (Boij et al., 2007). Finally, one study investigating the prevalence of posttraumatic stress (PTS) symptoms in women who have given birth vaginally, found that 38.2% of those experiencing an episiotomy experienced PTS symptoms at 6-24 weeks after the birth compared to 28% of those without an episiotomy (Firouzkouhi Moghaddam, Shamsi, & Ghazihosseini, 2015). Within these studies the methodology used varied with regards to the perineal status of the women, the timing of measurements and the analyses used. It is therefore difficult to draw conclusions regarding the true effects of perineal trauma on psychological health and further clarification would be needed with regards to the full range of psychological difficulties women may experience after a perineal tear.

1.5. Discussion

The results of this review suggest that experiencing perineal trauma has the potential to influence women's experience of birth and their postnatal experiences. The studies identified for both methodologies varied in their investigation of the different degrees of perineal trauma, the measurement tools used to assess different aspects of experience, and the timing of the measurements, making it difficult to integrate the findings in order to develop an understanding of how women experience perineal trauma and the effects it may have on their psychological and emotional wellbeing.

Throughout the qualitative literature, women with varying degrees of perineal trauma describe a lack of knowledge about their injuries that seems to begin soon after the birth and can extend into the postpartum period. They describe how the information they receive is inadequate which leaves them frustrated and isolated and for those experiencing on-going problems such as incontinence, pain, or difficulties with their sexual functioning, a lack of information and specialised support/services contributes to increased psychological distress. Although some women employ coping mechanisms i.e. normalization of their experiences as a 'just a part of childbirth', for some women the psychological distress that they experience is enduring. For some women who were interviewed years after they had given birth, psychological distress resulting from on-going physical problems, and also memories of their experiences of perineal suturing, was evident in their accounts and there was also evidence of this in the quantitative data. With regards to the effects of perineal trauma on experience of birth, the relationship is not clear. There is no clear qualitative data on women's experience of birth in the context of experiencing perineal trauma. Although one could argue that the overwhelming negative accounts describing a lack of information and how unpleasant women found their perineal repair is indicative of a negative birth experience, this would need further clarification.

The majority of the quantitative and qualitative studies in this review were identified as medium/high quality; however a few main issues were highlighted. Of the 22 quantitative studies included in the review, 16 did not adequately describe their sample, for example not disclosing the perineal status of the women who took part. An awareness of the perineal status of the sample is fundamental to drawing conclusions about the effects of various degrees of perineal trauma on a women's wellbeing. In addition, 15 of the quantitative studies did not discuss or achieve adequate power for their statistical tests, which again impacts on the ability to confidently ascertain the true effects of perineal trauma. Of the 11 qualitative studies included in the review, 3 did not adequately describe their sample with regards to the

perineal status of the women and 4 of the studies did not provide any details regarding their assessment of inter-rater reliability.

1.6. Application of findings with relevance to intrapartum and postpartum care

For women who experience perineal trauma there, is a lack of understanding surrounding the cause of their injuries and the implications of their injuries on future functioning. It is appreciated that it would be difficult to provide women with information regarding the cause of their injuries, as the cause is quite frequently discussed/debated with no general consensus especially regards to risk factors. However, women could be provided with factual information on the location and type of their perineal trauma and what this may mean for them in the future. Reassurance and acknowledgement could be a key element to reducing distress at this time. Perineal repair is also a vulnerable time for women and the research suggests that healthcare providers should be mindful of their interactions with women and demonstrate sensitivity and compassion whilst ensuring women are informed about the procedure. Postnatal care of women who have experienced perineal trauma should also be considered. Unfortunately this review suggests that it may not be appropriate or helpful to identify those in need of care based on the classification of their perineal trauma. It may be beneficial to enquire about perineal issues during routine postnatal appointments, regardless of the level of trauma experienced. Specialised perineal clinics as routine care for those with OASI would be beneficial for women, a finding that has been suggested previously (Fowler et al., 2009) and is also highlighted here.

1.7. Limitations of this review

The highly subjective nature of thematic analysis used in this review is acknowledged. This process is clearly detailed in the methodology and relevant tables as indicated, and was

grounded in the themes used across the qualitative papers by the original authors and the outcome variables of the quantitative studies to minimise extrapolation/inference beyond the data. A limitation of this review was the inclusion of papers only published in English. It is likely that there are relevant studies published in other languages however due to the unavailability of a translator their inclusion was not possible.

1.8. Need for future research

It is essential to understand the factors contributing to women's experiences of childbirth and also their postnatal experiences. If a good understanding of this exists then we can begin to identify where intrapartum and postpartum care can be improved to enhance women's experiences. This could also be useful in determining a way in which we can identify women who may be in need of further input after the birth of their baby and how experiencing perineal trauma can contribute to psychological distress after childbirth.

The aims of this review were to assess what is known about women's experiences of perineal trauma, to identify if experiencing perineal trauma continues to have an effect on psychological distress in the longer term and to establish what direction future research should take in clarifying women's experiences. The literature on women's experiences of perineal trauma, although sparse, suggests that experiencing perineal trauma, perineal repair and the unpleasant symptoms that can emerge as a result of the damage to the pelvic floor, can be distressing for women, and this can continue in the longer term. However, the knowledge base is in need of clarification as it is difficult to integrate the findings from previous literature due to the diverse range of methodologies used from multidisciplinary backgrounds, and the varied/unclear comparison groups. In addition, for some of the studies cited in this review, the effects of perineal trauma were not the focus of the research. In addition, there may be some utility in comparing the effects of an episiotomy as a separate group. Although physiologically speaking, episiotomies are similar to a 2nd degree tear with

regards to the extent of damage to the skin and tissues; they are quite different in terms of pain and healing (Larsson, Platzchristensen, & Bergman, 1991) and women's perception of them may differ. It would be helpful to consider this group separately.

Essentially there are three areas in need of clarification:

1. The effects of perineal trauma on experience of birth
2. The effects of perineal trauma on psychological health/emotional wellbeing after childbirth
3. Women's experiences of care

1.9. Conclusions and rationale for future investigation

There is a lack of research clearly describing women's experiences of the different degrees of perineal trauma and how they may influence experience of birth, experiences of care and psychological wellbeing after childbirth. Although data does exist on women's experiences, there are currently no studies comparing various levels of perineal trauma and episiotomy as a separate comparison group. There is also currently no evidence with regards to the effects of various levels of perineal trauma on posttraumatic stress symptoms and fulfilment of DSM-IV criteria for a traumatic event.

Chapter 2. Method - A mixed methods investigation into the experiences of women sustaining varying degrees of perineal trauma during childbirth

Given the lack of previous research, the purpose of the PEACH study (Psychological health and relationship Experiences After vaginal CHildbirth), was to explore the effects of experiencing perineal trauma during childbirth on experience of birth, and symptoms of psychological distress during the first year postpartum. The experiences of women who had sustained an obstetric anal sphincter tear (OASI: defined as a 3rd of 4th degree tear), an episiotomy (an intentional cut to assist the birth) or a 1st/2nd degree sutured tear were investigated and compared. This study was split into two phases, a questionnaire phase and an interview phase. This chapter describes the research methodology and analytical procedures used in both phases of the research.

Section 1: The effects of experiencing perineal trauma during childbirth on experience of birth and psychological distress (Questionnaire study)

1.1. Aims

The aims of this phase of the research were as follows:

1.1.1 To explore the effects of experiencing different degrees of perineal trauma during childbirth on the immediate self-report of birth experience in first time mothers who have given birth vaginally

1.1.2 To explore the effects of experiencing different degrees of perineal trauma during childbirth on maternal psychological health and wellbeing at 6-12 weeks and 6-10 months postpartum

1.2. Design

A longitudinal cohort design was used to investigate the experiences of women with different degrees of perineal trauma.

1.3. Ethics approval

Ethical approval was sought and obtained from the National Research Ethics Service (NRES) committee North West – Liverpool central, on the 7th October 2014, REC reference 14/NW/1259 (See Appendix 2).

1.4. Consultation with experts

Two consultant gynaecologists and a specialist Urogynaecological midwife provided guidance with the research protocol and assisted with supervision of the project. Service user groups at the Liverpool Women's Hospital (LWH) were also consulted for guidance on the study materials and questionnaires before these were disseminated to participants. No issues with the materials were identified prior to the commencement of the research.

1.5. Short and long-term care for women who experience perineal trauma

Perineal repair and postnatal care for women with perineal trauma differs depending on the extent of the trauma experienced. For women with uncomplicated trauma, (defined as: 1st/2nd degree tears and/or an episiotomy), perineal repair can be carried out by a trained midwife in the room where the woman has given birth. Women with uncomplicated tears are not routinely seen in the postpartum period with regards to their perineal trauma, unless they experience any issues and are identified by their general practitioner (GP). For women who experience OASI, the Royal College of Obstetricians and Gynaecologists (RCOG) provide

guidelines on the classification, repair and treatment of women of third and fourth degree tears (RCOG, 2007). At Liverpool Women's NHS Foundation Trust, women with OASI are taken to the operating theatre where they receive spinal analgesia and their repair is carried out by an appropriately trained clinician or trainee under supervision. Before they are discharged from hospital, the Urogynaecological Link Midwife will visit women with OASI. The specialist midwife will offer to visually inspect the area, explain the nature of the injury and explain the process for the aftercare offered by the specialist perineal clinic at the hospital. If she is unavailable to do this, women are contacted via post with an explanatory leaflet about their injury and an invitation to attend the perineal clinic. The RCOG guidelines recommend following-up all women with OASI within a dedicated perineal trauma clinic (RCOG, 2007). Liverpool Women's is fortunate in that it has a specialist perineal clinic for women with OASI which is managed by consultant Urogynaecologists (Fowler et al., 2009). However, this is not a routine practice throughout the United Kingdom as a recent survey revealed that only 33 of the 104 hospitals included in the study had a dedicated perineal clinic (Ismail, 2015).

1.6. Participants

First-time mothers who fulfilled the inclusion criteria (outlined in Table 1.7) took part in this study. Women who had undergone a caesarean section were not invited to take part as the present study wanted to compare women who had experienced varying levels of perineal trauma during vaginal childbirth. Those women who had experienced a stillbirth or those with infants on the special care baby unit (SCBU) for more than 24hours were also not invited to take part, as it was thought that these experiences would be qualitatively different and perhaps warranting a separate exploration. The aim of the research was to explore women's experiences according to the degree of perineal trauma experienced and as such women were classified into three groups according to the NICE classifications of perineal trauma (NICE, 2007) as follows:

1.5.1. OASI: Women who experienced an anal sphincter tear with various levels of anal sphincter involvement (i.e. 3a, 3b, 3c or 4th degree tear)

1.5.2. 1st/2nd degree: Women who experienced a 1st or 2nd degree tear and had their tear sutured [1]

1.5.3. Episiotomy – Women who have experienced an episiotomy

Although an episiotomy is considered similar to a 2nd degree tear in terms of the extent of damage to the tissues involved, women who have undergone an episiotomy would be more likely to have experienced an assisted birth and therefore may feel differently about their perineal trauma. As such, these were grouped separately to explore any differences.

[1] It is not a mandatory to suture all 1st degree perineal lacerations – those with an unsutured 1st degree perineal tear were not included in this group

Table 1.7 ***Inclusion and exclusion criteria for the 'PEACH' study***

Inclusion Criteria	**Exclusion Criteria**
Given birth to her first child vaginally	Given birth via Caesarean section
16 years of age or over	Under 16 years of age
Given birth to a live infant with no complications requiring more than 24 hours on SCBU	Stillbirth or infant on the SCBU for more than 24 hours
Singleton birth at term (>37 weeks)	Multiple birth or preterm birth (<37 weeks)
	History of female genital mutilation
	Currently under the care of the PNMHT (Perinatal mental health team) or involved in safeguarding proceedings
	History of substance abuse

1.7. Procedure

A convenience sample of women who, had given birth to their first baby vaginally, met the inclusion criteria (see table 1.7), and provided consent took part in this study. Recruitment took place when the researcher was available between November 2014 and May 2016. A midwife provided an eligibility check for potential participants via the hospital records system and sought permission from each woman for the researcher to discuss the study with her. All women were recruited postnatally whilst still in hospital, and only once settled with their baby on the ward.

An initial questionnaire was completed before being discharged from hospital and within 48 hours of giving birth (referred to as 'Time 1': see Appendix 6). Subsequent questionnaires containing different measures were distributed postnatally at approximately 6-12 weeks after giving birth (referred to as 'Time 2': see Appendix 7) and approximately 6-10 months after giving birth (referred to as 'Time 3': See Appendix 8). To increase awareness of the research, and allow women to consider participation before being approached postnatally, antenatal information sheets were made available to women via the Liverpool Women's NHS foundation trust's social media accounts (Twitter and Facebook: see appendix 2) and a summary of the research was available on the trust's website. Women were given the option to complete their postnatal questionnaires via post, email or telephone. If completion was requested via email a link was provided to complete their questionnaire via the Qualtrics website (Qualtrics, Provo, UT). Non-responders were contacted via telephone/text message after two weeks and a replacement postal pack/online link sent if necessary. Those women who had experienced an OASI were followed up in the perineal clinic at their 6 week and 6 month postnatal appointments. Consent was sought from each woman via the specialist midwife to ensure the participant was willing to complete her questionnaire after her appointment. Questionnaires were sent via the above methods (post/email/telephone) to those who were missed or did not attend their appointment. All participant data was kept

confidential and linked to a corresponding participant code to allow tracking of responses across the three time points.

1.8.Materials

Demographic and obstetric variables were recorded for each woman (see Table 1.8 for list of variables). All questionnaires were self-report except when completing via telephone with the researcher.

Table 1.8 ***Demographic and obstetric variables recorded***

Demographic	**Obstetric**
Age*	Antenatal risk (High/Low) *
Social deprivation score [1]	Gestation*
Marital Status [1]	Onset of labour (Induced/Spontaneous) *
Highest level of education [1]	Duration of stage 1 of labour*
Employment status [1]	Duration of stage 2 of labour*
Occupation (If applicable) [1]	Level of perineal trauma*
Previously visited GP/counsellor about mental health [1]	Location of birth (In/Out of theatre) *
	Pain relief for repair of perineum (If applicable) *
Ethnicity *	Who repaired the perineum (Midwife/Doctor) *
	Infant birth Weight*
	Gender of infant *
	Augmentation of labour (YES/NO) *
	Type of birth (assisted/unassisted) *
	Analgesia during birth (non-pharmacological/pharmacological/anaesthetic) [2]

** Data obtained from hospital records, [1] Data obtained from self-report questionnaires, [2] Non-pharmacological = hydrotherapy/TENS/hypnotherapy/attendant support,*

Pharmacological = Entonox/Diamorphine/codeine/paracetamol, Anaesthetic = Epidural/Spinal/pudendal/general anaesthetic

1.9.Measurements taken at Time 1 (Within 48 hours of giving birth)

Three brief measures were taken shortly after consent was obtained. The Childbirth Experience Questionnaire (CEQ: Dencker et al., 2010), the Experience of Birth Scale (EBS: Slade, MacPherson, Hume, & Maresh, 1993) and a simple perineal pain Visual Analogue Scale (VAS) adapted from the short form of the McGill Pain Questionnaire (SF-MPQ: Melzack, 1987)

1.9.1. Childbirth Experience Questionnaire (CEQ – Dencker et al., 2010)

The CEQ is a self-report questionnaire developed to investigate women's perceptions of first labour and birth. The development of the scale involved discussions with 4 groups of experienced midwives and 12 postpartum women to identify key areas of the childbirth experience including; intrapartum sense of security, experience of labour pain, partner support, midwifery care and support, memories from the birth and experience of own performance. The original CEQ is a 22-item scale and factor analyses carried out by the authors yielded a four-dimension structure as follows:

1. *Own capacity* – 8 items regarding sense of control, personal feelings during childbirth and labour pain
2. *Professional Support* – 5 items about information and midwifery care
3. *Perceived safety* – 6 items regarding sense of security and memories from the birth
4. *Participation* - 3 items regarding own perception of own influence over the birthing situation

This scale was chosen as it has been shown to discriminate well between groups hypothesized to differ in experience of childbirth and has been validated in a UK sample (Dencker et al., 2010; Walker et al., 2014). The present study uses 3 of the subscales and omits the items belonging to the 'Perceived Safety' subscale. These questions ask women to reflect on memories of their childbirth experience. It was thought that this would be inappropriate for this study as the measure was completed hours within of the birth taking place. The version used in this study contained 14 statements for which women were asked to indicate their agreement for each statement using a 4-point likert scale from totally agree to totally disagree. Examples of statements from this scale:

1. 'Labour and birth went as I expected'
2. 'I felt I handled the situation well '

There are also two questions asking women to respond on a 10cm VAS scale. The first scale asks women to indicate as a whole how painful they felt childbirth was with the anchors 'No Pain' and 'Worst imaginable pain'. The second VAS scale asks women to indicate how much control they felt they had during childbirth with the anchors 'No control' and 'complete control'. There is also a space for women to add any additional comments if they wish.

Although the original scale was developed in Sweden, psychometric assessment of a version of the scale translated into English revealed a superior performance in a large (*n*=350) English-speaking population of postnatal women (Walker, 2015). Cronbach's alpha for the scale was >0.70 and 0.90 for the total scale. Using known-groups validation the scale was able to discriminate between groups hypothesized to differ in their experience of childbirth. Examination of internal consistency revealed that all subscales except *participation* were found to have substantial agreement between 4 weeks and 6 weeks postnatal (Walker, 2015). The *participation* subscale was found to have moderate agreement (weighted Kappa 0.60). In the present study, the Cronbach's alpha coefficient was 0.70.

1.9.2. The experience of birth scale (Slade et al., 1993)

The experience of birth scale consists of 10 affective adjectives and asks participants to indicate how much the adjective describes their birth experience. Adjectives are rated on a 1-10 scale from not at all to extremely. In the present study, Cronbach's alpha for this scale was 0.64.

2.1. Measurements taken at Time 2 and Time 3

The questionnaires that were distributed to women at Time 2 (Appendix 7) and Time 3 (Appendix 8) were, for the most part, identical. The following measurements were taken at both time points:

1. Perceived body image
2. Perceived impact of perineal pain/discomfort on parenting tasks
3. Mother and infant bonding
4. Posttraumatic stress symptoms
5. Anxiety and depression symptoms

The Time 2 questionnaire included a series of questions to assess personal trauma history and to also assess whether women experienced childbirth as traumatic based on the DSM-IV-TR criteria for traumatic events (APA, 2000). Additional questions tailored to each time point also asked women about any care they had received for their perineum since the birth (Time 2) or since the last questionnaire (Time 3). Women were also asked about their visit to the perineal clinic (only applicable for those with an extensive tear) and all women were asked whether they would have liked additional care for their perineum (Time 3).

2.1.1. The Body Image Scale (BIS: Hopwood et al., 2001)

The body image scale was used to measure a woman's perceived body image at Time 2 and Time 3. The scale consists of 9 items that assess feelings about bodily appearance, attractiveness and body satisfaction and has been used in women who have undergone a hysterectomy where it has been shown to be valid (Stead et al., 2004). Women were asked about their feelings over the last week and responses were given on a four-point scale from 'not at all' to 'very much'. The scale is primarily used for the assessment of body image in breast cancer patients and shows good reliability (Cronbach's alpha >0.70: (Hopwood, Fletcher, Lee, & Al Ghazal, 2001). Further psychometric assessment of the BIS in women with gynaecological conditions demonstrated that the scale had acceptable internal reliability, good clinical validity and was able to discriminate between groups expected to have differences in body image (Stead et al., 2004). In the present study, Cronbach's alpha was 0.93.

2.1.2. Perineal Pain/Discomfort Impact on Parenting (PPDIP)

There are currently no scales assessing perceived impairment of parenting due to perineal discomfort. Discussions with new mothers about important tasks involved in caring for a newborn infant resulted in the creation of a simple 6-item questionnaire to measure the perceived impact of perineal pain/discomfort on parenting tasks. Women were asked to indicate the extent of any perineal pain/discomfort on a 10cm VAS scale and to then indicate how much they felt their pain/discomfort interfered with parenting tasks such as feeding, changing, holding, bathing and socializing at 6-12 weeks and 6-10 months postnatal (See Appendix 7, page 242 for the PPDIP scale). Items were presented with responses given on a 10cm horizontal line with the anchors 'not at all' to a 'lot' in response to the question 'how much do you feel that your discomfort/pain has interfered with….' followed by the task. The Cronbach's alpha for this scale was 0.91.

2.1.3. Mother and Infant bonding scale (MIBS: Taylor et al., 2005)

Mother and infant bonding was assessed using the Mother-Infant Bonding Scale (MIBS: Taylor et al., 2005). The MIBS is a 8 item self-rating questionnaire designed to assess the feelings of a mother towards a new baby. The scale has been shown to be reliable in previous studies with correlations between responses given at different time-points (Taylor, Atkins, Kumar, Adams, & Glover, 2005). Women were asked to rate their feelings towards their new infant at Time 2 and Time 3 using words like 'loving' and 'resentful' on a 4-point scale from 'very much' to 'not at all'. Psychometric assessment of the MIBS revealed an internal reliability of 0.66 and good test-retest reliability (Taylor et al., 2005). In the present study, internal reliability was observed with a Cronbach's alpha of 0.73.

2.1.4. The Impact of Event Scale- Revised (IES-R: Weiss & Marmer, 1997)

The Impact of Events scale-revised (IES-R; Weiss & Marmar, 1997) was used to measure posttraumatic stress symptoms (intrusion, avoidance and arousal). The scale consists of 22 statements describing difficulties people sometimes experience after stressful life events. In the present study, women were asked to consider how distressing each difficulty has been for them, with respect to their childbirth experience, over the past 7 days. Statements on this scale are rated on a 5-point likert scale from '0'(not at all) to '4' (extremely). An example of a statement from this scale is '*I avoided letting myself get upset when I thought about it or was reminded of it*'. Internal reliability of the IES-R has been shown to be very high for the intrusion, avoidance and hyperarousal subscales (0.89-0.92, 0.84-0.86 and 0.79-0.9 respectively: Weiss & Marmer, 1997). Internal reliability in the present study for the total scale was observed with a Cronbach's alpha value of 0.93 at 6-12 weeks and 0.92 at 6-10 months. For the intrusion, hyperarousal and avoidance subscales, internal reliability at 6-12 weeks was observed with Cronbach's alpha values of; 0.87, 0.80 and 0.84 and at 6-10 months; 0.88, 0.84 and 0.75 respectively.

2.1.5. The Hospital Anxiety and Depression Scale (HADS: Zigmond & Snaith, 1983)

The Hospital Anxiety and Depression scale (HADS: Snaith & Zigmond, 1986), is a 14-item scale with two subscales, the first measuring symptoms of anxiety (HADS-A) and the second measuring symptoms of depression (HADS-D). Each item consists of a statement and women were asked to indicate the reply that best represents how they have been feeling over the past week. Women were asked to respond on this scale at both Time 2 and Time 3. Assessment of the internal reliability of the HADS for the present study revealed good internal consistency for the HADS-A subscale at 6-12 weeks and 6-10 months (0.85 and 0.84 respectively) and also for the HADS-D subscale at 6-12 weeks and 6-10 months (0.78 and 0.79 respectively).

2.1.6. Open-ended questions about care

Women were also asked a series of open-ended questions at the end of their questionnaires at 6-12 weeks and 6-10 months. At 6-12 weeks women were asked about the care they had received whilst still in hospital after the birth of their baby, and at 6-10 months they were asked about any care they had received since leaving hospital after the birth of their baby. Those with OASI were asked at 6-10 months about their care from the perineal clinic. At 6-12 weeks the open-ended questions were as follows:

1. *Could you please briefly describe the care you received for your cut/tear whilst you were still in hospital?*
2. *What was good about the care you received for your cut/tear whilst you were still in hospital?*

3. *Is there any aspect of the care you received in hospital relating to your cut/tear that you think could have been improved? If you did not receive any care for your cut/tear, is there anything you would have liked?*

At 6-10 months, the open-ended questions were as follows:

1. *if YES (to receiving care) could you briefly describe the care you have received for your cut/tear (who provided your care and what care was provided)*
2. *What was good about the care you received for your cut/tear since you left hospital after the birth?*
3. *Please add any additional comments about your care in relation to your cut/tear, are there any improvements you think should be made or anything you would have liked?*

Those who had experienced OASI were also asked the following at 6-10 months:

1. *What did you think was good about your follow up at the perineal clinic to discuss your cut/tear?*
2. *Is there anything you think could have been improved about your follow up at the perineal clinic to discuss your cut/tear?*

Table 1.9. ***Overview of study materials***

Measure	Author (Year)	Measuring	Time point assessed	Items
Demographic Variables	Devised for the purpose of the research	Marital status, Highest level of education, employment status, psychological health history, presence of a birth partner	Time 1	8
Childbirth Experience Questionnaire (CEQ)	Dencker et al. (2010)	Important dimensions of first childbirth experience	Time 1	16
Experience Of Birth Scale	Slade et al. (1993)	Degree to which certain emotions felt during labour and birth	Time 1	10
Perineal Pain	Melzack, (1987)	Extent of perineal pain experienced adapted from SF-MPQ	Time 1	1
Body Image Scale	Hopwood et al. (2001)	Feelings about appearance, attractiveness and body satisfaction	Time 2 and Time 3	9
Perineal Pain/Discomfort impact on parenting	Devised for the purpose of the research	Current perineal pain/discomfort and extent to which has affected feeding, changing, holding, bathing and socialising with the infant	Time 2 and Time 3	6
Mother and Infant bonding scale	Taylor et al. (2005)	Assesses feelings of the mother towards the new baby	Time 2 and Time 3	8
The Impact of Event Scale- Revised	Weiss & Marmer, (1997)	Posttraumatic stress symptoms across three symptom clusters (intrusion, avoidance and arousal)	Time 2 and Time 3	22
Hospital Anxiety and Depression Scale	Zigmond & Snaith, (1983)	Symptoms of anxiety and depression	Time 2 and Time 3	14
Perineal care received whilst still in hospital	Devised for purpose of the research	Series of open ended questions	Time 2	
Perineal care received since the birth	Devised for the purpose of the research	Series of open ended questions	Time 3	

2.2.Data analysis

2.2.1. Power Calculation

An a priori sample size calculation was carried out using G*Power 3.1.9 (Faul, 2009). Based on a medium effect size of 0.4, 3-comparison groups, 4 covariates and to achieve an error probability of 0.05 and power of 0.8 for a two way ANCOVA a minimum sample size of 97 was required.

2.2.2. Analysis

Statistical analyses were conducted using IBM SPSS (Version 22.0: IBM, Chicago). Separate between subjects two-way ANCOVA were carried out to assess any differences between the level of perineal trauma sustained and experience of birth (indicated by scores on both the CEQ and EBS), posttraumatic stress symptoms, depression and anxiety symptoms, perceived body image, social disability and mother and infant bonding. To assess possible predictors of posttraumatic stress symptoms in this sample, a standard multiple regression was carried out using scores for posttraumatic stress as the outcome variable and level of perineal trauma, depression and anxiety scores, body image scores, mother and infant bonding scores and social disability scores as predictor variables. Only those variables found to be significant in the first analysis were entered in the regression model. A p value of $\geq .05$ was considered statistically significant

2.2.3. Analysis of open-ended questions

As previously described, women were asked a series of open ended questions to assess their experiences of care, what they thought was good about it, what improvements they felt should be made, or if there was anything they didn't have that they would have liked. This data was analysed using content analysis, as it is regarded as a flexible method for analysing text data (Cavanagh, 1997) and is regarded as a quantitative analysis of qualitative data (Morgan, 1993). The analysis was carried out at a basic/manifest level i.e. a descriptive

account of the data rather than a higher, more interpretive analysis. This method was chosen as a means of categorising and indexing the data to highlight the important features in women's accounts of their care. The process of analysis consisted of reading through the data and noting down codes that reflected the content in the text (i.e. the type of information for example, perineal repair, medication, practical support etc.) and the number of responses for each code/category. The list of codes and minor/major categories/themes were noted for each question and each perineal status group. The categories/themes are presented across the perineal status groups for each question to assess any similarities or differences in women's experiences of care. The coding of the data and categories/themes were discussed with another researcher.

2. Section 2 – Women's experiences of OASI (interview study)

The purpose of this section of the research was to explore in detail the experiences of women who had experienced OASI. Women who had experienced an extensive tear and who completed their time 3 questionnaires were invited to take part in the interview. The interview study was therefore conducted with a subsample of women from the questionnaire study.

2.1. Design

Semi-structured interviews were conducted with a sub-sample of women who had experienced OASI.

2.2. Ethical Approval

Ethical approval was sought for the study as a whole (i.e. the questionnaire and interview elements that formed the 'PEACH' study).

2.3. Procedure

Women who had sustained a third or fourth degree tear and who had completed their time 3 questionnaires were invited to take part in an interview about their experiences of OASI. Women were given an information sheet once they had completed their questionnaires. Women were given the opportunity to ask any questions about the interview and a suitable time and date was arranged for interview if this was appropriate. For those who wanted more time to consider participation, a follow-up telephone call was arranged. For those women who could not or did not attend their appointment, an information sheet and consent for contact form (see appendix 5 for consent for contact form) was included with their time 3 questionnaires. Non-responders were contacted via telephone after two weeks. Women were given the option to be interviewed either at their home or at the Liverpool Women's Hospital. For those who were unable to complete the interview in person, a telephone or skype interview was offered.

Personal details of the women were kept confidential and transcripts anonymised using their participant code. Any references made to places or people were removed to maintain anonymity. Due to the sensitive nature of the topics under investigation, women were informed that they could refuse any question they did not want to answer and reminded of their right to withdraw at any time. Women were advised to take part in the interview at their own pace and that the interview could pause or stop as necessary. No interview was terminated early. If required, women were signposted to sources of further support following consultation with the supervisor of the research. If required, women were made aware of the birth trauma association (http://www.birthtraumaassociation.org.uk/) or referred to the specialist midwife at the perineal clinic. All safeguarding procedures were followed and women were referred to the safeguarding team at the NHS trust where the research took place, if this was necessary.

2.4. Selection of women for interview

Those who had experienced a 3rd or 4th degree tear and expressed a willingness to take part were contacted to arrange a convenient time and place to be interviewed.

2.5. Data Collection

Semi-structured one to one interviews were conducted between 1st February 2016 and 31st October 2016. All interviews were digitally recorded with consent to do so and lasted up to one hour. Interviews were transcribed ad verbatim by the researcher.

2.6. Interview Guide

A topic guide was used to structure the conversation as per the aims of the research (See appendix 7 for interview guide). The interview schedule was designed to cover 5 main sections:

1. Experiences during hospital including the birth, the tear, suturing and immediate postnatal care before being discharged
2. Experiences of becoming a new mother with an extensive perineal tear
3. Recent experiences (up to one year postnatally) after experiencing an extensive perineal tear – any issues highlighted in the previous section also discussed
4. Experiences of care received from the specialist perineal clinic
5. Advice for new mothers/Reflection

The interview guide was devised based on findings from previous qualitative research with women who have sustained extensive perineal tears during childbirth (please see chapter 1 for systematic review). Input was also sought from service users at the Liverpool Women's hospital, a specialist Urogynaecological midwife and Urogynaecological consultants at the Liverpool Women's hospital.

2.7 Analysis

All transcripts were first read in their entirety to increase familiarity with the data before analysis. The transcripts were then analysed using template analysis, an iterative process used to organise and analyse textual data according to themes (Crabtree & Miller 1999; King, 2012). Template analysis is a derivative of thematic analysis and can be flexibly applied to different epistemological positions incorporating the use of both top-down and bottom-up (e.g. grounded theory) approaches. Template analysis was chosen as it is particularly useful as it is efficient in identifying common themes in large quantities of data. Themes can be outlined a priori and can be grounded in theoretical assumptions of the behaviour(s) under investigation or driven by the research questions.

Analysis of the data was conducted within a constructivist epistemological position. Although other methods of thematic analysis such as grounded theory or IPA (interpretative phenomenological analysis) could have been used, template analysis was the preferred method as it is not incorporated within a specific methodology or underpinned by a specific philosophical assumption. Therefore, an advantage to using template analysis is that it is not necessary to have a rigid theoretical underpinning, and the analysis can be adapted and driven by the research question(s). Template analysis was preferred in comparison to grounded theory as a grounded theory analysis is also embedded within the data collection, and analysis of the transcripts can be used to inform the subsequent interview questions. In contrast, template analysis uses strong and well-defined a priori themes that are developed in order to answer the research question; and although these can be modified if necessary within a contextual-constructivist approach, the interview/method of data collection remains the same for each respondent, allowing rich themes to be derived from the data.

2.7.1 Development of the template

The original template constructed from the interview questions and previous research was used and the development of the resulting template followed the process outlined below:

1. Preliminary coding of the data, identifying anything that might contribute to the understanding of women's experiences of OASI
2. Coding of the data with the apriori themes specified in the template which were redefined, removed if they were not evidenced by the data
3. Emergent themes (those not previously identified by the original template) incorporated into the resulting template
4. Organisation of themes into meaningful clusters and defining how they may related to each other within and between the groupings (i.e. relationships and hierarchy)
5. Iterative process of applying the template and re-defining it/modifying it as required
6. Template derived for each interview and an overarching template achieved through integrating the templates of the individual interviews

2.7.2 Quality control

An independent researcher coded a selection of the transcripts simultaneously. Templates for the interviews were compared and discussed and the overall template reviewed by another researcher.

Chapter 3: The Effects of Experiencing Perineal Trauma During Childbirth on Experience of Birth and Maternal Psychological Health and Wellbeing in the First 9 months postpartum

1.1. Aims

1.1.1. To explore the effects of experiencing different degrees of perineal trauma during childbirth on the immediate self-report of birth experience in first time mothers who have given birth vaginally

1.1.2. To explore the effects of experiencing different degrees of perineal trauma during childbirth on maternal psychological health and wellbeing at 6-12 weeks and 6-10 months postpartum

1.2. Hypotheses

1.2.1. There will be differences in the Childbirth Experience Questionnaire scores (CEQ: Dencker et al., 2010), experience of birth scale scores (EBS: Slade, 1993) and perineal pain scores (on a visual analogue scale (VAS)), depending on the degree of perineal trauma experienced

1.2.2. There will be differences in the severity of responses of pain (VAS), and scores on the Impact of Events Scale -Revised (IES-: Weiss and Marmar, 1997), Hospital Anxiety and Depression Scale (HADS: Snaith & Zigmond, 1986), Body Image Scale (BIS: Hopwood, Fletcher, Lee, & Al Ghazal, 2001) and mother and Infant Bonding Scale (MIBS: Taylor, Atkins, Kumar, Adams, & Glover, 2005)

1.2.3. Degree of perineal trauma, lower MIBS (Mother and infant bonding) and higher BIS (body image scale) scores will be associated with higher scores on the IES-R (Post-traumatic stress symptoms)

1.2.4. Women who have experienced a 3rd or 4th degree tear will be more likely to perceive their birth as a traumatic experience (as indicated on the trauma screening questionnaire based on DSM-IV A1 and A2 criteria) and will be more likely to experience persistent symptoms of posttraumatic stress (i.e.

symptoms present at 6 month assessment) than those with less extensive injuries

1.3. Results

1.3.1. Assessment of normality

Distributions for each outcome variable were checked for normality by observing histogram plots, computing skewness and kurtosis statistics and consulting the Shapiro-Wilk test. Due to the fairly large sample size, significance tests for normality may be likely to return significant results even if there is a small departure from normality (Field, 2009; Oztuna, Elhan, & Tuccar, 2006). For this reason, Skewness and Kurtosis statistics were computed by dividing each value by its respective standard error value. It was considered that kurtosis statistics would be unlikely to impact negatively upon the analysis as the underestimation of variance due to positive or negative values may disappear with samples over 100 cases (Tabachnick & Fidell, 2013). Acceptable limits of a skewness statistic of ±2 were used to indicate significant departure from normality (Field, 2009).

To assess normality, the study population was split into sub-groups based on the categorical variable of perineal status ($1^{st}/2^{nd}$ degree, episiotomy and OASI) to assess normality at each unique level of the predictor variable (Field, 2009). Whilst normality was violated for some of the subgroups it was not violated for all of the subgroups for each outcome variable. Transformations were computed which slightly improved the distribution of scores for some of the subgroups however they simultaneously increased the departure from normality in others. It was therefore decided that as parametric tests are more robust to violations of normality when conducted on large sample sizes that they would be used to analyse the data and results checked with non-parametric tests (Kim, 2013). Non-parametric tests revealed no differences with regards to statistical significance. Any changes in the magnitude of any p-values between the two types of test were minimal.

1.3.2. Participants

Of the 297 women approached 202 agreed to take part (68% uptake rate) and their data is presented for the time 1 measurements relating to birth experience and perineal pain. Women were classified into one of three groups depending on the most severe level of perineal trauma they experienced. Fifty women experienced a 3rd or 4th degree tear and were placed in the 'Obstetric Anal Sphincter Injury: OASI group, 67 women experienced a 1st or 2nd degree sutured tear and were placed in the '1st/2nd' degree tear group and 85 women experienced an episiotomy and were placed into the 'episiotomy' group. All of those who experienced a 1st/2nd degree tear had undergone perineal suturing.

1.4. Results for time 1: Birth experience and perineal pain reported within 48 hours of giving birth

1.4.1. Demographic and Birth Characteristics

Demographic and birth characteristics are presented in table 2.1 and perineal trauma and repair characteristics in table 2.2. The sample was predominantly white (*n*=194, 96.1%), married or cohabiting with a partner (*n*=161, 79.7%) and the majority of women were in paid employment at the time of giving birth (*n*=158, 78.2%). Over half of the women were educated to degree level or higher (*n*=104, 51.5%) and were currently residing in the 5th quintile (most deprived areas: *n*=107, 53%) based on their postcode using the department for communities and local government English indices of deprivation tool[2]. Women predominantly experienced a spontaneous onset of labour (*n*=125, 61.9%) at an average of 39.62(±1.23) weeks gestation and most were classified as low risk during their pregnancy (*n*=151, 74.8%). Over half experienced an unassisted vaginal birth (*n*=120, 59.4%) with a mean total labour duration of 8.70 hours (±5.18) giving birth to infants with a mean weight of 3471.79g (±426.25). When asked if they had ever visited their general practitioner (GP) with regards to their mental health, 13.37% (n=27) stated that they had.

[2] http://imd-by-postcode.opendatacommunities.org

1.4.2. Comparisons between perineal status groups for demographic and birth characteristics

For the majority of the demographic and birth characteristics recorded in this study, there were no significant differences between the groups of women according to perineal status (p>0.05). However, some variables known to influence birth experience were observed to be significantly different between the groups. There were higher instances of instrumental birth (n=65, 76.5%) in the episiotomy group compared to the OASI group (n=15, 30%) and $1^{st}/2^{nd}$ degree tear group (n=2, 3%). Chi-Square tests revealed that the difference between the groups were statistically significant (p<0.001). There were significant differences in total labour duration, *Welch's* F(2,122.296)=10.74, p<0.001) with Games-Howell post hoc tests revealing a longer total duration in the episiotomy group compared to the OASI group (10.63h ±5.69 vs 7.93 ±4.74, p=0.010) and $1^{st}/2^{nd}$ degree tear group (10.63h±5.69 vs. 6.94±4.18, p<0.001). There were no significant differences in total labour duration between the OASI group and $1^{st}/2^{nd}$ degree tear group (p>0.05).

Significant differences in the number of women experiencing augmentation of labour were found between the groups. Although a small proportion of women experienced augmentation of labour overall (n=18, 8.9%), 16 of these were in the episiotomy group compared to 2 in the OASI group and none in the $1^{st}/2^{nd}$ degree tear group. Fisher's exact tests revealed these differences to be significant (p<0.001). Significant differences in infant birth-weight were also observed between the groups (F(2,199)=7.16, p<0.001). Tukey post-hoc tests revealed that significantly heavier babies were born to women in the OASI group compared to those in the episiotomy group (3643.34g ±364.67g vs. 3444.74g ±450.45g, p=0.014) and also compared to those in the $1^{st}/2^{nd}$ degree tear group (3655.67g ±364.67g vs. 3369.13g ±398.97g, p=0.001). There were no statistically significant differences in infant birth-weight between those who experienced an episiotomy and those who experienced a $1^{st}/2^{nd}$ degree sutured tear (p=0.794). Finally, 15.3% (n=13) of those who experienced an episiotomy had given birth in theatre compared to 8% (n=4) of those in the OASI group and none in the $1^{st}/2^{nd}$ degree tear group. Chi-square tests revealed these differences to be significant (p<0.001).

Table 2.1 ***Demographic and Birth characteristics for time 1***

	All Participants (N=202)	OASI (3^{rd}/4^{th} Degree) N=50	Sutured 1^{st}/2^{nd} N=67	Episiotomy N=85)
Maternal age at birth, Mean (±SD)	28.42 (5.06)	28.88 (±4.79)	27.36 (±5.1)	28.98 (±5.11)
Marital Status N (%)				
Married	84 (41.6)	24 (48.0)	26 (38.8)	34 (40)
Cohabiting	77 (38.1)	6 (12..00)	16 (23.9)	19 (22.4)
Single	41 (20.3)	20 (40)	25 (37.3)	32 (37.6)
Ethnicity N (%)				
White	194 (96.1)	48 (96.0)	62 (92.5)	84 (98.8)
Non-White	8 (3.9)	2 (4.0)	5 (7.5)	1 (1.2)
Highest Education Level N (%)				
Up to GCSE	42 (20.8)	6 (12.0)	14 (20.9)	22 (25.9)
A-Level/Diploma	56 (27.7)	15 (30.0)	19 (28.4)	22 (25.9)
UGD and higher	104 (51.5)	29 (58.0)	34 (50.7)	41 (48.2)
Social Deprivation N(%)				
1^{st} Quintile (Least Deprived)	8 (4)	5 (10.0)	2 (3)	1 (1.2)
2^{nd} Quintile	16 (7.9)	5 (10.0)	3 (4.5)	8 (9.4)
3^{rd} Quintile	37 (18.3)	12 (24.0)	11 (16.4)	14 (16.5)
4^{th} Quintile	34 (16.8)	4 (8.0)	13 (19.4)	17 (20)
5^{th} Quintile (Most Deprived)	107 (53)	24 (48.0)	38 (56.7)	45 (56.7)
Employment (%)				
Professional	75 (37.1)	17 (34)	27 (40.3)	31 (36.4)
Admin/Skilled	37 (18.3)	13 (26)	6 (9)	18 (21.2)
Care/Customer Service	46(22.8)	10 (20)	19 (28.3)	17 (20)
Unemployed/Student	44 (21.8)	10 (20)	15 (22.4)	19 (22.4)
Antenatal Risk Classification N (%)	51 (25.2)	10 (20)	19 (28.4)	22 (25.9)
High	151 (74.8)	40 (80)	48 (71.6)	63 (74.1)
Low				
Gestation in weeks, Mean (SD)	39.61 (±1.26)	39.48 (±1.18)	39.54 (±1.36)	39.74 (±1.22)

Table 2.1 ***continued***

	All Participants (N=202)	OASI ($3^{rd}/4^{th}$ Degree) N=50	Sutured $1^{st}/2^{nd}$ N=67	Episiotomy N=85)
Onset of Labour N (%)				
Spontaneous	125 (61.9)	31 (62.0)	41 (61.2)	53 (62.4)
Induced	77 (38.1)	19 (38.0)	26 (38.8)	32 (37.6)
Total duration of labour and birth in hours, Mean (SD)	8.73±5.25	7.93±4.74	6.94±4.18	10.63±5.69
Augmentation of labour				
YES	18 (8.9)	2 (0.4)	0 (0)	16 (18.8)
NO	184 (91.1)	48 (96.0)	67 (100)	69 (81.2)
Analgesia during labour/birth				
Non-Pharmacological [2]				
YES	71 (35.1)	19 (38.0)	27 (40.3)	25 (29.4)
NO	131 (64.9)	31 (62.0)	40 (59.7)	60 (70.6)
Pharmacological[3]				
YES	178 (88.1)	44 (88.0)	64 (95.5)	70 (82.4)
NO	24 (11.9)	6 (12.0)	3 (4.5)	15 (17.6)
Anaesthetic [4]				
YES	83 (41.1)	14 (28.0)	9 (13.4)	60 (70.6)
NO	119 (58.9)	36 (72.0)	58 (86.6)	25 (29.4)
Type of Birth N (%)				
Unassisted vaginal birth	120 (59.4)	35 (70)	65 (97)	20 (23.5)
Assisted vaginal birth	82 (40.6)	15 (30)	2 (3)	65 (76.5)
Place of Birth				
In Theatre	17 (8.4)	4 (8.0)	0 (0)	13 (15.3)
Out of Theatre	185 (96.1)	46 (92.0)	67 (100)	72 (84.7)
Infant birth weight (g), Mean (SD)	3469.12 (±438.88)	3643.74 (±392.49)	3364.95(±408.40)	3448.51(±461.26)
Previously visited GP/counsellor for non-pregnancy related mental health advice/treatment				
YES	27 (13.4)	10 (20.0)	5 (7.5)	12(14.1)
NO	175 (86.6)	40 (80.0)	62 (92.5)	73 (85.9)

[1]values may not equal total group size due to missing data, [2] Non-Pharmacological= Hypnotherapy, TENs, Hydrotherapy, Attendant support, [3]Pharmacological = Entonox, Diamorphine, Paracetamol, [4]Anaesthetic = Epidural, Spinal, Pudendal, General Anaesthetic

Table 2.2 ***Perineal trauma and repair characteristics for total sample***

	All Participants (N=202)	**OASI (N=50)**	**1st/2nd degree (N=67)**	**Episiotomy (N=85)**
Classification of Perineal trauma[1]				
1st	24	4	18	2
2nd	79	6	57	16
Episiotomy	93	12	-	81
Extended Episiotomy	4	-	-	4
3a	29	29	-	-
3b	17	17	-	-
3c	3	3	-	-
4th	1	1	-	-
Pain relief for perineal repair [2]				
Perineal infiltration/Pudendal	105	0	54	51
Epidural/Spinal	81	48	4	29
Location of repair [2]				
In theatre	67	50	1	16
Out of theatre	126	0	60	65
Care provider carrying out repair [2]				
Midwife	53	0	42	11
Doctor	139	50	19	70

[1] Will equate to more than group *n* value as some women experienced additional perineal trauma than that classified for their group placement [2]Total may not equate to group size due to missing data

1.4.3. Perineal status and self-reported birth experience, emotional responses to labour and birth and perineal pain

Time one measurements were completed on average 1.25(±0.88) days after the birth. There were no significant differences between the groups with regards to the timing of completion of the initial questionnaire ($p>0.05$). Table 2.3 presents an overview of the results from the time 1 questionnaire.

A one-way ANOVA revealed a significant difference in the CEQ total mean scores between the groups (*Welch's F*(2,118.65)=11.46, $p<0.001$). Games-Howell post-hoc tests revealed that women in the $1^{st}/2^{nd}$ degree tear group had significantly higher CEQ total mean scores than those in the OASI group (3.21±0.20 vs. 3.04±0.27, $p=0.001$) and also than those in the episiotomy group (3.21±0.20 vs. 3.04(0.31), $p<0.001$). There were no significant differences in total CEQ total mean scores between the OASI and episiotomy groups ($p>0.05$). As a higher CEQ total mean score represents a more positive birth experience, those with a $1^{st}/2^{nd}$ degree tear had a more positive self-reported birth experience than those in the OASI and Episiotomy groups.

There were also significant differences in CEQ own capacity sub-scale scores between the three perineal status groups (*Welch's F*(2,119.299)=9.02, $p<0.001$). As with mean CEQ total score, those in the $1^{st}/2^{nd}$ degree tear group had significantly higher own capacity sub-scale scores than those in the OASI group (2.62±0.25 vs. 2.44±0.33, $p=0.005$) and those in the episiotomy group (2.62±2.25 vs. 2.41±0.46, $p=0.001$). There were no significant differences in mean scores between the OASI and episiotomy groups ($p>0.05$). The CEQ own capacity subscale measures sense of control and personal feelings about labour and birth, where higher scores indicate a greater sense of control and more positive feelings. The data suggests that women who experienced a $1^{st}/2^{nd}$ degree tear experienced a greater sense of control and more positive feelings about labour and birth than those who had experienced an OASI or episiotomy.

Significant differences between the groups for mean CEQ participation sub-scale scores were also found (*Welch's F(*2,117.04)=5.14,$p=0.007$). Games-Howell Post-hoc tests revealed that those in the $1^{st}/2^{nd}$ degree tear group had significantly higher participation sub-scale scores than those in the episiotomy group (3.64±0.46 vs.3.37±0.67, $p=0.012$). There were no

significant differences in participation sub-scale scores between the OASI group and the episiotomy group or $1^{st}/2^{nd}$ degree tear group (p>0.05). The CEQ participation sub-scale measures a woman's own perceived ability to influence her birth situation where lower scores indicate less perceived ability. The data suggests that those who experienced an episiotomy felt they had less ability to influence their birth situation than those who experienced a $1^{st}/2^{nd}$ degree tear. However, there were no significant differences in perceived ability to influence the birth situation between the OASI and $1^{st}/2^{nd}$ degree tear group and between the OASI and episiotomy groups.

Differences in mean CEQ professional support, EBS total, EBS positive, EBS negative and Perineal Pain VAS scores between the perineal status groups were not statistically significant (p>0.05)

1.4.4. Consideration of factors known to affect birth experience

Based on the results from the between group analyses of the demographic and birth data, it was important to consider the influence of extraneous variables on birth experience. For this data, total duration of labour, augmentation of labour, analgesia use during labour (Anaesthetic vs. non Anaesthetic), type of birth (unassisted vs. assisted), place of birth (in/out of theatre) and infant birth weight significantly differed between the perineal status groups. In addition, for the perineal repair variables, there were significant differences between the groups for pain relief, location of repair and who carried out the repair. It would have been inappropriate to attempt to control for all of these variables due to the relatively small sample size. It was therefore decided that as total duration of labour, augmentation of labour, type of birth and analgesia use (in this case epidural/spinal vs. not having an epidural/spinal) are variables known to influence birth experience (Dencker et al., 2011, Waldenstrom et al., 2004) that these would be controlled for within the analysis.

When controlling for the birth demographic variables (duration of labour, augmentation of labour, type of birth and analgesia use), significant differences between the perineal status groups were still found for the mean CEQ total score ($F(2,195)=4.00$ p=0.020). Differences between the $1^{st}/2^{nd}$ degree tear group and episiotomy groups were no longer statistically significant (p>0.05). However, differences between the $1^{st}/2^{nd}$ degree tear and OASI group remained statistically significant whereby those with a $1^{st}/2^{nd}$ degree tear had higher CEQ

total scores than those in the OASI group (3.17 vs. 3.03, p=0.016). When analysing CEQ own capacity and participation mean subscale scores, and controlling for these variables, there were no longer significant differences between the groups (p=0.063 and p=0.235, respectively).

When considering the variables associated with perineal repair (table 2.2), chi-square analyses revealed significant relationships between perineal status and; pain relief for the procedure ($X^2(2,186)=95.65$, $p<0.001$), location of the repair i.e. in/out of theatre ($X^2(2,192)=131.15$, $p<0.001$), and who carried out the repair i.e. a doctor/midwife ($X^2(2,192)=78.97$, $p<0.001$). As pain relief for the procedure may affect self-reported birth experience, given previous accounts in the literature about the experience of pain during perineal repair (Salmon, 1999, Priddis et al., 2014a), pain relief for the procedure was controlled for in the analysis of birth experience. When controlling for this, significant differences in mean CEQ total score between the perineal status groups remained ($F(2,186)=3.79$, p=0.024) with differences observed between the $1^{st}/2^{nd}$ degree tear group and those in the episiotomy group (3.164 vs. 3.016, p=0.030). However differences between the OASI and $1^{st}/2^{nd}$ degree tear groups, and differences between the OASI and episiotomy groups were not statistically significant (p>0.05).

1 .4.5. Summary of results at Time 1

1. Significant differences were found between the perineal status groups for CEQ total score, CEQ own capacity subscale score and CEQ participation subscale score, which suggests that birth experience differed significantly depending on the level of perineal trauma experienced.
2. Women who had experienced a $1^{st}/2^{nd}$ degree tear had significantly higher CEQ total and CEQ own capacity subscale scores than women who experienced an OASI or an episiotomy, suggesting that women with a $1^{st}/2^{nd}$ degree tear experienced their birth more positively, perceived a greater sense of control over their birth and experienced more positive feelings about labour and birth than those with an OASI/Episiotomy.
3. Women who experienced an episiotomy had a significantly lower CEQ participation subscale score than those with a $1^{st}/2^{nd}$ degree tear, indicating that those with an

episiotomy perceived less of an ability to influence their birth situation than those with a $1^{st}/2^{nd}$ degree tear.

4. When controlling for duration of labour, augmentation of labour and type of birth (instrumental vs. non instrumental), women with a $1^{st}/2^{nd}$ degree tear continued to experience birth more positively than those with an OASI. Interestingly, differences found previously between those with a $1^{st}/2^{nd}$ degree tear and those with an episiotomy were no longer significantly different.
5. There were no significant differences found between the groups for perineal pain ratings (suggesting that whilst in hospital, perineal pain was managed regardless of the degree of trauma) and no significant differences in emotional experience of labour/birth (EBS scores) were found between any of the groups.
6. Overall, these results suggest that women with a $1^{st}/2^{nd}$ degree tear experience birth more positively than those who experience an episiotomy and those who experience an OASI. The results also suggest that experiencing an OASI after a low intervention birth has a similar effect on birth experience to experiencing a high intervention birth with an episiotomy. The lack of significant differences between those with a $1^{st}/2^{nd}$ degree tear and those with an episiotomy when mode of birth is controlled for, suggests it is the type of birth and not the degree of perineal trauma influencing birth experience. However it is important to be mindful that episiotomy and instrumental birth are not mutually exclusive and thus the experience should be considered holistically.

Table 2.3 ***Experience of birth descriptive results for all women and according to perineal status***

	All Participants (N=202)	**OASI N=50**	**1st/2nd degree tear N=67**	**Episiotomy N=85**
CEQ Total (Mean)				
N	202	50	67	85
Mean (±SD)	3.09 (0.28)	3.04(0.27)	3.21(0.20)	3.04(0.31)
Range	2.25-3.75	2.31-3.56	2.81-3.69	2.25-3.75
CEQ Own Capacity (Mean)				
N	202	50	67	85
Mean (±SD)	2.48 (0.38)	2.44(0.33)	2.62(0.25)	2.41(0.46)
Range	1.25-3.50	1.75-3.33	2.25-3.13	1.25-3.50
CEQ Participation (Mean)				
N	202	50	67	85
Mean (±SD)	3.47(0.61)	3.39(0.64)	3.64(0.46)	3.37(0.67)
Range	1.67-4.00	1.67-4.00	2.33-4.00	1.67-4.00
CEQ Professional Support (Mean)	202	50	67	85
N	3.85(0.31)	3.80(0.35)	3.90(0.24)	3.85(0.34)
Mean (±SD)	2.40-4.00	3.00-4.00	3.00-4.00	2.40-4.00
Range				
Experience of birth scale				
N	200	50	67	83
Mean (±SD)	60.28(11.98)	58.16(12.11)	60.40(12.23)	61.46(11.65)
Range	32-89	32-87	32-89	34-87
Experience of birth scale Positive items				
N	200	50	67	83
Mean (±SD)	27.51(10.06)	25.14(10.02)	28.76(9.58)	27.92(10.33)
Range	5-50	5-50	5-50	5-50
Experience of birth scale negative items				
N	200	50	67	83
Mean (±SD)	32.87(8.12)	32.86(7.68)	31.73(7.80)	33.79(8.59)
Range	13-50	14-50	13-50	13-50
Perineal Pain VAS				
N	201	50	67	84
Mean (±SD)	4.79(2.62)	4.84(2.75)	4.46(2.60)	5.03(2.56)
Range	0-10	0-10	0-10	0.2-10

1.5. Results for time 2: Psychological distress and perineal pain at 6-12 weeks postpartum

1.5.1 Demographic and sample characteristics

Of the 202 women whose data were presented for time 1 analyses, 50.9% completed their T2 questionnaires (*n*=103). According to perineal status group 60% (n=31) of those in the OASI group, 51% (*n*=33) of those in the $1^{st}/2^{nd}$ degree tear group and 46% (*n*=38) of those in the episiotomy group completed their time 2 questionnaires. The slightly higher uptake observed in the OASI group, may be due to the method of follow-up as the majority of the women in this group completed their questionnaires during their routine-care follow-up appointment at the hospital. Time 2 measures were completed on average 8.84 (±3.01) weeks postpartum. Completion of the questionnaires ranged from 4-19 weeks with the majority of women completing their questionnaire 6-12 weeks after they had given birth (*n*=85, 82.5%). When disaggregating by group, those in the OASI group completed their questionnaires, on average, at 8.77 (±2.81) weeks postpartum. Those in the $1^{st}/2^{nd}$ degree tear group completed their questionnaires, on average, at 9.79 (±3.69) weeks postpartum, and those in the episiotomy group at 8.10 (±2.28) weeks postpartum. There were no significant differences between the groups with regards to the timing of completion of the time 2 questionnaires ($p>0.05$).

The characteristics of the sample at this time point were similar to those presented for the time 1 data and are presented in table 2.4. The average age of women completing their follow-up was 29.05 (±5.06). The majority of women were white (n=100, 96.2%), married or cohabiting with a partner (*n*=90, 86.5%), educated to degree level or higher (*n*=66, 63.5%) and in paid employment (*n*=81, 77.8%). There were no significant differences between the groups with regards to any of these variables.

Characteristics of those responding vs. those who did not respond at time 2 were also considered. Those who completed their follow-up were more likely to be married ($p<0.001$) and educated to degree level or higher ($p=0.001$). There were no other significant differences between responders and non-responders for any other demographic or birth characteristic variables recorded. When considering differences between responders vs. non-responders with regards to the experience of birth scores, there were significant differences in EBS

negative subscale scores. An independent samples t-test revealed that those who did not complete their time 2 follow-up had a higher score (M=34.19, SD=7.77) than those who did complete their time 2 follow up (M=31.60, SD=8.28), t(198)=-2.28, p=0.023. This suggests that women who experienced more negative emotions during labour and birth were less likely to respond than those who experienced less negative emotions during labour and birth. No other statistically significant differences existed for any other time 1 questionnaire variables. Table 2.5 presents the results from the time 2 questionnaires.

Table 2.4 ***Demographic and birth characteristics at Time 2 (6-12 weeks postpartum)***

	All (N=103)	**OASI N=31**	**1st/2nd degree tear N=33**	**Episiotomy N=39)**
Maternal age at birth, Mean (±SD)	29.00 (±5.07)	28.97 (±4.73)	28.42 (±5.11)	29.54 (±5.36)
Marital Status N (%)[3]				
Married	56 (54.4)	18 (58.1)	17 (51.5)	21 (53.8)
Cohabiting	33 (32)	11 (35.5)	10 (30.3)	12 (30.8)
Single	14 (13.6)	2 (6.4)	6 (18.2)	6 (15.4)
Ethnicity N (%)[3]				
White	99 (96.1)	30 (96.8)	31 (93.9)	38 (97.4)
Non-White	4 (3.9)	1 (3.2)	2 (6.1)	1 (2.6)
Highest Education Level N (%)[3]	14 (13.6)	2 (6.5)	5 (15.3)	7 (17.9)
Up to GCSE	24 (23.3)	8 (25.8)	7 (21.1)	9 (23.1)
A-Level/Diploma	65 (63.1)	21 (67.7)	21 (63.3)	23 (59.0)
UGD and higher				
Social Deprivation N(%)[3]				
1st Quintile	6 (5.8)	4 (12.9)	1 (3.0)	1 (2.6)
2nd Quintile	11 (10.7)	4 (12.9)	2 (6.4)	5 (12.8)
3rd Quintile	22 (21.4)	6 (19.4)	7 (21.2)	9 (23.1)
4th Quintile	18 (17.5)	4 (12.9)	7 (21.2)	7 (17.9)
5th Quintile	46 (44.6)	13 (41.9)	16 (48.2)	17 (43.6)
Employment (%)				
Professional	37 (35.9)	10 (32.3)	14(42.5)	13 (33.3)
Admin/Skilled	22 (21.4)	8 (25.7)	4 (12.1)	10 (25.6)
Care/Customer Service	21 (20.4)	6 (19.4)	8 (24.2)	7 (17.9)
Unemployed/Student	23 (22.3)	7 (22.6)	7 (21.2)	9 (23.2)

Table 2.4 ***continued***

	All (N=202)	OASI N=31	1st/2nd degree tear N=33	Episiotomy N=39)
Antenatal Risk Classification N (%)				
High	22 (21.4)	6 (19.4)	7 (21.2)	9 (23.1)
Low	81 (78.6)	25 (80.6)	26 (78.8)	30 (76.9)
Gestation in weeks, Mean (SD)	39.54 (±1.24)	39.55 (±1.12)	39.48 (±1.30)	39.59 (±1.29)
Onset of Labour N (%)				
Spontaneous	70 (67.9)	22 (70.9)	24 (72.7)	24 (61.5)
Induced	33 (32.1)	9 (29.1)	9 (27.3)	15 (38.5)
Total duration of labour and birth in hours, M(SD)	8.36 (±5.35)	9.09 (±5.90)	7.12(±4.43)	9.13 (±4.91)
Augmentation of labour[3]				
YES	6 (5.8)	0 (0.0)	0 (0.0)	6 (15.4)
NO	97 (94.2)	31 (100.0)	33 (100.0)	33 (84.6)
Type of Birth N (%)				
Unassisted vaginal birth	60 (58.3)	23 (74.2)	32 (97.0)	5 (12.8)
Instrumental vaginal birth	43 (41.7)	8 (25.8)	1 (3.0)	34 (87.2)
Place of Birth[3]				
In Theatre	8 (7.8)	2 (6.5)	0 (0.0)	6 (15.4)
Out of Theatre	95 (92.2)	29 (93.5)	33 (100.0)	33 (84.6)
Infant birth weight (g), Mean (SD)	3481.23 (±485.88)	3480.53(±409.32)	3397.85 (±394.69)	3489.96(±373.25)
Previously visited HCP for mental health	16 (15.5)	7 (22.6)	3 (9.1)	6 (15.4)
YES	87 (84.5)	24 (77.4)	30 (90.9)	33 (84.6)
NO				

Table 2.5 Descriptive results from Time 2 (6-12 weeks postpartum) scales

		All Participants (*n*=103)	OASI (*n*=31)	1st/2nd degree tear (*n*=33)	Episiotomy (*n*=39)
BIS Total	N	100	29	33	38
	Mean ±SD)	7.56(±5.42)	5.83(±3.81)	8.00 (±6.51)	8.47(±5.25)
	Range	0.00-21.00	0.00-13.00	0.00-21.00	0.00-19.00
IES-R Total	N	101	30	33	38
	Mean ±SD)	6.99(±7.74)	8.43(8.94)	5.15 (±5.88)	7.45(±8.03)
	Range	0.00-29.00	0.00-27.00	0.00-16.00	0.00-29.00
IES-R Intrusion	N	101	30	33	38
	Mean ±SD)	3.26(±3.82)	3.27(±3.65)	2.94(±3.47)	3.53(±4.28)
	Range	0.00-15.00	0.00-11.00	0.00-10.00	0.00-15.00
IES-R Avoidance	N	101	30	33	38
	Mean ±SD)	2.31(±2.78)	3.37(±3.85)	1.21(±3.85)	2.42(±2.24)
	Range	0.00-11.00	0.00-11.00	0.00-11.00	0.00-7.00
IES-R Hyperarousal	N	101	30	33	38
	Mean ±SD)	1.31(±1.90)	1.67(±2.23)	1.15(±1.91)	1.29(±1.94)
	Range	0.00-7.00	0.00-5.00	0.00-5.00	0.00-7.00
HADS Anxiety	N	100	29	33	38
	Mean(±SD)	5.45(±3.94)	4.41(±0-12)	5.73(±3.97)	6.00(±3.95)
	Range	0.00-15.00	0.00-12.00	0.00-15.00	0.00-14.00
HADS Depression	N	101	30	33	38
	Mean ±SD)	4.29(±3.27)	3.87(±3.31)	4.36(±3.36)	4.63(±3.33)
	Range	0.00-12.00	0.00-11.00	0.00-12.00	0.00-11.00
MIBS Total	N	98	28	35	35
	Mean ±SD)	1.49(±1.85)	1.51(±1.78)	0.97(±1.38)	1.00(±2.32)
	Range	0.00-7.00	0.00-6.00	0.00-5.00	0.00-8.00
Perineal Pain VAS	N	60	19	20	21
	Mean(±SD)	1.44(±1.44)	1.29(±1.23)	1.26(±1.76)	1.76(±1.29)
	Range	0.00-5.70	0.00-4.10	0.00-5.70	0.00-4.00
PPIP VAS – Total	N	52	17	16	20
	Mean ±SD)	6.48(±8.16)	9.99(±10.98)	2.43(±2.76)	6.75(±6.98)
	Range	0.00-34.90	0.00-34.90	0.00-6.90	0.00-6.20
PPIP VAS – Feeding	N	53	17	16	20
	Mean ±SD)	1.24(±1.78)	1.92(±2.32)	0.22(±0.28)	2.37(±3.01)
	Range	0.00-6.20	0.00-6.20	0.00-0.60	0.00-4.60
PPIP VAS – Changing	N	52	17	16	19
	Mean(±SD)	1.38(±2.16)	2.37(±3.01)	0.24(±0.27)	1.45(±1.73)
	Range	0.00-9.00	0.00-9.00	0.00-0.60	0.00-5.20
PPIP VAS – Holding	N	52	17	16	19
	Mean ±SD)	1.21(±1.70)	1.68(±2.26)	1.01(±1.42)	0.96(±1.29)
	Range	0.00-6.90	0.00-6.90	0.00-3.50	0.00-10
PPIP VAS – Bathing	N	52	17	16	19
	Mean ±SD)	1.81(±2.49)	2.97(±3.28)	0.47(±0.53)	1.89(±2.24)
	Range	0.00-10	0.00-10	0.00-1.20	0.00-6.70
PPIP VAS – Socialising	N	52	17	16	19
	Mean ±SD)	0.86(±0.97)	1.05(±1.14)	0.48(±0.59)	1.00(±1.09)
	Range	0.00-3.20	0.00-3.20	0.00-1.3	0.00-2.40

1.5.2. Perineal trauma and body image at 6-12 weeks postpartum

There were significant differences in total Body Image Scale scores (BIS) depending on the level of perineal trauma experienced (*Welch's F*(2,62.999)=3.20, *p*=0.048). Games-Howell post-hoc tests revealed that those in the episiotomy group had significantly higher scores than those in the OASI group (8.47±5.25 vs. 5.83±3.81,*p*=0.05). As higher scores on this scale indicate a more negative perception of body image, the data suggests that those who underwent an episiotomy experienced a significantly more negative attitude towards their body image during this time than those who experienced a severe tear. Although those who experienced a $1^{st}/2^{nd}$ degree tear had higher scores than those in the OASI group (8.00±6.51 vs 5.83±3.81) these differences were not statistically significant (*p*>0.05). Similarly, there were no statistically significant differences in body image scores between the $1^{st}/2^{nd}$ degree tear group and episiotomy group (*p*>0.05). As the type of birth (assisted vs. unassisted) significantly differed between the groups an ANCOVA controlling for the effects of type of birth was conducted which found no significant differences between the groups (*p>0.05*). The rationale for controlling for type of birth and not controlling for any of the other variables was that previous research has suggested that type of birth (especially delivery by forceps) may be associated with a change in body image perception after birth (Iles et al., 2017).

1.5.3 Perineal trauma and perineal pain/discomfort and its effect on caring for a new infant at 6-12 weeks postpartum

Within their time 2 questionnaire women were asked to report their experience of perineal pain/discomfort and whether they felt this impacted on various tasks when caring for their infant. When asked if they were currently experiencing any perineal pain or discomfort, 11 out of 26 (42.3%) women in the OASI group, 9 out of 30 (30%) in the $1^{st}/2^{nd}$ degree tear group and 15 out of 22 (68%) in the episiotomy group stated that they were. These differences were not statistically significant (*p*>0.05). There were also no significant differences in ratings of perineal pain provided by the VAS (*p*>0.05).

Women also completed a measure pertaining to how they felt any perineal pain/discomfort impacted upon their ability to care for their baby (PPDIP). Although there were no statistically significant differences between the groups on the VAS for perineal pain/discomfort, there were significant differences on the PPDIP. A significant difference was found for the PPDIP total score (*Welch's F*(2,26.924)=6.10, *p*=0.007) whereby those in the $1^{st}/2^{nd}$ degree tear group had lower PPDIP total scores than those in the OASI group (2.42±2.76 vs. 9.99±10.98, *p*=0.033) and those in the episiotomy group (2.42±2.78 vs. 6.75±6.98, *p*=0.05). Differences in PPDIP total score between those in the OASI group and those in the episiotomy group were not statistically significant (*p*>0.05). As higher scores on this scale indicate a greater perceived impairment in parenting tasks, the data suggests that those in the OASI and episiotomy groups felt that their perineal pain/discomfort impacted upon caring for their infant significantly more so than those in the $1^{st}/2^{nd}$ degree tear group.
When considering the results for ratings of perceived impact of perineal pain/discomfort on specific parenting tasks (i.e. the PPDIP subscales), there was a significant difference between the groups for the feeding subscale (*Welch's F*(2,24.255)=9.64, *p*=0.001). Similar to the trend found for PPDIP total score, those in the $1^{st}/2^{nd}$ degree tear group had significantly lower scores than those in the OASI group (0.22±0.28 vs. 1.92±2.32, *p*=0.022) and those in the episiotomy group (0.22±0.28 vs. 1.24±1.78, *p*=0.008). Differences in scores between the OASI and episiotomy groups were not statistically significant (*p*>0.05).

There were also significant differences found for the changing subscale (*Welch's F(*2,23.397)=8.41, *p*=0.002). Those in the $1^{st}/2^{nd}$ degree tear group had significantly lower scores than those in the OASI group (0.24±0.27 vs. 2.37±3.01, *p*=0.026) and those in the episiotomy group (0.24±0.27 vs. 1.45±1.73, *p*=0.018). Differences between those in the OASI and episiotomy groups were not statistically significant (*p*>0.05*).* The PPDIP bathing subscale also differed according to perineal status (*Welch's F*(2,24.515)=7.867, *p*=0.002). Again, those in the $1^{st}/2^{nd}$ degree tear group had significantly lower scores than those in the OASI group (0.47±0.53 vs. 2.97±3.28, *p*=0.017) and those in the episiotomy group (0.47±0.53 vs. 1.89±2.24, *p*=0.036). Differences between the OASI and episiotomy groups were not statistically significant (*p*>0.05). There were no statistically significant differences in scores for the holding or socialising subscales between the groups (*p*>0.05).

Similar to the PPDIP total score, higher scores on the relevant sub-scales indicate a greater perceived impact of perineal pain/discomfort on parenting tasks. In summary, the data suggests that those in the OASI and episiotomy group experienced a significantly greater impact on feeding, changing and bathing their baby at 6-12 weeks postpartum, than those in the 1st/2nd degree tear group. There were no significant differences in the perceived impact of perineal pain/discomfort on caring, feeding or bathing their baby between the OASI and episiotomy groups at 6-12 weeks postpartum, and no differences between any of the groups with regards to holding or socialising with their baby at 6-12 weeks postpartum.

1.5.4 Perineal trauma and mother and infant bonding at 6-12 weeks postpartum

The data on perineal discomfort and caring for a new infant reveals that there was a significant difference in perceived impact of perineal pain on caring tasks according to the level of perineal trauma experienced. It was therefore important to consider any effects that experiencing a tear may or may not have on mother and infant bonding. There were no statistically significant differences in scores on the mother and infant bonding scale (MIBS) at 6-12 weeks between the perineal status groups (p=0.132). A higher score on this scale indicates a greater impairment of mother and infant bonding. Although scores were slightly higher for those in the OASI and episiotomy groups, compared to those who experienced a 1st/2nd degree sutured tear (Table 2.5) at 6-12 weeks postpartum, these differences were not statistically significant.

1.5.5 Perineal trauma and experiencing childbirth as a traumatic event

Of the 103 women who completed their follow-up, 101 completed the childbirth trauma screening questions, which assessed fulfilment of criterion A1 and A2 of the DSM-IV[3] criteria for Posttraumatic Stress Disorder (PTSD: APA, 2000) to establish what proportion of women experienced childbirth as a traumatic event. For the overall sample, regardless of perineal status, 51.5% (n=52) felt like their own or their baby's

[3] Study used DSM-IV due to timing of design of the study and the availability of measures to assess PTS symptoms that map onto DSM criteria

life was at risk or felt like there was a risk of injury or harm to themselves or their baby during labour and birth. Therefore, over 50% of the sample fulfilled criterion A1. When asked if they experienced feelings of intense fear, helplessness or horror during labour and birth, 36.6% (*n*=37) said yes and therefore over a third of the sample fulfilled criterion A2. When considering both criterion A1 and A2, 28.7% (*n*=29) of the sample of women responding at 6-12 weeks fulfilled both criteria, and would be considered to have experienced childbirth as a traumatic event according to DSM-IV criteria. When taking into account the most recent changes to the DSM (DSM-V: APA, 2013), i.e. the removal of the appraisal A2 criterion, the proportion of women who would be considered to have experienced childbirth as a traumatic event would increase by 22.7% (*n*=23). Women's responses to these questions were also disaggregated by perineal status group, to assess the effects of perineal trauma on the experiencing of childbirth as a traumatic event. These results are presented in table 2.6.

T*able 2.6 Endorsement of DSM-IV A1 and A2 criteria for PTSD by perineal status group*

	OASI (*n*=31)	1st/2nd degree tear (*n*=32)	Episiotomy (*n*=38)
A1 *n* (%)	18 (58.1)	5 (15.6)	29 (76.3)
A1 and A2 *n* (%)	11 (35.5)	2 (6.3)	16 (42.1)

When disaggregating the responses to the childbirth trauma screening questions by perineal status, there were significant relationships found between perineal status and endorsement of DSM-IV criteria. Chi-square analysis revealed a significant relationship between perineal status and endorsement of A1 ($X^2(2,101)=26.39$, $p<0.001$) and between perineal status and endorsement of both A1 and A2 ($X^2(2,101)=11.91$, $p=0.003$). With regards to the endorsement of the A1 criterion, 18 of those in the OASI group, 29 in the episiotomy group and 5 in the 1st/2nd degree tear group perceived actual or threatened death or injury to themselves or their baby during their labour and birth. Similarly, when considering responses to both the A1 and A2 criterion, 11 in the OASI group, 16 in the episiotomy group and 2 in the 1st/2nd

degree tear group would have been considered to have experienced childbirth as a traumatic event according to DSM-IV criteria. When taking into account the recent changes to the DSM and the removal of the A2 criterion, the number of women in the respective groups who would be considered to have experienced childbirth as a traumatic event increased by 7 in the OASI group, 13 in the episiotomy group and 3 in the $1^{st}/2^{nd}$ degree tear group.

As it was hypothesised that those with OASI would be more likely to perceive their birth as traumatic compared to those with other degrees of perineal trauma, and given that a significant relationship was found between perineal status and endorsement of the DSM-IV criteria, another chi-square test was conducted with perineal status disaggregated by OASI and non-OASI (i.e. two groups). This did not reveal a statistically significant relationship between the experiencing of OASI and endorsing A1 or endorsing A1 and A2 ($p>0.05$). In light of these findings, another chi-square test was carried out to determine whether experiencing an episiotomy vs. not experiencing an episiotomy affected the likelihood of women experiencing their birth as traumatic. This revealed a significant relationship between experiencing an episiotomy and the endorsing of A1 ($X^2(1,101)=22.46$, $p<0.001$) with more women who experienced an episiotomy perceiving threat ($n=35$) compared to those who perceived a threat during their birth but did not experience an episiotomy (n=17). Another chi-square test was carried out to assess the effects of experiencing an episiotomy on the endorsing of both A1 (threat) and A2 (appraisal) and found a significant relationship ($X^2(1,101)=9.81$, $p=0.002$). More women who experienced an episiotomy ($n=20$) experienced their birth as traumatic and responded with fear, helplessness or horror, compared to those who did not experience an episiotomy ($n=9$).

As research has shown that experiencing a prior traumatic event can be a risk factor for experiencing childbirth as traumatic, women were also asked about previous traumatic events encountered prior to giving birth. Of the 103 women completing their 6-12 week follow up 102 answered these questions. Overall, when asked if they had ever experienced a traumatic event, 42 women (41.2%) answered 'yes'. When asked if they experienced nightmares, flashbacks or distressing thoughts related to the event in question, 85 answered the question and 20 of those (23.5%) stated they had.

Finally, when asked if they avoided reminders of the event in question, 83 answered the question and 22 (26.5%) stated that they did avoid reminders. When disaggregating this by perineal status, a chi-square analysis showed a relationship between perineal status and reporting a previous traumatic event $\chi^2(2,102)=8.67$, $p=0.013$. It was also observed that more women in the OASI (n=18) and the episiotomy (n=17) groups had experienced a previous traumatic event compared to those in the 1st/2nd degree tear group (n=7),

1.5.6. Perineal trauma and Psychological distress at 6-12 weeks postpartum

1.5.6.1. The Impact of Events Scale Revised (IES-R)

Women were also asked to complete the IES-R to assess posttraumatic stress (PTS) symptoms at 6-12 weeks postpartum. Although the IES-R is not a clinical assessment tool, scores above 24 have been shown to indicate that PTS symptoms may be a clinical concern (Asukai et al., 2002) and scores above 33 are suggested as the best cut off for a probable diagnosis of PTSD (Cramer, Bell & Falilla, 2002). Of the 101 women with IES-R total scores, 7.9% (n=8) scored 24 or above and 3.9% (n=4) scored 33 or above. In addition, 2.9% women (n=3) scored 37 or above, a score suggested to represent symptoms severe enough to suppress the immune system even 10 years after the impact event (Kawamura, Yoshiharu & Nozomu, 2001).

When disaggregating IES-R scores between perineal status groups, there were no significant differences in IES-R total, Intrusion or Hyperarousal sub-scale scores between the perineal status groups ($p>0.05$). There were however significant differences in IES-R avoidance sub-scale scores (*Welch's F*(2,57.775)=6.10, $p=0.004$). Those in the 1st/2nd degree tear group had lower IES-R avoidance scores than those in the OASI group (1.21 ±3.85 vs. 3.27±3.65, $p=0.019$) and those in the episiotomy group (1.21±3.85 vs. 2.42±2.24, $p=0.028$). Differences in IES-R avoidance sub-scale scores between the OASI and episiotomy groups were not statistically significant ($p>0.05$). This suggests that those who experienced OASI or episiotomy engaged in more avoidance behaviours related to their childbirth experience at 6-12 weeks postpartum than those who experienced a 1st/2nd degree tear.

IES-R scores between the OASI and episiotomy group were not statistically significant (p>0.05).

As there were some differences between the groups for the type of birth and duration of labour, and as these are variables known to influence PTS symptoms after childbirth (Creedy et al., 2000), these were controlled for. An ANCOVA was run to determine the effect of perineal trauma on IES-R avoidance subscale scores after controlling for type of birth (assisted vs. unassisted) and duration of labour. After these adjustments there was still a significant difference between the groups $F(2,95)=5.12$, $p=0.008$. IES-R avoidance subscale scores were statistically significantly higher in the OASI group (3.670, SE= 0.511) than in the $1^{st}/2^{nd}$ degree tear group (1.799, SE=0.556) $p=0.024$. IES-R avoidance subscale scores for the episiotomy group compared to the $1^{st}/2^{nd}$ degree tear group and compared to the OASI group were not statistically significantly different (p>0.05). This suggests that even after controlling for type of birth and labour duration, those in the OASI group engaged in more avoidance behaviours related to their childbirth experience at 6-12 weeks than those in the episiotomy or $1^{st}/2^{nd}$ degree tear groups.

1.5.6.2. The Hospital Anxiety and Depression Scale (HADS)

In addition to the IES-R, women also completed the Hospital Anxiety and Depression scale (HADS) at 6-12 weeks postpartum. Although the scale was not designed to be a clinical diagnostic tool it has been shown to be a reliable measure of emotional distress with categories of scores used to demonstrate 'caseness' of anxiety or depression as follows: 0-7 normal, 8-10 borderline and 11-21 abnormal. Scores between 8-21 are suggested as a cut-off for anxiety or depression (Bjelland, Dahl, Haug, & Neckelman, 2002). Of those who provided data on the HADS anxiety sub-scale at 6-12 weeks (n=101), 69.3% (n=70) scored between 0-7, 17.8% (n=18) scored between 8-10 and 12.9% (n=13) scored between 11-21. Of those who provided data on the HADS depression sub-scale (n=101), 80.2% (n=81) scored between 0-7, 12.87% (n=13) scored between 8-10 and 6.93% (n=7) scored between 11-21. There were no significant differences in HADS anxiety or depression sub-scale scores between perineal status groups at 6-12 weeks (p>0.05).

1.5.7. Summary of results at time 2 – 6-12 weeks postnatal

1.5.7.1. Body image: Those who experienced an episiotomy experienced a greater negative impact on their perceived body image than those who experienced an OASI, however these differences were no longer significant when controlling for type of birth. This suggests that experiencing an episiotomy negatively affects how a woman feels about her body after experiencing an instrumental birth – although it should be noted that episiotomy and instrumental birth are not usually mutually exclusive.

1.5.7.2. Perineal Pain/discomfort and caring for a new infant: No significant difference in the proportion or intensity of perineal pain/discomfort between the perineal status groups was found. Those experiencing an episiotomy or OASI experienced a greater overall perceived impact on their ability to care for, feed, change and bathe their infant, compared to those who experienced a $1^{st}/2^{nd}$ degree tear. This suggests that when asking about perineal pain in the context of becoming a new mother, significant differences existed in this sample.

1.5.7.3. Mother and infant bonding - there were no significant differences between the perineal status groups.

1.5.7.4. Experiencing childbirth as a traumatic event – 28.7% of the women responding at T2 experienced childbirth as a traumatic event. Those who experienced an OASI or an episiotomy were more likely to have experienced a previous traumatic event and more likely to have experienced childbirth as traumatic event compared to those in the $1^{st}/2^{nd}$ degree tear group. This suggests that experiencing an episiotomy or an OASI increases the likelihood of experiencing birth as a traumatic event.

1.5.7.5. Symptoms of post-traumatic stress: Of those responding at T2, 7.9% scored above 24 on the IES-R. There were no significant differences between perineal status groups for IES-R total, intrusion, or hyperarousal scores – however those who experienced an OASI scored significantly

higher on the avoidance subscale of the IES-R compared to those in the $1^{st}/2^{nd}$ degree tear group, a difference which remained after controlling for type of birth and duration of labour. This suggests that despite having similar birth characteristics to the $1^{st}/2^{nd}$ degree tear group, experiencing an OASI resulted in the experiencing of more avoidance symptoms of posttraumatic stress, although it should be noted that levels were not of clinical relevance.

1.5.7.6.Symptoms of depression and anxiety: The majority of women reported normal levels of depression on the HADS-D subscale (between 0-7:69.3%) and normal levels of anxiety on the HADS-A subscale (between 0-7: 80.2%). However the prevalence of anxiety and depression in the sample at this time point (a score of 8 or above at 6-12 weeks postpartum) was therefore 30.7% and 19.8% respectively. There were no significant differences between the perineal status groups for scores on either scale.

1.6. Results for time 3: Psychological distress and perineal pain at 6-10 months postpartum,

As previously described, a similar questionnaire to that completed at 6-12 weeks was also completed at 6-10 months after giving birth. The results for this are presented in this section.

1.6.1 Demographic and Sample Characteristics

Of the 202 women whose data were presented for time 1 analyses, 44.5% completed their time 3 questionnaires (*n*=90). According to perineal status group 60% (n=30) of the OASI group, 38.8% (*n*=26) of the $1^{st}/2^{nd}$ degree tear group and 40% (*n*=34) of the episiotomy group completed their time 2 questionnaires. As was the case for the time 2 data at 6-12 weeks, the higher uptake observed in the OASI group, may be due to the method of follow-up as the majority of the women in this group completed their questionnaires during their routine-care follow-up appointment at the hospital.

Time 3 measurements were completed on average 29.95 (±5.73) weeks postpartum. When disaggregating by group, those in the OASI group completed their questionnaires on average 27.77(±4.70) weeks postpartum, those in the $1^{st}/2^{nd}$ degree tear group at around 31.29 (±4.70) weeks postpartum, and those in the episiotomy group at around 32.24 (±6.47) weeks postpartum. The differences between the groups regarding the timing of completion of the questionnaires were significant (*Welch's* $F(2,59.189)=6.366$, $p=0.003$). Those in the OASI group completed their questionnaires significantly earlier than those in the $1^{st}/2^{nd}$ degree tear group ($p=0.017$) and those in the episiotomy group ($p=0.004$). Again, this could be a result of the method of follow up for those in the OASI group (perineal clinic). Because of the differences in the timing of completion of the measures, the time between the completion of time 2 and time 3 questionnaires was considered to ensure there was an appropriate interval between the completions of the two questionnaires. This was found to be acceptable and ranged between 12-37 weeks (i.e. there was at least 12 weeks between measures).

The characteristics of the sample at this time point are presented in table 2.7. The average age of women completing their follow-up was 29.51 (±4.75) years. The majority of women were white (*n*=88, 96.7%), married or cohabiting with a partner (*n*=48, 52.7%), educated to degree level or higher (*n*=59, 64.8%) and in paid employment at the time of giving birth (*n*=77, 84.6%). There were no significant differences between the perineal status groups with regards to any of these variables. Characteristics of those responding vs. those who did not respond at time 3 were also considered. Those who completed their follow-up were more likely to be married (*p*=0.001), educated to degree level or higher (*p*=0.001) and reside in less deprived areas (*p*<0.001). There were no other significant differences between responders and non-responders for any other demographic or birth characteristic variables recorded. There were no significant differences between responders and non-responders with regards to any time 1 (experience of birth questionnaire scores (*p*>0.05). When considering differences between responders vs. non-responders for the time 2 data, there were statistically significant differences in BIS total scores where those responding had higher BIS total scores (M=8.29, SD±5.60) compared to those who did not respond (M=5.56, SD±4.40), t(98)=2.285, *p*=0.024. Those responding also had higher HADS anxiety subscale scores (M=5.90, SD±4.09) compared to those who did not respond (M=4.22, SD±3.27), t(98)=2.13, *p*=0.038. Therefore, those responding at time 3 experienced a more negative body image perception and more anxiety symptoms at time 2 than those who did not respond. No other statistically significant differences were found between responders and non-responders for any other time 2 variables. There were also no significant differences between responders and non-responders with regards to any of the trauma screening questions (*p*>0.05). . Table 2.8 presents the results from the time 3 questionnaires

Table 2.7. Demographic and birth characteristics at 6-10 months postpartum

	All Participants N=91	OASI N=30	1st/2nd degree tear N=28	Episiotomy N=33
Maternal age at birth, Mean (±SD)	29.51(±4.75)	29.83(±3.86)	29.32(±5.14)	29.36(±5.24)
Marital Status N (%)				
Married	48 (52.7)	17 (56.7)	16 (57.1)	15 (45.5)
Cohabiting	34 (37.4)	12 (40.0)	8 (28.6)	14 (42.4)
Single	9 (9.9)	1 (3.3)	4 (14.3)	4 (12.1)
Ethnicity N (%)				
White	88 (96.7)	30 (100.0)	26 (92.9)	32 (97.0)
Non-White	3 (3.3)	0 (0.0)	2 (7.1)	1 (3.0)
Highest Education Level N (%)				
Up to GCSE	11 (12.1)	2 (6.7)	3 (10.7)	6 (18.2)
A-Level/Diploma	21 (23.1)	9 (30.0)	5 (17.9)	7 (21.2)
UGD and higher	59 (64.8)	19 (63.3)	20 (71.4)	20 (60.6)
Social Deprivation N(%)				
1st Quintile (Least Deprived)	6 (6.6)	4 (13.3)	1 (3.6)	1 (3.0)
2nd Quintile	13 (14.3)	5 (16.7)	2 (7.1)	6 (18.2)
3rd Quintile	19 (20.8)	6 (20.0)	6 (21.4)	7 (21.2)
4th Quintile	17 (18.7)	4 (13.3)	7 (25.0)	6 (18.2)
5th Quintile (Most Deprived)	36 (39.6)	11 (36.7)	12 (42.9)	13 (39.4)
Employment (%)				
Professional	41 (45.1)	13 (43.3)	14 (50.0)	14 (42.4)
Admin/Skilled	19 (20.9)	9 (30.1)	3 (10.7)	7 (21.2)
Care/Customer Service	17 (18.6)	4 (13.3)	7 (25.0)	6 (18.2)
Unemployed/Student	14 (15.4)	4 (13.3)	4 (14.3)	6 (18.2)
Antenatal Risk Classification N (%)				
High	19 (20.8)	5 (16.7)	6 (21.4)	8 (24.2)
Low	72 (79.2)	25 (83.3)	22 (78.6)	25 (75.8)
Gestation in weeks, Mean (SD)	39.51(±1.24)	39.57 (±1.10)	39.21(±1.29)	39.70(±1.31)
Onset of Labour N (%)				
Spontaneous	60 (65.9)	21 (70.0)	18 (64.3)	21 (63.6)
Induced	31 (34.1)	9 (30.0)	10 (35.7)	12 (36.4)
Total duration of labour and birth in hours, Mean (SD)	8.55(±5.34)	7.08(±4.07)	7.62(±4.39)	10.68(±6.45)
Augmentation of labour				
YES	7 (7.7)	1 (3.3)	0 (0.0)	6 (18.2)
NO	84 (92.3)	29 (96.6)	28 (100.0)	27 (81.8)

Table 2.7. continued

	All Participants N=91	OASI ($3^{rd}/4^{th}$ N=30	$1^{st}/2^{nd}$ degree tear N=28	Episiotomy N=33
Type of Birth N (%)				
Unassisted vaginal birth	53 (58.2)	21 (70.0)	27 (96.4)	5 (15.2)
Instrumental vaginal birth	38 (41.8)	9 (30.00)	1 (3.6)	28 (84.8)
Place of Birth				
In Theatre	7 (7.7)	1 (3.3)	28 (100.0)	27 (81.8)
Out of Theatre	84 (92.3)	29 (96.7)	0 (0.0)	6 (18.2)
Infant birth weight (g), Mean (SD)	3503.62(±475.51)	3798.30(±352.28)	3379.14(±422.92)	3341.42(±500.45)
Previously visited HCP for mental health				
YES	12 (13.2)	7 (23.3)	2 (7.1)	3 (9.1)
NO	79 (86.8)	23 (76.7)	26 (92.9)	30 (90.9)

Table 2.8. ***Descriptive results from time 3 (6-10 months) questionnaires for all women and according to perineal status***

		All Participants	OASI (*n*=30)	1st/2nd degree tear (*n*=26)	Episiotomy (*n*=34)
BIS Total	N	87	28	25	34
	Mean ±SD)	8.42(±6.26)	8.21(±6.31)	8.84(±7.41)	8.29(±5.43)
	Range	0-24	0-21	0-24	0-21
IES-R Total	N	90	30	26	34
	Mean ±SD)	6.46(±7.89)	8.23(±9.60)	4.38(±6.11)	6.47(±7.27)
	Range	0-29	0-29	0-17	0-17
IES-R Intrusion	N	90	30	26	34
	Mean ±SD)	2.69(±3.13)	2.93(±3.16.)	1.69(±2.19)	3.23(±3.61)
	Range	0-10	0-9	0-6	0-10
IES-R Avoidance	N	90	30	26	34
	Mean (±SD)	2.32(±3.09)	3.40(±3.88)	1.30(±1.95)	2.15(±2.78)
	Range	0-11	0-11	0-6	0-10
IES-R Hyperarousal	N	90	30	26	34
	Mean ±SD)	0.62(±0.87)	0.67(±0.84)	0.53(±0.95)	0.65(±0.85)
	Range	0-3	0-2	0-3	0-2
HADS Anxiety	N	90	30	26	34
	Mean ±SD)	6.48(±4.13)	5.23(±3.83)	6.19(±4.33)	7.79(±3.96)
	Range	0-16	0-12	0-16	0-16
HADS Depression	N	90	30	26	34
	Mean ±SD)	4.77(±3.36)	3.83(±3.30)	4.88(±3.17)	5.50(±3.46)
	Range	0-13	0-13	1-12	0-13
MIBS Total	N	89	30	24	33
	Mean ±SD)	1.06(±1.47)	1.46(±1.92)	0.87(±1.22)	1.00(±1.63)
	Range	0-5	0-6	0-4	0-6

1.6.2 Perineal trauma and body image at 6-10 months postpartum

A two-way repeated measures mixed between-within subjects ANOVA was conducted to determine the effect of perineal status over time on total BIS scores. All assumptions were met. There was not a statistically significant interaction between perineal status and time on total BIS scores, and no significant main effect of time or groups on BIS scores at 6-10 months (p>0.05). A two-way ANOVA was also conducted which showed no significant differences in BIS total scores between any of the groups (p>0.05).

1.6.3 Perineal trauma and perineal pain/discomfort and its effect on caring for a new infant at 6-10 months postpartum

When asked if they were currently experiencing any perineal pain or discomfort, 11 out of 30 (36.7%) women in the OASI group, 6 out of 26 (23.1%) in the $1^{st}/2^{nd}$ degree tear group and 5 out of 34 (14.7%) in the episiotomy group stated that they were. These differences between the groups were not statistically significant (p>0.05). Due to the very small number of women providing data for the perineal pain visual analogue scale (VAS) and the perineal pain/discomfort impact on parenting scale (PPDIP) it would have been inappropriate to analyse the data (n=32).

1.6.4 Perineal trauma and the mother and infant bonding scale (MIBS) at 6-10 months postpartum

A Two-way repeated measures ANOVA was conducted to determine the effect of perineal status over time on total MIBS scores. All assumptions were met. There was not a statistically significant interaction between perineal status and time on total MIBS scores (p>0.05). A main effects analysis also showed no significant differences between the perineal status groups for total MIBS scores at 6-10 months (p>0.05).

1.6.5. Perineal trauma and psychological wellbeing at 6-10 months postpartum

1.6.5.1 Impact of Events Scale Revised (IES-R)

Of the 90 women with IES-R total scores, 7.7% (*n*=7) scored 24 or above and 1.1% (*n*=1) scored above 33. A two-way repeated measures mixed between-within subjects ANOVA was conducted to determine the effect of perineal status over time on total IES-R scores and subscale scores. All assumptions were met. There was not a statistically significant interaction between perineal status and time on total IES-R scores, or any of the subscales scores ($p>0.05$). There were also no statistically significant main effects of time or group on IES-R total scores or on any of the subscales scores ($p>0.05$).

A one way ANOVA was also carried out for the effect of group on IES-R total scores and subscale scores. There were no significant differences in IES-R total, intrusion or hyperarousal sub-scale scores between the perineal status groups ($p>0.05$). There were however significant differences in IES-R avoidance sub-scale scores between the groups (*Welch's* $F(2,55.892)=3.525$, $p=0.036$). Those in the $1^{st}/2^{nd}$ degree tear group had significantly lower IES-R avoidance scores than those in the OASI group (1.31 ± 1.95 vs. 3.40 ± 3.88, $p=0.033$). There were no significant differences in IES-R avoidance scores between those in the $1^{st}/2^{nd}$ degree tear and episiotomy groups and between the OASI and episiotomy groups ($p>0.05$). This suggests that women who experience an OASI engage in more avoidance behaviours related to their childbirth experience at 6-10 months postpartum compared to those who experienced a $1^{st}/2^{nd}$ degree tear.

1.6.5.2. Hospital Anxiety and Depression Scale (HADS)

In addition to the IES-R, women also completed the Hospital Anxiety and Depression scale (HADS) at 6-12 weeks postpartum. Of those who provided data on the HADS anxiety sub-scale (*n*=90), 60% (*n*=54) scored between 0-7, 25.6% (*n*=23) scored between 8-10 and 14.4% (*n*=13) scored 11-21. Of those who provided data on the

HADS depression sub-scale (*n*=90), 77.8% (*n*=70) scored between 0-7, 16.7% (*n*=15) scored between 8-10 and 5.6% (*n*=5) scored 11-21.

A Two-way repeated measures ANOVA was conducted to determine the effect of perineal status over time on HADS-A and HADS-D subscale scores. All assumptions were met. There was not a statistically significant interaction between perineal status and no significant main effect of time on either subscale ($p>0.05$).

A one-way ANOVA was carried out to assess the effects of perineal status on HADS-A and HADS-D subscale scores. There were significant differences in HADS-A subscale scores between the groups ($F(2,87)=3.314$, $p=0.041$. Those in the episiotomy group scored significantly higher than those in the OASI group (7.79 vs. 5.23, $p=0.039$). There were no significant differences between the episiotomy group and the $1^{st}/2^{nd}$ degree tear group and between the $1^{st}/2^{nd}$ degree tear group and the OASI group ($p>0.05$). There were no significant differences in HADS depression subscale scores between the groups ($p>0.05$).

1.6.5.3.Predicting posttraumatic stress symptoms at 6-10 months

As it was hypothesised that degree of perineal trauma, lower scores on the MIBS (Mother and infant bonding) and higher scores on the BIS (body image scale) scores would be associated with higher scores on the IES-R (Post-traumatic stress symptoms), the plan was to carry out a standard multiple regression assess the ability to predict IES-R scores at 6-10 months from these variables. Firstly bivariate analyses were conducted between these variables and IES-R total and subscale scores. These revealed a significant association between 6-12 week scores on the BIS and total IES-R scores ($r(73)=.514$, $p<0.001$), IES-R avoidance subscale scores ($r(73)=.395$, $p=0.001$), IES-R hyperarousal subscale scores ($r(73)=393$, $p=0.001$) and IES-R intrusion subscale scores ($r(73)=468$, $p<0.001$). There was no significant association between MIBS scores at 6-12 weeks or total duration of labour and IES-R total or subscale scores at 6-10 months. In addition, the association between total labour duration and IES-R total and subscale scores was also examined and no significant association was found ($p>0.05$).

When assessing the effects of perineal status on IES-R, perineal status was grouped into three variables that were coded (in a similar way to the analysis for birth experience) in order to carry out the group difference tests. Perineal status was categorised as follows: OASI vs. non-OASI, Episiotomy vs. No episiotomy and episiotomy as the most severe trauma vs. all other degrees of perineal trauma. Independent samples t-tests were carried out to assess the effects of these variables and the type of birth (assisted vs. unassisted) on IES-R total and subscale scores before entering them into the regression. When assessing the effects of having an OASI vs. no OASI, differences in IES-R total, hyperarousal and intrusion subscale scores were not statistically significantly different ($p>0.05$). However differences in IES-R avoidance subscale scores were significantly different whereby those with an OASI scored significantly higher (3.40 ± 3.88) than those with other degrees of perineal trauma (1.78 ± 2.47) a statistically significant difference of 1.61 (95% CI, 0.04 to 3.19), $t(88) = 2.08$, $p = .044$.

When assessing the effects of having an episiotomy vs. not having an episiotomy there were no significant differences in IES-R total scores or avoidance and hyperarousal subscale scores between the two groups ($p>0.05$). However differences in IES-R intrusion scores were significantly higher for those who had experienced an episiotomy (3.41 ± 3.53) compared to those who had not experienced an episiotomy (2.08 ±2.67), a statistically significant difference of 1.33, (95% CI, 0.034 to 2.63), $t(88)=2.039$, $p=0.044$. When assessing the effects of having an episiotomy as the most severe level of trauma vs. all other levels of trauma, there were no significant differences between the groups for IES-R total scores or any of the subscale scores ($p>0.05$). Differences between the two types of birth were also assessed (i.e. Assisted vs. unassisted) and IES-R total and no significant differences were found for total or subscale scores when comparing the two types of birth ($p>0.05$).

1. *Model 1: Predicting IES-R total scores using perineal status (OASI vs. non OASI) and other variables of interest*

Given the results from the bivariate analyses, a standard multiple regression was conducted to predict IES-R total score from perineal trauma (OASI vs. no OASI), BIS

scores at 6-12 weeks, and fulfilment of criteria A1and A2 of the DSM-IV. All assumptions were met. The regression model statistically significantly predicted IES-R total score, $F(2,69)=10.092$, $p<0.001$, $R^2 = 0.305$ adj. $R^2 = .275$. This model therefore accounted for 30.5% of the variance in IES-R total score. All three of the variables added statistically significantly to the prediction, $p<0.05$. Regression coefficients and standard errors can be found in table 2.9.

Table 2.9. Summary of multiple regression analysis for predicting IES-R total score with model 1

Variable	*B*	SE_B	β
Intercept	.021	1.523	
Perineal status OASI vs. no OASI	3.810	1.900	.209*
BIS total 6-12 weeks	.544	.159	.374*
Criterion A1 and A2 Fulfilled (Yes/No)	4.812	1.864	.277*

*$p<0.05$, *B*= Unstandardised regression coefficient; $SE_{B=}$ Standard error of the coefficient; β = Standardised coefficient

Whether criterion A1 and A2 was fulfilled significantly predicted IES-R total scores at 6-10 months whereby those who fulfilled criteria had higher scores (Beta=.277, $t(71)=2.581$, $p=0.012$) However, perineal status (OASI vs. no OASI), did significantly predict IES-R total score, whereby having an OASI predicted a higher IES-R total score (Beta = .209, $t(71) = 2.005$, $p=0.049$). BIS scores at 6-12 weeks also significantly predicted IES-R total score at 6-10 months whereby a higher score on the BIS predicted a higher IES-R total score (Beta = .374, $t(71) = 3.425$, $p=0.001$).

2. Model 2. Predicting IES-R total scores from perineal status (Episiotomy vs. no episiotomy) and other variables of interest

A second standard multiple regression was conducted to predict IES-R total score from perineal trauma (episiotomy vs. no episiotomy), BIS scores at 6-12 weeks, and fulfilment of criteria A1and A2 of the DSM-IV. All assumptions were met. The regression model statistically significantly predicted IES-R total score, $F(3,69)=8.378$, $p<0.001$, $R^2 = 0.267$ adj. $R^2 = .235$. This model therefore accounted

for 26.7% of the variance in IES-R total score. Two of the variables added statistically significantly to the prediction, $p<0.05$. Regression Coefficients and standard errors can be found in table 3.1.

Table 3.1. Summary of multiple regression analysis for predicting IES-R total score with model 2

Variable	*B*	SE_B	β
Intercept	1.686	1.539	
Perineal status OASI vs. no OASI	-.839	1.710	-.053
BIS total 6-12 weeks	.466	.158	.320*
Criterion A1 and A2 Fulfilled (Yes/No)	5.753	1.971	.331*

*$p<0.05$, *B*= Unstandardised regression coefficient; $SE_{B=}$ Standard error of the coefficient; β = Standardised coefficient

Perineal status (i.e. having an episiotomy vs. not having an episiotomy) did not significantly contribute to the prediction of IES-R total scores at 6-10 months. Whether criterion A1 and A2 was fulfilled significantly predicted IES-R total scores at 6-10 months whereby those who fulfilled criteria had higher scores (Beta=.331, $t(71)=2.919$, $p=0.005$). BIS scores at 6-12 weeks also significantly predicted IES-R total score at 6-10 months whereby a higher score on the BIS predicted a higher IES-R total score (Beta = .320, $t(71) = 2.949$, $p=0.004$).

1.6.6. Summary of results at time 3- 6-10 months postpartum

1.6.6.3. There were no significant differences between the groups for body image and mother and infant bonding. Perineal pain and perceived impact of perineal pain on parenting was not analysed due to insufficient data.

1.6.6.4.Symptoms of posttraumatic stress: 7.7% of those responding at time 3 scored above 24 on the IES-R. Similar to the results at time 2, IES-R avoidance subscale scores were significantly higher in the OASI group compared to the $1^{st}/2^{nd}$ degree tear group. When predicting symptoms

of posttraumatic stress at 6-10 months, fulfilment of DSM-IV A1 and A2 criteria, experiencing OASI, and experiencing a more negative body image predicted a higher score on the IES-R (more symptoms of posttraumatic stress). Interestingly, the regression model with the perineal status variable OASI vs non-OASI better predicted posttraumatic stress scores than the regression model with the perineal status variable episiotomy vs. no episiotomy, suggesting that OASI may be a better predictor of psychological distress in the form of posttraumatic stress symptoms than episiotomy.

1.6.6.5. Symptoms of depression and anxiety: Majority of women reported normal levels of depression on the HADS-D subscale (between 0-7:77.8%) and normal levels of anxiety on the HADS-A subscale (between 0-7: 60%). Those who experienced an episiotomy scored significantly higher on the HADS-A subscale than those who experienced an OASI, suggesting that at 6-10 months those women who experienced an episiotomy during their birth were more likely to experience symptoms of anxiety than those who experienced an OASI.

1.7. Open-ended questions about care

In addition to the measurements taken using the validated questionnaires, women were also asked a series of open-ended questions about the care they received for their perineal trauma. At 6-12 weeks they were asked about the care they received in hospital after the birth of their baby, and at t 6-10 months they were asked about any care they had received since leaving hospital after giving birth. Three questions were asked at each time point: what care was received and from whom, what they thought was good about any care they received, and if they thought any improvements should be made to the care provided. Women who experienced OASI were also asked about their experiences at the perineal clinic, what they thought was good about the care provided at the clinic and if they thought any improvements should be made.

1.7.1. Open-ended responses at 6-12 weeks

When describing care they received in hospital, 29/30 women with OASI, 22/33 women with a $1^{st}/2^{nd}$ degree tear, and 25/39 women with an episiotomy provided comments. The codes/categories for this question are presented in table 3.2. When asked about what they thought was good about the care they received in hospital, 24/30 women with OASI, 25/33 women with a $1^{st}/2^{nd}$ degree tear and 23/39 women with an episiotomy responded. The codes/categories derived from the data are presented in table 3.3. Finally, when asked about what improvements should be made to the care given in hospital, or if there was anything they would have liked that they did not receive; 23/30 with OASI, 18/33 with a $1^{st}/2^{nd}$ degree tear and 26/39 with an episiotomy responded. The codes categories derived from the content analysis are presented in table 3.4. Codes/categories are presented in order of density for each perineal status group (i.e. the most data rich categories at the top), and '*n*' values are presented to show how many women had data for a given code/category. These values may 'total' more than the number of statements in the perineal status group, as any given statement may cover more than one code/category.

Table 3.2. ***Codes/categories derived from content analysis of 'care received in hospital' responses (sub-codes in italics)***

OASI (*n*=29)	**1st/2nd degree (*n*=22)**	**Episiotomy (*n*=25)**
Tear repaired in theatre (*n*=15)	Stitches (*n*=21)	Stitches (*n*=11)
Medication (*n*=8)	Visual Inspection (*n*=11)	Medication (*n*=11)
analgesics (n=3)	Medication-Analgesics (*n*=7)	*pain killers (n=11),*
laxatives (n=2)	Information/advice (*n*=2)	*laxatives (n=1),*
antibiotics (n=2)	Practical support (*n*=1)	*antibiotics (n=2)*
Information or advice about their tear (*n*=8)		Visual inspection (*n*=11)
Visual inspection (*n*=6)		Information/advice (*n*=2)
Can't remember (*n*=4)		Hospital stay (*n*=2)
Info/advice from specialist midwife (*n*=4)		Secondary repair (*n*=1)
Explanation of aftercare (*n*=4)		Moral support (*n*=1)
Leaflets about their tear (*n*=3)		
Hospital stay (*n*=3)		

Table 3.3. ***Codes/categories derived from content analysis of 'what was good about care received in hospital' responses (sub-codes in italics)***

OASI (*n*=24)	**1st/2nd degree (*n*=25)**	**Episiotomy (*n*=23)**
Ward Staff Praise (*n*=9);	Ward staff praise (*n*=8)	Ward Staff Praise (*n*=9)
Kind/caring/lovely (n=6),	*Offering pain relief (n=2)*	*Amazing midwives (n=4)*
Constantly checking (n=2),	*Constantly checking (n=4)*	*Kind/caring/lovely (n=2)*
Breastfeeding help (n=2)	*Kind/caring/lovely (n=2)*	*Cared for (n=1)*
Theatre Staff Praise (*n*=8)	*Reassurance/calming (*n=*3)*	*Reassurance about healing (n=2)*
Excellent information/communication (n=3)	Praise for repair (*n*=7)	Information/advice given (*n*=4)
Reassuring/calming (n=5)	*Care taken for repair (n=2)*	*Personal care (n=3)*
Information/advice given (*n*=4)	*Pain free (n=3)*	*Why it happened (n=1)*
Follow-up information (n=3)	*Reassuring/calming (n =3)*	I did not receive any care (*n*=3)
'What had happened' (n=2)	*Continuity of carer (n=1)*	Praise for repair (*n*=2)
All of it (*n*=4)	Repaired straight away (*n*=4)	*Everything explained (n=1)*
Repaired straight away (*n*=3)	Information/advice given (*n*=1)	*Well-sutured (n=1)*
Adequate pain relief post-repair (*n*=3)	All good (*n*=1)	Visual Inspection (*n*=1)
Specialist midwife was reassuring (*n*=2)		Repaired straight away (*n*=1)
Cannot remember (*n*=1)		Management of pain (*n*=2)
		I don't know (*n*=1)

Table 3.4. Codes/categories derived from content analysis of '*what could be improved about the care in hospital or anything you would have liked'* responses (sub-codes in italics)

OASI (*n*=23)	**1st/2nd degree (*n*=18)**	**Episiotomy (*n*=26)**
Information/advice (*n*=5)	Information/advice (*n*=6)	Information/advice (*n*=14)
Timing of information (n=2)	*Personal care (n=4)*	*Personal care (n = 5)*
Personal care (n=2)	*'what/where is it' (n=3)*	*Pain expectations (n=4)*
What is 'normal' (n=1)	*What to expect (n=3)*	*'What/where is it' (n= 5)*
Management of pain (*n*=5)	'All good' (n=3)	*'Why did it happen' (n= 3)*
Timing/offer of painkillers (n=4)	Visual inspection (*n*=2)	*Psychological impact (n=1)*
Something to sit on (n=1)	Management of pain (*n*=2)	Management of pain (*n*=6)
'All good' (*n*=2)	Improvements to repair procedure (*n*=2)	*Timing/offer of painkillers (n=2)*
Practical Support (*n*=2)	*Duration of procedure (n=1)*	*Something to sit on (n= 5)*
Preventing of the tear (*n*=2)	*Need for second repair (n=1)*	Visual inspection (*n*=4)
Medication for infection (*n*=1)		'All good' (*n*=4)
		Practical Support (*n*=3)
		Medication for infection (*n*=2)
		Improvements to repair procedure (*pain relief)* (*n*=1)

1.7.2. Open-ended question responses at 6-12 weeks - summary

When asked what they thought was good about the care received in hospital, all three groups had the same 'top' category and praised the ward staff citing them as friendly, caring and helpful with breastfeeding or checking their perineum. The second major category for the OASI and 1st/2nd degree tear groups encompassed descriptions of praise for the staff carrying out their perineal repair, although the sub codes between the groups were different. IN the OASI group the sub-codes encompassed descriptions of the information provided or the reassuring/calming environment created by the theatre staff. In the 1st/2nd degree tear group, the sub-codes were more varied as women described their praise for the care taken in repairing such an intimate area, their gratitude for being pain-free for the procedure and the reassurance and comfort they received from their midwife. In contrast, 'praise for repair' was a minor category in the episiotomy group with only 2 positive comments made. Both the OASI and episiotomy groups praised the information/advice given to them on the ward, whereas only one woman in the 1st/2nd degree tear group praised the information she received on the ward.

1.7.3. Open-ended questions about care since being discharged from hospital (asked at 6-10 months)

When asked about the care they had received since they had left hospital after the birth of their baby, 19/30 with OASI, 8/28 with a 1st/2nd degree tear and 8/33 with an episiotomy responded. The codes/categories generated from the content analysis are presented in table 3.5. When asked to describe what was good about the care they had received since leaving hospital, 23/30 with OASI, 7/28 with a 1st/2nd degree tear and 14/33 with an episiotomy responded. Codes/categories generated from the content analysis are presented in table 3.6. Finally, when asked if there was anything they wanted to add about the care received since leaving hospital, anything they think should be improved, or if there was anything they would have liked that they did not receive, 19/30 with OASI, 15/28 with a 1st/2nd degree tear and 18/33 with an episiotomy responded. Codes/categories generated from the content analysis are presented in table 3.7.

Table 3.5. ***Codes/categories derived from content analysis of 'care received since hospital' responses (sub-codes in italics)***

OASI (*n*=19)	**1st/2nd degree (*n*=8)**	**Episiotomy (*n*=8)**
Perineal Clinic (*n*=14)	Medication for infection (*n*=3)	Medication for infection (*n*=3)
Advice on future birth (n=2)	GP Visual check (*n*=2)	Community midwife visual check
Specialist midwife (n=2)	Community midwife visual check (*n*=3)	(*n*=3)
Advice from specialists (n=1)	Never been checked (*n*=1)	Visit to GP for Pain *(n=3)*
'tests' (n=6)		
*'Check-ups' (*n=*3*)		
Physiotherapy (*n*=7)		
Community Midwife visual check (*n*=3)		
Visit to GP (*n*=2)		

Table 3.6. ***Codes derived from content analysis of 'what was good about care received since hospital' responses (sub-codes in italics)***

OASI (*n*=23)	**1st/2nd degree (*n*=7)**	**Episiotomy (*n*=14)**
Praise for perineal clinic (*n*=13)	Community midwife visual check (*n*=4)	I did not receive any care (*n*=7)
Information and advice (n=5)	Information/advice (*n*=2)	Medication for infection (*n*=3)
Reassurance (n=4)	Visual inspection (*n*=1)	Visual inspection (*n*=3)
Specialist midwife (n=3)	GP visual check (*n*=1)	*GP (n=1)*
Information/advice (*n*=4)		*Community Midwife (n=2)*
Community midwife (n=3)		GP visit (*n*=1)
'all good' (*n*=6)		
GP was not helpful (*n*=1)		

Table 3.7. ***Codes derived from content analysis of 'improvements/additions to care received since hospital/additional comments' responses (sub-codes in italics)***

OASI (*n*=19)	**1st/2nd degree (*n*=15)**	**Episiotomy (*n*=18)**
'All good' (*n*=8)	'All good' (*n*=5)	A follow-up appointment (*n*=10)
Praise for perineal clinic (*n*=6)	Information/advice (*n*=3)	Information/advice (*n*=7)
Gratitude for specialists (n=2)	Follow-up appointment (*n*=3)	Visual check (*n*=3)
Excellent care (n=3)	Visual inspection (*n*=1)	'all good' (*n*=1)
Reassurance (n=1)	Medication for infection (*n*=1)	
Practical support needed (*n*=2)	Management of pain (*n*=1)	
Timing of information (*n*=1)	I did not receive any care (*n*=1)	
Psychological support (*n*=1)		

1.7.4. Open-ended question responses at 6-10 months - summary

When asked what they thought was good about the care received since leaving hospital, those in the OASI group described receiving care from the perineal clinic, receiving/being referred for physiotherapy and a minority of women described having their perineum checked by their community midwife/GP. In contrast there were only a few responses from those in the 1st/2nd degree tear and episiotomy groups. The women in these groups described receiving medication for an infection, having their perineum visually checked by a midwife or their GP, or visiting their GP for pain relief. When asked what was good about the care received since leaving hospital, the majority of the responses from those in the OASI group described the information and reassurance received from the specialist perineal clinic, and the care received from the specialist midwife. Those in the 1st/2nd degree tear group gave considerably less responses and all described a visual inspection of the perineum. In the episiotomy group, half of the responses made reference to not receiving any care, the other half described receiving a visual inspection from the GP or community midwife, receiving medication for an infection or visiting the GP for pain relief.

Finally, when asked if there was anything they thought could be improved about their care, anything they would have liked or if they wanted to add any other comment about their care. The 'top' category that emerged from the content analysis for the OASI and episiotomy groups was 'all good', which encompassed comments that described how no improvements were needed and the women were happy with the care they had. Just under a third of women in the OASI praised the perineal clinic citing their gratitude for the specialist midwife and the consult Urogynaecologists. Only a few women had suggestions for improvements; 2 felt the timing of the appointment could be improved as they felt they waited too long for the first appointment, 1 felt the information after giving birth was given too soon, and 1 women described the need for psychological support/input. Those in the 1st/2nd degree tear group described a need for information/advice on personal care and healing, the need for a follow-up or visual inspection, 1 described the need for medication for an infection, 1 described improvements to pain relief offered postnatally and 1 stated she did not receive any care. In contrast, the 'top' category that emerged from the data in the episiotomy group was 'a follow-up appointment' where women described the

need to see someone postnatally about their episiotomy, or talk to someone about their birth. Over a third described the need for information or advice regarding what had happened and/or what to expect. In contrast to the OASI and $1^{st}/2^{nd}$ degree tear groups, 'all good' was a minor category in this group consisting of only one response. One observation of the responses in the episiotomy group that was different from the responses in the other groups was the use of the words 'anxious', 'nervous', and 'disappointed' in women's descriptions of care they would have liked for their episiotomy following their birth. What also seemed to be unique to the responses in this group was the use of phrases such as 'why wasn't I offered this (follow-up care)', 'nothing has been done', and 'no one has checked me'.

1.7.5. Open-ended questions about care received from the perineal clinic

Women who had experienced OASI were also asked additional questions about the care they received from the specialist perineal clinic. When asked what they thought was good about the care they received from the perineal clinic, 26/30 women responded. When asked if they thought any improvements should be made, 9/30 women responded. The data derived from the content analysis of these questions is presented in table 3.8. When asked about what they thought was good about their care, women in the OASI commonly described the information and advice they received from the clinic and how this reassured them. Although a relational content analysis was not carried out on the data, the codes 'information and advice', 'advice on future births' and 'reassurance' seemed to be linked. The women also described how the staff were 'kind' and treated them with dignity for the invasive anorectal tests. When asked if they felt any improvements were needed, only 5 women stated that improvements were needed. Three women described improvements to the timing of appointments, with similar accounts to those given in other questions such as, an appointment before 6 weeks, or not having to wait to speak with the consultant, and 2 women described how their GP visits could have been improved such as 'GP attention to my needs' and 'GP should be aware'.

Table 3.8. ***Codes/categories derived from content analysis of 'What was good about the perineal clinic' and 'any improvements to perineal clinic' responses (sub-codes in italics)***

What was good about the perineal clinic (*n*=26)	**Any improvements to the perineal clinic (*n*=9)**
Information and advice (*n*=10)	'All good' (*n*=4)
Advice on future births (*n*=8)	Timing of appointments (*n*=3)
Reassurance (*n*=8)	GP visits (*n*=2)
Kind/caring/lovely (*n*=5)	
Speaking to a specialist (*n*=3)	
'All good' (*n*=3)	

Chapter 4: Women's experiences of OASI during childbirth and up to 10 months postpartum: A qualitative analysis

This chapter outlines the findings from the second phase of the research. Women who had experienced a severe tear (defined as a 3rd or 4th degree tear) and had taken part in the first phase of the study were invited to take part in an interview about their experiences. The purpose of this phase of the research was to explore in detail women's experiences of a severe tear from the initial experiencing of the tear during birth through to the present day (time of interview).

1.1. Aims

1.1.1. To explore in detail the experiences of women who had experienced severe perineal trauma (defined as a 3rd or 4th degree tear)

1.2. Participants

Of the 30 women who were invited to take part, 15 consented and were interviewed. Those who did not consent to take part were either unavailable due to work commitments (*n*=7), did not reply to the attempts made to contact them (*n*=6) or expressed that they did not wish to talk about their experiences (*n*=2). Women were interviewed between 6 and 10 months after giving birth. The variability in the timing of the interview was due to the availability of women to complete their interview due to maternity leave and other commitments.

The average age of women taking part was 30.60 (± 3.25) years and ranged between 27 and 37 years. All of the women identified as White British, 73.3% (*n*=11) were married and 26.7% (*n*=4) were cohabiting with a partner. The majority were educated to degree level or higher (73.3%, *n*=11) and all were in paid employment with 46.7% (*n*=7) working as professionals and 53.3% (*n*=8) working in administrative/customer service roles. All of the women had experienced a 3rd degree tear and 5 had experienced a 3rd degree tear and an episiotomy. The majority had experienced an unassisted vaginal birth (66.7%, *n*=10). Four women (26.7%) stated they had previously seen their general practitioner (GP) about their mental health (prior to pregnancy).

When considering DSM-IV criteria for PTSD (APA, 2000) for those who answered the questions, 3 of those interviewed felt like their own or their baby's life was at risk, 5 felt like there was a risk of injury or harm to themselves or their baby and 4 experienced feelings of intense fear helplessness or horror during labour and delivery. When invited to take part, 13.3% (*n*=2) scored 24+ on the IES-R, 20% (*n*=3) scored between 8-21 on the HADS-A subscale, 26.7% (*n*=4) scored between 8-21 on the HADS-D subscale and 33.3% (*n*=5) scored 10 or above on the Body Image scale (representative of body dissatisfaction).
The interviewed sub-sample of women who had experienced a severe tear were not a highly distressed group. When comparing the subsample of women interviewed to that of the overall sample of women with severe tears recruited to the study, there were no significant differences in any of the questionnaire mean total scores for any of the measures used in this study. In addition, when comparing the subsample of women interviewed with those who did not experience a severe tear, there were no significant differences in any of the questionnaire mean total scale scores for any of the measures. These characteristics are presented for the purpose of describing the sample only; no inferences are made with regards to women's responses based on their questionnaire data.

1.3. Presentation of themes

The initial template consisted of 9 a priori themes (Figure 1.2.). The final template (Figure 1.3) was developed through an iterative process whereby the 'a priori' themes were restructured/collapsed/re-titled as indicated by the data. The subthemes, and four main themes not in the original template, were emergent (italics) and populated by the data. Three 'a priori' themes were removed from the original template '*Feelings about experiencing a tear during childbirth*' as this was spoken about in the context of *'Experiencing a perineal tear during childbirth'* and was integrated into this theme. *'Talking about the tear to others'* was also removed as this was described in the context of support and hence the theme '*Support after a severe tear: I wouldn't have coped without my family and friends'* emerged. A third original theme '*Present day postnatal experiences*' was reintegrated into *'Postnatal experiences after a tear'* where both initial experiences and present experiences (i.e. at the time of interview) were discussed. The 'a priori' theme *'care post-discharge*' was amended to '*variable and unpredictable routine postnatal care*' and the theme '*Perineal clinic: I was looked after by specialists emerged*.

Figure 1.2. ***A priori template devised from interview guide and previous research findings***

1. Experiencing a perineal tear
    1. *Being Informed*
    2. *Emotions*

2. Experiencing perineal suturing
    1. *Communication*
    2. *Memories of theatre*
        i. *Being away from baby*
    3. *Emotions during suturing*

3. Immediate care
    1. *Positive*
    2. *Negative*

4. Postnatal care
    1. *Positive*
    2. *Negative*
    3. *Perineal Clinic*
    4. *Future Birth Discussion*
        i. *Feelings associated with this discussion*

5. Becoming a new mother
    1. *Relationships*
    2. *Social Life*
    3. *Caring for Baby*
    4. *Managing the effects of perineal trauma*
    5. *Adjusting to a new normal*

6. Interpersonal relationships
    1. *Talking about the tear*

7. Present day
    1. *Relationships*
    2. *Social Life*
    3. *Caring for baby*
    4. *Managing the effects of perineal trauma*
    5. *Adjusting to a new normal*

8. Advice for others

Figure 1.3 ***Final Template with original themes in bold and emergent themes italicised***

1. **Experiencing a severe tear during childbirth**
    1. *I wasn't aware until they told me/ I was aware I'd torn*
    2. *I don't feel like everything was done to prevent it/ It was just one of those things*
    3. *Being informed: it was all fine/I was quite upset*
    4. *I didn't know anything about it until it happened/ I knew about tears and what could happen*
2. **Experiencing perineal suturing**
    1. *Being whisked away from my baby*
    2. *I was frightened but the theatre staff were lovely*
    3. *Being reunited: they were there when I finished/I had to wait to see them*
3. **Variable routine postnatal care**
    1. *Immediate care in hospital: I felt like I was checked and informed/I was happy from start to finish*
    2. *Care after leaving hospital: I was checked/I wasn't checked*
4. **Postnatal experiences after a severe tear**
    1. *Pain/discomfort and symptoms: In the beginning it was uncomfortable and difficult/I don't remember it being anything I couldn't cope with*
    2. **Caring for my baby***: It was difficult but I got on with it/It didn't impact how I cared for my baby*
    3. **Relationships and sexual functioning***: I was fearful, he didn't pester me and it was ok/It's uncomfortable and will never improve*
    4. *Body image: I didn't want to look at it and I don't want him to look*
    5. **Social life***: In the beginning I stayed at home because it hurt/It didn't stop me doing what I wanted to do*
    6. *Support: If I didn't have my friends and family I wouldn't have coped*
5. P*erineal clinic*
    1. *I was looked after by specialists/Reeling off results I wanted to know more*
    2. *Future births: They recommend a caesarean and I'm disappointed/They recommend a caesarean and I'm relieved*
6. Advice for new mothers: Don't panic, look after yourself and ask for help
7. Advice for services: there needs to be more information and emotional support

The chronological sequence of women's experiences underpinned the original and final template. There were 7 themes in the final template that reflect the variation in women's responses for each theme. Full descriptions/explanations of each theme and any subthemes are discussed under each theme sub-heading.

1.3.1. Experiencing a severe perineal tear during childbirth

This section describes women's first experiences of their injuries, which included four subthemes: 'I wasn't aware until they told me/ I was aware I'd torn', 'I don't feel like everything was done to prevent it/ It was just one of those things', 'Being informed: it was all fine/I was quite upset' and 'I didn't know anything about it until it happened/ I knew about tears and what could happen'

1.3.1.1. I wasn't aware until they told me/ I was aware I'd torn:

Women were initially asked 'Can you tell me about your experiences of having a tear during childbirth'. In response to this question, they described their birth experience and their awareness of the tear when it happened which was varied. For some women, they were physically unaware they had experienced a tear until they were told afterwards,

'I don't remember it happening I don't remember thinking oh my goodness that amount of pain was horrendous…I didn't even know it had happened at all until the midwife had said'
-A011

'I didn't know it had happened until I was informed of it….I was a bit alarmed because I didn't like the idea of a tear, but physically I was quite unaware of it'
- A062

'I wasn't aware that I'd torn at the actual time…I do remember [them] saying I'd torn….and that I did require stiches'
-A024

For those who stated they were unaware, they described how their method of pain relief (e.g. an epidural or local anaesthetic), meant that physically they did not know they had experienced a severe tear:

'The word fine comes to mind as they had already given me a local anaesthetic'
-A007

'I didn't even know it had happened to be honest, I had an epidural'
-A020

In contrast, some of the women described how they were aware they had torn. One woman described how she was aware of the tear due to the pain she experienced whereas others described how they felt their tear but not necessarily because of the pain associated with it,

'I felt every bit of that third degree tear...and it was absolute agony...it was the worst thing I had ever experienced in my whole entire life...'
-A032

'I knew that I tore...because I felt it go...'
-A033

'Well no cause I did feel the tear even though I had the epidural….I did feel the actual tear…'
-A008

1.3.1.2.*I don't feel like everything was done to prevent it/ It was just one of those things*:

Women reflected on their birth and considered the events leading to their tear and what may have contributed to it. There was a variation in women's responses, a pattern that continues for a number of themes for this data. For this theme in particular, some described how they felt that not everything was done to prevent their tear and that the events leading up to their tear were beyond their control. In contrast, others described how they felt it was something they did and felt it was just 'one of those things'.

For those who felt like the events leading up to their tear were beyond their control, they described how they felt that they were not 'listened to' and felt they may not have experienced a tear if their wishes had been acknowledged by their healthcare provider(s),

'I really wish that the midwives would have let me deliver him the way I wanted to deliver him and not been so insistent on me lying on my back…. everything was completely out of my control…It was working just not as fast as they wanted it to, if they'd let me do that then you know, I don't know, I could've not needed that general or that local even, and had no tear if they'd have just…it was only one midwife who was insistent on me lying on my back' . ….I did feel completely ignored'

- A007

'I was so desperate to not have a third...and there was nothing I could do about it afterwards...but I don't feel like everything was done in my birth plan to prevent that...and maybe it wouldn't have prevented it...but they could have tried to accommodate my plan a little bit...I don't know...'

-A032

'And I must have begged for a doctor for about an hour...so...I felt like...maybe it wouldn't have happened (the tear) if I would have had a doctor'

-A040

In contrast, some of the women described the type of birth they had and the events that may have led to the severe tear they experienced. For some of the women they described how their actions during the birth might have contributed to their tear, specifically incorrect pushing or pushing when they should not have. For these women, they described how it 'was just one of those things' or 'it is what it is' rather than feeling that their healthcare providers did not listen to their wishes,

'*She was saying….just like slow your breathing down and pant your way through this bit and I pushed…and she was out…she just flew out…and it was completely just one of those things…'*

-A011

'I started pushing and I think it came out a lot quicker than they were kind of expecting….and I think she came out with her hand on her head so I think the midwife saw it and she was going to give me a cut…she literally turned round and when she turned back again it had all happened and it had all torn….'

-A020

'You watch one born every minute and they say you know don't push just breathe just breath…and I think I possible pushed at the wrong point….but you know…it is what it is…' -A027

One woman described how she was not surprised she experienced a tear as she thought she would because of her anatomy. Her account of why she believed she had torn did not follow the general pattern in the data for this theme,

'I wasn't surprised I'd torn...because anatomically I thought I would...because I do have a narrow gap between my vagina and my rectum...so I wasn't surprised at all..erm...but I wasn't sure of the extent of it...'

-A033

1.3.1.3. Being informed: It was all fine/It was quite distressing

Women described their experiences of being informed of their tear and the need for theatre to repair the injury. For the majority of women, they described how they found the experience of being examined and informed 'fine' and did not describe experiencing any distress relating to this aspect of their experience,

'She had a little look and decided it was too complicated or too much of a tear for her to deal with and called in erm … a one of the … I guess it would be one of the surgeons to have a little look… and it was… to be honest it was all fine really [LAUGHS]'

-A062

'She was really good…cause she sorta let us have that moment…of…you know…here's your first baby…and we had that moment like the three of us and everything…and she said to me

unfortunately….you know ….this has happened and I've asked one of the doctors to come and have a little look'

-A011

'It was fine and then they were like oh you've had a tear…you're probably going to have to go into surgery to have it repaired'

- A020

However, some of the women described how they found their experience of being examined and informed quite distressing for various reasons. For some of the women, they described how the inspection was painful and they were distressed that they had to be away from their baby,

'that was the bit that hurt the most…it was the most painful thing I've ever had done in my life... I think they need to work on that to be honest…. because it was just a case of stop it you've got to be examined…and I was crying in pain when the doctor examined me'

-A022

'the lady took me to one side and was examining me…I think that was hard because they took me to a separate room……so all this time I was away from her which was probably the worst bit'

-A023

For one woman, she felt like the way in which she was informed of her injuries was quite 'brutal' and she wished that her healthcare provider had informed her 'more sensitively'

'she gave me....it kind of...it felt to me like I was just another number to them...unfortunately...she was like you've got a third degree tear… it was kind of a brutal delivery they just kind of said sorry...it was like things you know...when you deliver bad news...but it was just kind of like oh you've got a third degree tear...for me that was the worst possible news I could have heard'

- A032

1.3.1.4. I didn't know anything about it until it happened/I knew about tears and what could happen

Some of the women reflected on their prior knowledge about perineal trauma before they experienced a severe tear. There was a variation in responses whereby some of the women described how they did not know much about it and they preferred it this way,

' I hadn't done any investigation before I went in and I didn't know like what could happen so when someone told me it was a third degree tear I was jus like ok...cause I didn't really know much about it…I think if I had have known like what...like the degrees and what could happen... erm...I think it would have frightened me a bit more...I was probably blasé throughout the whole thing my pregnancy...I didn't wanna know'

-A023

Whereas others wished they would have known about severe tears beforehand in order to feel more prepared with regards to what to expect and to understand what had happened:

'I didn't know about the tears or anything really….so I didn't know what to expect…. I'm better me if I know about stuff, but I suppose for some people it could probably make them anxious….maybe not for everyone…but me personally it would have been better to have known'

-A024

'I do think more people should know about it…but I don't think…I didn't…as I say I didn't know nothing about it…..cause then I would have been prepared for it…I would have been a lot more prepared for it...cause I didn't even know…I didn't even know it existed…I knew about the perineal tear [her episiotomy]…but that was…but I knew they done that…it's just a little snip…but I didn't know about this'

-A008

For those who described that they did not know much about perineal trauma, they described how they felt it was a 'taboo' subject and was not something that was 'talked about',

'I knew that you could tear and it was best to be cut than to tear yourself…but no I didn't really know a lot about it….I think it was a bit of ignorance….and I didn't…this sounds horrendous but I didn't have time for antenatal classes…even with my midwife its not something we talked about….it's not talked about…'

-A024

'its like a taboo subject and you can't talk about it…even though…its nothing you've done wrong…its nothing you can control…you just can't talk about it….'

–A008

In contrast some of the women described being well informed about perineal trauma. These women described how they understood what had happened to them,

I think she said…I think she said it was a third degree tear…cause I understood a bit about what she was talking about…because I understood if it was a 1st or 2nd degree tear the midwives would have been able to stitch it up…erm…but because it was a bit deeper I had to go into theatre…at that point I was just so relieved he had come out safe…and I was kind of on a bit of a high…'

-A034

'I expected I'd tore...I felt it tear and it just really confirmed what I already thought ...it was a case of ok lets just get on with it then...I'd just had a little girl so I was quite elated really….it's just I wasn't sort of terrified by the fact that oh you've had this...because I already knew what it was'

-A033

1.3.2. Experiencing Perineal Suturing

This section describes women's experiences of having their tear repaired and contained three subthemes: 'Being whisked away from my baby', 'I was frightened but the theatre staff were lovely', 'Being reunited: They were there when I finished/ I had to wait to see them'.

1.3.2.1. Being whisked away from my baby

As their baby could not be with them in theatre, some of the women described how they felt they were 'whisked away' from their baby at such short notice. They described being away from their baby as quite a distressing experience:

Yeah that was the worst part…being away from her for quite a while…erm…she was with me husband which was great…she was …you know me husband was brilliant with her…erm but yeah I did..I did feel like…like I didn't wanna leave her at all…and I remember crying to the woman as we were leaving cause I said I don't wanna go…and she was like…I asked her what were the options if I'm not stitched up…and she basically said there isn't an option type thing…you need to get it done..I remember saying can she come with me…and they said no…'

-A023

I think I literally had him put on me and then and then I went to theatre so…I didn't even have those literal first photos or anything I didn't have anything like that because I got whipped away straight away

–A024

'I think we had about 15/20 minutes with the baby and then…I had to go off to theatre to be stitched up…and that was probably the most traumatic bit for me…having that small time with [baby]…then being whisked away'

–A032

For some of these women, being away from their baby continued to be distressing throughout the procedure:

'the anaesthetist asking me what he looked like and I couldn't remember …that upset me…because I'd literally…it may have been a bit longer in reality…but for me it didn't seem very long…I remember saying I can't tell you what he looks like because I can't remember'

–A024

For one woman, she described how she was able to have those important initial moments with her baby. Her account did not follow the general pattern in the data whereby women described their distress at being away from their baby too soon:

'the midwife handled it brilliantly…erm…and I'm sure there was like between [BABY] being born and actually going to surgery there was a good half an hour to 40 minutes…which was really good and I think that helps afterwards cause I knew that she was ok you know…and I knew that I'd managed to have that bit of time with her and I'd held her and you know I'd done that bit of skin to skin with her before I had to go'

-A011

1.3.2.2. I was frightened but the theatre staff were lovely

Although being away from their baby for the procedure was difficult for most of the women, they were full of praise for the theatre staff that carried out their repair. From the anaesthetist who was 'so lovely' to the dedicated 'person there just to chat to me', women described how they felt well informed about what was happening and reflected on their theatre experience positively. They explained how although they were initially terrified of going into theatre and how it was a very surreal and strange situation to be in, the friendly atmosphere and compassionate care they received enabled them to feel calm and reassured. For this theme women's responses generally followed the same trend where they described a positive experience and no one reflected on their theatre experience negatively,

'Whether she does that to keep me calm-- but also to make sure that I'm still with it - do you know I don't think I would have coped as well as I did if she hadn't been there to just chat to ye -- just to keep ye level because, you know, you could panic, that's a very strange setting to find yourself in after something that's traumatic has already happened to you'

-A007

Oh theatre was fabulous…yeah…they were…the theatre situation…I mean there's a lot of people in there which I was laughing about…I was like really do we need this many people…I've got my bottom on show here [LAUGHS]…but the theatre staff were amazing… I can't fault any of the theatre staff…the anaesthetist was particularly erm…entertaining

[LAUGHS] but no they kept me going then…and I felt like…once I'd gone into theatre I felt immediately better…'

–A022

'I'd say the staff in there were just incredible…all of the operating staff….one was talking to me about the match…I think he was just trying to distract me cause he knew I was upset…and then this woman give me a kiss on me head and said just have a sleep…it's the most sleep you're gonna get for the next 6 months…and I thought yeah…do you know what….but they were brilliant'

-A023

For one woman, she described how she was disappointed about the need for a spinal anaesthetic during the procedure, as she had given birth with minimal pain relief,

'I didn't know about that about the spinal…and I cried at that cause I remember saying to them…my mum's had really bad problems…she had an epidural with me…and she had really bad back problems…and I remember thinking I've gone through this whole labour without having an epidural or anything…and now I've gotta go and have a needle in me back anyway….that was probably…yeah…that was pretty grim to be honest…'

-A023

1.3.2.3. Being reunited: they were there when I was finished/ I had to wait to see them

As previously stated, the women described how being away from their baby during their perineal repair was distressing. When women reflected on their experiences of being brought into recovery after their repair, there was a variation in responses. Some of the women described how they were reunited with their baby/partner as soon as they had finished in theatre and how important this was for them:

'They brought her to me…with me husband straight away so that was brilliant so even though I'd been away from here for what felt like hours…it wasn't…but it was like…an hour or something…erm…she was there so that was dead good that was really good…definitely…knowing she was alright…'

-A023

'erm…again it was…it was a necessary evil really….I knew she would be fine with [HUSBAND]…erm…and they brought her straight to me as soon as I was in recovery…'

-A027

In contrast, some of the women described how their baby/partner was not brought to them straight away and how distressing this was for them,

'I'd only seen him 15 minutes then he was taken away…or I was taken away…but I was quite distressed at this time…I was sat on my own on the ward not knowing where they were and it took a lot longer than I thought…so eventually they came to see me …and…[HUSBAND] was just as bad as me…he was pretty emotional…he obviously watched all this happen and felt pretty helpless…'

-A032

'I was away from [BABY] and my husband for quite a while ….and my husband didn't know what was going on…he's not a medic…and nobody was telling him what was happening...erm…because they were obviously busy…and I had to tell them to go and get him as I was concerned that I hadn't breastfed my baby…erm…she hadn't had anything at all for five hours since she's been born…erm…they went to get my husband and didn't tell him what was going on and just told him to come up…so he was panicking what an earth has gone on…'

-A033

'I was still like…I'm missing my baby…cause when they were talking to me like I was in the recovery room…and then they were like right we will go through this now…and at this point I was like…I just wanna see my little girl…I only held her a little bit…cause he…he had to take her off me… so I was like I just wanna see my little girl I don't even remember what she looks like….'

–A008

1.3.2. Variable routine postnatal care

This theme describes women's experiences of routine postnatal care that was not provided by the specialist perineal clinic as this is presented as a separate theme. This theme is split into

two sub-themes:' Immediate care in hospital: I felt like I wasn't checked and informed/ I was happy from start to finish', 'Care after discharge: I was checked/ I wasn't checked'.

1.3.2.1. Immediate care in hospital: I felt like I wasn't checked and informed/ I was happy from start to finish

This section presents women's accounts of the immediate care they received whilst still in hospital. There was a variation in responses whereby some of the women felt like the care they received did not meet their needs whereas others were very positive about the care they received and how they were 'happy from start to finish'.

For those who felt like they didn't receive the care they needed, they did not receive support or help with caring for their baby or themselves. They described how they felt that they had to constantly ask for help from the staff who didn't seem to have the time to help them. Some of the women attributed their poor care and lack of help to being a part of a busy ward full of women that needed help and the majority empathised with the staff:

'they were fabulous…I wouldn't have a bad word to say about the staff…they were lovely…they went way above and beyond their roles…but 'cause they were short staffed I didn't always get that pain relief bang on which was horrendous…'

–A024

I wasn't that well informed about what was going on…you know the ward was incredibly busy…and I was not a case that needed a lot of attention…just a little bit of help with the wound… it was very variable the care that we got…

-A033

I think they were short staffed cause even when I was getting my blood transfusion…the doctor…was like running from like room to room….and at like one point the needle come out…so blood was just like squirting everywhere…and it took like a couple of minutes for someone to come….so I think everyone was just so busy…

' –A040

Although some of the women attributed the lack of care to being part of a busy and understaffed ward, some of the women felt like the staff who cared for them were not very proactive in checking their stitches or arranging pain relief. They describe their difficulties managing their pain and caring for their baby and how they felt isolated when they could not get the help they needed:

'I wasn't checked at all whilst I was in but I wasn't…nothing was checked…I didn't get offered pain relief…for a while……I couldn't reach my call buzzer if I needed it …erm…like I say I wasn't offered pain relief…I know I had a suppository…in so I didn't need it…but I wasn't offered it and I don't think I was offered any until the next morning…'

–A027

'the few days I was in hospital a few times I had to ask the midwives to come in and check me…I don't think they were very pro-active in saying can I have a look at your stitches…I don't think that was very pro-active I always had to ask'

–A032

'when everyone had gone home at like quarter to nine…all of a sudden it was just me in a room…the other two girls had gone…and I just felt like they had forgotten that I was there…and I was ringing the buzzer and no one came for ages…and by the time they'd come…I was like sobbing my heart out because the baby was vomiting in the bed next to me…and I couldn't get out of the bed cause I was like tied to it…cause you know I had all the drips and catheter…so I couldn't move…

-A040

'no one even said to me do you want a hand like having a shower or do you want someone to come…to help you have a wash….but the woman next to me came in later on that day…she'd had a caesarean and they helped her into a shower…and I was just like what about me…it got to the point where I was like just like I can't do this…how long am I going to be like so sore for…I've got a baby that's crying……I'm going to fail at this I'm not going to be able to be a mum…how am I gonna cope….but I'm not one for speaking up……it's only afterwards…'

–A008

When describing their initial struggles trying to care for their new baby whilst recovering from surgery, women described how they had wished that their husband/partner could have stayed with them on the postnatal ward. Women described how their discomfort and fatigue, combined with the difficulties in getting the attention of their healthcare provider meant that they found looking after their baby difficult. The women described how their struggles could have been alleviated during this time had they been offered a private room:

'it's just that first night when your husband has to go home and you're on your own and you've had surgery…that's difficult that…after you've had theatre is tough…it's just tough…it would have just been nicer if your husband could stay with you if you'd had that sort of theatre…I was on my own with the baby…so it was just…yeah…in pain…'

–A022

'I think if you're on the high dependency you should have the option if you want your partner to stay…because if it isn't visiting hours and anything was to happen….you know you need to be rushed into surgery again…you know a stranger is going to be looking after your new-born baby….'

–A008

In contrast, some of the women described how they were 'happy from start to finish'. They explained how they felt the staff who cared for them went out of their way to make them more comfortable, and how they were constantly checked and regularly offered pain relief:

'I mean, everyone that came to see me on the ward in terms of doctors… midwives … they were fantastic'

-A007

'silly little things like when I needed to go to the shower…they were like tell you what use this one there's less people in this room…and our ward was full and I think because they knew it was going to take me a little bit longer and things…they were like just go in…get in for a minute and see how you feel…and things…cause all things run through your head…I was like oh god is it really going to hurt if the water is warm…you know just little things…I really feel like they tried to make it the best situation that it could be'

-A011

'I was shattered and they brought all the drugs out to me and told me which ones I needed to take…they checked it twice a day maybe once or twice a day…someone was always checking it…and they were telling me to get up and go to the toilet…'

-A020

I was given painkillers erm…the ward staff were pretty good I'll be honest…they were pretty good at looking after me…but the care of actually…like the care of me was great…and they explained everything and they checked it regularly'

–A022

In addition to enquiring about the care they received, women were also asked about any information they received about their tear whilst on the ward. They were asked to describe any interactions with healthcare providers about their tear and any advice they received. As part of the care offered by the specialist clinic, when available, the specialist midwife will speak with women about their tear before they are discharged, and provide them with an information leaflet about their tear. Some of the women remembered this interaction and spoke positively about it,

'I think the first time someone spoke about it was when [Specialist midwife] came to visit me…..I remember her come in and say you've had a third degree tear…I'll be doing all your follow-up after care…and you know she was really good she talked me through it gave me the leaflets erm…'

–A032

'Yeah…[Specialist midwife] did…and she gave us loads of information …she was really patient and really kind and talked through…erm…what it was…showed us diagrams made sure we fully understood everything…and [HUSBAND] and erm…also talked through…what would happen next…what would happen at clinic what investigations we would have …and how that would affect the future …we felt very much informed'

–A033

'She [Specialist midwife] told me about everything as well and she was dead informative…cause by that point…I mean I'd had her two days…and it sounds silly but I knew she was alright…So I was thinking like right ok…going to have to actually deal with this now like what is it…type thing…cause your immediate reaction is like sod meself…sort her out…but then when you realize like right ok she's fine she's feeding she's ok…she's asleep…it's time for me to figure out like shit what do I actually do with this'

-A023

For some of the women, as they were on a busy ward with lots of people 'in and out' they struggled to remember the verbal information/advice given to them. Others stated they had received the information leaflet but did not meet the specialist midwife due to the timing of their birth (i.e. during times when the specialist midwife was not available):

'someone did drop a leaflet in…and they explained about it…but there was that many people in and out…you have the doctors coming in to do the tests on the baby…then the hearing people and all sorts of people coming in and out…so I know I got a leaflet…so it could well have been…no cause someone did explain to me that I'd get an appointment…to see the consultant in I think 6 months they said'

–A022

'I think erm…I didn't actually see anyone on the ward about it…I don't think….I got leaflets and things….but I didn't actually see anyone…that I can recall…and I think it was because once I'd come back from theatre it was like Friday afternoon…because when I went to clinic the nurse…apologised that she hadn't seen me on the ward and she said it was because it was the weekend or something….but erm…I don't…I read the leaflets and stuff and I did the questionnaires on the ward…'

-A034

Although the majority of women were very positive about their interaction with the specialist midwife, one woman described how her interaction with the specialist midwife did not fulfil her needs and she struggled to understand her injuries. Her account did not follow the general pattern of the data:

'she didn't explain…she said oh yeah it's just your tear that's feeling uncomfortable and I said well why can't I sit down….cause it's not…I can't understand where the tear is cause its more my bum that's sore….but she said oh yeah it's just your tear…she did this drawing on like a piece of paper and she was just like…oh yeah….so its went into this…and you had this cut that went into there…any questions….and I was just like…well I thought what? it was like a load of information a load of pamphlets…and then I'll see you in a couple of months…and then she was gone again and I was just like what was all that about'

–A008

1.3.2.2. Care after leaving hospital: I was checked/ I wasn't checked

Women were asked to describe any care they had received since leaving hospital, apart from the specialist perineal clinic as this was explored separately. When women were asked if they received any care for their tear after being discharged (apart from the perineal clinic as this was discussed separately) their accounts of the care they received varied from being checked by their community midwives and/or general practitioner (GP) to not being checked and being unhappy with the care provided by their GP. Some of the women spoke of their community midwives and described how their midwife was pro-active in checking their stitches/offering advice and they were positive about the care they received,

'the midwife came round and she asked could she have a little look at it to make sure it is clean and that there is no infection or anything…and she said it was fine'

-A011

'I had a midwife from our doctors and she was the same midwife that came out every time then to do her three day 7 day and 10 day check…she was brilliant and she checked me every time'

-A023

In contrast, some of the women described how their midwife did not offer to check their perineum and how dissatisfied they were with the care they received,

'I had different midwives every time and the standard of care…some of them were absolutely shocking…and I had to ask them to look at my stitches…and one of them said oh I'm sorry I'm not qualified to look at stitches I'll have to ring someone else…'

-A032

'because…you know nobody examined me…until I went for the 6 week check with the GP no one examined me…the midwife didn't and I was thinking should someone be looking?'

-A027

Some of the women described their negative experiences with the care they received from their GP. They described how they felt their GP was ill informed of the consequences of a severe tear and as such they described receiving negative or inappropriate responses from their GP when trying to navigate care or advice for any symptoms/medication:

'I remember saying to him…but like I've waited a week for this appointment….like if I go back to that pain again I don't think I can wait a week… and he literally went to me…ring your midwife…and I was like right ok nice one mate…do you know what I mean…all's I'm after is like a safety net in case…like…over the phone or whatever…but it was like just ring your midwife…that was very unhelpful…'

-A023

'my doctor is being a bit of a cow…she signed me off for three weeks saying you need to face your fear…I think you need to go into work… she said I don't want you to turn into a social recluse…I was just sobbing my heart out at the doctors…cause I was like if you had a risk of pooing yourself…would you sit here seeing strangers every day…I was so worked up…I just cried all the way home… I wouldn't wanna go to work and risk it happening…I said to the doctor…if that happened in my work…I work in a kitchen…and she said it's not contagious…and I was like I know it's not contagious…but it's humiliating… but I thought…this doctor might make me go in…I mean…can they do that…and that's stressing me out now…'

-A040

'I mean when he [GP] was looking at the baby…because it was kind of check for the baby….he was brilliant you know…very thorough looked him over and any problems with

him he was able to help…it was just the fact he didn't know how to deal with me…maybe….I don't know…maybe having a female…I mean they have female doctors at that surgery and given what the appointment was for…wouldn't you think they would have given me someone who was knowledgeable about that…'

-A032

In contrast, some of the women did mention having an appointment with their GP but did not mention any negative aspect to their experience,

'so the GP checked then I came back to hospital for my appointment'

- A027

'I only had the postnatal follow up with the GP'

-A033

'I had to go to the doctors because I had that little incident so the midwife told me to go to the doctors… she was really nice and everything'

-A034

1.3.3. Postnatal experiences after experiencing a severe tear

Women were asked to describe their experiences of becoming a new mother after sustaining a severe tear. They were asked to consider how the tear may or may not have impacted on; caring for their baby, relationships/sexual functioning, and social life. Six main themes were apparent, three from the original template (caring for baby, relationships/sexual functioning and social life) and three emergent themes (pain and discomfort, body image and support). Women were asked to describe their experiences during the first few weeks of becoming a new mother and how they felt at the time of interview. This theme contains 6 sub-themes:

1.3.3.1. Pain/Discomfort and symptoms: In the beginning it was uncomfortable and difficult/ I don't remember it being anything I couldn't cope with

1.3.3.2. Caring for my baby: It was difficult but I got on with it/ It didn't impact how I cared for my baby

1.3.3.3. Relationships and sexual functioning: I was fearful, he didn't pester me and it was ok/ It's uncomfortable and will never improve

1.3.3.4. Body image: I didn't want to look at it and I didn't want him to look

1.3.3.5. Social life: In the beginning I stayed at home because it hurt/It didn't stop me doing what I wanted to do

1.3.3.6. Support: If I didn't have my friends and family I wouldn't have coped

1.3.3.1. Pain/discomfort and symptoms: In the beginning it was uncomfortable and difficult/I don't remember it being anything I couldn't cope with:

Women were not specifically asked about pain and discomfort. To avoid priming/leading, women were asked about how they felt the tear may or may not have affected different areas of their life after giving birth to their baby (which are explored in the below themes). However, as women spoke about their experiences of pain and discomfort generally, the theme of pain and discomfort emerged. This theme presents the women's descriptions of pain that were not directly related to a specific aspect of their experience that they were asked about. Women's responses were varied with regards to pain/discomfort/symptoms. For the majority of women, they described how they experienced quite severe pain in the first initial weeks and how distressing this was for them at the time,

It was very painful in the days following…really painful literally couldn't get on or off the sofa by myself I had to have help with pretty much everything…I couldn't clean the house for about two weeks…it just added that extra difficult thing on top of everything that's already difficult if you like'

–A015

'I mean yeah you can cry over the pain cause it bloody hurts…but…otherwise…there's no point sitting there feeling sorry for yourself…'

–A023

'the pain was actually the worst pain I have ever gone through in my entire life…and I actually didn't think there was going to be an ending to the pain it was that bad…painkillers numbed it a little bit but it never took the pain away … that's definitely one thing I will say, the pain had never completely gone'

–A024

When describing their experiences of pain and discomfort, the women explained how they employed different coping mechanisms. The most popular method of relieving pain seemed to be the use of a rubber ring/cushions when sitting down,

' I was quite lucky that somebody leant me a cushion…that was designed specifically for people who had had a tear…so I just had to use just that chair'

–A033

'I found that the rubber ring….my mother in law was actually in home and bargain…and I said to everyone I could [LAUGHED] if you see a rubber ring can you get me one…so she got one…and [SIGHS] the relief…it was like a god send…the difference of just…it just felt like there was nothing there to irritate it…cause that pressure when you sat down…'

–A011

'the minute I sat on the rubber ring…instant relief…it's brilliant'

–A008

When they were asked about how they felt at the time of interviewing, some described how they still feel some discomfort,

'I suppose I'm still even now really still feeling the effects from it…I suppose now I'm over the pain it's not too bad it's getting better every week but...erm…you know you get the odd pain and ache…and things like that …it's not the nicest thing in the world is it

' –A015

'I'll be honest there's still bits of pain sometimes…I don't think it's quite back to what it's used to be…but the physio has told me get to 12 months and she said honestly it will feel a lot better…but I think that's just you take things slow don't you…'

–A022

'Erm….well…I mentioned this to the consultant…when I was there…I do still have a bit of pain…but she does think it's to do with the changes from still breastfeeding rather than from the tear itself…erm…and not to do with the repair…so I don't think it's the tear…'

-A027

However for others they described how their pain had subsided with the passing of time,

'I'd say round about the 10 week mark it all changed…like ….literally completely changed all of a sudden the pain just kind of stopped…and like I don't know whether it was completely healed and stuff cause I remember going for the 12 week check with [BABY] and they checked me again and said oh god you've healed really well…I remember saying to her like 2 weeks before it really felt a lot different…it was like overnight just all of a sudden [CLICK] bang no pain and I was like…literally…what's happened…'

–A023

In contrast, for a small proportion of women, they described how they felt little pain or discomfort. They described how they felt their pain was well managed with painkillers,

'at no point did I actually ever feel any pain to do with it at all…Yeah it was really well managed … yeah at no point did I ever feel any pain to with it…yeah which was really good'

–A062

'it was difficult sitting down…but it wasn't that bad and that went after like a week…and they sent me home with painkillers… '

- A022

'I have had no ill effects from it….no pain or anything…'

-A020

1.3.3.2. Caring for baby: It was difficult but I got on with it/ It didn't impact how I cared for my baby

Women were asked to consider whether they felt their tear may or may not have impacted on caring for their baby. The was a variation in women's account where some felt as if their tear impacted on caring for their baby physically, which subsided with time, others felt like there was an emotional impact whereas some described how they felt it had no impact on caring for their baby. For those describing a physical impact, they explained how they encountered initial difficulties caring for their baby due to pain and discomfort they were experiencing,

'didn't take him out anywhere. Erm… I didn't really do much with him because I couldn't -- I didn't wanna get down on the floor and play or anything like that'

–A007

'couldn't do anything I couldn't lie down I couldn't hold him… I couldn't hold him properly because I couldn't sit where the pressure was on my bum…so I didn't actually care for my own baby either for…a good few weeks ERM until I could…could sit down properly…like the changing him or feeding him or just wanting to go out…I'd start something and then pain was horrendous like…I just couldn't finish anything I started and it was annoying'

–A024

For others, they found caring for themselves and their tear, whilst simultaneously caring for a new baby, difficult. Specifically, they found the need to clean the area after going to the toilet and remembering to take all of their medication whilst caring for their baby challenging

'the only thing that was hard was they say to you to regularly shower twice a day…like a minimum twice a day…so I was having three showers just to make sure it was all clean and things…But yeah silly little things like that whereas if I hadn't had the tear I wouldn't be showering three times a day…and that might have been a bit extreme but it made me feel more comfortable…especially after being the toilet…'

–A011

'I don't feel like it's ruined the experience for me…but…I suppose when we came…I remember when we left the hospital there was so many like…the medication for it…erm was tricky because there was lots of types of different medication for different things…you just felt like it was constant medication and then in-between that you're struggling…'

–A062

When describing the difficulties caring for their baby in the initial stages, some of the women described how despite their pain and discomfort they felt they had to 'just get on with it' to meet their baby's needs,

'it really hurt to put her on the floor…like actually putting her on the floor hurt a lot…erm…and like…not changing her nappy cause we have the table…but if stuff was on the bottom shelf…on the changing table bending down hurt…and like just stupid things…but….you know…she's not gonna give a shit you're in pain she wants feeding [LAUGHS] and that's it…she wants a cuddle just get on with it…'

–A023

'bending down to change him and stuff… other than that it's just a case of taking your tablets and being a bit worried if you miss them … but I think you really are just so busy with the baby that you … it's probably nature's way of dealing with all sort of horrible things isn't it'
– A062

Related to this theme, some of the women described an impaired bond impacting on how they felt they cared for their baby, or the separation during their perineal repair which they felt impacting on feeding,

'I think it might have slightly affected me mentally… which then might have had an impact on how we bonded…I don't think we bonded as well as first…I don't think I had postnatal depression but I just think I had a bit of…it was almost a bit…I was teary…I was down…I felt like I'd made a big mistake having a baby at one point…'
–A022

'I didn't have that time that in an ideal world I would have had with her…and whether that did contribute to the feeding difficulties that we had…erm…so…that's probably the main concern…that initial bonding period and then how I was physically because of the tear whether that contributed to the feeding difficulties…'
–A027

'if I didn't have the tear and we had a relaxed thing [time after birth] would he have breastfed better….cause he never really did breastfeed very well…we struggled to do it for about 4/5 months before I finally gave up'
– A034

Those who felt the tear had an emotional impact reflected on this with sadness as it was something they still thought about:

'it kind of makes me think that….that whole stressful thing could have been avoided if I would have managed it earlier on…and I kind of think…if we'd have had him in hospital and we wouldn't have had that separation…I think that's more…I'm more upset he had to go through that than the actual tear…cause the tear…itself is like….I still don't really think of it

like a really bad thing…but the consequences of it….if that wouldn't have happened would all of the other things have happened'

-A034

'I feel like I've missed out on those baby baby months, when he was tiny. I look back at the pictures now and I've -- I mean I've got hardly any pictures of me and him together'

–A007

In contrast, some of the women felt that their tear had no impact on caring for their baby,

'it was absolutely fine…there was no…it didn't impact on how I could care for [BABY] or how I felt about her or anything…it didn't make me like hate her or anything you know like you've done this to me or anything…I just didn't link her with that…it was just…something that happened but it was absolutely fine'

–A020

'I'll be honest I was alright…I was in pain…I was uncomfortable cause I couldn't sit down properly…but…it didn't…it didn't have an impact on caring for him at home'

–A022

Women were also asked to describe whether they felt the tear may or may not be impacting on them caring for their baby at the time of interview. Although those who felt there was an emotional impact still felt upset when reflecting on this, the majority of women stated that their tear had no impact on physically caring for their baby at the time of interview:

'Oh yeah well there's no such thing as normal with a baby but….no definitely I mean now every day we do stuff…I'd say round about the 10 week mark it all changed…like ….literally completely changed all of a sudden the pain just kind of stopped…'

–A023

1.3.3.3. Relationships, Sexual functioning: I was fearful, he didn't pester me and it was ok/ It's uncomfortable and it will never get better

Women were asked to describe how they felt their tear may or may not have affected their relationship (including sexual intimacy/functioning) with their partner. The majority of women had resumed sexual intercourse with their partner at the time of interviewing with one or two still abstaining. Although they described how their sexual relationship with their partner had 'suffered', they felt like their partners were understanding of this and none felt pressured by their partners,

'I feel a bit selfish…because it's been so long but sometimes I'm like it's me that's been through all this not you…but….he's just…he's amazing…I couldn't find anyone better…and he does reassure me so much and says you know I don't care I don't care…but at least I'm not like under pressure'

–A015

'but actually I still think mentally I was very sort of…I didn't want to have sex…and he didn't push me…he wasn't like…he's been amazing…he's probably been tearing his hair out [LAUGHS]' –A020

'But he's great like that….he'd rather have a cuddle anyway…I like cuddles...but he is like really really supportive…the first few times I was like no no no I can't…and he was like no that's fine come on let's have a cuddle…he was so supportive…I don't tell him enough'

–A008

When asked about the reasons why they felt the tear impacted upon their sexual relationship, the women described how they were initially (or still) fearful of pain or further damage to the area,

' *I was just really worried that it was going to hurt or…that it hadn't healed properly and I didn't have any idea how long it was going to take to heal you know…'*

–A020

'would it hurt….would he tear me again….even though my midwife said it was fine…what if he teared me again…what if they haven't stitched me up properly and it just looks like they have…it was like…traumatic the first time…it was like being a virgin all over again...like petrifying it was horrible…but…it has impacted a lot on our sex life though…'

–A008

'*I would say at first you've got that fear of…is it gonna hurt…am I gonna bleed…cause although they tell ya what they're doing and you've got so many stitches and things you know you don't know…you can't see it properly…even with a mirror you don't know what's gone on down there…so I think at first you've got that fear there…and you worry about it'*

–A011

For some of those who had resumed sexual contact with their partner, they described how their initial fears were not a reality for them and how they 'relaxed' about their fears once they realised their fears were not a reality and questioned their initial worry:

'I think after the first time its fine then…like with anything isn't it…once you've got over that initial part of it and the fear…you're like of well no actually its fine I don't know what I was worried about…or why I was worried…'

–A011

'Oh it's fine now…yeah yeah…and I think like I kind of stopped panicking a little bit when the pain went away…but there is the pain side of it'

-A023

'no its fine…and better [LAUGHS]'

–A020

However, this was not the case for all of the women. Those whose fears prevented them from resuming contact with their partner continued to be fearful and some of the women described how their first sexual experience with their partner after the birth was painful or uncomfortable:

'it was numb…it was…and I mean numb I couldn't feel…I was like its numb its numb and that was horrendous…so then I felt really unattractive….and it was totally different to previously…so…it was a shock…so yeah that wasn't great…'

–A024

'Yeah…yeah…I mean they asked in the hospital about like sex and stuff and we attempted it once and it was quite painful….so I think…it just makes me feel…like the idea of it again…just makes me feel like oh god…it's going to hurt….'

– A034

For these women, they felt like the impact the tear had had on their sex life was something that may never resolve,

'It'll never be back to normal…I don't feel it will ever feel the same…which again makes me feel slightly like…oh [SAD]…but yeah I don't think it will ever be …I don't think it can…surely not…'

-A024

'well it still hurts, even now. And erm … I don't know whether that will ever go. But…Get on with it'

–A007

'But even like…even now…we can't have sex now unless we use the jelly….and it doesn't feel like it was…I didn't think it would go back to the way it was…but…they said you know a couple of months…6-12 months you'll be fine…I'm like 9 months…you just put a mental block on cause it just doesn't feel right…'

–A008

The women also spoke about delaying this aspect of their relationship and felt that the standard '6-week' advice for sexual intimacy may not apply to all women after childbirth. Women also emphasised the importance of waiting 'until you're ready',

'I mean obviously you do delay it…more than…more than if you hadn't been through the tear…erm…and I know they say medically you don't have to…but obviously you've gotta let yourself heal and also like get over the fear of it…technically they say 6 weeks'

–A011

'So yeah…I mean it took a while…It took a good good couple of months…in fact it probably took like 7 months'

–A020

'Definitely made me wait longer…a lot longer…because I was paranoid and I thought I don't wanna…I don't wanna risk…erm…causing any problems or making anything worse so I was quite keen to leave things as long as possible…erm…because…it was terrifying really…because you don't wanna make things worse and that's quite an intimate injury to have had….it's like if broke my arm I wouldn't try and go on monkey bars you know [LAUGHS] …it's just common sense isn't it…'

–A032

1.3.4. Body image: I didn't want to look at it and I don't want him to look

Although a small number of the women stated that they did not feel their tear impacted upon their body image or self-confidence the majority stated that they felt their body image or confidence had been affected in some way. Some of the women described how they felt less attractive or 'old before their time'. These descriptions were very closely related to women's descriptions of the impact their tear had had on their relationship with their partner. Some of the women described how they did not want to look at the area, how the thought of what the area looked like made them feel less attractive, and how they did not want their partners to see the area,

'what if it's like a car crash down there…and he was like do you want me to look…and I was like absolutely not [LAUGHS]…'

–A023

'felt less attractive to him because of what he'd seen and what you know he had to do…he won't …he wouldn't say anything but for me as a person it was horrendous …sex wise was difficult…I was very conscious of what it was gonna look like down there…still now it's a bit grim'

–A024

'And then when I come home….it was a couple of weeks after it…and I had a little look…and I had a little look….and I just thought oh my god…that's just disgusting…so like the thought of me boyfriend like…cause he…cause I couldn't properly see…so he was looking….and then I was mortified….thinking I can't believe I've just let you look at that….so like now…its off limits'

– A040

A small proportion of women who were experiencing urinary and fecal incontinence, described how their symptoms impacted upon their body image. They described how their symptoms made them feel 'old before their time', unattractive and less confident. These women found that this was still an issue for them at the time of interviewing:

I was having a little bit of bowel symptoms and a little bit of incontinence….and I felt like an old lady…and a bit you know unattractive….But that sort of passed…and erm…you know it is only every sort of now and again when you feel a bit you know…erm…a bit old before your time' –A033

'like how can you find someone who poos themselves in public attractive…I'd just got all my confidence back and it's just all…just all gone again…and that annoys him'

–A040

1.3.5. Social life: In the beginning I stayed at home because it hurt/ It didn't stop me doing what I wanted to do

The women were asked about whether their tear may or may not have affected their social life since the birth of their baby. For the majority of women, they described how their initial pain and discomfort prevented them from going out. The women described how upsetting and frustrating this was for them as they felt like being able to get out was part of them returning to normal and they compared their experiences to other mothers,

I literally, for three months I didn't move from this seat. I want a new sofa now, I friggen hate it. I didn't move from this seat, day or night because I was uncomfortable…I didn't go out at

all for, god…four months, didn't take him out anywhere. Erm… I didn't really do much with him because I couldn't

-A007

It was getting on my nerves…because I was thinking is this it…like am I ever going to get any better and literally I wouldn't have made it to the end of the road

-A015

I couldn't really walk that far…erm that really upset me…and I think it's only when like you realize that like other mums who've had kids who haven't had complications they kind of bounce back a lot quicker…

-A024

'you think at that point…you think like I need to be doing this…you're trying to get yourself back to some form of normality and not be in your pyjamas at half 1 in the afternoon do you know what I mean…and you think right I would like to go out for a walk now…and have some purpose to me day…and having a baby and not being able to walk is hard…really hard…'

–A023

However, for some of the women, they described how they felt like the tear had no impact on their social life,

I think like social wise it didn't stop me doing what I wanted to do once I'd had the baby you know…I was up on me feet no problem…I just didn't let it stop me or anything like that…I don't think…if it happened or it didn't happen I don't think the way I was after would have been any different at all…I think it was just…fine…'

-A011

Oh no…not at all..I'll be honest I was out the week after…I think I'd had him a week….in fact we were out after about three days out to the park….going for lunch…and then I took him to work…he was only 7 days old when I went to work with him and took him to see everyone…so it had no effect on the social side...'

–A022

For the majority of women, at the time of interviewing their social life improved when their pain subsided. However, for those who were still experiencing symptoms of incontinence, they described how this still has an impact on what they could and couldn't do. They described how although they still find their symptoms difficult and upsetting, they cope by managing their symptoms in different ways to minimise any distress or embarrassment,

I've still got some symptoms…from a bowels point of view which I can cope with…but I'm not physically as I was…erm…pre-birth…and that can be sometimes difficult to cope with….from my point of view it doesn't really affect anything…that I would do…I just plan what I'm going to do so that I'm not caught in an embarrassing situation…and as long as you sort of know you've got certain things….and what you're going to do each day…like we've recently been away and I was bothered that we were staying in the middle of nowhere and there may not be any toilets…so I just had to modify…and just make sure that I didn't have an accident…which I maybe shouldn't be having to do at my age…'

–A033

'I don't sit in everyday….I do go out…I mean that field there is so good…cause obviously no one is hardly around…it goes on for miles…so I just go up and down [LAUGHS] …..and get fresh air…I wanna go out…I wanna go and show him off….I want a break like a night out…I've been out with my partner and on the train on the way out I wet meself [LAUGHS] ….I can cope with weeing myself…Just change the pad…but I feel like it's just knocked me confidence and I just don't feel like me yet…'

–A040

'I've explained to like work aswell…and they were like if you need to go the toilet just put the customer on hold and go…they've been brilliant…but because I know about it I'm not bothered by it…cause…it sounds bad…if…when I fart in public now it's not like oh my god what's wrong with me…it's because my muscles aren't strong enough…'

-A008

Some of the women described how having a severe tear has impacted on things they used to enjoy doing before the birth of their baby,

'I'll be completely honest my body isn't actually much different than before I'm just a tiny bit bigger…so I'm not suffering from stretch marks or anything like that…so I feel lucky in that way…I just think it's an all-round thing…I think of the tear a lot…I know there's nothing to stop me doing things like swimming I just keep thinking about the tear…if I do too much will it hurt again…yeah…'

–A015

'There are a few things I'm not going to be able to do anymore…such as I play the trumpet and I've been advised that's not a good idea…so that's disappointing and I've only just found that out so I'll have to see how things go….[SIGHS]…'

–A033

1.3.6. Support: If I didn't have my family and friends I wouldn't have coped

When women spoke of their difficulties with their social lives and any symptoms they were experiencing, they described how they felt supported by friends or family, which they found, alleviated their distress. For some of the women, they described how being unable to leave the house and having their family and friends visit helped them feel less isolated. They described how they were grateful for the company and the help and wondered how they would have coped if they did not have this support. Some of the women also described the moral support they received from friends who had had children, especially those who had experienced perineal trauma:

'we've got such a big family and they were all here 24/7 but if we didn't I wouldn't have seen anyone… my mum is only a couple of doors down so that was good…but I was lucky my mum was with me to be honest….'

–A015

'my mum was brilliant and my dad was brilliant they're both retired…so they've been really good…erm…and as I say a lot of me friends have got kids so a lot of them are still off aswell…so I had a lot of company…I think if I'd have been by myself I think I would have suffered a lot more…cause they were all just like well…come on then sort yourself out…lets walk to tesco….so you just have to get on with it….but I think if I wasn't like…I didn't have a

good support network around me…I could say how people could suffer…cause it is painful…'

–A023

'my mum came and stayed to help us...cause it was just hard work it was hard…anyone that would go through that being a single mum…they wouldn't cope I don't think…full respect to them if they did…I'm really lucky I've got a husband that's a really hands on dad…erm…I've got friends whose husbands are very much not like that erm…and lucky it wasn't them that had to go through it because I don't know what they'd have done really but [HUSBAND] is fab so…'

–A024

'one of the NCT girls had a severe tear as well…and sort of as we'd gone along…she's a few months ahead of me…so…I asked her how her appointment was and we'd talked about it…so we've sort of talked about how we'd feel having a section…and another friend has had a tear and gone on to have a second baby vaginally…I think if I hadn't had the group of people that I had…I think that probably would be useful…I know not everyone has the benefits of NCT…and I don't think I gained the same support from the NHS antenatal groups that I gained from NCT….and I also feel like we were very lucky with our group…'

–A027

However, for one woman she described how she had little support from her partner as he struggled with becoming a new father. She described how she felt she had no one to 'look after' her. She questioned whether this contributed to the severe distress she experienced after the birth of her baby. Her account did not follow the general pattern in the data:

I mean my husband just broke…a few times and ended up sat upstairs in tears, so I'd have to comfort him the baby down here… get him to sleep…which…I could after a while…and you know I ended up looking after the two. And then he would go to work the next day and it would be like …right well who's looking after me? Nobody. This lovely bar of galaxy chocolate here [LAUGHS]… But yeah…so…that was…it was just hard in general'

–A007

1.3.7. Perineal Clinic

As part of the aftercare at Liverpool Women's, those who have experienced a severe tear are invited for two postnatal follow up appointments at the specialist perineal clinic. Women are invited to a 6-week check with the specialist midwife and they are invited to attend the clinic again at around 6 months postpartum. During the second visit they are offered endoanal ultrasound and pelvic floor strength tests and have the opportunity to discuss their results with a Urogynaecological consultant afterwards. Two subthemes emerged from the data: 'I was looked after by specialists but I wanted to know more', 'Future births: They recommended a caesarean and I'm disappointed/ they recommended a caesarean and I'm relieved'.

1.3.7.1. I was looked after by specialists but I wanted to know more

Women were asked to describe their visits to the perineal clinic and what they thought about them. They were not asked about specific visits and were therefore free to discuss any aspect of the clinic in their interview. The women were very positive about their visits to the perineal clinic and generally full of praise for the staff and the information they received. They emphasised the importance of speaking to someone who specialised in the area and they felt grateful to have the clinic and their appointments:

'just sort of know that what you're experiencing is normal….and it's not something that you need to worry about….I think that just…that just reassurance was vital…like that appointment I really needed it you know…you get a lot from it I think…'

– A011

Yeah so in a way I was glad in a way I had the worse tear than a lesser one because I had the best people looking at it [LAUGHS] is that awful [LAUGHS]'

– A020

I think everything afterwards has been good…I can't fault you know the treatment I've received from the specialist midwife and her team has been great…everything has been explained to me'

–A032

When discussing their final appointment and the endoanal ultrasound test, the women described how although these could potentially be quite embarrassing, the staff that cared for them in the clinic put them at ease and this alleviated any embarrassment,

'*cause I went for…I went for a test where they put the probe up your bum..and she was brilliant then…like made me feel dead calm…and then the consultant she was like really really good aswell…and I was like why couldn't you…the nurse…be this good on the ward when I had her…'*

–A008

'but they did all the strength tests on me…which was interesting [LAUGHS] but they were lovely they were chatting to me all the way through…'

– A020

'they were a bit awkward [LAUGHS] erm you know the tests…but I've gotta be honest the girls were so good they really are…and as awkward as they were she [specialist midwife] made me feel better about it like…'

-A015

Although the majority of women were full of praise for the clinic, some of the women described some areas that they felt needed attention. For some of the women, they felt like their clinic visits were too brief or that the timing of the appointment could be changed to suit women's needs:

'she showed me the diagram, told me where the damage was permanent… there no mention of you know how I felt… it was very clinical at the tests this is what happened to you, this is the damage that's been done, this is the lasting damage and this is what you need to do next time bumpf bumpf bumpf in and out… yeah I mean it was a check to me…I was…a tickbox…she didn't seem… the woman that I spoke to … she didn't seem that interested in me as a person… she was just she was just analysing … she was just reeling off results and that was it…I mean I was literally in her office -- must have been 10 minutes and that was it I was out'

–A007

'well the 6 weeks one…erm…I'm trying to think now…was a bit rushed…I think it's too …I think it's too early… personally I just think that you've had the baby and maybe it would be better at like 12 weeks…I just think that at 6 weeks…you're not even thinking about intimacy or anything at that point…you're not thinking about lots of other things…like doing your pelvic floor and all that…whereas if you did that 12 weeks…you might have took more in..'
-A022

For a few of the women, they spoke about how they wished that they would have had the opportunity to discuss the cause of their tear. They described how they wanted to discuss why it happened and wished that they had information specific to their experiences,

'I asked her about why it happened and she didn't really go into detail…that disappointed me a bit…I would have liked her to have gone into…cause at that point I was ready…I was ready to hear about what had happened during my labour…but she didn't wanna talk about it…so it just…I don't know I think I would have liked that…'
– A022

'there should be an explanation to me…not just…kind of…an overall one when I went back this time to see her [consultant] she went over things from the first time…she's so lovely isn't she…she's lovely….but…and I know she can't give me the answers…and she would probably love to give me the answers and I could tell that…but…its…I was expecting to go on that day and find out exactly what had gone on…and I kind of left knowing what I already knew…'
– A040

1.3.7.2. Future births: They recommended a caesarean and I'm disappointed/They recommended a caesarean and I'm relieved

At their final clinic appointment women were given the opportunity to discuss their results of the endoanal ultrasound with a Urogynaecological consultant. The consultant discussed their tests results and made recommendations for the method of any future births based on the results and the risk of any further damage. This was an emerging subtheme in the data as women discuss receiving this information and how they felt about the recommendations they were given. All of the women described being given the recommendation that it would be

best to undergo a caesarean section for any future births. For some of the women, they described how they were disappointed and upset about the recommendations given to them. Although they wished that they could give birth again vaginally, they described how they understood the risks and had 'come to terms' with the advice given to them as they did not want any future or further problems,

'I didn't want a c section if I'm being honest but I suppose there's nothing you can do…its better than being incontinent for the rest of your life…'

-A015

'Well that upset me cause I do…we do want more kids…and I was thinking like what if I never go into labour again…I don't wanna go through that…it's not fair on [BABY] or the new baby…for me to be like moping round again and in pain…'

-A023

'when you're making a decision to have a section for you rather than for the baby…you sort of think ok…am I being selfish…but…it..if there is a risk that you're going to end up with long term problems that would really change your quality of life then can you be the best mother that you want to be…so I think I am at peace with it…'

–A027

Some of the women also stated how they understood it was still their decision, and how even though they were disappointed, they would still follow the advice given to them,

'probably a bit disappointed…because if I do get pregnant again…cause [BABY] was born through IVF…so if I do get pregnant again erm…I probably would've tried to have another natural birth but…I think I'm glad that that…that they sort of not made that decision cause it's still your decision what you want…but I'm glad that they did say that…'

-A011

'the woman who I seen was brilliant…she explained why…she said it's up to me at the end of the day…if I want to have another natural it's up to me…but she said for safety and because of the tear….you're likely to tear again…erm…and because of the damage to my sphincter

muscles…erm…they would say…I would need an elective caesarean at about 38 39 weeks…So it didn't actually bother me…'

–A008

'Yeah…well after she explained you know you can go one way or another…she did pretty much give me all the information erm…for me to make the decision meself erm…the best decision would be…well I suppose it's just me never wanting to have to have the c-section…the problems and everything else and she told me why so…it's just …it is what it is'

– A015

In contrast, some of the women described how they were 'glad' or 'relieved' that they were advised to undergo a caesarean section, as they would not want to risk their future pelvic floor function deteriorating,

'I was dreading it in-case she said I would have to have a natural birth again…But when she said a c section I was made up…I wouldn't have another baby if I couldn't get a c section…I just wouldn't…I wouldn't do it and I just know next time it would probably obviously be worse do you know what I mean….'

-A040

'I was kind of relieved…because even thought I was told my muscles aren't where I'd like them to be…I've now got it in writing ….a consultant from the hospital…to my doctor that we recommend planned caesarean…and I think good…why would I want to go through all that again and risk…because its 25% chance I'd have a third degree tear again and make things worse for myself….why on earth would anyone take those odds…it's ridiculous…So even if my muscles had repaired…and she said look you can choose…I would be choosing a caesarean….because we only get one body and as much as I love kids…I don't want to live the rest of my life…incontinent…'

– A032

When women described their feelings on having to undergo a caesarean section for any future children, they compared their experiences of recovery after a severe tear to what recovery after a caesarean may be like. They described how they felt their recovery time may

be shorter and that they would know what to expect as they believed there was more information available about this than about recovery after a severe tear,

'it was a bit disappointing to think I won't have that experience again but…I am glad that I know now that …that's what's going to be the best case scenario for next time….you sort of know what you've been through already…but obviously with a caesarean there is a recovery like at the end but…I sort of think well a caesarean they say after 6 weeks you're back up on your feet and feeling ok…whereas this has probably taken 7 months I would say….to get everything back to normal so to speak…I mean it's obviously not back to normal because it's very different to how it was…'

–A011

'I don't wanna go through that…it's not fair on [BABY] or the new baby…for me to be like moping round again and in pain…and even though a caesarean is painful…its more controlled and people know a lot more about it than the tea…one of my friends have to have an emergency caesarean…and she was like I've had to get checked every week…they give me a pain review they do all these things…it's very like…by this week you should be able to do this by week four you're hovering [LAUGHS] like that…'

– A023

'*Yeah…and my mate had an emergency section…three days after me…and she came to see me afterwards…she was up and about well before me…she recovered well before me…so that's what's always put me off about a c section like the recovery time is so long…but…mine has been well worse…'*

– A040

'But my mind was made up when they said I wouldn't have to go through it all again…it would be a caesarean…cause then you're full of information…the amount of information out there on caesareans is amazing…so you know what to expect…'

–A008

1.3.8. Advice for new mothers who have experienced a severe tear: Don't panic, look after yourself and ask for help

At the end of their interview, women were asked what advice they would give to new mothers who have experienced a similar level of tear. Women emphasised the importance of asking questions and seeking advice if you are unsure or worried,

'any advice…probably mine would be…is…kind of don't think anything is normal…like question everything…like when I started having them accidents and stuff…if I would have rang up straight away and said this has just happened…like the night it happened…it might have been…a lot better than me cause I just expected it to be normal… but…so kind of assume nothings normal and just check…check anything that doesn't seem right….cause you feel like you don't wanna be a hindrance…cause you haven't done it before you don't know what to expect and you don't know what's normal and you just kind of put up with stuff…'

–A040

I would also say don't be embarrassed….about asking questions asking to be examined because they've seen it all….once you've been through childbirth…whats one more pair of eyes [LAUGHS]'

–A032

'Don't be embarrassed to talk about it…if you feel worried just phone the midwife…that would be the first bit of advice…erm…and don't google…just don't do it…and just vent…if you need to speak to your health visitor or a nurse or anything just do it…it's not a taboo subject…you haven't done anything wrong….you are not in control of what happened to you…just talk to someone about it…cause if you don't that's when you start to feel like crap…'

–A008

They also emphasised the importance of not panicking about things and being fair to themselves and not put too much pressure on what they should be able to do.

'don't panic…because that seems to be what I've been doing…and you find yourself worrying about things that you don't need to worry about…talk about it if it's bothering you…just talk about it'

–A015

'just in terms of the future…after having it…it doesn't necessarily have to affect your life…you know…you get such good support from the hospital and if they offer you stuff take it…'

–A020

'probably just be a bit easier on yourself…like I was quite tough on meself I think I was like just pull yourself together…but it's quite a big thing…and you know just talk to someone about it…'

-A023

They also stated that it is important women remember to look after themselves as well as looking after their baby,

'Because if not you could end up regretting it…because you put all your care and attention on the baby….you don't look after yourself…and that can be a big mistake…so I would say that…'

–A032

1.3.9. Advice for services- There needs to be more information and emotional support

The women also made recommendations for services throughout their interview. They spoke about the things that they believed needed attention and the things that they believed would have made their experience easier. A central recommendation was that there is a need for more information on tears and women spoke about the need for this at various points in time. For some women, they wished they had received more information about what to expect after the birth of their baby,

'just need a bit more information especially on self-care. Because I didn't get anythin…that I can remember, no I don't think I really got anythin'

-A007

'to be honest what would have been useful…because I was just worried…like I say I just wanting like a safety net cause I didn't know what to expect…so like a timeline would have been useful…I know everyone's different ….but like a timeline…where like…I don't know…in a month you shouldn't be having as severe pain or whatever it should feel more like this….obviously that will come with its own problems cause everyone heals differently..' – A023

For others, they felt that there was a great need for information about the cause of their tear, which they felt needed to be specific to the birth they had experienced. They felt like they needed 'answers' that they did not receive,

'So I think…I think that's particularly important for someone who has had a tear…because your birth has been affected by this…you.ve had to have the theatre and you know things have happened…and you do wanna know why…not that you wanna blame someone you know it's nothing about that…you just wanna know what happened down there and what happened with your baby…'
–A022

'We don't have enough evidence…I have asked the questions and they do try and answer them….I guess there's just not enough research is there…'
–A032

'there should be an explanation to me…not just…kind of…an overall one'
–A040

Some of the women also felt that there should be more information provided antenatally allowing for women to feel prepared for what can happen. Some of the women made reference to this study and the need to make people aware of how women feel after experiencing a severe tear,

'there probably needs to be more stuff out there for pregnant women that if you have the tear don't panic…it's not going to be like major…so that's all I'd say…maybe if I'd read something that had positive….like accounts…I mean saying that I'd probably be reading

[LAUGHS] thinking oh whatever like the women who give birth without pain relief and say it doesn't hurt [LAUGHS]…'

–A020

'I think when you've done your study I think you should let people have copies of it so they know about it more…people need to know more about it…and the pain and how everyone's feeling and like…yeah…'

–A024

'cause I think…I do think…there is so much you need to know about labour…you know they tell you about your breathing…how…when you start pushing and the painkillers out there…no one tells you…you can tear…and…I do think if I would have had a little bit of information…I would have known how bad it was…whereas I didn't have a clue on anything…so I really do think…if anything comes of this study…even just a pamphlet…in your starter pack…like when you register when you're pregnant…but…I don't think there's enough information so that you can prepare for it'

– A008

For others, they felt that there needed to be more information provided to others such as GPs and partners,

'the doctors and GPs need to be more aware of what it is and that…cause it could…I can see how it could cause some issues like…'

-A023

'I don't know if this is even possible…something for husbands…I remember [HUSBAND] saying to me a few times…so what is it…what have you had what have you done…and I was like oh I've done this…and he was like oh right…how….and I was like I don't even know myself…and that's the thing I think a lot of the time he was like I know you're in pain and I know you're not 100% but I don't know entirely why….so something for them would be useful…so they know why you're sat there in agony….'

–A023

The majority of the women interviewed made reference to the lack of perceived emotional support for women after experiencing a tear. They described how there should be emotional support in the form of health professionals or peer support for women postnatally,

'Not just telling you facts and tests and medical…just someone who's had the experience or someone who knows….or if it was someone who's had it you could relate to their experiences if you like…especially for a new mum…I just…just that bit of advice more on your level…less medical…I just think in the weeks following having her…when you start thinking of yourself it would have been nice to have someone to talk to who knows about it…because you can do so much research online…and instead of running to the GP every 5 minutes like is this normal is this normal…just someone to talk to….

' –A015

'even just a bit of…like counselling support almost which she [Physiotherapist] has given me…so it wasn't really until I'd seen here that I got the courage…so I think that's another reason that you need to see someone a bit sooner with regards to all them worries….even if it was just…it doesn't even need to be physio…I think counselling or support could help people with that…'

–A022

I can't fault their care at the hospital because their care was fabulous…from start to finish…they were really good…and it…they can't help it if they don't know what it is…but maybe…for me…after having somebody to talk through it….that…erm…like a like a psychologist who knows…that would have been helpful…I don't know…if you could do a DVD [LAUGHS] and say I'm not an actor I'm a real person and it does get easier and your dignity will go out the window but it does get easier…'

–A024

1.4. **Women's experiences of OASI: A varied and complex experience**

Throughout the analysis of women's accounts of their experiences of OASI, there seemed to be a dichotomy in experiences whereby some women were negatively affected by their tear beginning with their birth experience to the present day. However, others seemed less affected by their tear. This dichotomy was unexpected as previous research highlights the adverse impact having a severe tear has on women and although for some women this was the case, it was not the case for all of the women in this study.

Chapter 5: General discussion

This chapter will discuss the findings from both the quantitative (section 1) and qualitative (section 2) elements of the study. The quantitative element assessed the effects of experiencing a $1^{st}/2^{nd}$ degree tear, episiotomy or OASI on birth experience, perineal pain, and self-reported symptoms of psychological distress at 6-12 weeks and 6-10 months postpartum. Measurements were made using questionnaires that were posted out to women at the relevant time-points; however the majority of women with Obstetric Anal Sphincter Injuries (OASI) were followed up after their follow-up appointments in the specialist perineal clinic.

As stated in previous chapters, the care that women receive for their perineal trauma depends on the severity of the damage. For women with $1^{st}/2^{nd}$ degree tears or episiotomies, their perineal repair can take place where they have given birth and can be carried out by a trained midwife or doctor. For the women who experience OASI, perineal repair is carried out in theatre by an appropriately trained clinician/specialist under spinal analgesia. The provision of care for women postnatally also differs depending on the level of perineal trauma. Those who experience a $1^{st}/2^{nd}$ degree tear or episiotomy are not provided with follow-up appointments for their perineal trauma. However, those who experienced OASI in the trust where this research was carried out, were offered follow-up appointments at the specialist perineal clinic in the hospital, which is not a routine practice throughout the United Kingdom (Ismail, 2015). Women are seen postnatally by a Urogynaecological link midwife after the birth of their baby (whilst still on the ward) and again at around 6 weeks after the birth for a visual check of their perineum and the opportunity to discuss any issues they are experiencing. At around 6 months after the birth, women are invited for tests to assess their repair and the functioning of their pelvic floor/anal sphincter muscles and women are given the opportunity to discuss their results with the consultant Urogynaecologists who will advise on further treatment (if required) and make recommendations for future births.

The qualitative element to this research (Section 2) involved interviewing women with OASI between 6-10 months after the birth. Women were asked about their experience of birth, perineal repair and how they felt having an OASI may or may not have affected various areas of their life since giving birth.

Section 1. The effects of perineal trauma on birth experience, perineal pain and psychological health and wellbeing in the first 10 months after childbirth

1.1. The effects of perineal trauma on immediate self-reported birth experience

The first aim of this research was to explore the effects of experiencing perineal trauma on immediate self-reported birth experience in first time mothers who had given birth vaginally. There is a scarcity of previous research on how different degrees of perineal trauma may affect women's experience of birth. This study investigated the effects of having an OASI, an episiotomy or $1^{st}/2^{nd}$ degree tear on birth experience reported within 48 hours of giving birth. Three measures were completed, the Childbirth Experience Questionnaire (CEQ: Dencker et al., 2010) and the Experience of Birth Scale (EBS: Slade, 1993) and a perineal pain visual analogue scale (VAS), which is discussed further along in this chapter. It was hypothesised that there would be differences in the scores on these scales according to the degree of perineal trauma experienced.

This study found that those who experienced a $1^{st}/2^{nd}$ degree tear had a more positive birth experience and had a higher perceived ability to give birth than those who experienced an OASI or episiotomy. There were no differences in overall ratings of birth experience or sense of control between those who experienced an OASI and those who experienced an episiotomy. It is not surprising that there were significant differences between those in the $1^{st}/2^{nd}$ degree tear and episiotomy groups as a closer examination of their birth characteristics revealed birth events that were quite different between the two groups. Those in the episiotomy group experienced longer labours, a higher percentage had their labour augmented, and the majority had received an epidural/spinal and/or experienced an assisted birth. These factors are known to contribute negatively towards birth experience (Dencker, Taft, Bergqvist, Lilja, & Berg, 2010; Walker, Wilson, Bugg, Dencker, & Thornton, 2015). In addition, previous research has suggested that women who experience an episiotomy are more likely to feel 'less strengthened' by childbirth and like their birth was worse than expected, compared to women who had not experienced an episiotomy (Ejegård et al., 2008).

Based on the knowledge that certain birth events are known to affect birth experience, it is interesting that there were no significant differences in ratings of birth experience between the OASI and episiotomy groups, and significant differences between in the OASI and $1^{st}/2^{nd}$

degree tear groups. When considering the differences in the type of birth between the groups, the women in the OASI group had similar birth characteristics to those in the 1st/2nd degree tear group. The majority did not receive an epidural/spinal, had unassisted births that were not augmented and had a shorter labour. It would therefore be expected that, based on these factors, those with OASI would have reported a similar experience to those with a 1st/2nd degree tear. However, this was not the case and could suggest that experiencing an OASI after a low intervention birth has a similar effect on self-reported birth experience as other factors known to influence experience of birth i.e. intrapartum medical interventions.

Those with a 1st/2nd degree tear experienced a greater perceived ability to influence their birth than those with an episiotomy; however there were no other differences between any other group comparisons. This is quite an interesting finding given that in terms of the damage to the tissues, an episiotomy is regarded as similar to that of a 2nd degree tear. However, for the women in this study, those who experienced an episiotomy felt significantly less control over their birth situation than those with a 1st/2nd degree tear. There is research suggesting that women who experience an episiotomy do not always feel informed about the procedure before it was performed (Diorgu, Steen, Keeling, & Mason-Whitehead, 2016; R. Thompson & Miller, 2014) and if this is the case then this could impact on a woman's perceived ability to influence her own birth. Furthermore, experiencing an episiotomy is usually associated with other intrapartum medical interventions during labour and birth which could reduce a woman's perceived control over her birth events.

There were no significant differences between the groups for perceived professional support and experience of care during labour and birth. Although there may truly be no differences in perceived support between the groups, it is important to consider whether there could have been a response bias. The questions on this scale such as '*my midwife devoted enough time to me*' and '*my midwife understood my needs*' may have encouraged women to respond in a certain way for fear of receiving substandard care due to any negative feedback. However, it could also be the lack of sensitivity of the subscale to discriminate between the groups, as the original authors recognised the need to improve this subscale due to the small effect sizes (Dencker et al., 2011). It may have been better, in hindsight, to ask women these questions in a more passive way i.e. *'enough time was devoted to me during my labour/birth'* or '*my needs were understood during my labour/birth*'. Given the issues with this particular

subscale, further research would be needed to establish if there are any differences in perceived care during birth in these groups.

With regards to the other measures completed, there were no significant differences between the groups for the EBS total or negative/positive subscale scores, Although this data suggests that women did not differ in their perceptions of their emotions during labour and birth regardless of the level of perineal trauma experience, it should be noted that they were asked about this relatively close to the event. There may have been differences between the groups in the longer-term as women's perceptions of birth can be subject to change with time (Waldenström, 2004). It would be interesting and useful to assess how perception of birth experience and emotions during labour and birth following different degrees of perineal trauma may change over time in future work.

1.1.1. Controlling for variables known to affect birth experience

As previously stated, there are some birth characteristics that are known to affect birth experience (Dencker et al., 2010; Walker et al., 2015). Some of these variables differed between the groups in this study and therefore it was important to consider the effects of perineal trauma on birth experience when these variables are controlled for. When controlling for total duration of labour/birth, augmentation of labour, type of birth (assisted vs. unassisted) and anaesthetic analgesia (Spinal/epidural vs. No spinal/epidural), the differences in overall birth experience between the OASI and $1^{st}/2^{nd}$ degree tear groups remained significantly different i.e. women with an OASI reported a more negative birth experience. All other differences previously identified (i.e. subscale differences) were no longer significantly different between the groups. This may further strengthen the theory that having an OASI influences overall birth experience in a similar way to other variables (i.e. mode of birth, augmentation etc.) that are known to negatively affect how women experience birth and therefore suggests that experiencing an OASI after receiving little to no intrapartum medical interventions can still result in a negative experience of birth.

When controlling for total duration of labour/birth, augmentation of labour, type of birth (assisted/unassisted) and anaesthetic analgesia (spinal/epidural), the differences between those with an episiotomy and those with a $1^{st}/2^{nd}$ degree tear were no longer statistically significant. Although this suggests that the effects seen for those with an episiotomy are due

to the intrapartum medical interventions they receive rather than the episiotomy itself, it should be noted that these interventions are not mutually exclusive. For example, if a woman has an assisted birth it is usually the case that she will have an episiotomy to allow for more space for the birth (NICE, 2007). It would be difficult to truly disentangle these effects without considering those who experience an episiotomy for an unassisted birth, which in this study accounted for over 20% of women who received an episiotomy. Although it would be difficult to investigate these effects in women with low intrapartum medical interventions who have also experienced an episiotomy, it would be useful for future research to consider the role of episiotomy in a low intervention birth and how it contributes towards birth experience.

1.2. Perineal trauma and immediate and long-term perineal pain prevalence and severity

Both short and mid-term studies report that experiencing an episiotomy or an OASI is associated with an increased likelihood of experiencing pain (Ejegård et al., 2008; Rathfisch et al., 2010; Safarinejad et al., 2009). In the present study, women were asked to rate their pain on a 10cm visual analogue scale (VAS) from no pain (0) to worst possible pain (10) at three time-points; within 48 hours of giving birth and at 6-12 weeks and 6-10 months after giving birth. It was hypothesised that there would be a difference in the proportion and severity of pain reported by women depending on the level of tear experienced. Due to the low number of women completing the VAS at 6-10 months this data was not analysed. However, the former two time-points (48 hours and 6-12 weeks after the birth) showed no significant differences in perineal pain scores between the groups. The mean scores on the VAS completed within 48 hours of giving birth were quite similar between the groups which is surprising as previous research suggests that perineal pain is positively associated with the severity of the perineal trauma experienced (Francisco et al., 2014; Macarthur & Macarthur, 2004; Rogers et al., 2009). This data may suggest that whilst in hospital, women's pain was managed regardless of the level of perineal trauma they had experienced, although the level of discomfort is still acknowledged, given the mean values in the groups.

When asked at 6-12 weeks if they were experiencing any perineal pain or discomfort, 68% of those in the episiotomy group stated that they were, compared to 42% in the OASI group and

30% in the 1st/2nd degree tear group. Interestingly, when asked the same question at 6-10 months after the birth, there was a marked decrease in the proportion of women in the episiotomy group who stated they were still experiencing perineal pain/discomfort (14.7%) compared to those in the 1st/2nd degree tear group (23.1%) and the OASI group (36.7%). These findings support the observation that although perineal pain is one of the most common symptoms reported by women in the first few months after giving birth (Cooklin et al., 2015) prevalence of perineal pain reduces over time (Macarthur & Macarthur, 2004). Furthermore, the findings from this study suggest that although perineal pain/discomfort was enduring for those with OASI it was not as well-managed in the early weeks for those with an episiotomy.

The higher prevalence rate of perineal pain at 6-12 weeks for those who had experienced an episiotomy compared to those in the OASI group was surprising given that, as previously stated, research has identified a positive association between severity of perineal trauma experienced and the prevalence and severity of perineal pain reported (Francisco et al., 2014). Again, this could be due to differences in the management of perineal pain between the groups and the differences in postpartum care. However, this may be due to the differences between this study and previous research in terms of the proportion of women with an assisted birth in the OASI group. The rate of assisted birth in this study was quite low (around 30%) compared to other studies assessing perineal pain in women with an OASI where the proportion is around 72% (Macarthur & Macarthur, 2004). As having an assisted birth is also associated with an increased likelihood of reporting perineal pain (Leeman et al., 2009), it is not surprising that given the high rate of assisted birth in the episiotomy group in this study (80%) that there was also a higher proportion of women who were experiencing perineal pain at 6-12 weeks.

Given the differences in postpartum care offered to women with different levels of perineal trauma, the large proportion of women reporting that they were experiencing perineal pain/discomfort in the episiotomy group at 6-12 weeks should be acknowledged. NICE guidelines state that all women should be offered a visual check of their perineum and routinely asked about perineal pain/discomfort in the postpartum period (Demott et al., 2006). In addition, those with risk factors for perineal pain (e.g. assisted birth, perineal trauma) should be noted and midwifery contact may need to extend beyond 10-14 days if women continue to experience problems. Those who experienced OASI were offered follow-up

appointments at the specialist perineal clinic as per the guidelines set out by the Royal College of Obstetricians and Gynaecologists (RCOG, 2007). However, those with a 1st/2nd degree tear and those with an episiotomy are not routinely offered such follow-up appointments. Given the prevalence of perineal/pain discomfort in the episiotomy group, and the responses to the open-ended questions at the end of the questionnaires, a substantial proportion of women in the episiotomy group experienced discomfort and expressed a wish for follow-up care for and this should be recognized. Although some of the women in both the episiotomy group and 1st/2nd degree tear group did state that their midwife had checked the area and offered advice on perineal care, there were responses indicating that some of the women in these groups felt they were not checked or advised and this was causing them distress as they used words such as 'anxious', 'sad' and phrases such as 'why wasn't I checked' or 'why wasn't I offered this'.

1.3.Perineal pain/discomfort and perceived effects on parenting at 6-12 weeks and 6-10 months

Women were also asked to consider any effect they felt their perineal pain/discomfort had on their ability to care for their baby. There is a lack of quantitative research assessing these effects in women with a diverse range of perineal trauma. This study asked women to consider how their pain/discomfort impacted on feeding, changing, bathing, holding their baby and socialising/going out with their baby at 6-12 weeks and 6-10 months. Although the actual mean scores on the scales were small, this study found that those with an episiotomy or OASI felt their perineal pain/discomfort had a greater impact on feeding, changing and bathing their baby than those with a 1st/2nd degree tear. Unfortunately there were not enough responses at 6-10 months on this measure to analyse the data.

The findings at 6-12 weeks are supported by those of previous research whereby one third of women, in a sample of 212, reported that perineal pain interfered with feeding their infant and 41% felt that their perineal pain affected their opportunities to care for their infant (East, Begg, Henshall, Marchant, & Wallace, 2012). The women in East's study had either a sutured tear of unspecified degree (41.4%) or an episiotomy (23.7%) and they did not analyse the data according to perineal status or assess the magnitude of women's perceptions of these effects. In the present study, both the differences between the groups and the magnitude of the perceived effect of perineal pain/discomfort on parenting tasks were assessed.

1.4.Perineal trauma and body image at 6-12 weeks and 6-10 months postpartum

It was hypothesised that there would be a difference in perceived body image depending on the level of perineal trauma experienced. The women in the study completed the Body Image Scale (BIS: Hopwood, Fletcher, Lee, & Al Ghazal, 2001) at 6-12 weeks and 6-10 months after the birth. Although this scale was originally developed to assess body image in cancer patients, it has since been used to assess body image perceptions in women seeking treatment for pelvic organ prolapse or benign gynaecology conditions (Jelovsek & Barber, 2006; Stead, Fountain, Napp, Garry, & Brown, 2004). Therefore, as there is a lack of research assessing body image in women after perineal trauma, the BIS was thought to be the most appropriate measure to use in the present study.

At 6-12 weeks those in the episiotomy group experienced a greater dissatisfaction with their perceived body image than those with an OASI and those with a $1^{st}/2^{nd}$ degree tear. However, when controlling for mode of birth (Assisted vs. unassisted) there were no significant differences in body image at 6-10 months. This suggests that mode of birth rather than the level of tear resulted in a more negative body image in this group, a finding that is supported by recent research finding a strong association between having a forceps assisted birth and negative changes in body image (Iles et al., 2017). Although as already discussed, it is important to remember that in this sample, having an episiotomy and having an assisted birth were commonly linked

Qualitative research examining women's experiences after OASI found that body image perception is an important issue for women (Williams et al., 2005). It is therefore surprising that this study found that those who experienced OASI experienced the least impact on their body image perception, given that they have experienced the greatest trauma to their perineum. Only two studies to date have attempted to quantify the perception of body image change in women after experiencing perineal trauma, this study and a recently published study by Iles et al. Iles et al, (2017) found that over half of the women attending their perineal clinic appointment after experiencing an OASI, reported a change in body image. In addition, a third reported low self-esteem and change in personality due to body image changes, suggesting that an OASI does impact negatively on body image. In this study, the unexpected lower BIS score in the OASI group compared to the other groups could have been the result

of the additional care women with an OASI receive after the birth. Any perceived change in anatomy, resulting body issues and resulting distress women may have been experiencing could have been alleviated by the input women received from the specialist perineal clinic. At 6-10 months there were no significant differences in BIS scores between the perineal status groups. However, a closer examination of the scores revealed that all of the scores increased between the two time-points, although not significantly so. More interestingly, those in the OASI group displayed similar mean BIS scores to those in the other two groups at 6-10 months. It is unclear why this may be the case, however this is further explored through the qualitative work included in this study and is discussed in the next chapter.

1.5. Perineal trauma and mother and infant bonding at 6-12 weeks and 6-10 months postpartum

It was originally hypothesised that there would be a difference in mother and infant bonding scale scores (MIBS: Taylor, Atkins, Kumar, Adams, & Glover, 2005) depending on the level of perineal trauma experienced. Although scores on the MIBS were slightly higher for those in the OASI and episiotomy groups at 6-12 weeks and 6-10 months (indicating a greater impairment of bonding in these groups), the differences were not statistically significant at either time-point. There is currently no data on how experiencing different degrees of perineal trauma may affect mother and infant bonding. However, a recent study investigating the influence of mode of birth (i.e. vaginal delivery, elective caesarean and emergency caesarean) revealed that those who had undergone an emergency caesarean section experienced a greater impairment in mother and infant bonding (Zanardo et al., 2016), suggesting that having obstetric interventions/complications does impact on mother and infant bonding. However, in this study, differences in the severity of perineal trauma experienced did not have an effect on mother and infant bonding.

Although it may be the case that perineal trauma did not have an effect on mother and infant bonding in this study, it should be considered that the scale used to assess mother and infant bonding was not sensitive enough in this sample. The original authors of the scale noted that the scale was very skewed suggesting it may be of more use when detecting more abnormal responses rather than subtle differences within a normal population (Taylor et al., 2005). This scale was chosen for this study due to its brevity and perceived utility in a study with multiple measures, where women may be inclined to not respond had their questionnaires

been too long. Given the level of impairment those with an OASI experience, and given that they experienced more of a perceived impact on parenting due to their discomfort, it may be that this scale was inadequate to detect differences in perceived bonding between the groups, Future research could further investigate the relationship between perineal trauma and any implications for the mother and infant relationship.

1.6.Perineal trauma and experiencing childbirth as a traumatic event

Although childbirth is generally considered in developed countries to be a normal and positive life event, adverse events can occur and the mother and/or child can be at risk of serious injury or death. Such events can fulfil criteria for a traumatic event and as a result women can experience symptoms of posttraumatic distress and posttraumatic stress disorder (PTSD: Alcorn, O'Donovan, Patrick, Creedy, & Devilly, 2010; Ayers & Pickering, 2001). At 6-12 weeks after the birth of their baby, using three questions in a similar format used in previous research (Boorman, Devilly, Gamble, Creedy, & Fenwick, 2014), women were asked; if during their labour and birth they felt like theirs or their baby's life was at risk, if they felt like there was a risk of injury to themselves or their baby (2 questions for A1 of DSM-IV criteria for PTSD) and if they felt intense feelings of fear, helplessness or horror (A2 criterion). This study found that 51.1% (*n*=52) of women endorsed criterion A1 (threat), and 28.7% (*n*=29) endorsed criterion A (i.e. A1 and A2) of the DSM-IV criteria. This data suggests that just under one-third of the women responding at time 2 in this study would be considered to have experienced childbirth as a traumatic event based on DSM-IV criteria (APA, 2000). This is a slightly lower rate than that found in a study of Australian women where 45.5% endorsed both A1 and A2 at 4-6 weeks after the birth of their baby (Alcorn et al., 2010). However, a more recent study reported lower rates of 14.3% of women endorsing both A1 and A2 (Boorman et al., 2014). Both studies also reported that approximately half of women endorsing criterion A1 (threat) did not endorse criterion A2 (subjective appraisal), which was a similar case for this study whereby 23 out of the 52 women endorsing A1 did not endorse A2 (44.2%).

When considering the most recent changes to the DSM, and the removal of the A2 criterion in DSM-V (APA, 2013) the number of women who would be considered to have experienced childbirth as a traumatic event in this sample would have increased from 29 (28.7%) to 52 (51.5%). There is evidence suggesting that the A2 criterion is a better predictor of longer-

term dysfunction in women after childbirth (Devilly, Gullo, Alcorn, & O'Donovan, 2014), and evidence to support that fear is the strongest emotion attached to a woman's most distressing memories of a traumatic childbirth (Harris & Ayers, 2012). In this study, only 3.5% (*n*=7) of those responding at 6-12 weeks reported experiencing feelings of fear, helplessness or horror but did not report perceiving a threat of injury or death during their labour or birth.

This study found significant differences between the groups of different perineal status with regards to their fulfilment of A1 and A2 criteria with more women in the OASI and episiotomy groups endorsing A1 and A2 than those in the $1^{st}/2^{nd}$ degree tear groups. Given that those in the OASI group experienced severe injury during their birth and those in the episiotomy group experienced a high rate of assisted birth, these results are not surprising. Again, this suggests that OASI may act in a similar way as factors such as assisted birth (and episiotomy in this case) in terms of the negative effects it has on a woman's psychological health and wellbeing after childbirth.

1.7. Perineal trauma and experiencing posttraumatic stress symptoms at 6-12 weeks and 6-10 months postpartum

Previous research has suggested that a traumatic birth may lead to the development of PTSD with estimated prevalence rates of 1-6% at 4-6 weeks after the birth (Alcorn et al., 2010). As 28.7% of women in this sample experienced childbirth as a traumatic event, it was important to assess the point-prevalence of posttraumatic stress symptoms when women were followed up at 6-12 weeks and 6-10 months after the birth. This study used the Impact of Events scale revised (IES-R: Weiss & Marmar, 1997) to assess symptoms of posttraumatic stress at both time points. Although the IES-R is not a clinical assessment tool, scores above 24 have been shown to indicate that symptoms may be a clinical concern (Asukai, Kato, Kawamura, & Kim, 2002; De Schepper et al., 2016) and scores ≥33 are suggested as the best cut-off for a probable diagnosis of PTSD (Creamer, Bell, & Failla, 2003; Rash, Coffey, Baschnagel, Drobes, & Saladin, 2008). This study found that using the ≥33 cut-off, 3.9% of women (*n*=4) at 6-12 weeks postpartum and 1.1% (*n*=1) at 6-10 months postpartum were experiencing symptoms of post-traumatic stress that could indicate a probable diagnosis of PTSD. However, it is acknowledged that sub-clinical levels of distress may still impact negatively on women's functioning and should also be considered. In this sample, 7.9% (*n*=8) at 6-12

weeks and 7.7% (*n*=7) at 6-10 months scored above 24 and were experiencing symptoms that could be a clinical concern.

A recent systematic review and meta-analysis of the prevalence rates of posttraumatic stress disorder after birth concluded that the prevalence of PTSD is around 4% in community samples and 18.5% in high-risk samples (Yildiz et al., 2016). These prevalence rates are similar to those identified by others for community samples but slightly higher for high-risk samples (Grekin & O'Hara, 2014). The most recent review found point-prevalence rates of PTSD of 5.77% at 4-6 weeks, which decreased to 1.44% at 3 months and was at it highest at 6 months at 6.79% (Yildiz et al., 2016). The same authors also concluded that the course of PTSD over the first 6 months after birth suggests it increases slightly in both community and high-risk samples (Yildiz et al., 2016) which is similar to the pattern of findings from longitudinal studies of PTSD after childbirth (Zaers, Waschke, & Ehlert, 2008) but inconsistent with longitudinal findings from research investigating non-perinatal PTSD (Morina, Wicherts, Lobbrecht, & Priebe, 2014). In this study, the prevalence rate of those scoring above 33 on the IES-R at 4-6 weeks was lower than the rates reported in the review by Yildiz et al, (2016) at a similar time-point. The percentage of women scoring above 33 also decreased at 6-10 months whereas previous findings by the same review suggests that there is an increase in prevalence of symptoms at this point. However, the prevalence rate of those scoring 24 or above (and hence those experiencing symptoms of clinical relevance) decreased only slightly. Furthermore, although there were decreases in the percentage of those scoring above these two cut off points; the differences between the time-points were not significant. It should be noted that none of the studies included in the most recent review by Yildiz et al, (2016) used the IES-R to assess posttraumatic stress symptoms after childbirth. The differences in findings may therefore be due to the difference in measurement tools. This highlights a potential issue with assessing these symptoms in women after childbirth and comparing studies using different measurement tools. In addition, there is a need for robust measures that are adapted to the perinatal period to ensure that women are being appropriately identified as experiencing posttraumatic stress symptoms after childbirth, something that has been highlighted by previous researchers (McKenzie-McHarg et al., 2015).

1.7.1. Perineal trauma and symptoms of posttraumatic stress at 6-12 weeks and 6-10 months after birth – group comparisons

This study found no significant differences between the groups for IES-R total score or hyperarousal and intrusion subscale scores. There were however differences between the groups for symptoms of avoidance whereby those who experienced an OASI or episiotomy engaged in more avoidance behaviours at 6-12 weeks than those with a $1^{st}/2^{nd}$ degree tear. When controlling for the effects of mode of birth there were no longer significant differences in avoidance symptoms between those with an episiotomy and those with a $1^{st}/2^{nd}$ degree tear suggesting that mode of birth (i.e. having an assisted birth in this case) was responsible for the differences in avoidance symptoms between these two groups at 6-12 weeks. At 6-10 months, those who experienced an OASI engaged in more avoidance behaviours than those with a $1^{st}/2^{nd}$ degree tear. Interestingly, although differences in avoidance symptoms between those with an OASI and those with a $1^{st}/2^{nd}$ degree tear remained at 6-10 months, there were no significant differences in avoidance symptoms between those with an episiotomy and those with a $1^{st}/2^{nd}$ degree tear. This suggests that the effects of an OASI are more enduring than the effects of an episiotomy (more accurately mode of birth) on increasing the likelihood of experiencing symptoms of avoidance.

Although it should be noted that the mean scores on this scale for those with an OASI were not high it is still important to understand why those with an OASI may engage in more avoidance behaviours than those with other degrees of perineal trauma. One reason for the persistent avoidance symptoms observed in the OASI group could be due to the timing of the measurements and what having an OASI means for women in the first 9 months after giving birth. Women with an OASI are more likely to experience unpleasant physical symptoms of pain and incontinence and uncertainty surrounding future births (Wegnelius & Hammarstrom, 2011). It may be the case that these experiences led the women in this group to continually avoid thinking about their childbirth experience due to the difficulties they were experiencing as a result of their injuries during the birth; this is explored further in the integrated discussion in the next chapter.

1.8. Perineal trauma and symptoms of anxiety and depression at 6-12 weeks and 6-10 months postpartum

1.8.1. Prevalence of depression/anxiety symptoms

The Hospital Anxiety and Depression scale (HADS: (Snaith & Zigmond, 1986) was not designed to be a clinical diagnostic tool, however it has been shown to be a reliable measure of emotional distress (Bjelland et al., 2002). This study used a cut-off of 8 or above, which is suggestive of clinically significant anxious (HADS A subscale) or depressive (HADS D subscale) symptoms (Hinz & Brähler, 2011). At 6-12 weeks, 30% of the women in this study scored ≥8 on HADS A, and 19% scored ≥8 on HADS D and therefore scored above the clinical cut-off. The point-prevalence of those with a 6-12 week score representing moderate symptoms of anxiety and depression (a score of 11-14) were 8.9% and 6.9% respectively and for severe symptoms of anxiety and depression (a score of 15-21) were 3% and 0% respectively. At 6-10 months, prevalence rates of anxiety above the clinical cut-off increased to 40% and prevalence rates of depression symptoms to 22%. The point-prevalence of those with a 6-10 month score representing moderate symptoms of anxiety and depression (a score of 11-14) were 10% and 5.6% respectively and for severe symptoms (a score of 15-21), 4.4% and 0% respectively. The literature on estimates of prevalence of anxiety/depressive symptoms after childbirth is varied. The prevalence of depression and depressive symptoms ranges from approximately 10-15%, but can be as high as 30% depending on the criteria used to assess symptoms (Darcy et al., 2011; Gavin et al., 2005; O'Hara & Swain, 1996; Vesga-López et al., 2008). Although there is a wealth of research on postpartum depression, research investigating postpartum anxiety-related symptoms is sparse. However, a recent systematic review of anxiety related disorders amongst postpartum women found that prevalence rates ranged from 4-39% (Goodman et al., 2016), and postpartum anxiety has become a condition of interest due to the higher prevalence rates found in comparison to that for depression/ depressive symptoms (Wenzel, Haugen, Jackson, & Brendle, 2005). This study also found higher rates of anxiety symptoms than depressive symptoms in support of this. Although the rates for depression were higher in this study than that found in previous research, similar prevalence rates were observed in mothers who had experienced pre-term birth and what could arguably be regarded as a high-risk sample for experiencing postpartum psychological distress (Petit et al., 2016). The higher rates could also be due to the use of self-report measures rather than clinical assessments

1.8.2. Perineal trauma and depression/anxiety symptoms – Group comparisons

There were no significant differences between the perineal status groups for depression or anxiety symptoms at 6-12 weeks, and no significant difference in depressive symptoms at 6-10 months. Two previous studies have considered how perineal trauma may contribute towards depressive symptoms and they have conflicting results. The most recent study found that women with 2nd degree or more severe tear displayed higher and more persistent depressive symptoms than those with a less severe tear (Dunn et al., 2015). Whereas the other found no significant difference in depressive symptoms between women with a 2nd degree tear who had their tear sutured, and those with the same degree of tear who did not undergo perineal repair (Fleming et al., 2003). Both of these studies were quite different in their comparison groups to those compared in this study. However, the latter found no significant difference in pain and as there was also no significant difference found for perineal pain in this study this may offer an explanation for the lack of significant difference in depressive symptoms. This mechanism is supported by previous research suggesting that persistent postpartum pain is associated with depressive symptoms irrespective of the mode of birth (Eisenach et al., 2008).

Despite there being no significant differences in anxiety symptoms between the groups at 6-12 weeks, at 6-10 months those in the episiotomy group experienced significantly more anxiety symptoms than those with an OASI. Although there is a wealth of research investigating the risk factors for postnatal depression after childbirth (Adams, Eberhard-Gran, Sandvik, & Eskild, 2012; Dennis et al., 2016) risk-factors for anxiety have been largely overlooked. As a result, the underlying mechanism for the significantly higher anxiety symptoms in the episiotomy group is unclear. One could speculate about the likelihood of experiencing anxiety after having an assisted birth, as this is associated with other postpartum psychological difficulties. However, as there were no significant differences between those with an episiotomy and those with a 1st/2nd degree tear this may not be the case. As those in the OASI group experienced the least anxiety and depression symptoms, the differences could be due to the input that those with an OASI receive after the birth of their baby via the perineal clinic, where they have the opportunity to ask any questions or voice any concerns they have to specialists in the area (this is explored further through the qualitative work in this study). The results may therefore suggest that general anxiety after experiencing an

episiotomy-assisted birth with little to no input in the postnatal period is more severe than having an OASI with postnatal input. The findings from the open-ended questions would support this as the majority of women responding to these questions in the episiotomy group expressed a wish for follow-up care, further suggesting that women with an episiotomy could benefit from additional input after the birth of their baby to alleviate any distress. There is support for this possibility as previous research has suggested that low perceived support postnatally is associated with postnatal anxiety (Shrestha, Adachi, Petrini, & Shrestha, 2014).

1.8.1. Experiencing psychological distress after experiencing perineal trauma in the context of becoming a new mother

When considering the effects of perineal trauma on a woman's psychological health and wellbeing in this study, it is important to acknowledge the timing the measurements took place. This study found an increase in prevalence of anxiety and depression symptoms at 6-10 months postpartum compared to the rates observed at 6-12 weeks postpartum. Although it is acknowledged that this could be the result of a response bias at 6-10 months, the significance of these time-points for postpartum women in general should not be overlooked. At 6-10 months postpartum, women may be considering returning to work, which may account for the increase in prevalence of psychological distress, especially the increase in anxiety symptoms. This time point also holds significance for changes to infant feeding and schedules which would require adaptation and may impact on psychological wellbeing.

1.9. Conclusion

This is the first study that attempts to quantify the effects of different degrees of perineal trauma on birth experience, and long-term psychological health in a sample of first time mothers who had given birth vaginally. These findings suggest that, even when experiencing an objectively non-traumatic and what would be considered as a low intervention birth,, having an OASI as the end result has a negative effect on birth experience in a similar way to other risk-factors known to influence birth experience negatively. However, the results may also suggest that, although having an OASI can affect birth experience in a negative way, any long-term negative effects may be alleviated if specialist postnatal support is available. Although women with OASI were more likely to experience symptoms of avoidance, their scores were relatively low suggesting the severity of these symptoms were not a clinical concern. Furthermore, those with an OASI reported less of an impact on their body image

and lower scores for anxiety and depression than the other two groups, despite having a similar experience of birth to those in the episiotomy group. The findings from this section of the study indicate that provision of postnatal care should be offered to those who experience an episiotomy as they are likely to have a similar experience of birth to those in the OASI group, experience a higher prevalence of perineal pain in the initial stages of the postnatal period and without postnatal support can develop symptoms of psychological distress and express a need for follow-up care. These findings indicate that further research is warranted to establish the true extent of the effects of perineal trauma on a woman's psychological and emotional wellbeing after childbirth, and to assess the relationship of these affects with the provision of postnatal support available to women.

Section 2. Women's experiences of OASI during childbirth and their experiences in the first 10 months postpartum

The second part of this research involved interviewing women who had experienced a severe perineal tear during childbirth. Women with OASI who agreed to be interviewed were asked to describe what it was like experiencing a severe tear during childbirth, their perineal repair, and their experiences after the birth of their baby. The subsample of women interviewed did not differ from those with OASI who were not interviewed based on their responses to any of the quantitative measures used in this study. The findings from the qualitative section of the research are discussed in this section of the chapter.

1.1 Women's experiences of OASI – a varied and complex experience

The findings from this research highlight that women's experiences of severe perineal trauma, and their experiences postnatally, could be more varied than previous qualitative research has suggested (Priddis, Schmied, & Dahlen, 2014; Salmon, 1999; Tucker et al., 2014). The current knowledge base surrounding how women feel after experiencing a severe tear describes the physiological consequences such trauma to perineum has and the associated psychological distress experienced as a result. Although severe perineal trauma can and does have negative implications for a woman's future functioning and wellbeing, this study suggests that there is a variation in experiences and responses to it, and it is important to acknowledge and understand this. For the majority of the themes identified in women's accounts there is a dichotomous split from those who describe negative experiences to those

who describe more positive experiences, or simply the absence of a negative experience within a given theme. This chapter will discuss these findings, and explore the possible mechanisms for the variation in responses.

1.2. Women's experiences of OASI during birth and experiencing perineal repair

The women in this study reflected on the events leading up to their tear, and in a similar way to that of previous research, either felt that their tear was due to their own actions e.g. *'I pushed and she flew out',* or the actions of their healthcare providers *'I wish they wouldn't have been so insistent on me being on my back'*. Those who felt their tear was caused by the actions of their healthcare providers also described their anger, disappointment, and a need for further information about the cause of their tear. However, those who attributed the cause to their own actions did not describe feelings of guilt or self-blame, but instead felt it was 'just one of those things' and tended to be less distressed about the cause of their injuries. Previous qualitative research has demonstrated that women with OASI and less severe trauma also speculate about the cause of their tear, and may believe it is due to a defect in their anatomy, their own actions during labour and birth or the actions of others (Priddis, Schmied, & Dahlen, 2014;a Thompson & Walsh, 2015).

In the present study, those who felt that their tear was due to the actions of their healthcare providers also spoke about how they were not listened to or were not able to do what they wanted to during their birth. This suggests that they had a low perceived control during their birth, and it may be that perceived control during labour and birth is important in how women reflect on the cause of their tear afterwards. The positive effects of perceived control during childbirth are acknowledged (Dencker et al., 2010; Karlström, Nystedt, & Hildingsson, 2015; Melender, 2006) and perceived control (usually referred to as mastery) is recognised as a contributing factor towards psychological resilience (Rusch, Shvil, Szanton, Neria, & Gill, 2015). A recent study has suggested that mastery, defined as the degree to which an individual perceives control and influence over their own circumstances (Pearlin & Schooler, 1978), is negatively correlated with psychiatric disorder diagnosis after experiencing potentially traumatic events (Rusch et al., 2015). It may be that a low perceived control (decreased mastery) during birth increases a woman's vulnerability to experience distress after experiencing a severe tear.

1.2.1. Experiencing perineal suturing

For the women in this study, their accounts of undergoing perineal repair were on the whole very positive as they described feeling cared for, well-informed and reassured by the theatre staff. None of the women in this study described feeling unsupported, uncomfortable or ill-informed during their procedure. These results are in contrast to those of previous studies where women's accounts of perineal repair include recollections of pain and negative interactions with their healthcare providers (Priddis, Schmied, & Dahlen, 2014a; Salmon, 1999). Both the findings from this study and that of previous research highlight the importance of compassionate care and communication during perineal repair in shaping women's experiences. Previous research has suggested that this is also important to women with less extensive injuries (Briscoe et al., 2015), and also that the level of support from healthcare providers during childbirth has a greater effect on women's emotional reactions than stressful events during the birth (Ford & Ayers, 2009).

Although the women in this study were full of praise for the staff carrying out their perineal repair, they described being very distressed when they were taken away from their baby for the procedure. Previous research has suggested that the first hour after birth is the ideal time for skin-to-skin contact, maternal-infant bonding and breastfeeding to be established which has many benefits for both mother and baby (Crenshaw, 2007, 2014). The women in this study described how they found it distressing being 'whisked away' and not having this time with their baby in order to do these things. Some of the women in this study also felt that the feeding issues they experienced postnatally were due to the separation from their baby for their perineal repair. The practices surrounding the perineal repair of women with severe tears may benefit from consideration with regards to maternal-infant separation, for example delaying the procedure to allow for breastfeeding and skin-to-skin, or alternatively, enabling mother and baby to stay together during the procedure. This may reduce the distress women experience, however the caveats of both are acknowledged (i.e. need for immediate repair or risk of infection).

1.3. Postnatal care after experiencing OASI

The women in this study were asked about the routine postnatal care they received; from the hospital before being discharged, from their community midwives/general practitioner (GP), and the specialised care they received from the perineal clinic. With regards to routine postnatal care, some described how they felt they were not adequately cared for in hospital and did not receive the support they needed, whereas others described how they were happy from start to finish and praised the staff for their attention to detail and making them feel comfortable. This dichotomy extended into the postnatal period after being discharged, where some of the women described how their community midwife did not check their perineum, or how they experienced a lack of appropriate or compassionate care from their GP. In contrast, others described how they were happy with the care they received from their community midwife/GP.

Previous qualitative research has described how women with severe tears experience difficulties obtaining appropriate postpartum care. Specifically, the provision/availability of information about their injuries and interactions with their healthcare providers has been described as failing to meet women's expectations which resulted in distress, anger and feelings of isolation (Herron-Marx et al., 2007; Priddis, Schmied, & Dahlen, 2014; Tucker et al., 2014).

Women's accounts of the specialised care from the perineal clinic however were predominantly positive. The majority of women praised the perineal clinic and highlighted the importance of the reassurance and compassionate care they received in alleviating their distress. Similar findings from women attending a perineal clinic in the same hospital have been reported previously (Williams et al., 2005). However, there were a few issues highlighted by the women in the present study. Some of the women felt their time at the clinic was too brief and wanted the opportunity to discuss the cause of their tear. Although it may be difficult to specify the exact cause of their tear, those who expressed the wish to further understand their birth events also described how they were still distressed that they did not understand what had happened. Providing this information may be effective at reducing distress in these women, as previous research has indicated that a 'childbirth review' for women who felt their birth was traumatic was helpful in reducing distress (Sheen & Slade, 2015).

Despite their negative evaluation of the care received from their primary care providers, specialist follow-up care was provided by the perineal clinic. However, this is not a routine practice throughout the UK and such care is not provided routinely to all women who experience OASI. As one woman commented in her interview about the care she received from her GP and community midwives: '*I had the clinic but everyone else is only getting that level of care*'. The data from the interviews and from the open-ended questions at the end of their questionnaires suggests that specialist care should be routine for all women who experience OASI.

1.4. Postnatal experiences following OASI

Although the majority of women felt they were no longer experiencing difficulties at the time of interview, when discussing early difficulties they experienced they made reference to pain and/or symptoms of incontinence when carrying out certain tasks (e.g. caring for baby or going out/having a social life). Some of the women described how they experienced severe pain in the initial weeks, how distressing this was for them and the coping mechanisms they employed to decrease their pain and distress. In contrast, others described how they experienced little/no pain associated with their tear and they were able to cope with the pain they experienced and ultimately 'got on with it'. Negative accounts therefore seemed to be linked to the experiencing of pain/symptoms and associated difficulties. Research examining how resilience and positive emotions influence the way in which individuals respond to pain has found that resilience predicted an increase in daily positive emotions which in turn predicted decreases in pain catastrophising (exaggerated negative response to pain) which would decrease perceived severity of pain (Ong & Reid, 2010). Although it is possible that those who stated they did not experience any difficulties experienced lower levels of pain and discomfort, it may be that the variation in the difficulties women experienced, were modulated by their perceived control over their symptoms, and perceived support in how to manage them reduced their distress. As the majority of women described early difficulties (i.e. in the first few weeks following the birth), it may be that the support provided to women prior to their follow-ups at the specialist perineal clinic are not meeting women's needs. The findings from the postnatal experiences explored in this study, and the difficulties women described will now be discussed.

Caring for baby: The women in the present study spoke of the challenges they faced in the initial weeks when trying to care for themselves whilst simultaneously caring for their baby and how they 'just got on with it'. Although none of the women in the present study spoke of guilt, previous research has described how women feel guilty when putting their own care needs before that of their infant in order to maintain the social ideal of a 'good mother' (Tucker et al., 2014). Despite their difficulties, the way in which women described 'just getting on with it' could reflect the social and individual expectations of women making a full recovery soon after giving birth and being able to function as a good mother within the '*fairytale'* of motherhood (Priddis, Schmied, & Dahlen, 2014). It is therefore important to be mindful and realistic about the expectations of women after experiencing a difficult birth and that difficulties in functioning after experiencing OASI may be considered a common occurrence and support offered if needed.

Relationships and sexual intimacy: The majority of women in this study described how they were initially fearful of pain or doing further damage to the area, however this was not a reality for the majority of women at 6-10 months postpartum as they described how they were not currently experiencing any issues. However, for some women, they described how they were still experiencing problems and they felt it was not something that would resolve and how there is the expectation to be able to engage in sexual intimacy 6 weeks after giving birth, with some women commenting that this was not a realistic expectation. The findings in this study are similar to previous accounts of sexual intimacy after a severe tear, describing how women feel fearful of intimacy (O'Reilly et al., 2009; Priddis, Schmied, & Dahlen, 2014a; Tucker et al., 2014) and how there is an emphasis to be 'back to normal' by 6 weeks after the birth (Priddis, Schmied, & Dahlen, 2014a). As there is recent research to suggest a '*shared liability'* between depression, anxiety and sexual disorders (Forbes, Baillie, & Schniering, 2015), the impact of issues relating to women's sexual functioning after experiencing a severe tear should not be overlooked. Previous research has also observed that following childbirth women are conscious of the needs of their partner and irrespective of psychological/physical impact feel they need to initiate sexual contact to fulfil these expectations (Hipp, Low, & van Anders, 2012; Priddis, Schmied, & Dahlen, 2014). However, the women in this study, although aware of the prolonged abstinence following the birth of their baby, cited their partners as supportive and did not describe feeling any pressure to fulfil any expectations. This perceived support may be responsible for the resilience

observed in the women in this study who despite existing sexual problems did not describe being very distressed by their situation.

***Body image*:** Although qualitative research reporting women's accounts of body image is lacking, one study has described how women's perception of their body had changed once they were aware of their tear and the extent of the damage, and also how they did not want their partners to see it or look at it themselves (Williams et al., 2005). In this study the women gave similar accounts to that of previous research whereby they described how they didn't want to look, didn't want their partners to look, and also how symptoms of incontinence made them feel 'old before their time'. Perceived body image is a dynamic concept and has been identified as a contributory factor to anxiety, depression and ultimately a reduced quality of life (Cash, 2004; Fauerbach et al., 2000). Body image perception after childbirth is affected by perceived physical changes in appearance, feeling less attractive and feeling anxious about changes to intimate areas of the body (Olsson, Lundqvist, Faxelid, & Nissen, 2005). Although women who have experienced severe perineal trauma feel anxious about observing the area, their fears are not always substantiated (Williams et al., 2005) and this was the case for the women in this study. Women's perceptions of feeling *'old before their time'* has also been found in other research exploring women's experiences of severe perineal trauma (Priddis, Schmied, & Dahlen, 2014).

1.5. Perceived support following OASI

When discussing any difficulties they faced relating to their severe tear, the women in this study described receiving both practical and emotional support from partners, family members, friends and healthcare providers and how important such support was in facilitating their wellbeing. The women in this study also spoke about the role of peer-support, although they did not reference it in this way. They spoke about the benefits of having other mothers to talk to about their concerns, with a few specifically describing the advantage of having someone to talk to who had also experienced a severe tear. When asked about any advice they would give to women, they commonly cited the need to find someone to talk to who had 'been through it' and considered the benefits of being able to contact a group of women who had experienced a severe tear.

Social support in the post-partum has been identified as an important factor in reducing psychological distress (Eastwood et al., 2012). A lack of social support is a significant risk factor for perinatal anxiety and depression (Leigh & Milgrom, 2008). Similar as is the case for the women in the present study, postnatally, women identify immediate family members and partners as their principal source of instrumental and emotional support (Negron, Martin, Almog, Balbierz, & Howell, 2013). In addition, peer-support has been described as the emotional, informational and/or practical support received from people who have encountered similar experiences who can better relate and therefore offer authentic empathy and validation (Dennis, 2003; Mead & MacNeil, 2006). Previous research has shown that women may be unwilling to speak honestly about their feelings to family or friends as they felt they would not understand, would be upset or they would respond with inappropriate advice, criticism or gossip (Tammentie, Paavilainen, Åstedt-Kurki, & Tarkka, 2004). Although the majority of the women in the present study did not state that they felt embarrassed, some stated that they would not openly discuss their issues with some family members or friends. As severe perineal trauma is an intimate injury that can have negative implications on sexual functioning, the role of peer-support following a severe tear could be useful in reducing distress in women experiencing difficulties of this nature.

1.6. Women's experiences of OASI – an overarching role for psychological resilience?

The women in this study described their experiences of having a severe tear during childbirth, and their experiences of becoming a new mother in the first year postpartum. They have described how experiencing a severe tear and undergoing perineal repair may or may not have affected their psychological and/or emotional wellbeing and described their experiences of care, sexual intimacy, social life and caring for their baby. Previous qualitative research has described the negative psychological impact women experience as a result of the difficulties they face after experiencing a sever tear (Priddis, Schmied, & Dahlen, 2014a). However, the women in this study demonstrated a variation in their experiences whereby some described negative experiences, whilst others described being relatively unaffected by their tear and described being less distressed.

The variation in women's responses in this study may be reflective of a difference in psychological resilience in the response to experiencing a severe tear. One of the first conceptualisations of resilience came from clinical psychology in response to a need to understand well-being and dysfunction when faced with adversity (Garmezy, 1971). The definition of resilience is based around two core concepts, adversity and positive adaption to such adversity, and is now a well-established construct that serves to explain unexpected positive outcomes despite a risk for the contrary (Luthar et al., 2000). There is a wealth of knowledge surrounding the two concepts of adversity and positive adaption, and debates surrounding their definitions (Fletcher & Sarkar, 2013). Existing definitions of adversity associate negative circumstances with negative consequences. However, it has been suggested that positive life events that are not typically associated with a higher probably of an undesirable outcome can also be relevant in the definition of resilience (Fletcher & Sarkar, 2013). Furthermore, it is suggested that the concept of 'positive adaptation' should be conceptually appropriate to the adversity examined (Luthar et al., 2000). With this in mind, it is proposed that positive adaptation to complications arising from childbirth such as a severe Obstetric Anal Sphincter Injury/OASI (adversity) may be defined as a lack of psychological and/or emotional distress displayed by women resulting from an ability to adapt to changes in functioning and physical integrity (positive adaptation). And as such the construct of resilience may be applicable to childbirth and postpartum wellbeing after experiencing a severe tear, and may be the mechanism by which the variation in women's accounts were observed in this study.

Given that the concept of resilience is complex and multifaceted, it may not be merely the ability of women to adapt to the adversity they encounter as result of their perineal injuries, but the role of symptoms, perceived support and other external factors that may mediate or moderate the effects of resilience on psychological distress after OASI. When considering the differences in women's responses in this study, there were differences in how they described what they believed was the cause of their tear i.e. factors not within their control (the actions of others) and their own actions (I pushed and she flew out). As already discussed, perceived control has been recognised as a factor contributing towards resilience, and as such it may be that those who perceive little to no control over the occurrence of OASI continue to display a low psychological resilience towards the events that occur subsequently as they continually feel little to no control over their circumstances and this may be compounded by unpleasant symptoms of incontinence, pain and difficulties caring for an infant. Women's early

experiences of OASI should be acknowledged given that negative accounts seemed to follow a pattern of low control during the birth, low perceived support from primary care providers and little to no control over the symptoms experienced as a result of their tear. With this in mind, these findings suggest that experiencing psychological distress after OASI is not inevitable and there may be a means of reducing distress by increasing psychological resilience in women who experience OASI. The mechanism for this would need clarification, however it may be that by increasing early support of these women, enabling them to feel in control of their birth, and ensuring they have practical and emotional support postnatally may provide a means of increasing psychological resilience in postpartum women after OASI.

1.7. Experiencing OASI and the requirement for information – the monitoring processes model

The women in this study spoke about the need for information at various points throughout their pregnancy and after their birth. When discussing the information they received about their tear shortly after they had given birth, they placed the information they received in the context of any existing knowledge they had of perineal trauma. Some of the women stated that they didn't know much about severe tears in their pregnancy and how they actually preferred it this way. These women described how prior information might have made them anxious and more fearful of the consequences. However, some of the women described how they wished they would have known more about tears before their birth. These women described how having prior knowledge would have enabled them to better understand the information they were given after they had experienced the tear. The dichotomous nature of the preference for prior information may be explained by considering the monitoring process model.

Although the monitoring process model is a complex cognitive model that has received much attention, in brief, it describes the different ways people may deal with distressing health information i.e. they may seek (monitor) or avoid (blunt). The model continues to consider how either approach may either assist with coping, or how it may increase distress (Miller, 1990; Miller, Rodoletz, Mangan, Schroeder, & Sedlacek, 1996). For the women in this study who had an existing knowledge of perineal trauma before it had occurred, there was a difference in how having a prior knowledge of severe tears influenced their reaction to

discovering they had experienced a severe tear themselves. Their existing knowledge either served to comfort them, whereby they knew what had happened and what was going to happen next, or they became distressed as they focused on their awareness of the negative implications of their injury. Therefore, for those who did not have any prior knowledge and wished they had, it may not have reduced their distress, despite their belief that it would have. These findings suggest that the provision of information for women should be mindful of individual requirements i.e. some women may benefit from unbiased information from a reputable source whereas for others it may increase their distress, and the timing of such information i.e. antenatal information or postnatal information. Further research should establish the need for information with respect to both criteria.

1.8. Conclusion

The findings of this study highlight that the experiences of women who have sustained OASI during a first vaginal birth may be varied and complex. Although sustaining a severe tear can have wide-ranging negative implications for some women, and this was reported by some of the women in this study, others reported being less affected by their injuries suggesting that being affected by OASI is not inevitable. The women in this study speculated about the cause of their tear. Some felt it was just 'one of those things' and were not distressed by their birth, whereas those who attributed the cause to their healthcare providers actions seemed the most distressed and expressed a need to understand their birth events. Those who experienced less control over their birth, or experienced care in hospital that did not meet their expectations, seemed to also experience more distress postnatally. This may suggest that early experiences could shape women's responses to OASI postnatally and it is speculated that the variation in women's responses may be the result of differences in psychological resilience. This pattern continued throughout the themes that emerged from the data. Some of the women described how caring for their infant was difficult initially but how they just got on with it, how their social life had suffered due to symptoms of severe pain and/or incontinence, how their body image was impaired as they did not want to look at the area, and how their sex life was affected by the fear of how the area looked, experiencing pain or doing further damage. In contrast, some of the women described how they did not experience any pain/symptoms that they could not deal with, how they had no difficulties caring for their infant or going out and how their sex life was unaffected. This suggests that distress after OASI is not inevitable. It

is important to understand the differences between the two types of responses and what may moderate psychological resilience after OASI.

The level of routine postnatal care and support offered to women could be a contributing factor to the variation in responses seen in this study. There were mixed responses to the routine care received from GP's and community midwives; however the women who took part in this study were offered follow-up care from a specialist perineal clinic at the trust where they had given birth. Some of the women felt the care they received from their GP or community midwife did not meet their needs and were glad they had the specialist care from the perineal clinic. All of the women in this study praised the clinic for the specialist care it provided and cited the importance of seeing the same specialist midwife after the birth of their baby and at their subsequent follow-ups. Although the responses were varied when describing their discussion with the consultant about future births, all of the women were grateful for having been provided the information and felt better equipped to make a future decision. All of the women praised the support from the staff in the clinic throughout their experience. This level of support may have been responsible for the less negative responses to OASI in this study compared to previous research as none of the women in this study spoke of being isolated or lonely as is the case with previous research. Although all of the women praised the clinic, their early experiences of routine care from GP's and community midwives may have shaped their experiences in the initial stages. Experiencing care/support that failed to meet their expectations and needs when they were struggling most may have had an impact on how they felt about their experiences after their tear. The women in this study also spoke of the need for improvements to psychological/emotional support after experiencing OASI. Although they did not reference it this way, they spoke of the benefits of peer-support and those who did not have this level of support spoke of how they think their experiences could have been improved if they did have it. It may be that both practical support and emotional/psychological support influence a woman's psychological response to OASI.

The timing and method of inviting women to share their experiences of OASI was novel in this study compared to previous research. Women were invited on the basis of experiencing OASI and not on the basis of existing symptoms, and were interviewed within the first 10 months after the birth. In addition, all of the women interviewed were at a similar stage in their postpartum period, in comparison to previous research where the timing of interviews

were more varied between the women (Priddis, Schmied, & Dahlen, 2014). It is acknowledged however that the timing of the interview in the present study does not take into account the long-term implications of OASI and future work on women's experiences in the long term would be useful.

Several steps were taken throughout the research process to minimise bias and ensure trustworthiness of the research. During the process of analysis discussions took place with regards to the development of the themes and templates and these were crosschecked to establish a clear evidence chain. The flexible approach of template analysis (King, 2012) allowed for the themes to be devised based on current knowledge of women's experiences of perineal trauma and for emergent themes to be established that were driven by the women's accounts. Template analysis is not bound to any one epistemology and can be used from a range of epistemological positions. Despite having apriori themes from the original template constructed prior to the interviews, the analysis of this data was conducted with a 'contextual constructivist' approach which assumes that there are multiple interpretations to be made of any phenomenon and that these depend upon the position of the researcher and the social context of the research (Madill, Jordan, & Shirley, 2000). As such, the analysis of the data was conducted within a 'bottom up' approach whereby apriori themes from the original template were taken more tentatively and only included in the resulting template should the data support their inclusion. In addition, the researcher is truly an 'outsider' having not experienced childbirth or the themes under investigation, maintaining that knowledge of the experiences under investigation were independent of the researcher's experiences and knowable through the research process i.e. women's accounts.

Chapter 6. Integrated Discussion and Conclusion

This is the first study attempting to quantify the effects of different degrees of perineal trauma on birth experience and longer-term psychological health in a prospective cohort of first time mothers who had given birth vaginally. It is also the first study that investigates the effects of perineal trauma using a mixed methods approach. The use of such methods allowed for the consideration of similarities and differences between the two methodologies for those experiencing an Obstetric Anal Sphincter Injury (OASI). This chapter integrates and discusses the findings from the quantitative and qualitative elements of the study.

1.1.Integrating the findings from both methodologies for those with OASI

1.1.1. Birth Experience

The findings from this study suggest that following a low intervention birth, experiencing an OASI has a negative effect on birth experience in a similar way to other obstetric medical interventions. Those with an OASI reported a more negative overall birth experience and lower perceived ability to give birth than those with a $1^{st}/2^{nd}$ degree tear, despite experiencing similar birth events prior to the tear itself. However, there were no differences between the same two groups with regards to perceived control during birth. The latter point is interesting given the accounts from women with OASI, whereby some described how they had little or no control over the cause of their tear, and were frustrated and angry about their birth experience. These differences could be due to the timing of the quantitative assessment of birth experience as women were asked about this quite soon after the birth and perceptions of childbirth can be subject to change over time (Schytt, Lindmark, & Waldenström, 2004). It may have been the case that as women had longer to reflect on their experiences and when longer-term implications had become clear, women's opinions of their birth experience had changed. This suggests that it is important to consider the time at which perceived birth experience is assessed, and to consider the utility in assessing birth longitudinally using both quantitative and qualitative measures.

One of the most interesting findings in this study was that women with an episiotomy and those with an OASI did not differ in their ratings of birth experience, as both experienced birth more negatively than those with a $1^{st}/2^{nd}$ degree tear. In addition those who experienced

an episiotomy experienced significantly less perceived control during birth than those with a $1^{st}/2^{nd}$ degree tear. Given the qualitative data from women with OASI, it would have been interesting to interview women who had experience an episiotomy at a similar time to those with OASI and compare their descriptions of their birth experience and perineal repair.

1.1.2. Perineal pain/discomfort

When asked about their experiences following the birth of their baby, women with OASI made reference to pain/discomfort and how it did or did not impact on their ability to carry out certain tasks. Some of the women described pain in the first initial weeks/months, which impacted on their social life, caring for their baby (although they describe 'just getting on with it') and how it made them fearful of pain or further damage if they were to engage in sexual contact. When asked to indicate whether they were experiencing any perineal pain/discomfort in their questionnaires at 6-12 weeks, those with an episiotomy reported the highest incidence of perineal pain. Given the difficulties some of the women with OASI described in the first initial weeks/months and how distressing it was, the higher prevalence of pain in the episiotomy group suggests that women who experienced an episiotomy may have experienced distress during this time.

When asked about caring for their baby, women with OASI described their initial difficulties with some caring tasks due to the pain they experienced. These accounts were supported by the measurements taken at 6-12 weeks; whereby those with an OASI perceived more of an impact on parenting tasks than those with a $1^{st}/2^{nd}$ degree tear. However, those who experienced an episiotomy also experienced a similar level of perceived impact, and there were no significant differences between the scores for those with an OASI and those with an episiotomy. This suggests that, despite the fact that the injury does not extend as far into the tissues, those with an episiotomy were more likely to experience perineal pain than those with an OASI, and also experience a similar degree of perceived impairment to parental functioning at 6-12 weeks.

1.1.3. OASI and body image

Women's accounts of their perceived body image indicated that they felt self-conscious about the way their perineum may look following their repair, stating that they did not wish to look and did not wish their partners to look. However, when considering the results from the

quantitative assessment, there were no significant differences in body scores between those with an OASI and those with a $1^{st}/2^{nd}$ degree tear and in fact, those with an episiotomy scored the highest indicating a greater perceived impact on their perceived body image. When considering how the scores changed over time, and given the timing of the interviews, there was an increase in body image scores for those in the OASI group indicating that over time their perceived body image became more negative. Given the content of their descriptions regarding perceived body image, it may be that women with OASI become more self-conscious about this part of their anatomy when they are considering resuming sexual contact with their partner which would account for the increase in scores.

1.1.4. OASI and psychological distress

The findings from this study indicated that women with OASI were more likely to perceive their childbirth experience as traumatic compared to those who experienced a $1^{st}/2^{nd}$ degree tear. Although the majority of women with OASI did not specifically describe being traumatised during their birth experience in their interviews, they did describe feeling frightened of their perineal repair and described the impact of being in a surreal and unfamiliar surgical setting, feelings that were alleviated by the compassionate care they received from their care providers. The quantitative findings also highlighted that those who experienced an episiotomy were more likely to experiencing symptoms of avoidance at 6-12 weeks and those with OASI continued to experience more symptoms of avoidance at 6-10 months compared to the other perineal status groups. Although the majority of women did not describe avoiding reminders of their birth, they did describe how they did not want to think about that area of their anatomy and some described how they did not want to dwell on the consequences of their tear with regards to future births as they found this upsetting. However, it should be noted that scores for avoidance in the OASI group were not of clinical concern at 6-10 months and did not place them in a category for significant symptoms of posttraumatic stress. Symptoms of anxiety and depression were also assessed in this study, and it was observed that those with an episiotomy were more likely to experience anxiety related symptoms at 6-10 months than those with an OASI or episiotomy, it would be interesting to explore the reasons for this through future work.

1.2. Perineal trauma and postpartum psychological health – is postpartum care/support a moderator of psychological distress?

This study found that women with OASI and women with an episiotomy did not differ in their experience of birth and both experienced birth more negatively than those with a $1^{st}/2^{nd}$ degree tear. In addition, those with an OASI or episiotomy were more likely to have experienced a prior traumatic event in their life before their birth, and more likely to experience their birth as traumatic compared to those with a $1^{st}/2^{nd}$ degree tear. At 6-12 weeks, both of these groups experienced a greater perceived impairment in parenting ability as a result of the perineal pain/discomfort they were experiencing, and a large proportion of women reported perineal pain in the episiotomy group. Furthermore, perineal pain had a higher prevalence in the OASI and episiotomy groups compared to the $1^{st}/2^{nd}$ degree tear group at 6-12 weeks. Given these findings, one would have expected to see a higher prevalence of symptoms of psychological distress in both the OASI and episiotomy groups; however this was not the case. Those with an episiotomy experienced a greater dissatisfaction with their body image at 6-12 weeks, which may have been due to experiencing an assisted birth (as the two are commonly associated), and also experienced significantly more anxiety symptoms than those with an OASI at 6-10 months postpartum. However, in women's accounts of their experiences after an OASI, they described how they gained reassurance and information from the perineal clinic. Therefore, it may have been the case that any anxieties or concerns they had relating to their tear was alleviated by the contact they had with the specialist clinic and the reassurance it provided to them. In contrast, those with an episiotomy stated that they wished they had received follow-up care, and described worries relating to healing and infection. Given these findings it is hypothesised that any potential effects of OASI on postpartum psychological distress are moderated by postpartum care that is perceived, by the woman, as fulfilling her needs after the birth of her baby. In this study, experiencing intrapartum medical interventions increased the likelihood of experiencing birth as a traumatic event, and experiencing birth more negatively than those without intrapartum medical interventions. A lack of tailored postpartum care may have perpetuated women's negative experiences and influenced the likelihood of experiencing other symptoms of psychological distress (i.e. poor body image and symptoms of anxiety) in the longer-term for those who experienced an episiotomy. In the case of women with OASI who did describe on-going distress (which was a minority in this study) their distress, if considered holistically,

could have been the result of the care they received not meeting their needs. For some women this was due to enduring incontinence that was still being treated, for others they described the need for psychological input and a review of their birth. Nearly all of the women made some reference to receiving support for their psychological health after experiencing OASI, and currently this is not integrated or offered within their specialist care. Although women are offered a discussion of their birth events, there needs to be a clear process for this and possibly psychological input integrated if needed/required. These findings suggest the importance of adequate and tailored care provision for women who experience perineal trauma and that such care may benefit women with less severe perineal trauma.

1.3. Strengths and limitations

This study was the first attempt to assess the relationship between different degrees of perineal trauma, birth experience and psychological distress in the first 9 months the birth. It is also the first study to investigate such effects using a longitudinal prospective cohort design that included a qualitative element assessing women's experiences of OASI. In contrast to previous work, the effects of perineal trauma on women's psychological health was the focus of the study, the perineal status of the sample was clearly described, and all of the women in the study were first time mothers. The qualitative element in this research was the first to show a clear variation in women's responses to OASI. In contrast to previous studies, women with OASI were invited to take part in the interview based on the level of perineal trauma they had experienced, and not solely on the basis of any symptoms they were experiencing. This method of recruitment may have been responsible for the variation in responses that has not been documented previously. Despite this, the present research is not without its limitations. Due to the difficulty of recruiting a control group of women with little/no perineal trauma, or perineal trauma that did not require suturing and are therefore rapidly discharged, this study lacks a comparative group of women who had not experienced perineal trauma. The generalizability of the findings should also be considered, as the participants in this study were mainly white British, married, and relatively highly educated and therefore the results cannot be generalised to a demographic of postpartum women that does not match this criteria. Similarly, all of those who were interviewed were married and in full-time employment. Finally, the less than ideal response rate should also be considered,

although the difficulties associated with maintaining engagement of women in perinatal research should be acknowledged (Foulon et al., 2015).

1.4. Recommendations for future research

Based on the findings from both the quantitative and qualitative elements of this work, recommendations for future research are as follows:

1.4.1. To establish the role of postpartum care/support and psychological resilience and their potential interaction in adapting to the challenges faced as a result of experiencing different degrees of perineal trauma during childbirth – The variation in responses of those with OASI and unexpected higher body image and anxiety symptoms in the episiotomy group, and the descriptions of the need for care, suggests that there may be some utility in considering the role of postpartum care/support as a moderator of distress after experiencing perineal trauma

1.4.2. To establish the need for information about perineal trauma, who may benefit from provision of such information and the most useful time to provide this to women (i.e. antenatally/postnatally) – Those with OASI spoke about the need for information at various points during their experiences. Future work should establish whether and when this would be beneficial and for whom. The role of other factors such as personality, information seeking behaviour(s) and actual birth experience could be considered, in order to establish a means of identifying when information is needed and who it may be likely to benefit

1.4.3. To explore the effects of OASI and episiotomy in the context of different birth events – In this study, the majority of women with OASI experienced an unassisted birth, whereas those with an episiotomy predominantly experienced an assisted birth. The data from this study suggests that mode of birth may contribute towards birth experience and later psychological distress for those who experience an episiotomy. However, as they are commonly linked, it is difficult to disentangle the effects of experiencing an episiotomy from the effects of experiencing an assisted birth. Future research could consider the effects of different levels of perineal trauma in the context of birth events, where a large sample would be required

1.4.4. To establish the care needs of women with other degrees of perineal trauma – the findings from this research suggest that the care needs of women who experience an episiotomy may have been underestimated. Future research should establish the care needs of women with less extensive perineal trauma, especially episiotomy

1.4.5. To establish the effects of perineal trauma on future births – Women with OASI described how they received recommendations for a subsequent birth, some were distressed by this whereas others were not. Future research could assess decisions for future births after experience OASI and other degrees of perineal trauma as this is currently not well documented in the literature

1.4.6. To establish the effects of OASI on women's experiences and psychological health in the longer term - although this research provides data on women's experiences up to 10 months after the birth, this may be considered relatively short-term in terms of the potential for perineal trauma, especially OASI, to contribute towards long-term unpleasant symptoms in later life

1.5. Recommendations for perinatal care

The findings from this research allows for some recommendations to be made as follows:

1.5.1 Antenatal care

1. The provision of information provided to women about perineal trauma should be considered. The findings from this study indicate that some women with OASI wished that they were aware of the potential for severe perineal trauma to occur. This recommendation should be mindful of the differences in the needs of women with regards to information and identifying women who may wish to have such information and who may not. Until further research can establish a means to identify these women (as recommended above), women could be signposted to pre-existing and unbiased information that they can access if they wish

1.5.2. Intrapartum care

1. Ways of maximising perceived control during childbirth and allowing women to feel in control of their birth situation should be considered. This may mean ensuring good information provision for women about various events during the birth and enabling women to understand why decisions are being made allowing them to partake in decisions relating to their care during this time. This study demonstrated that some of the women felt that their tear could have been prevented had they been 'listened to' during their birth so allowing for women to feel a part of the decision making process may shape later experiences and reduce distress
2. Provision of information about the need to move to theatre for their perineal repair should be considered – some of the women described how they initially did not know why they were taken to theatre and how their partners/family members were distressed when they were separated. The need for theatre should be clearly explained to minimise any distress
3. Similarly, steps should be taken to minimise the time of separation of mothers from their infants for the repair procedure. This could be via the baby accompanying the mother or allowing some time before separation. Although it is acknowledged that both methods would propose additional factors for consideration i.e. the need for immediate repair due to blood loss or the need for additional support in theatre to care for their baby, the benefits for maternal well-being should not be overlooked
4. Additional support for women during their stay in hospital should also be considered. Women with OASI described the difficulties in caring for their baby in hospital and the difficulties in caring for themselves amidst the pain and discomfort they were experiencing. Allowing for a partner to stay, as some of the women in this study stated this would have helped, or ensuring women are adequately supported by healthcare providers should be contemplated

1.5.3. Postpartum care

1. Primary care provided to women before they attend the specialist clinic should be improved. This could be achieved by providing information to GPs and community midwives about the difficulties associated with OASI. A pro forma could be created consisting of a series of checks and/or questions to establish any support or care needs. This could consist of a visual check of the perineum, enquiring about pain/discomfort, symptoms of incontinence and any difficulties with self-care or caring for their infant. The women in this study described their negative experiences of care received from their GP and although they praised the care received for the infant during their appointment, they felt their GP was not able to provide care for their tear
2. As per the guidelines set out by the Royal College of Obstetricians and Gynaecologists, all women who experience OASI should be offered specialist care following the birth of their baby. The women in this study specifically cited the care they received from the clinic as 'reassuring' and 'very much needed' and remembered the familiar face they had previously met on the ward after the birth (the specialist nurse). Despite RCOG guidelines on providing specialist care for women with OASI, this is not a routine practice in the UK
3. Similar to the recommendation for the provision of information antenatally, those who express a need to understand their birth should be provided with a 'childbirth review', which could be incorporated into the specialist perineal clinic where psychological input could be offered. Although it is acknowledged that there are issues surrounding this such as the difficulties in attributing cause and/or blame, this review could reduce the distress women experience resulting from a need to understand what had happened during their birth and ultimately to their body. The women in this study that described a need for this information stated that they were not looking to attribute blame, they were simply struggling to understand their birth events and as such allowing for this discussion to take place could reduce distress postnatally
4. Finally, the emotional implications of experiencing OASI during childbirth and the subsequent difficulties women encounter should not be overlooked. Although women are asked about emotional difficulties by their community midwife and/or

health visitor, such enquiry should extend further into the postpartum period as women may not be inclined to disclose this themselves

1.6. Overall conclusion

The results from this study suggest that although OASI may influence birth experience negatively, resulting psychological distress in the postpartum period is not inevitable despite this, and despite experiencing unpleasant symptoms as a result of an extensive and intimate injury. Receiving specialist care in the postpartum period may have increased the ability of women with OASI to adapt to any adversity they experienced as a result of their tear. Such specialist care was not offered to women with other degrees of perineal trauma, and it would seem the needs of women who experience an episiotomy have been underestimated and warrant consideration. Postpartum care and support, when perceived as fulfilling individual needs, is hypothesised as a moderator of distress by increasing psychological resilience. The validity of this should be assessed in future work.

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Appendix 1: Checklist used to aid appraisal of quantitative, qualitative and mixed methods studies identified by the systematic review **(**Y=Yes, N= No, grey = not applicable to this study).

	Quantitative Studies																			
	Boij et al., (2007)	De Souza et al., (2015)	Dunn et al., (2015)	Ejegard et al., (2008)	Evers et al., (2012)	Firouzkouhi Moghadam et al., (2015)	Fleming et al., (2008)	Jawed-wessel et al., (2013)	Khajehei et al., (2015)	Larsson et al., (2011)	Leal et al., (2013)	Lurie et al., (2013)	Macleod et al., (2013)	Otero et al., (2006)	Pastore et al., (2007)	Rikard-Bell et al., (2014)	Rogers et al., (2009)	Safarinejad et al., (2009)	Storksen et al., (2013)	Symon & Dobb (2011)
Aim/ objective of the study clearly stated	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hypotheses to be tested clearly stated	N	N	Y	Y	N	N	Y	N	N	N	N	N	N	N	N	N	Y	Y	Y	N
Sampling procedure clearly described	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Sample adequately described (Including detailed description of perineal status, inclusion/exclusion criteria, birth demographics etc.)	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	Y	Y	N	N	N
Variables of measurement clearly defined (*quantitative*: independent and dependent variables described, *qualitative*: description of theme(s) explored/method used)	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Study Piloted	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	Y	N	Y	N	N	Y
Results reported adequately/clearly described	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
***Quantitative:* Method of analysis appropriate**	N	Y	Y	Y	Y	N	Y	Y	Y	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y
***Quantitative:* statistical power discussed/achieved**	N	Y	N	Y	N	N	N	N	Y	N	N	**N**	N	Y	N	Y	Y	Y	N	N
***Quantitative*: Instruments of measurement adequately tested and reported for validity/ reliability**	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
***Qualitative:* Inter-rater reliability assessed & adequate**																				
***Qualitative:* Consideration of limitations of methods used/researcher's reflexivity**																				
PERCENT FULFILLED	30%	80%	70%	80%	60%	10%	90%	70%	70%	50%	50%	60%	60%	70%	50%	80%	80%	80%	70%	70%

Appendix 1 continued: Checklist based on criteria suggested by Bowling, (2014) used to critically appraise quantitative and qualitative studies identified by the systematic review **(**Y=Yes, N= No, grey = not applicable to this study).

	Quantitative (continued)		**MM**	**Qualitative**										
	Thompson & Miller (2015)	Wegnelius & Hammerstrom (2011)	Briscoe et al., (2015)	Gillard & Shamley (2010)	Herron-Marx et al., (2007)	O'Reilly et al., (2009)	Priddis et al., (2014)a	Priddis et al., (2014)b	Salmon (1999)	Stramrood et al., (2012)	Thompson & Walsh (2015)	Tucker, Clifton & Wilson (2014)	Way (2012)	Williams et al., (2005)
Aim/ objective of the study clearly stated	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hypotheses to be tested clearly stated	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sampling procedure clearly described	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y
Sample adequately described (Including detailed description of perineal status, inclusion/exclusion criteria, birth demographics etc.)	Y	N	Y	Y	Y	Y	Y	Y	N	Y	N	Y	N	Y
Variables of measurement clearly defined (*quantitative*: independent and dependent variables described, *qualitative*: description of theme(s) explored/method used)	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Study Piloted	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N
Results reported adequately/clearly described	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
***Quantitative:* Method of analysis appropriate**	Y	Y	Y											
***Quantitative:* statistical power discussed/achieved**	N	N	N											
***Quantitative*: Instruments of measurement adequately tested and reported for validity/ reliability**	N	N	Y											
***Qualitative:* Inter-rater reliability assessed & adequate**			Y	Y	N	Y	Y	Y	N	N	Y	N	Y	Y
***Qualitative:* Consideration of limitations of methods used/researcher's reflexivity**			N	N	N	Y	Y	Y	Y	N	Y	Y	Y	Y
PERCENT FULFILLED	60%	50%	67%	78%	67%	78%	67%	67%	55%	44%	67%	67%	67%	78%

Appendix 2: Favourable ethical opinion for the PEACH study

NHS
Health Research Authority
National Research Ethics Service

NRES Committee North West - Liverpool Central
3rd Floor
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M1 3DZ

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07 October 2014

Professor Pauline Slade
Clinical Psychology, Ground Floor, Whelan Building
Institute of Psychology, Health and Society, Brownlow Hill, University of Liverpool
Liverpool
L69 3GB

Dear Professor Slade

Study title:	**'PEACH' Psychological health and relationship Experiences After vaginal CHilbirth: The effects of experiencing perineal cuts or tears**
REC reference:	**14/NW/1259**
Protocol number:	**UoL001063**
IRAS project ID:	**145921**

The Research Ethics Committee reviewed the above application at the meeting held on 01 October 2014. Thank you for attending to discuss the application.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details, unless you expressly withhold permission to do so. Publication will be no earlier than three months from the date of this favourable opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to withhold permission to publish, please contact the REC Manager Mrs Carol Ebenezer, nrescommittee.northwest-liverpoolcentral@nhs.net.

Ethical opinion

The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation, subject to the conditions specified below. .

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

a. The Committee would like to see the Participant Information Sheet revised to
   i) Include at the end of "What will happen if I take part?" "The recordings will be destroyed after they have been transcribed"
b. The Committee would like to see the Consent Form revised to include provision to consent to the recording of the interviews

You should notify the REC in writing once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers. The REC will acknowledge receipt and provide a final list of the approved documentation for the study, which can be made available to host organisations to facilitate their permission for the study. Failure to provide the final versions to the REC may cause delay in obtaining permissions.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations.

Registration of Clinical Trials

All clinical trials (defined as the first four categories on question 2 of the IRAS filter page) must be registered on a publically accessible database within 6 weeks of recruitment of the first participant (for medical device studies, within the timeline determined by the current registration and publication trees).

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g. when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non-clinical trials this is not currently mandatory.

If a sponsor wishes to contest the need for registration they should contact Catherine Blewett (catherineblewett@nhs.net), the HRA does not, however, expect exceptions to be made. Guidance on where to register is provided within IRAS.

Notice of no objection must be obtained from the Medicines and Healthcare products Regulatory Agency (MHRA).

The sponsor is asked to provide the Committee with a copy of the notice from the MHRA, either confirming no objection or giving grounds for objection, as soon as this is available.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Ethical review of research sites

NHS Sites

The favourable opinion applies to all NHS sites taking part in the study taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Summary of discussion at the meeting

The Chair welcomed you to the REC and thanked you for attending to discuss the study. The Committee told you that this was a very well written application.

Informed consent process and the adequacy and completeness of participant information
The Committee asked for changes to the Participant Information Sheet and Consent Form as described in the decision below.

The Committee commented that it might be very difficult to match participants.

Approved documents

The documents reviewed and approved at the meeting were:

Document	*Version*	*Date*
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [UniversityOfLiverpoolSponsorshipApproval]		05 August 2014
GP/consultant information sheets or letters [Letter to GP]	1.2	06 August 2014
GP/consultant information sheets or letters [Letter to HV]	1.2	06 August 2014
Interview schedules or topic guides for participants [TopicGuideInterviews]	1.1	12 August 2014
IRAS Checklist XML [Checklist_14082014]		14 August 2014
Letters of invitation to participant [Invitation for Interview]	1.1	13 August 2014
Participant consent form [ConsentFormQuestionnairePhase]	1.2	23 June 2014
Participant information sheet (PIS) [PIS Questionnaire Study V1.5]	1.5	23 July 2014
Participant information sheet (PIS) [Antenatal Information Sheet]	1.3	17 July 2014
REC Application Form [REC_Form_14082014]		14 August 2014
Research protocol or project proposal [PEACH Study Protocol]	V2.2	08 July 2014
Summary CV for Chief Investigator (CI) [ProfessorPaulineSladeCV]	1.0	13 August 2014
Summary CV for student [RebeccaCrookallCV]		
Summary CV for supervisor (student research) [Professor Pauline Slade]		
Validated questionnaire [Time3ControlIntact]	1.4	13 August 2014
Validated questionnaire [Time1AllWomen]	1.3	13 August 2014
Validated questionnaire [Time2ControlIntactFirst]	1.4	13 August 2014
Validated questionnaire [Time3WomenWithCutTear]	1.5	13 August 2014
Validated questionnaire [Time2WomenWithCutTear]	1.5	13 August 2014

Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

After ethical review

Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/

HRA Training

We are pleased to welcome researchers and R&D staff at our training days – see details at http://www.hra.nhs.uk/hra-training/

14/NW/1259	**Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project.

Yours sincerely

pp.

Mrs Julie Brake
Chair

E-mail: nrescommittee.northwest-liverpoolcentral@nhs.net

Enclosures: *List of names and professions of members who were present at the meeting and those who submitted written comments*

"After ethical review – guidance for researchers"

Copy to: *Mr Alex Astor*
Ms Gillian Vernon, Liverpool Women's NHS Foundation Trust

Appendix 3: Antenatal information sheet for the PEACH study

PEACH study

Liverpool Women's NHS Foundation Trust

UNIVERSITY OF LIVERPOOL

Antenatal information sheet: 'PEACH' Psychological health and relationship Experiences After vaginal CHildbirth: The effects of experiencing perineal cuts or tears

What is the study about?

We are interested in how first time mothers feel about themselves, their birth experience and their relationships in the first year after giving birth vaginally. In particular we are investigating whether a cut or tear that needs stitching affects these feelings. If we know more about any effects, and what influences these, then we can try to improve the care that is provided in the future.

Why am I seeing this?

If you are a woman expecting her first baby you may be asked postnatally if you will take part, so we are letting all women know about this so that you can consider whether you would like to speak to the researcher after you have given birth.

If I was asked and agreed to take part, what would this involve?

1. After the birth of your baby, when you are both settled, you will be asked if you would be willing to hear more about the study and read the information sheet
2. If you agree, the study will be explained to you in more detail. If you are willing to take part, you will fill in a consent form and a brief questionnaire pack, you will be asked to fill in some brief questionnaires on the ward. This should take no longer than 10 minutes. At 6-9 weeks and 6-9 months after the birth of your baby, questionnaire packs will be emailed to you or, if you prefer they can be sent to your home address accompanied by a paid return envelope. The questionnaire packs should take no longer than 20 minutes to complete. Questionnaires will ask about your experience of childbirth, your relationship with your partner (if applicable) and your relationship with your new baby

At 6-9 months after the birth of their baby, women will be asked if they are willing to take part in an interview about their experiences and some women will be invited to do this.

You can just complete the questionnaires if you choose to. You are under no obligation at all to complete both parts of the study. If you would like to be interviewed about your experiences you will be asked about your experience of childbirth, what you think about the care you have received, your relationship with your partner (if applicable) and your relationship with your baby. The interview is likely to last between 20 and 60 minutes depending on a woman's own wishes. Interviews will be audiotaped if you agree to this and transcribed. All identifying information will be removed so that you will not be personally identifiable from anything you say.

Who is carrying out the research?

The researcher is Rebecca Crookall, a doctoral research candidate at the University of Liverpool. The research is supervised by Pauline Slade, a professor and Consultant Clinical Psychologist. Dr. Elisabeth Adams, Dr. Gillian Fowler (Consultant Gynaecologists) and Ms. Caroline Wood (Specialist Urogynaecological Midwife) are collaborators at the Liverpool Women's hospital. The research is funded by the University of Liverpool

Will my taking part be confidential?

Yes. All of the information you provide will be strictly confidential and stored in a secure manner.

Do I have to take part?

You do not have to take part in this study. It is your decision whether to take part or not. If you do decide to take part you are free to withdraw at any time and do not have to give a reason for this. Your decision to not take part will not affect the care you receive in any way.

Thank you for taking the time to read this information

If you have any questions please do not hesitate to contact the researcher:

Rebecca Crookall
0151-795-5537

V1.3 17/07/2014

Appendix 4: Information sheet for questionnaire study

UNIVERSITY OF LIVERPOOL

Liverpool Women's NHS Foundation Trust
Dedicated to you

Participant Information Sheet – Questionnaire study
'PEACH' Psychological health and relationship **E**xperiences **A**fter vaginal **Ch**ildbirth: The effects of experiencing perineal cuts or tears

You are being invited to take part in a research study. Before you decide whether you wish to take part, it is important to understand what taking part will involve and why this research is being done. Please take the time to read this information sheet and please ask if there is anything you do not understand.

What is the purpose of the study?

The aim of the study is to explore how first time mothers feel after they have given birth vaginally. For the majority of women, the perineum (the area between the vagina and the anus) will be unaffected. However, some women may need a small cut in the vaginal wall to assist the birth of their baby and others may experience a tear. We are interested in investigating whether a cut or tear that needs stitching affects how women feel about their childbirth experience, and also how they adjust to becoming a new mother in the first year. If we know more about any effects, and what influences them, then we can try to improve future care.

Why have I been asked to take part?

We are inviting all women who have had their first baby vaginally. You can take part it you are over 16 years of age, can speak and read English, and are not under the care of the perinatal mental health team.

What will happen to me if I take part?

If you agree to take part you will be asked to complete a consent form and you will be given a copy of this and an information sheet to keep. You will then be asked to complete some brief questionnaires on the ward, which should take about 10 minutes to complete. These questionnaires will ask you about your birth, how you felt during your labour and what you think about the care you have received. You will then be asked to complete some questionnaires on 2 further occasions, at 6-9 weeks after the birth of your baby and again at 6-9 months after the birth of your baby. Questionnaires can be emailed/posted to your home address. A paid return envelope will accompany posted questionnaires. Each questionnaire pack should take about 20 minutes to complete. You will be asked about your birth, your relationship with your partner (if you are currently in a relationship) and your relationship with your new baby. With your 6-9 month questionnaire pack you will receive an invitation to take part in an interview to discuss your experiences in detail.

Do I have to take part?

No. It is up to you whether you decide to take part or not. The decision to take part is yours entirely. If you decide you would like to take part and then decide you no longer want to, you are free to withdraw at any time and do not have to give a reason for your decision. You do not have to complete both parts of this study if you do not want to. Your decision to take part or withdraw at any time will not affect the care you receive.

Who will benefit from the study?

There is no individual personal benefit. However, the information you provide will be used to improve the care provided for women in the future.

Are there any disadvantages to taking part?

This study covers topics of a sensitive nature which may highlight any pre-existing distress that you may be feeling. If you feel that you would like to talk further about your experiences, a member of the research team will be happy to speak to you about further sources of support or information to help you.

Will my taking part in this study be kept confidential?

All the information you provide will be kept strictly confidential. All of the information from the research will be stored securely and will be disposed of safely after five years. The information collected will also be coded so that no information you provide will be personally identifiable to you. You will be given a participant number

to identify your data. Only the researchers not providing your clinical care will have access to the database linking your participant number with your contact details. The only time information would not be kept confidential, would be if any risk to yourself or others was disclosed as a part of this work. In such circumstances, the researchers have an obligation to share this information in accordance with NHS policies. We will ask your consent to notify your GP and health visitor of your participation in this study. Only when we have both sets of questionnaires for a person will these be scored. At that point if a woman is showing high levels of distress we will advise her to contact her GP or if she wishes we can contact her GP on her behalf.

What will happen to the results of the study?

The results will be published in reports and scientific journals. The results of this study will also be written up as a thesis, which will be submitted for a PhD in health psychology. The thesis will be kept in the University of Liverpool library. A summary of the results can be sent to you if you wish.

Who is organizing and funding the research?

The researcher is Rebecca Crookall, a doctoral research candidate at the University of Liverpool. The research is supervised by Pauline Slade, a Professor in clinical psychology and consultant clinical psychologist. Collaborators at the Women's hospital are consultant Gynaecologists Dr. Elisabeth Adams and Dr. Gillian Fowler and Caroline Wood, a specialist Urogynaecological midwife. This research is funded by the University of Liverpool.

Who has reviewed the study?

The study has been reviewed and approved by an NHS ethics committee and has been approved to be sponsored by the University of Liverpool.

Who can I contact if I have any questions?

If you have any questions at all regarding the study please contact the researcher on

Rebecca Crookall (Doctoral Research Student)
Researcher
Institute of Psychology Health and Society
Brownlow Hill
University of Liverpool
Liverpool
L69 3GB
Phone: 0151-795-5537
Email: R.Crookall@liv.ac.uk

Who can I contact if I have any complaints?

If you are unhappy with any aspect of the study, or have any concerns about how the study has been carried out, please contact:

Professor Pauline Slade (Chief Investigator)
University of Liverpool, Whelan Building, Brownlow Hill, Liverpool, L69 3GB
Phone: 0151 794 5485 ***E-mail: pauline.slade@liverpool.ac.uk***

Alternatively, you can contact the Liverpool Women's Hospital patient quality team on 0151-702-4416

Thank you for taking the time to read this information

Appendix 5: Consent form for questionnaire study

PEACH study

UNIVERSITY OF LIVERPOOL

Liverpool Women's NHS Foundation Trust
Dedicated to you

Participant Consent Form – Questionnaire Study
'PEACH' Psychological health and relationship **E**xperiences **A**fter vaginal **Ch**ildbirth: The effects of experiencing perineal cuts or tears

This consent form ensures that we have told you everything you need to know about this study. By completing this form, it shows that you understand the information you have been given and agree to take part.

Please INTIAL each box

1. I confirm that I have read and understood the information sheet dated …….. for the above study. I have had the opportunity to consider the information and ask questions and I have had these answered to my satisfaction ☐
2. I understand that my participation is voluntarily and that I am free to withdraw at any time without giving a reason and without my rights being affected. I also understand that should I not wish to answer any particular question I am free to decline ☐
3. I understand that, under the Data Protection Act, I can at any time ask for access to the information I provide and I can also request the destruction of that information if I wish ☐
4. I understand that the research team will have access to my patient details and maternity notes for the duration of the study and I give permission for this ☐
5. I give permission for my GP and health visitor to be informed of my participation. I also give permission for the research team to contact me if I were to show ongoing distress in relation to childbirth, at the end of the study ☐
6. I understand that my participation will be kept confidential, however there are limits to confidentiality which have been explained to me ☐
7. I understand that my medical notes and data from the study may be looked at by regulatory authorities or by persons from the trust where relevant. I give permission for these persons to have access to this information ☐
8. I agree to take part in the above study ☐

_____	_____	_____
Name of participant (BLOCK CAPITALS)	Signed	Date
_____	_____	_____
Researcher Name	Signed	Date

Participant number:
(Office use only)

CFP1 - Version 1.2 23.06.14

Appendix 6: Time 1 questionnaire

UNIVERSITY OF LIVERPOOL

PEACH study

Liverpool Women's NHS Foundation Trust

Psychological health and relationship Experiences After Childbirth: The effects of experiencing perineal cuts or tears

Please complete the following questions about yourself and your labour/birth. If you have any questions, or if there is anything you are unsure of, please ask the researcher who will be happy to go over any of the questions with you. Thank you

About you....

1. What is your marital status?

- ☐ Married
- ☐ Separated
- ☐ Single
- ☐ Cohabiting (Living together)
- ☐ In a relationships but not living together
- ☐ Widowed

2. What is your highest level of education

- ☐ Left school before GCSE's
- ☐ GCSE's
- ☐ A-level
- ☐ Diploma
- ☐ Undergraduate Degree
- ☐ Postgraduate Degree

2. Are you currently employed? YES/NO (Please circle)

3. If you are currently employed, what is your occupation? ……

4. Have you ever been to see your GP about your psychological health? E.g. Stress, Anxiety, Depression, Fear? YES/NO (Please circle)

5. If YES did you receive any medication/counselling? YES/NO (Please circle)

6. Have you ever seen a Psychologist or Counsellor for your psychological health? YES/NO (Please circle)

7. If you have answered YES to any of the above, could you please provide some brief details regarding the reason for your care (e.g. Stress, Bereavement, Depression, Anxiety, Fear)

……

……

1

About your birth

1. Did you have a birth partner present during your labour/birth? YES/NO (Please circle)

2. If YES how much were they present? (Please tick)

	All of it	Most of it	Some of it	None of it
During your labour				
During your birth				

The following questions ask about your **experience of childbirth**. It is important you answer all of the questions. For the first 14 questions please place an X in the box that best describes how you feel.

	Totally Agree	Mostly Agree	Mostly Disagree	Totally Disagree
Labour and birth went as I expected				
I felt strong during labour				
I felt capable during labour				
I was tired during labour and birth				
I felt happy during labour and birth				
I felt I could have a say whether I could be up and about or lie down				
I felt I could have a say in my birthing position				
I felt I could have a say in the choice of pain relief				
My midwife devoted enough time to me				
My midwife devoted enough time to my partner				
My midwife kept me informed about what was happening during labour and birth				
My midwife understood my needs				
I felt very well cared for by my midwife				
I felt that I handled the situation well				

For the next two questions, please place a mark on the line that best described your experience, like this —/—

15. As a whole, how **PAINFUL** did you feel childbirth was?

No pain ●——————————● Worst Imaginable pain

16. As a whole, how much **CONTROL** did you feel you had during childbirth?

No control ●——————————● Complete Control

2

17. Is there anything you would like to add about your childbirth experience?

The following adjectives describe how women may feel during their labour and birth. For each adjective please indicate how much this feeling was present during your labour and birth by circling the appropriate number. The higher numbers indicate that the feeling was very much present.

	Not at all									Extremely
EXCITING	1	2	3	4	5	6	7	8	9	10
FRIGHTENING	1	2	3	4	5	6	7	8	9	10
SATISFYING	1	2	3	4	5	6	7	8	9	10
EXHAUSTING	1	2	3	4	5	6	7	8	9	10
EXHILARATING	1	2	3	4	5	6	7	8	9	10
ANXIETY PROVOKING	1	2	3	4	5	6	7	8	9	10
ENJOYABLE	1	2	3	4	5	6	7	8	9	10
EMBARASSING	1	2	3	4	5	6	7	8	9	10
PLEASANT	1	2	3	4	5	6	7	8	9	10
DIFFICULT	1	2	3	4	5	6	7	8	9	10

Finally, thinking about your vagina/perineum (where you may have had stitches) please place a line crossing the horizontal line below to indicate the pain you are currently feeling in that area

No pain ●——————————● Worst Imaginable pain

Thank you for taking part. The researcher will come back and collect this from you. If you are discharged before the researcher returns, please place this and your consent form in the envelope provided and give to your midwife before you leave.

3

Appendix 7: Time 2 Questionnaire

UNIVERSITY OF LIVERPOOL

PEACH study

Liverpool Women's NHS Foundation Trust

T2CT Office Use only
Participant number:

Psychological health and relationship Experiences After CHildbirth: The effects of experiencing perineal cuts or tears

Thank you for taking part in this study. Please read the following instructions carefully:

1. Please complete the questions in the order they are presented and try not to leave any questions unanswered
2. Please pay attention to the instructions given at the beginning of each set of questions as they may differ
3. Questionnaire instructions may ask you to think about your perineum or any perineal pain/discomfort you may be experiencing. **Your perineum is the area between your vagina and your back passage**
4. Once you have completed your booklet please return it to me using the envelope provided
5. Try to complete the booklet on the same day as receiving it – **IT SHOULD TAKE ABOUT 10 MINUTES**

Date booklet completed ..... (Please complete)

QUESTION 1

These questions ask how you feel about your appearance and about any changes that may have occurred since the birth of your baby. Please read each item carefully and place an X in the box that comes the closest to the way you have been feeling about yourself **during the past week.**

	Not at all	A little	Quite a bit	Very Much
Have you been feeling self-conscious about your appearance?				
Have you felt less physically attractive?				
Have you been dissatisfied with your appearance?				
Have you been feeling less feminine?				
Did you find it difficult to look at yourself naked?				
Have you been feeling less sexually attractive?				
Did you avoid people because of the way you felt about your appearance?				
Have you felt dissatisfied with your body?				

1

Appendix 7: Time 2 questionnaire continued

QUESTION 2

Are you experiencing any **perineal discomfort/pain** as a result of the birth of your baby? (please circle) YES/NO *If no skip to Question 3*

Thinking about your perineum, please place a line crossing the horizontal line below to indicate any PAIN you are CURRENTLY feeling, like this —/—

No Pain —— **Worst Possible Pain**

Please **consider the extent** to which the pain you have experienced since given birth has **impacted** on the following tasks:

A. **FEEDING** your baby

Not at all —— A lot

B. **CHANGING** your baby

Not at all —— A lot

C. **HOLDING** your baby

Not at all —— A lot

D. **BATHING** your baby

Not at all —— A lot

E. **SOCIALISING** with your baby

Not at all —— A lot

2

QUESTION 3

Are you currently: (please tick)

- ☐ Working (includes unpaid/volunteer work) please answer all questions
- ☐ On maternity leave *answer 'd' only*
- ☐ Unemployed *answer 'd' only *
- ☐ A Student *please answer all questions below*

Thinking **ABOUT THE PAST WEEK**, please consider to what extent any perineal discomfort due to the birth of your baby has affected what you needed/wanted to do:

a. **AT WORK/SCHOOI** (please circle a number)

Not at all	Mildly			Moderately			Markedly			Extremel y
0	1	2	3	4	5	6	7	8	9	10

☐ **Please tick this box** if you have not worked/studied for the past week for reasons unrelated to any perineal symptoms you might be experiencing

b. **HOW MANY DAYS** during the **LAST WEEK** did you miss work/school due to any perineal discomfort? ☐

c. **ON HOW MANY DAYS** in the **LAST WEEK** did your symptoms bother you so much that even though you went to school/work you were not able to do as much as you would have usually? ☐

d. Thinking **ABOUT THE PAST WEEK**, please consider to what extent any perineal discomfort has affected your everyday tasks:

At home e.g. preparing meals/cleaning (please circle a number)

Not at all	Mildly			Moderately			Markedly			Extremely
0	1	2	3	4	5	6	7	8	9	10

Socially e.g. seeing friends, going outside (please circle a number)

Not at all	Mildly			Moderately			Markedly			Extremely
0	1	2	3	4	5	6	7	8	9	10

3

QUESTION 4

The following is a list of difficulties people sometimes have after stressful life events. Please read each item and then indicate how distressing each difficulty has been for you **during the past 7 days,** by circling the best response.

With respect to your childbirth experience <u>how much</u> were you distressed or bothered by following difficulties

	Response	Not at all	A little bit	Moderately	Quite a bit	extremely
1	Any reminder brought back feelings about it					
2	I had trouble staying asleep					
3	Other things kept making me think about it					
4	I felt irritable or angry					
5	I avoided letting myself get upset when I thought about it or was reminded of it					
6	I thought about it when I didn't meant to					
7	I felt as if it hadn't happened or wasn't real					
8	I stayed away from reminders about it					
9	Pictures about it popped into my mind					
10	I was easily jumpy and easily startled					
11	I tried not to think about it					
12	I was aware that I still had a lot of feelings about it, but didn't deal with them					
13	My feelings about it were kind of numb					
14	I found myself feeling like I was back in that time					
15	I had trouble falling asleep					
16	I had waves of strong feelings about it					
17	I tried to remove it from my memory					
18	I had trouble concentrating					
19	Reminders of it caused me to have physical reactions such as sweating, trouble breathing, nausea or a pounding heart					
20	I had dreams about it					
21	I felt watchful and on guard					
22	I tried not to talk about it					

4

Appendix 7: Time 2 questionnaire continued

QUESTION 5

Please read each item below and **circle the reply**, which comes closest to how you have been feeling in the **past week**. Don't take too long over your replies; your immediate reaction to each item will probably be more accurate than a long, thought out response.

1	**I feel tense or 'wound up':**	8	**I feel as if I am slowed down:**
	Most of the time		Nearly all of the time
	A lot of the time		Very often
	Time to time, occasionally		Sometimes
	Not at all		Not at all
2	**I still enjoy the things I used to enjoy:**	9	**I get a sort of frightened feeling like 'butterflies in the stomach':**
	Definitely as much		Not at all
	Not quite so much		Occasionally
	Only a little		Quite often
	Not at all		Very often
3	**I get a sort of frightened feeling as if something awful is about to happen**	10	**I have lost interest in my appearance:**
	Very definitely and quite badly		Definitely
	Yes but not too badly		I don't take as much care as I should
	A little but it doesn't worry me		I may not take quite as much care
	Not at all		I take just as much care as ever
4	**I can laugh and see the funny side of things**	11	**I feel restless as if I have to be on the move:**
	As much as I always could		Very much indeed
	Not quite as much now		Quite a lot
	Definitely not so much now		Not very much
	Not at all		Not at all
5	**Worrying thoughts go through my mind:**	12	**I look forward with enjoyment to things**
	A great deal of the time		As much as I ever did
	A lot of the time		Rather less than I used to
	not too often		Definitely less than I used to
	Very Little		Hardly at all
6	**I feel cheerful:**	13	**I get sudden feelings of panic**
	Never		Very often
	Not often		Quite often
	Sometimes		Not very often
	Most of the time		Not at all
7	**I can sit at ease and feel relaxed:**	14	**I can enjoy a good book or radio or TV program**
	Definitely		Often
	Usually		Sometimes
	Not often		Not often
	Not at all		Very seldom

5

QUESTION 6

Sometimes extremely stressful or upsetting things happen. This can include serious accidents, major disasters or being threatened or assaulted. It may not happen to you personally, you become upset or distressed hearing about these things happening to another person, or you may see it happen.

	(Please circle)
• Has this ever happened to you?	YES/NO
• Sometimes, these events keep coming back as nightmares, or distressing thoughts/flashbacks. Has this ever happened to you?	YES/NO
• Sometimes certain situations, places or people can remind you of the distressing event. Do you try to avoid these reminders?	YES/NO
• If you are reminded of the event, do you become upset or distressed?	YES/NO

Thinking ABOUT YOUR CHILDBIRTH EXPERIENCE:	**(Please circle)**
• In your opinion, at any point during your labour or delivery did you feel like yours or your baby's life was at risk?	YES/NO
• In your opinion, at any point during your labour or delivery did you feel like there was a risk of injury or harm to you or your baby?	YES/NO
• At any point during your labour or delivery did you feel intense feelings or fear, helplessness or horror?	YES/NO

6

Appendix 7: Time 2 questionnaire continued

QUESTION 7

These questions are about your feelings for your child over in the **first few weeks.** Some adjectives describe some of the feelings mothers have towards their baby in the first weeks after they are born. Please place an **X** in the box that best describes how you felt **in the first few weeks**.

	Very Much	A lot	A little	Not at all
Loving				
Resentful				
Neutral or felt nothing				
Joyful				
Dislike				
Protective				
Disappointed				
Aggressive				

7

Appendix 7: Time 2 questionnaire continued

QUESTION 8 – ABOUT YOUR CUT/TEAR

A. Did you experience a cut (also known as an episiotomy) or a tear? (Please circle)
CUT/TEAR

B. Did you receive any care for your cut/tear whilst you were in hospital? (Please circle)
YES/NO

If NO please go to 'E'

C. If YES, could you please **briefly describe** the care you received for your cut/tear **whilst you were still in hospital**?

.....
.....
.....
.....
.....

D. What was **good** about the care you received for your cut/tear **whilst you were still in hospital**?

.....
.....
.....
.....
.....

E. Is there any aspect of the care you received in hospital relating to your cut/tear that you think could have been improved? If you did not receive any care for your cut/tear, is there anything you would have liked?

.....
.....
.....
.....
.....

Thank you for taking the time to fill in this questionnaire.

Please go back to the beginning and quickly check that you have answered all the questions you wanted to answer. Please return the booklet to the researcher using the stamped envelope provided. If you no longer have the stamped envelope you can request a new one to be sent to you by contacting the researcher

Rebecca Crookall
Ground Floor Whelan Building
Institute of Psychology Health and Society
Brownlow Hill, L69 3GB

R.Crookall@Liv.ac.uk
01517955537

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Appendix 8: Questions from Time 3 Questionnaire

QUESTION 8 – ABOUT YOUR CUT/TEAR

1) Have you received any further care for your cut/tear since you gave birth? (Please circle) YES/NO

2) If YES could you briefly describe the care you have received for your cut/tear (who provided your care and what care was provided)?

.....
.....
.....
.....

3) What was good about the care you received for your cut/tear since you left hospital after the birth?

.....
.....
.....
.....

5) Were you invited for a follow-up appointment at the perineal clinic in the Liverpool Women's hospital for your cut/tear? YES/NO

* If NO please go to question 11

6) **If YES** did you attend your appointment? YES/NO

7) **If NO** was there any reason for this?

.....

* If NO please go to question 11

9) What did you think was good about your follow-up at the perineal clinic to discuss your cut/tear?

.....
.....
.....
.....

Appendix 8: Questions from Time 3 Questionnaire continued

10) Is there anything you think could have been improved about your follow-up at the perineal clinic to discuss your cut/tear?

.....
.....
.....
.....

11) Please add any additional comments about your care in relation to your cut/tear, what was good about it? Is there anything you would have liked?

.....
.....
.....
.....

Thank you for taking the time to fill in this questionnaire.

Please go back to the beginning and quickly check that you have answered all the questions you wanted to answer. Please return the booklet to the researcher using the stamped envelope provided. If you no longer have the stamped envelope you can request a new one to be sent to you by contacting the researcher

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Appendix 9: Information sheet for interview study

UNIVERSITY OF LIVERPOOL

Liverpool Women's NHS Foundation Trust

Participant Information Sheet – Interview Study

EACH' Psychological health and relationship Experiences After vaginal Childbirth: The effects of experiencing perineal cuts or tears

You are being invited to take part in a research study. Before you decide whether you wish to take part, it is important to understand what taking part will involve and why this research is being done. Please take the time to read this information sheet and please ask if there is anything you do not understand.

What is the purpose of the study?

The aim of the study is to explore how first time mothers feel after they have given birth vaginally. For the majority of women, the perineum (the area between the vagina and the anus) will be unaffected. However, some women may need a small cut in the vaginal wall to assist the birth of their baby and others may experience a tear. We are interested in investigating whether a cut or tear that needs stitching affects how women feel about their childbirth experience, and also how they adjust to becoming a new mother in the first year. If we know more about any effects, and what influences them, then we can try to improve future care.

Why have I been asked to take part?

We are inviting all women who have completed the first part of this study to take part in an interview to discuss their experiences in detail. Only a proportion of the women who are willing to take part will be contacted to arrange an interview.

What will happen if I take part?

If you are willing to take part a member of the research team will contact you to arrange a convenient date and time to interview you. You can be interviewed at your home address or, if you prefer, you can be interviewed at the Liverpool Women's Hospital. If you would prefer to be interviewed at the hospital then your travel expenses will be paid. The interview is likely to last around 20-60 minutes and can be stopped at any point if you decide you do not want to proceed. The interview will be audiotaped if you agree to this. The audio recordings will be destroyed after they have been transcribed. During the interview you will be asked about your experience of childbirth, what you think about the care you have received, your relationship with your partner (if applicable) and your relationship with your baby. If childcare can be arranged then this will allow you to focus on what you would like to say, so this is preferred. However, if childcare cannot be arranged then the interview can be paused or stopped as needed.

Do I have to take part?

No. It is up to you whether you decide to take part or not. The decision to take part in the interview is yours entirely. If you decide you would like to take part you are free to withdraw at any time and do not have to give a reason for your decision. Your decision to take part or withdraw at any time will not affect the care you receive.

Who will benefit from the study?

The information you provide will be used to improve the care provided for women in the future. To reimburse you for your time and inconvenience, you will be offered a £25 shopping voucher on completion of your interview.

Are there any disadvantages to taking part?

The interview covers topics of a sensitive nature, which may highlight any pre-existing distress that you may be feeling. If you feel that you would like to talk further about your experiences, a member of the research team will be happy to speak to you about further sources of support or information to help you.

Will my taking part in this study be kept confidential?

Yes. All of your personal details and any information you provide will be strictly confidential. All data will be associated with your participant number. Any names or information that you can be identified from will be changed or removed. You will not be personally identifiable from anything you say. The only time information would not be kept confidential would be if any risk to yourself or others was disclosed as a part of this work. In such circumstances, the researchers have an obligation to share this information in accordance with NHS policies. All of the information from the research will be stored securely and will be disposed of safely after five years.

What will happen when the study ends?

The researcher, or an approved transcriber who has signed a confidentiality agreement will transcribe the interview audio recordings. After all identifying information is removed (names, places etc.), the resulting anonymised transcripts will be analysed by the researcher. The results will be published in reports and scientific journals. The results of this study will also be written up as a thesis, which will be submitted for a PhD in health psychology and kept in the University of Liverpool library. A summary of the results can be sent to you if you wish.

Who is organizing and funding the research?

The researcher is Rebecca Crookall, a doctoral research candidate at the University of Liverpool. The research is supervised by Pauline Slade, a Professor in clinical psychology and consultant clinical psychologist. Collaborators at the Women's hospital are consultant Gynaecologists Dr. Elisabeth Adams and Dr. Gillian Fowler and Caroline Wood, a specialist Urogynaecological midwife. This research is funded by the University of Liverpool.

Who has reviewed the study?

The study has been reviewed by an independent ethics committee with extensive experience of reviewing studies of this nature. Relevant ethics committees at the Trust and at the University of Liverpool have also approved the study.

Who can I contact if I have any questions?

If you have any questions at all about the study please contact the researcher on

Rebecca Crookall (Doctoral Research Student)
Researcher
Institute of Psychology Health and Society
The Whelan Building
Brownlow Hill
University of Liverpool
Liverpool
L69 3GB
Phone: 0151-795-5537
Email: R.Crookall@liv.ac.uk

Who can I contact if I have any complaints?

If you are unhappy with any aspect of the study, or have any concerns about how the study has been carried out, please contact:

Professor Pauline Slade (Chief Investigator)
University of Liverpool, Whelan Building, Brownlow Hill, Liverpool, L69 3GB
Phone: 0151 794 5485 *E-mail: pauline.slade@liverpool.ac.uk*

Alternatively, you can contact the Liverpool Women's Hospital patient quality team on 0151-702-4416

Appendix10: Consent form for interview study

UNIVERSITY OF LIVERPOOL

Liverpool Women's NHS Foundation Trust

Participant Consent Form- Interview Study
'PEACH' Psychological health and relationship **E**xperiences **A**fter vaginal **Ch**ildbirth: The effects of perineal cuts or tears

This consent form ensures that we have told you everything you need to know about this study. By completing this form, it shows that you understand the information you have been given and agree to take part.

Please INTIAL each box

1. I confirm that I have read and understood the information sheet dated 17/12/2015 for the above study. I have had the opportunity to consider the information and ask questions and I have had these answered to my satisfaction ☐
2. I understand that my participation is voluntarily and that I am free to withdraw at any time without giving any reason and without my rights being affected. I also understand that should I not wish to answer any particular question I am free to decline ☐
3. I understand that, under the Data Protection Act, I can at any time ask for access to the information I provide and I can also request the destruction of that information if I wish ☐
4. I understand that my participation will be kept confidential. However there are limits to confidentiality which have been explained to me ☐
5. I consent to my interview being audio recorded and understand that these recordings will be destroyed once they have been transcribed ☐
6. I agree to take part in the above study ☐

Name of participant (BLOCK CAPITALS)	Signed	Date
Researcher Name	Signed	Date

Appendix 11: Consent for contact to discuss participation in the interview

Thank you for your participation in this phase of the study. We are very grateful for the information you have provided. We would also like to interview some women about their experiences. Should you be eligible for this, we would like to invite you to consider participating. You are under no obligation to agree to be interviewed, but if you think you might be interested please complete the form below. I have included an information sheet explaining the nature of the interview and you will have time to consider this and ask any questions before agreeing to take part

I consent to telephone contact to discuss my participation (Please tick)

☐ **Yes please** ☐ **No thank you**
(Fill in your details below)

Please telephone me on (Preferred telephone number)

……

The best time to call me is (Please circle): Daytime Evening

Thank you ☺ Please return this form with your questionnaire pack.
Becca

Office use only
Participant I.D:

Appendix 12: Interview topic guide

PEACH Study - Interview Topic Guide – V1.1 120814

Topic Guide (Prompts in italics)

1. Can you tell me about your experience of having a tear during childbirth
    i. *Can you tell me what it was like for you? How did you feel?*
    ii. *When it happened how did your midwife/doctor communicate with you about it, if at all?*
        1. *What was that like for you?*
    iii. *Can you tell me about how you felt when you realized you had experienced a tear?*
        1. *What was that like for you*
        2. *Can you tell me how managed those feelings, if at all?*

2. Can you tell me about your experience of being stitched afterwards?
    i. *What sort of preparation, if any, was there from your doctor/midwife with regards to what was about happen?*
    ii. *What was it like for you/ what do you remember about the experience?*
        1. *How did you feel during the stitching?*
        2. *Can you tell me how you managed those feelings, if at all?*
    iii. *What, if anything, was most stressful about how this was done*
    iv. *What, if anything, was most helpful about how this was done*
    v. *What, if anything, could have improved your care at this time?*

3. What was it like in the first few weeks being a new mother and having had a tear?
    i. *Can you think of any examples of how you think it has affected you either positively or negatively (in yourself, looking after infant, socializing, relationships with friend, family, relationships with partner, intimate relationships*
    ii. *Can you tell me how you tried to manage any of these effects- go through*
        1. *What, if anything, helped you to manage*
        2. *What if anything got in the way*
4. Do you think your tear has stopped you doing anything at all that you wanted to do at that time?

5. Can you tell me what it is like for you now after experiencing the tear?
    i. *(issues highlighted above explored in the present tense)*
    ii. *Can you tell me how, if at all, you manage these effects – go through*
    iii. *Is there anything else that you think may help you manage with this?*
    iv. *Is there anything that you think is getting in the way?*
    v. *Has your experience of having the tear stopped you doing anything at all?*

Questions about care of the tear

1. Can you tell me about any care you received for you tear before you went home with your new baby?
    a. *Who provided the care?*
    b. *What care was provided?*
    c. *What was good about it?*
    d. *Anything you would have liked?*

2. Can you tell me about any care you have had for your tear since then?
    a. *Who provided the care?*
    b. *What care was provided?*
    c. *What was good about it?*

Appendix 12: Interview topic guide continued

PEACH Study - Interview Topic Guide – V1.1 120814

d. *Anything you would have liked?*

3. Did you attend any follow-up appointments at the women's hospital?[1]
   a. *Can you tell me about your visit for your follow-up appointment?*
      1. *Who did you see/speak to at the clinic? What did your visit involve*
      2. *What tests did you have? Who did you talk to about your test results?*
   b. *How did you feel about your follow-up at the clinic?*
4. *Overall what are your thoughts about the care provided for you in relation to the tear*
   1. *(i) for the physical (ii) for you emotionally*
   2. *How could this be improved?*
   3. *Is there anything you would have liked?*

1. Who did/do you talk to about your concerns with regards to your tear?
   a. *Is this helpful?*
   b. *Did/Do you wish you could talk about your concerns more?*

2. Do you have any advice for new mothers who are in a similar situation and have experienced a cut/tear during childbirth?

3. Is there anything else that you would like to add about your experience of having a cut/tear

[1] Women with 3rd/4th tear are invited to attend follow-up at the clinic for tests to assess pelvic floor function and women are invited to speak with the consultant urogynaecologist about their results. Women who state they have had these tests and spoken with consultant will be asked about this and how they feel about their visit.

Appendix 13: Letters to GP and Health Visitor to inform of patient participation in a research study

Liverpool Women's NHS
NHS Foundation Trust

UNIVERSITY OF LIVERPOOL

Department of Mental and Behavioural Health Sciences
Ground Floor Whelan Building
Institute of Psychology Health and Society
Brownlow Hill
University of Liverpool
Liverpool
L69 3GB
Telephone 0151-795-5537

R.Crookall@liv.ac.uk

Patient:

Re. PEACH study: Women's Experiences of Vaginal Birth

Dear

I am writing to inform you that the individual named above has agreed to take part in a research study sponsored by the University of Liverpool. The aim of the study is to investigate women's experiences of psychological health and relationships after they have given birth to their baby vaginally. We are interested in investigating whether a cut or tear that needs stitching affects how women feel about their childbirth experience, and also how they adjust to becoming a new mother in the first year. We are inviting all first time mothers who have recently experienced a vaginal delivery and have experienced various grades of tear or a cut (episiotomy).

We have asked the participant's permission to inform you of their participation. We have also asked their permission to notify you if they show any signs of on going psychological distress at the completion of the study. If for any reason you believe the above named individual should not participate in this study, please let a member of the research team know as soon as possible using the above contact details. Attached to this letter is the information sheet and consent form provided to the participant at the time of consent.

Kind Regards,

Rebecca Crookall
Research Doctoral Candidate, University of Liverpool
Under the supervision of:
Professor Pauline Slade
Dr Elizabeth Adams
Dr Gillian Fowler

Appendix 14: example of a coded extract of interview transcript

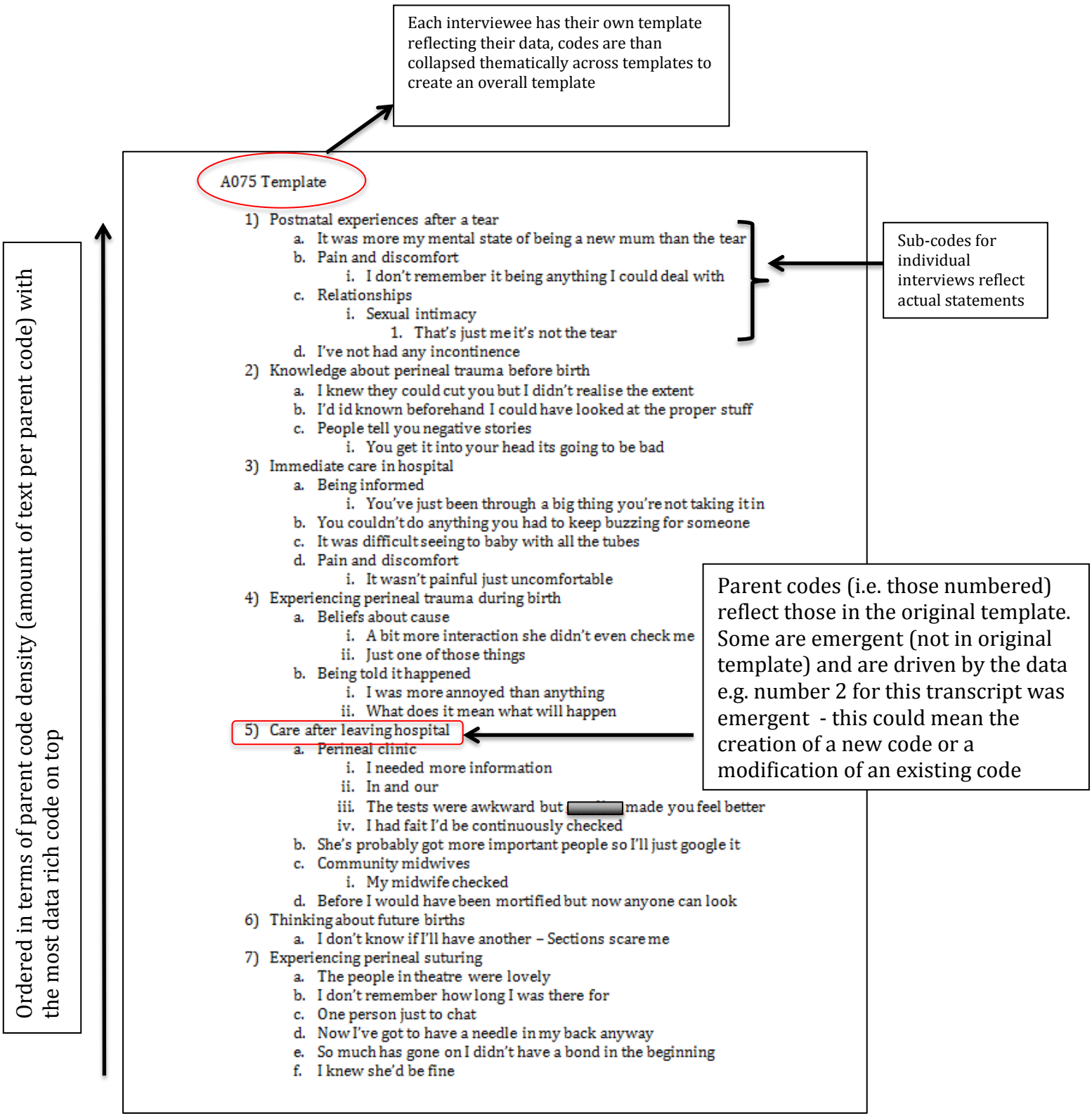
Notes made as reading through each transcript

		and take your mind off things…but they really did make you feel like really relaxed and everything and explained everything that was going on	Experiencing Perineal Suturing
	I	**That's good so it sounds like it was quite a…not a positive experience but in a sense yeah…a positive experience then?**	
	R	Yeah it was actually…	
	I	**Ok so when you were moved onto the ward…just talk me through the care you had over there for the tear**	
	R	Well I was in a room of five other women…we were offered a private room…but at that point it was half 2 in the morning…and we thought by the time we get in there…we just wanted to sleep [LAUGHS] and it was fine…you have people to talk to I don't think I'd want to be sat in a room on me own…	Immediate care in hospital
Didn't want to be alone afterwards – being with other mothers	I	**Yeah so talk me through what it was like being on the ward then thinking more about the tear**	
	R	Well I…I had a catheter in and I couldn't move me legs…and that was one of the things that annoyed me actually…I'd given birth on gas and air and then I had to have a spinal block obviously for the …the stitches and I was like…[TUT] flipping eck! I wish I would've known [LAUGHS] So I just think I could've had one anyway cause I ended up having one for that! And then it then meant that I was in the bed and they say to you not to move for 16 hours after it incase your legs are still a bit jelly…and cause the baby's then in her little cot next to me but you cant do anything…..you have to keep buzzin for someone…I mean I just struggled and got her sometimes meself…but I mean you've got drips in your arms and catheter in and everythin…and I was like…at one point I was like…thinking I'm too scared to move…and I'd move a little bit and that was ok that didn't hurt…then I'd move a bit more [LAUGHS] and that was still ok…but yeah the ward it was	Experiencing a tear/Experiencing perineal suturing – Pain relief Immediate care in hospital Immediate care – pain/discomfort/fear?
Something about feeling like they have managed to birth without the pain relief but then having to had the spinal anyway that they wanted to avoid in a birth plan?			
Caring for a newborn after perineal repair for a severe tear			
Being fearful of moving after a severe tear			

Parent codes initially identified - subsequent readings identify child codes more relevant to each individual transcript

Comment [rc1]: I feel like immediate care should be a child code for this transcript …..maybe a parent code of 'postnatal experiences in hospital' that can be split into 'care' 'pain' 'caring for baby' etc?

Appendix 15: Example of an interview template



Appendix 16: List of further sources of support for women (not given to women but used as a reference by the researcher)

1) The birth trauma association
    a. http://www.birthtraumaassociation.org.uk/ - in particular the help & support tab at the top of the page
    b. Website has a list of contacts for further help and support
2) Specialist midwife perineal clinic (0151)[redacted]
3) Liverpool women's
    a. https://www.liverpoolwomens.nhs.uk/
    b. 01517089988
    c. Patient Advice and Liaison Service 0151 702 4353 or PALS@lwh.nhs.uk
4) Safeguarding team x4181, 4375, 4367, 1303
5) Careline Liverpool (child) = 01512333700, Adult 01512333800