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RUNNING HEAD: Birth trauma

Editorial for Journal of Reproductive & Infant Psychology

**Birth trauma and post-traumatic stress disorder: the importance of risk  
and resilience**

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In the last twenty years there has been rapid development of research on birth trauma and postpartum post-traumatic stress disorder (PTSD). A review and meta-analysis of 59 studies of the prevalence of PTSD during pregnancy and postpartum showed 4% of women develop PTSD after birth (Dikmen Yildez et al., 2016). This means approximately 204,000 in the European Union and 157,000 women in the the USA are likely to be affected every year (Eurostat Statistics Explained, 2015; Martin et al., 2015). Unlike many other postpartum psychological problems there is the potential to prevent postpartum PTSD by changing maternity care to reduce the number of women who experience birth as traumatic.

One approach to understanding the causes of birth trauma and PTSD is to identify risk factors. A meta-analysis of 50 studies found key vulnerability factors were depression in pregnancy, fear of childbirth, poor health or complications in pregnancy, a history of PTSD, or counselling for pregnancy or birth related factors. The strongest risk factors during birth were a negative subjective birth experience, having an operative birth (i.e. assisted vaginal or caesarean section), lack of support during birth, and dissociation. After birth, PTSD was associated with poor coping and stress, and was highly comorbid with depression (Ayers et al., 2016). These vulnerability and risk factors are consistent with other reviews of the evidence for postpartum PTSD (Andersen et al., 2012; Grekin & O'Hara 2014) and risk factors found in other trauma populations (Brewin et al., 2000; Ozer et al., 2003).

This focus on risk is embedded within, and influenced by, the wider healthcare culture of risk avoidance so it is understandable that researchers (including myself) have concentrated on this. However, it overlooks the contrasting but potentially complementary perspective of examining positive factors that may play a protective or preventative role. There has been a move towards this positive perspective in many areas. Positive psychology is a field of research which broadly looks at what enables people to flourish and thrive. It encompasses many different theoretical and research areas that have a common focus on

positive human functioning, health and adaptation to adversity (Aspinwall & Tedeschi, 2010). Similarly, in midwifery, researchers have called for a 'salutogenic' health-promoting approach to care rather than a pathogenic approach (Magistretti et al., 2016). For events to be salutogenic theorists propose they need to be comprehensible, manageable and for people to find meaning in them (Antonovsky, 1987).

In the PTSD literature research taking this positive perspective has focused on resilience and post-traumatic growth. Whilst this literature is very advanced, far less research has looked at resilience and post-traumatic growth in perinatal women. Understanding resilience and post-traumatic growth during the perinatal period would provide a more nuanced and comprehensive understanding of postpartum PTSD. It may also enable us to identify ways to enhance women's capacity to adapt and thrive, and therein inform changes to maternity care services in ways that increase resilience as well as reduce risk.

Resilience has been conceptualized on a number of dimensions. The two main dimensions are the ability for people to recover from stressful or adverse events i.e. 'bounce back'; and the ability to have sustainability i.e. the capacity to continue in the face of adversity. (Reich et al., 2010). Evidence from non-perinatal populations suggests the majority of people are resilient. For example, trauma and adversity are experienced by 50 to 60% of people in Europe at some point in their lifetime (Horn et al., 2016). However, the lifetime prevalence of PTSD in the general population in Europe is approximately 10%, suggesting most people who experience a traumatic event recover (Horn et al., 2016).

A review of resilience in adult populations found it was associated with greater positive emotion, optimism, active coping, cognitive reappraisal, altruism, mastery, social support, facing fears, and having a sense of purpose or meaning (Horn et al., 2016). There are also genetic, epigenetic and environmental factors associated with resilience. For example, developmental studies have shown that children vary in how responsive they are to stress.

Unsurprisingly, children who are more responsive to stress have the worst health outcomes if raised in a negative environment. What is surprising, however, is that most responsive children also have the best outcomes if raised in a positive environment. This effect has been found for both physical and psychological health outcomes (Del Giudice et al., 2011). One could hypothesise from this that if women are in a perinatal environment where there is positive emotion, optimism, social support, women actively cope, feel mastery and have a sense of purpose or meaning they will flourish - and this may be particularly the case for women who are highly responsive to stress.

However, to date very little research has examined resilience in relation to perinatal women. A study of over 1300 women in the USA examined what characterised women with a resilient, moderate or vulnerable psychosocial profile (Maxson et al., 2016). This found that women who were resilient were characterised by low depression and stress and high support and self-efficacy. These women also had less risky health correlates in pregnancy and were likely to have better birth outcomes. In contrast, vulnerable women were characterised by high depression and stress and poor support and self-efficacy. Vulnerable women were more likely to have an unintended pregnancy, risky health behaviours and deliver preterm (Maxson et al., 2016).

In postpartum PTSD research a longitudinal study of women who had a traumatic birth (defined as meeting DSM-IV criteria for a traumatic event) found that 62% of women were resilient and did not have diagnostic PTSD one month or six months postpartum. Another 18% of women had PTSD at one month but had recovered by six months. This suggests over three quarters of women who have traumatic births will recover, at least in terms of not meeting diagnostic criteria (although they still may have symptoms). Chronic PTSD was only observed in 14% of women; and a further 6% had delayed onset PTSD at six months. Women who were in the resilient group reported more social support and satisfaction

with healthcare professionals, as well as less depression, fear of childbirth, and less traumas since birth (Dikmen Yildez et al., in press).

Post-traumatic growth refers to experiencing positive changes in beliefs or functioning as a result of challenging life events or circumstances. Slightly more research has looked at this postpartum. This evidence shows that a moderate amount of growth is reported by between 44% and 50% of women after birth (Sawyer & Ayers, 2009; Sawyer et al., 2012; Sawyer et al., 2015). Common areas of growth are greater appreciation of life, personal strength, relating to others, and new possibilities (Sawyer & Ayers, 2009; Sawyer et al., 2012). Factors associated with growth vary between studies. There is some indication that women who have more adverse experiences show more growth. This includes experiences such as operative birth (Sawyer et al., 2012), preterm birth (Noy et al., 2015; Porat-Zyman et al., 2017; Spielman et al., 2009; Taubman-Ben-Ari et al., 2010) and women with symptoms of PTSD (Sawyer et al., 2012; Sawyer et al., 2015). There is also indication that growth is associated with approach coping (Sawyer & Ayers, 2009; Sawyer et al., 2015) and more likely in younger women (Sawyer et al., 2015; Taubman-Ben-Ari et al., 2010).

The research on resilience and growth suggests that increasing women's positive emotions, mastery/control, active coping and encouraging a sense of purpose or meaning during pregnancy, birth and postpartum may increase resilience and therein prevent or reduce postpartum PTSD. One factor that is highly associated with both risk and resilience is support (Ayers et al., 2016; Horn et al., 2016). There is a lot of evidence that continuous support during labour is important in birth outcomes (Bohren et al., 2017) and conversely that poor support or interpersonal difficulties during birth are a risk factor for postpartum PTSD (Ayers et al., 2016; Harris & Ayers, 2012). Prospective studies show support can potentially buffer against traumatic birth events and is particularly important for women with previous histories of trauma or abuse or who have complications or high levels of intervention during birth

(Ford & Ayers 2011). Support during labour and birth is therefore likely to be critical in terms of both reducing risk and increasing resilience.

To understand birth trauma and postpartum PTSD it is therefore important to examine both risk and resilience because they offer different perspectives on the same phenomena. It also enables the development of interventions that tackle both the reduction of risk and increasing resilience so that women adapt and thrive. More research is needed to determine how specific risk and resilience factors interact to determine whether women develop postpartum PTSD. This means not having a singular focus on either resilience or risk but examining both types of factors, including how they are related over time and the many pathways through which they may influence how women experience birth and whether they develop postpartum PTSD.

### References

- Andersen, L.B., Melvaer, L.B., Videbech, P., Lamont, R.F., Joergensen, J.S. (2012). Risk factors for developing post-traumatic stress disorder following childbirth: a systematic review. *Acta Obstetrica et Gynecologica Scandinavica*. 91, 1261–1272.
- Antonovsky, A., ed. (1987). *Unraveling the Mystery of Health: How People Manage Stress and Stay Well*. San Francisco: JosseyBass.
- Aspinwall, L.G., & Tedeschi, R.G. (2010). The value of positive psychology for health psychology: progress and pitfalls in examining the relation of positive phenomena to health. *Annals of Behavioral Medicine*, 39(1), 4-15. doi: 10.1007/s12160-009-9153-0.
- Ayers, S., Bond, R., Bertullies, S. & Wijma, K. (2016). The aetiology of post-traumatic stress following childbirth: a meta-analysis and theoretical framework. *Psychological Medicine*, 46(6), 1121-1134. doi: [10.1017/S0033291715002706](https://doi.org/10.1017/S0033291715002706)



- Bohren, M.A., Mofmeyer, G., Sakala, C., Fukuzawa, R.K. & Cuthbert, A. (2017). Continuous support for women during childbirth. *Cochrane Database of Systematic Reviews*. doi 10.1002/14651858.CD003766.pub6
- Brewin, C. R., Andrews, B., & Valentine, J. D. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology*, 68(5), 748-766.
- Del Giudice, M., Ellis, B.J., Shirtcliff, E.A. (2011). The adaptive calibration model of stress responsivity. *Neuroscience and Biobehavioral Reviews*, 35(7), 1562-1592. doi: 10.1016/j.neubiorev.2010.11.007.
- Dikmen Yildez, P., Ayers, S., & Phillips, L. (in press). Longitudinal trajectories of post-traumatic stress disorder (PTSD) after birth and associated risk factors. *Journal of Affective Disorders*.
- Dikmen Yildiz, P., Ayers, S., & Phillips, L. (2017). The prevalence of post-traumatic stress disorder in pregnancy and after birth: a systematic review and meta-analysis. *Journal of Affective Disorders*, 208, 634-645.
- Eurostat Statistics Explained (2015). Fertility statistics ([http://ec.europa.eu/eurostat/statistics-explained/index.php/Fertility\\_statistics](http://ec.europa.eu/eurostat/statistics-explained/index.php/Fertility_statistics)). Accessed September 2017.
- Ford, E. & Ayers, S. (2011). Support during birth interacts with trauma history and birth intervention to predict postnatal post-traumatic stress symptoms. *Psychology & Health*, 26, 1553-1570.
- Grekin, R., & O'Hara, M.W. (2014). Prevalence and risk factors of postpartum posttraumatic stress disorder: a meta-analysis. *Clinical Psychology Review*, 34, 389–401.
- Harris, R. & Ayers, S. (2012). What makes labour and birth traumatic? A survey of intrapartum 'hotspots'. *Psychology & Health*, 27(10):1166-77.

- Horn, S.R., Charney, D.S., & Feder, A. (2016). Understanding resilience: New approaches for preventing and treating PTSD. *Experimental Neurology*, 284(Pt B), 119-132. doi: 10.1016/j.expneurol.2016.07.002.
- Magistretti, C.M., Downe, S., Lindstrøm, B., Berg, M. & Schwarz, K.T. (2016) Setting the stage for health: Salutogenesis in midwifery professional knowledge in three European countries. *International Journal of Qualitative Studies on Health and Wellbeing*, 11 (1). ISSN 17482623
- Martin, J.A., Hamilton, B.E., Osterman, M.J.K., Curtin, S.C., Mathews, T.J. (2015). Births: Final Data for 2013. *National Vital Statistics Reports*, vol. 64, no. 1. National Center for Health Statistics: Hyattsville, MD ([http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64\\_01.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_01.pdf)). Accessed September 2017.
- Maxson, P. J., Edwards, S. E., Valentiner, E. M., & Miranda, M. L. (2016). A Multidimensional Approach to Characterizing Psychosocial Health During Pregnancy. *Matern Child Health J*, 20(6), 1103-1113. doi: 10.1007/s10995-015-1872-1
- Noy, A., Taubman-Ben-Ari, O., Kuint, J. (2015). Well-Being and Personal Growth in Mothers of Full-Term and Pre-Term Singletons and Twins. *Stress and Health*, 31(5), 365-72. doi: 10.1002/smi.2560.
- Ozer, E. J., Best, S. R., Lipsey, T. L., & Weiss, D. S. (2003). Predictors of posttraumatic stress disorder and symptoms in adults: a meta-analysis. *Psychological Bulletin*, 129(1), 52-73.
- Porat-Zyman, G., Taubman-Ben-Ari, O., & Spielman, V. (2017). Dyadic Transition to Parenthood: A Longitudinal Assessment of Personal Growth among Parents of Pre- and Full-term Infants. *Stress and Health*, 33(1), 24-34. doi: 10.1002/smi.2669.

Reich, J.W., Zautra, A.J., & Hall, J.S. eds. (2010). *Handbook of Adult Resilience*. New York: The Guilford Press.

Sawyer, A. & Ayers, S. (2009). Post-traumatic growth in women after childbirth. *Psychology and Health*, 24(4), 457-471. doi: 10.1080/08870440701864520

Sawyer, A., Ayers, S., Young, D., Bradley, R. & Smith, H. (2012). Posttraumatic growth after childbirth: A prospective study. *Psychology and Health*, 27(3), pp. 362-377. doi: 10.1080/08870446.2011.578745

Sawyer, A., Nakić Radoš, S., Ayers, S. & Burn, E. (2015). Personal growth in UK and Croatian women following childbirth: A preliminary study. *Journal of Reproductive and Infant Psychology*, 33(3), 294-307. doi: 10.1080/02646838.2014.981801

Spielman, V., Taubman-Ben-Ari, O. (2009). Parental self-efficacy and stress-related growth in the transition to parenthood: a comparison between parents of pre- and full-term babies. *Health and Social Work*, 34(3), 201-12.

Taubman-Ben-Ari, O., Findler, L., & Kuint, J. (2010). Personal growth in the wake of stress: the case of mothers of preterm twins. *Journal of Psychology*, 144(2), 185-204. doi: 10.1080/00223980903472268.