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original article

Birth trauma: Widening our knowledge of postnatal mental health**Susan Ayers^{*1,2} and Elizabeth Ford³**¹ Department of Psychology, University of Sussex, UK² Dept of Obstetrics & Gynaecology, Surrey & Sussex Healthcare, UK³ Psychiatric Epidemiology, Barts and the London School of Medicine, UK

Every year approximately 4.1 million women in the U.S.A. and 0.6 million women in the UK give birth. The birth of a baby is an emotional and challenging time that involves substantial life change and adaptation. Many women have a broadly positive experience and enjoy the birth of their new baby. However, a proportion of women have difficult or even traumatic experiences. Pregnancy and birth is therefore a time that can involve a wide range of emotions that encompass normal and abnormal stress responses. Unlike many other challenging or stressful experiences, the perinatal period is particularly important because it has such a wide-ranging impact. Research using ultrasound technology shows stress and anxiety in pregnancy affects fetal behaviour and is associated with poor infant development (Talge, Neal, & Glover, 2007). Postnatal depression in women is associated with depression in their partners and with poor cognitive development in children, particularly for boys (Grace, Evindar & Stewart, 2003). The perinatal period is therefore a critical time that affects women, their partners and infants.

Research shows that 10 to 15% of women develop postnatal depression (O'Hara & Swain, 1996) and approximately 2% develop post-traumatic stress disorder (PTSD) after birth (Ayers, Joseph, McKenzie-McHarg, Slade & Wijma, 2008). Recent studies suggest postnatal anxiety disorders may be more common than depression, with up to 16% of women suffering some type of anxiety disorder such as panic, phobia, acute adjustment disorder or PTSD (Wenzel, Haugen, Jackson, & Brendle, 2005). Anxiety disorders are also likely to be comorbid with depression. This means that each year up to 1.5 million women in the UK and USA may suffer some form of psychological problems after birth. In this article we focus on research into birth trauma and PTSD, outlining key debates and controversies in the area, and why it is an area where health psychology can make a valuable contribution.

Can birth be traumatic?

DSM-IV diagnostic criteria specify that PTSD can

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only be diagnosed if a person has experienced an event in which (A1) they think their own or someone else's life or physical integrity is threatened; and (A2) in which they respond with intense fear, helplessness or horror. Symptoms of PTSD form three clusters: (B) re-experiencing the event, such as nightmares and intrusive thoughts; (C) avoidance of reminders of the event and emotional numbing; and (D) increased arousal, such as hypervigilance and irritability. Symptoms have to last for more than one month and cause significant disability or impaired functioning.

A fundamental question is whether childbirth can be a traumatic event. Pregnancy and birth are normative events in society and differ from other traumatic events in many ways. Pregnancy and birth are very positive experiences for some women. Pregnancy and birth are usually planned (i.e. voluntary), broadly predictable, yet involve huge physiological and neuro-hormonal changes, and breeches of bodily integrity that are not involved in other types of traumatic events such as war or natural disasters. Therefore one approach to studying trauma after birth would be to define what constitutes a traumatic birth and focus only on these. A useful

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analogy is that examining PTSD in all childbearing women is like including all people who drive when looking at PTSD after car accidents¹.

There is no simple answer to this issue. Research including all postnatal women shows 20 to 33% of them report birth as traumatic according to DSM-IV criteria above (Ayers, Harris, Sawyer, Parfitt, & Ford, in press). This is much higher than actual life threat to women or the baby, which occurs in just under 1% of cases in the UK. Other research has focused on severity of birth events as an indication of traumatic birth, such as emergency caesarean. However, although instrumental and caesarean deliveries are associated with symptoms of PTSD the evidence is not consistent; and many women with severe PTSD symptoms have normal vaginal deliveries. Thus intervention in birth is not necessary or sufficient for PTSD following childbirth.

This lack of a dose-response relationship between severity of an event and psychological outcomes is not new in psychological research. Research into psychological distress after severe illnesses rarely finds an absolutely linear relationship between severity of an illness and psychological symptoms. The diathesis-stress approach provides us with a well-established framework for understanding how the severity of an event interacts with individual factors to determine outcome. In accordance with this, various risk factors have been identified for PTSD symptoms after birth, including a history of psychological problems, previous sexual trauma, women having their first baby, anxiety or depression in pregnancy, dissociation during labour, negative emotions during labour, poor support and negative perceptions of care (see Olde, van der Hart, Kleber, & Van Son 2006 for a review).

In the UK we have been particularly interested in social and cognitive risk factors for traumatic birth, and the application of PTSD theories to childbirth. It is important to explore whether theories of PTSD are applicable to childbirth and similarly whether childbirth research can inform theories of PTSD. Unfortunately a lot of research into postnatal PTSD lacks a theoretical basis. The few studies that have been done support cognitive explanations of postnatal PTSD, with evidence that maladaptive beliefs and appraisals are associated with postnatal PTSD symptoms (e.g. Edworthy, Chasey, & Williams, 2008).

The importance of support in trauma was recently incorporated into an interpersonal theory of PTSD (Charuvastra & Cloitre, 2008), which proposed that

support and attachment style interact with event characteristics to determine PTSD. This is particularly relevant to birth where the importance of support is well established. Studies have shown that providing continuous support during labour reduces use of analgesia, emergency caesareans, and increases maternal satisfaction (Hodnett, Gates, Hofmeyr, & Sakala, 2003). Conversely, lack of support is associated with increased anxiety. An experimental analogue study using birth stories showed that the level of support during birth affects women's mood, anxiety, and perceived control more than stressful interventions (Ford & Ayers, 2009). However, we know little about the types of support or interpersonal stress that are important, and whether this interacts with attachment or relationship style. We personally believe the social context of trauma is important and highly relevant to birth. Whether others subscribe to this view or not, the application of theories of PTSD to childbirth is an area that warrants further research and development. The benefits of this are two-fold. First, we will gain a more sophisticated understanding of the processes that determine whether women develop PTSD during pregnancy and childbirth or not. Second, by examining traumatic stress prospectively in pregnant women, this work has the potential to contribute significantly to our understanding of traumatic stress responses, in particular predictive and prognostic factors.

How do women respond to traumatic birth? Symptoms of PTSD and beyond

The birth of a new baby requires substantial adjustment and the postnatal period involves unique physical and psychological demands. A critical issue is therefore to distinguish PTSD symptoms from normal postnatal responses. For example, symptoms of arousal could be affected by normal physiological changes and fatigue after birth, rather than being an indication of PTSD. Motherhood and routine postnatal healthcare make it hard for women to avoid reminders of birth, such as midwives or the baby, so they might have fewer symptoms of avoidance. Evidence supports this with studies finding more women report symptoms of arousal (25 - 50%) than symptoms of avoidance (2 - 27%) (Ayers et al. in press).

Consequently, focusing only on symptoms may confuse normal and abnormal postnatal symptoms. To identify women who require treatment we should

¹ We are indebted to Johan Soderquist for this analogy.



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concentrate on women who fulfill all diagnostic criteria for PTSD. An alternative approach is to identify women who have significant disability or impaired functioning. The advantage of this is that it would highlight women whose lives are significantly affected by psychological symptoms, regardless of the type or level of symptoms. This allows for the possibility that women respond differently to traumatic birth: either with different symptoms or a wider range of symptoms. For example, up to 75% of women with PTSD also have depression (Parfitt & Ayers, in press). Qualitative studies have identified women with physical problems after a traumatic birth, such as vaginismus (spasm of the vagina so penetration is very painful). Further research into the range of symptoms after birth is therefore needed. In the meantime, using disability and impaired functioning as an indication of need for treatment is a promising way to account for the range of possible symptoms.

Impact of traumatic birth: Different symptoms, different effects?

Qualitative studies suggest traumatic birth has a profound effect on women, future pregnancies, and their relationship with their partner and infant. Of particular interest is the impact on the mother-infant relationship and effects on child development. Qualitative studies suggest traumatic birth can lead to avoidant/rejecting or anxious/overprotective behaviour (Nicholls & Ayers, 2007). Quantitative studies show PTSD symptoms are associated with more negative perceptions of the infant and a poorer mother-infant bond (Davies, Slade, Wright, & Stewart, 2008). However, this may be confounded by depression. Parfitt & Ayers (in press) found that PTSD symptoms were directly associated with the mother-infant bond; but the effect on the couple's relationship was fully mediated by depression.

We therefore need to recognise that different symptoms might affect different areas of functioning; and that some symptoms may be associated with worse outcomes. A recent analysis of over 1400 women found that symptoms of PTSD after birth fell into two clusters: (1) re-experiencing and avoidance symptoms; and (2) emotional numbing and arousal symptoms. Emotional numbing and arousal symptoms were more predictive of disability and impaired functioning than a widely used screening measure for postnatal depression (Ayers et al., in press). This suggests emotional numbing and arousal symptoms might be particularly pathogenic after birth. This is consistent with general PTSD literature, where emotional numbing is associated with poor outcomes. Numbing and arousal symptoms are also those which have a strong effect on

interpersonal functioning; for example feeling distant or cut off from people around you (emotional numbing), and feeling irritable or having fits of anger (arousal). The impact of these symptoms is likely to be exaggerated after birth when new bonds are forged and existing relationships change.

How can health psychologists help?

Knowledge and treatment of postnatal mental health can benefit from input from health psychologists in many ways. First, research is needed that continues to apply and refine our theoretical understanding of the interaction between key vulnerability factors, birth events, the postnatal environment, and mental health. We also need more information on the impact of traumatic birth on women and their families. The range of research skills that health psychologists have is very useful in applied areas such as this, which often involve multidisciplinary teams. Second, screening tools are essential to identify women with impaired functioning or in need of treatment. Health psychologists can contribute to the development and evaluation of screening tools, ensuring tools are accessible and training available. Third, health psychologists can audit maternity services and develop more effective systems of care. This encompasses antenatal education and screening, care during labour and after birth, and treatment such as psychotherapy. Another interesting possibility is the use of technology for self-help and treatment. Computerised CBT has been shown to be effective for the treatment of moderate anxiety and depression in the normal population so may be a useful way to provide self-help education and intervention for postnatal psychological problems. Finally, the prospective study of postnatal mental health has the potential to inform our understanding of normal and abnormal stress responses. Unlike many other potentially traumatic events, the event of childbirth is a predictable event that is experienced by a large number of women. This means it provides a rare opportunity to prospectively examine the interaction between pre-existing vulnerability, event factors, and the recovery environment in determining psychological outcomes.

Conclusion

The study of traumatic birth is still in its infancy but is already contributing to a wider understanding of postnatal mental health. The importance of postnatal mental health and the potential impact on the woman, infant, and partner means it is a valuable area of study with many possible applications. Research in this area is rapidly increasing and an



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international research network was set up in 2006 to encourage international debate and collaboration (see <http://www.sussex.ac.uk/affiliates/ukbrn/index.html>).

We would welcome contact from psychologists interested in working in this area.

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