A Trauma-informed Model of Shakes and Tremors, the Failure to Progress, Post Traumatic Birth Recovery and Midwifery Self-care

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'Setting the scene: Shakes and tremors'

A woman stands supported by the midwives beside her. With the baby already delivered, her body begins to shake. Gently at first, with small trembling vibrations, then gradually building into full-bodied shakes and tremors. The midwives show no concern. In fact, they seem to be *delighting* in her involuntary movements. They do not lie her down or try to calm her, but *deliberately* keep her in this standing position until her shakes, jolts, trembles and tremors have come to their natural completion, sometimes for up to even half an hour. Why would traditional Swahili Midwives do this? Because they know if the woman's body doesn't go through this natural discharge process "the woman is going to have problems after the birth."

The Automatic Nervous System

While the traditional model of a binary autonomic nervous system (ANS) consisting of sympathetic and parasympathetic opposites continues to be taught in universities today, Dr Stephen Purges' Poly-vagal Theory has revolutionised our understanding of the ANS and the critical role that movement and *immobility* plays in our trauma responses, including during birth (Porges, 2011). **Porges** (2011) has shown that we have evolved two very different pathways that the vagal nerve, the primary parasympathetic pathway of our autonomic nervous system, can activate through.

The newer ventral vagal pathway calms us down and keeps both our mind and body supple, relaxed and responsive to our experiences. In comparison, the older and more primitive dorsal vagal pathway immobilises and shuts down our body instead. This dorsal vagal pathway not only creates immobility in our skeletal muscles, but far more importantly, it immobilises our autonomic nervous system and everything associated with it as well. Important things like the uterus, sphincters and the involuntary peristaltic movements of the birth canal. When the perceived threat is pain already inside us likely to increased through any additional movement, it's no surprise that most women's body's instinctively immobilise and prevent the progression of labour as soon as the intensity of the experience becomes greater than their ability to consciously allow it (Porges, 2011)

Due to the historical division between mental and physical health in our western medical model, research into the role of the body, the neuromuscular system and movement in relation to trauma is only in its infancy. While we can artificially separate our somatic and autonomic nervous systems in theory, in reality they are directly linked, and it is here that the restoration of movement within the *somatic nervous system* has the potential to have a direct impact on the restoration of movement in the *autonomic nervous system* and the birth process along with it (Porges, 2011)

Midwives already know this. Who hasn't seen the spontaneous movements of the 'birth dance' or encouraged a woman to move around to help progress her labour? Midwives also know how common it is for a woman's body to being to shake or tremble during or after the birth. The actual rate of their spontaneous occurrence would likely be even higher if shakes and tremors were not culturally inhibited and automatically suppressed by the vast majority of women who begin to experience them

Pathologising shakes and Tremors

In western cultures, shakes and tremors are nearly universally pathologised. In Psychology they are seen as 'diagnostic symptoms' of mental health conditions including anxiety, phobias, PTSD and panic attacks. In the medical system, they have only been studied as 'symptoms' of neurological conditions such as Parkinson's and Ataxias. Individually they are supressed and misunderstood to be a sign we are scared, nervous, out of control or in 'shock.' To date, there has been almost no research into this natural reflex found in all humans and most mammals and little consideration of what these spontaneous movements may actually be trying to achieve for the body, birth and the post-birth recovery.

Shakes and tremors do not appear to be part of our body's stress, trauma or immobility responses, as they obviously do not contribute to fight, flight or freeze responses in any way. Instead, they appear to be an innate recovery reflex that completes the body's *full trauma cycle* - both the immobility response and its release afterwards. These spontaneous movements appear to dump adrenaline, reduce pain and down-regulate both the somatic and autonomic nervous systems to a more calm and relaxed state, critical to allowing the natural progression of labour and the restoration of the spontaneous, involuntary movements of birth (Schaler et al. 1998)

Labour and birth progress

While there are a lot of things we can do to create psychological safety for a woman, it is important to recognise the immobility response is not a conscious one. If it were, simply telling women to relax and allow the spontaneous, involuntary movements of birth would always be successful. Nearly all the interventions we use to help progress labour, from movement to massage and verbal support through to pethidine and epidural are all are trying to achieve the same outcome – the release of the immobility response, the restoration of *physiological* safety and the return of the natural spontaneous movements of labour (Peters et al. 2018)

Given the overwhelming statistics of intervention rates in Australia and recent research outlining the detrimental health effects of interventions, (whether required or unnecessary) it would appear finding new and better ways to re-establish *physiological safety* and the restoration of the spontaneous movements of labour is critical if we are to better support mothers in their desires for a natural birth (Peters et al. 2018).

Shut down, but not distressed

An important yet often overlooked aspect of the freeze-immobility response is it is innately designed for us to not be aware of it. The combination of the release of opioids, neuromuscular bracing and the shutting down of parts of our pre-frontal cortex allows us to continue to function without becoming overwhelmed by the conscious awareness of the potential danger we (or our babies) may be facing. It's no surprise that many mothers appear reasonably calm and are able to carry on with rational conversations even when their nervous system has fallen into immobility and their labour begun to falter or stop entirely.

Post-traumatic stress disorder

Approximately 20% of women meeting the full diagnostic criteria for PTSD at 6 weeks post-birth Schwab et al. 2012). The figure is set to rise due to an increase in interventions and complications during the labour and birth period. More needs to be done to support mothers both during and after birth. With approximately 1 in 7 mothers experiencing post-natal depression (Perinatal Anxiety and Depression Australia [PANDA], (2017). It is worth noting therefore that Swahili Midwives have been deliberately invoking the body's innate shaking reflex immediately after birth for hundreds if not thousands of years to specifically *prevent* the types of conditions that remain commonplace in western cultures. It is also worth considering that the suppression or inhibition of this natural down-regulatory reflex may inadvertently be preventing the specific discharge the body is seeking to activate in order to come out of the immobility response and potentially increasing the likelihood of the failure to progress resulting in most significant birth interventions including forceps, vacuum and emergency caesarean delivery.

Research from the 1990s has already shown if the *neurobiology* of the body is restored to a calm state immediately after a traumatic event, we are highly unlikely to develop Post Traumatic Stress Disorder. More recent research has also suggested there is a 6-hour window immediately after a traumatic experience for the 'consolidation' of trauma memories so they no longer invoke a hyper-vigilant response from the nervous system. It appears the Swahili Midwives are not only aware of the inherent value of this tremoring reflex but also the importance of ensuring the full discharge of the body's stress and trauma responses *immediately* after the birth.

Rebalancing the Nervous System after Birth

When we consider the effects a dysregulated or hyper-vigilant nervous system can have on rest, recovery, sleep, relaxation, let-down, breastfeeding and even our ability to attach and bond with our newborns for weeks, months and even years after birth, it would appear the investigation of the role and purpose of this natural shaking reflex and its potential use post-birth would be highly worth while. Additional research could also investigate the use of neurogenic tremors to help reduce the ante-natal stress and to introduce first-time mothers to a theoretical construct and introductory experience of the spontaneous involuntary nature of birth as well as the shaking and tremoring reflex commonly experienced during it (Shaler et al.1998).

While it may take years for this research to occur, there is an easy way for Midwives to gain an embodied experience of the effects of this tremor reflex by deliberately invoking it through a simple process called TRE. Experiencing this tremor reflex would provide Midwives with a trauma-informed understanding of the phenomenon and a greater ability to support more fully when occurring spontaneously during birth. In addition, learning a simple technique to invoke this natural recovery response would also provide Midwives with a simple self-care technique to help build resilience and prevent occupational stress, vicarious trauma and burnout (Elmir et al, 2017).

TRE – Tension, Stress, trauma release treatment

TRE uses simple exercise and muscle fatigue to deliberately invokes the body's 'neurogenic tremor reflex' in a safe, controlled and self-regulated way. Easily learnt in a group setting then freely available for the rest of a person's career, TRE provides a simple technique to physically release the effects of occupational stress and vicarious trauma unable to be released through talking or consciously directly techniques alone.

TRE can be used whenever and wherever required, simply lying on the floor or even in bed in less than 10 minutes. It can be used at-call immediately after a traumatic delivery, or on an ongoing and regular basis to help release the general stresses of each day. Already taught in 63 countries to more than a million people, TRE has anecdotally been shown to be extremely well liked by health professionals as it is easy to use when we are most stressed and least likely to use more effort-based or time-consuming techniques such as mindfulness or general exercise.

Recommendations for further research

As research into 'neurogenic tremors' is only in its infancy and they continue to be overlooked as a symptom of stress and trauma, it is likely to be years if not decades before our western medical model gains a scientific understanding of the mechanisms involved or validates the effects of its deliberate use. In the mean time, the failure to progress, intervention rates, emergency caesarean births and post-natal Mental Health conditions are likely to continue to remain unnaturally high in Australia.

Given the potential for this natural reflex to have wide-ranging benefits not only during birth but also in supporting women in their ongoing journeys through motherhood, it would appear investigation by the Australia Birthing Community is not only warranted, but vital. Not just to ensure we have 'successful live births,' but more graceful births as well. Not just for mothers, but to help minimise the impact of interventions and traumatic births on the most precious people of all. Our new-born and being-born babies.

Visit www.treausralia.com.au for further information on tension, Stress, trauma release treatment

References

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