



PERSPECTIVE

Dysphoric milk ejection reflex (D-MER) and its implications for mental health nursing

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ABSTRACT: *Dysphoric milk ejection reflex (D-MER) is a dysphoria which women may experience within seconds of commencing breastfeeding. It is only recently gaining recognition in the academic literature and may have important implications for breastfeeding continuation, differential diagnosis and perinatal mental health. This perspective piece introduces the topic, sets out the physiological processes underpinning the experience and outlines why increased awareness of D-MER is important for the profession of mental health nursing.*

KEY WORDS: *breastfeeding, dysphoric milk-ejection reflex, lactation, mental health nursing, postpartum.*

INTRODUCTION

Over the last decade, the evolution of mental health nursing has continued apace while mental health nurses work in increasingly diverse clinical contexts. Attention on perinatal mental health has been rightfully evident with renewed focus in several jurisdictions including Canada (Law *et al.* 2021), China (Li *et al.* 2020) and Australia (Harvey *et al.* 2011; Myors *et al.* 2015). The perinatal period has been variously defined (Buultjens *et al.* 2013; Garcia & Yim 2017) with the period of pregnancy and up to 1-year post-partum often accepted. Concerns, however, emanating in the perinatal period impacting upon mother and baby wellbeing are not confined to this, with the State Perinatal Reference Group and the Western Australian Perinatal Mental Health Unit (2007) asserting that the mothers' emotional and psychological well-being, including the impact on the infant, partner and family, should be considered for up to 36 months post-partum. Furthermore,

in recent years, infant mental health has become a more prominent topic of discussion (Clinton *et al.* 2016; McLuckie *et al.* 2019) with specific courses offered in higher education institutes globally.

As mentioned, mental health nurses work in arguably a greater variety of settings than many other healthcare professionals including home-based care, primary care, 24-hour emergency department liaison, intimate partner violence services and a panoply of inpatient units. Consequently, mental health nurses are likely to encounter a significant number of breastfeeding women, or women who would like to breastfeed than is perhaps routinely acknowledged (Artzi-Medvedik *et al.* 2012). Yet, there is good evidence to suggest that difficulties with breastfeeding can exacerbate post-natal mental health issues (Chaput *et al.* 2016; Dias & Figueiredo 2015). Post-partum depression or psychosis is acknowledged as a major public health concern, particularly in circumstances where mother, baby and the wider family can be markedly affected with early interruption of breastfeeding implicated as a risk factor (Borra *et al.* 2015). While not routinely part of the traditional mental health nursing role, in this paper we argue that mental health nurses and those attending their services would be well served by an expanded awareness of wider perinatal health issues. One such topic, not yet widely discussed, but with a dual perinatal and mental health emphasis is dysphoric milk ejection

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reflex (D-MER). This paper sets out to situate the condition in a mental health context and seeks to comment on implications for mental health nursing.

BACKGROUND

Breastfeeding is best for mothers and infants, providing short and long-term health benefits. The World Health Organization (WHO) recommends exclusively breastfeeding until the age of 6 months, with continued breastfeeding for at least 2 years (WHO 2013). Despite this public health advice many mothers do not continue to breastfeed for the recommended period, with reasons for early cessation including pain or discomfort, concern in relation to milk supply and a lack of familial or professional support (Nabower *et al.* 2020; Mangrio *et al.* 2018). Positive breastfeeding experiences instil feelings of confidence in women, enabling them to breastfeed as long as mutually desired by a woman and her infant. On the other hand, challenging breastfeeding experiences impact negatively on the vulnerable post-natal woman with guilt impacting a mother's self-efficacy (Jackson *et al.* 2021) and an increased risk of post-natal depression (Borra *et al.* 2015).

One such challenge to the maternal breastfeeding relationship is dysphoric milk ejection reflex (D-MER). It is characterized as a dysphoria that may commence within seconds of breastfeeding initiation and may stop after 10 min (Uvnas Moberg & Kendall Tackett 2018). Symptoms may diminish by 3 months or persist during the breastfeeding period until weaning (Cox 2010; Deif *et al.* 2021). Women describe D-MER as causing negative feelings as they initiate breastfeeding. In this respect, it is important that mental health nursing professionals supporting postnatal women have knowledge and skills in relation to lactation, to support women who wish to breastfeed (Jones 2018). Supporting women to continue to breastfeed, if they wish to, empowers a woman and this in turn supports a woman's well-being. An understanding of how breastfeeding works, the anatomy and physiology of the breast and hormonal influences during lactation is essential knowledge for mental health nursing professionals. Supporting infant feeding improves health outcomes for women and babies.

THE PHYSIOLOGY OF LACTATION

Lactogenesis is the initiation of milk production and there are three phases of lactogenesis. During

pregnancy colostrum is produced from 16 weeks in the lactocytes within the breast and this is referred to as lactogenesis 1. The hormone prolactin is present during pregnancy but is inhibited by the pregnancy hormones, oestrogen and progesterone (Pollard 2018). Lactogenesis II is the onset of milk production and occurs 30–40 hours following birth, while the final stage lactogenesis III is described as under autocrine control, where supply and demand regulate milk supply.

There are two important hormones associated with lactation; prolactin and oxytocin. Prolactin is released from the anterior pituitary gland while oxytocin is released from the posterior pituitary, centrally controlled by the hypothalamus. Prolactin is the hormone responsible for breastmilk production while oxytocin is responsible for the milk ejection reflex (MER). When the infant suckles at the breast oxytocin is released within 1 min, while prolactin is released slowly in response to suckling and will steadily rise after 10–20 min of the feed. Oxytocin is described as the mothering hormone, it is released on hearing the infant crying and can be inhibited by fear, pain or anxiety. Oxytocin induces a state of calm, makes a mother happier and reduces stress when breastfeeding (Jones 2018). The milk ejection reflex is an essential element in the milk production process (Deif *et al.* 2021). Milk ejection supports the establishment and continuation of breastfeeding and breastmilk production.

When the milk ejection reflex is triggered, dopamine release from the hypothalamus is reduced, facilitating a rise in prolactin levels (Heise & Wiessinger 2011). Therefore, dopamine and prolactin could be described as working in a synergistic fashion; as prolactin rises, dopamine levels are reduced. Decreased dopamine levels are associated with low feelings of pleasure (Stacey 2020) which may explain the hormonal low feelings associated with D-MER. Interestingly, Uvnas Moberg and Kendall Tackett (2018) state that prolactin release after 10–20 min is not consistent with women's symptoms of D-MER which occur following milk let-down and is therefore unlikely to be responsible for the symptoms caused. Milk release is caused by oxytocin. Multiple milk ejections can take place during a breastfeed or expressing breastmilk with Ramsay *et al.* (2005) stating that 75% of breastfeeding women experience more than one let-down reflex per feed. D-MER is therefore challenging for a breastfeeding mother experiencing intense feelings of dysphoria as she feeds her baby.

IMPACT OF D-MER

D-MER is a relatively new and under-researched area of lactation. It was first identified by Alia Macrina Heise in 2007 (Deif *et al.* 2021). The first study was published in 2019 which suggested a prevalence of 9.1% of breastfeeding women (Ureño *et al.* 2019). It is characterized by negative feelings while breastfeeding; namely, an emotional low mood drop, that occurs prior to, or during a milk let-down, progressing for a few minutes (Deif *et al.* 2021; Heise & Wiessinger 2011). Following milk let-down the feeling disappears. Symptoms may diminish by 3 months postnatal or may continue during the course of lactation (Cox 2010).

Symptoms of D-MER include anxiety, sadness, nervousness, irritability, nausea, chills, palpitations and a hollow feeling in the stomach (Deif *et al.* 2021; Stacey 2020; Uvnas Moberg & Kendall Tackett 2018; Wilson-Clay & Hoover 2017). For some mothers, the symptoms can be a mild feeling of low mood while other mothers experience more pronounced symptoms. Interestingly, for mental health nursing professionals, some mothers have described suicidal ideation with D-MER (Heise 2011). D-MER may affect a woman's desire to breastfeed for as long as she had planned. Women may offer the breast less often because of the symptoms experienced, which will reduce the available milk supply. This feeling is undesired and in conflict with a mother's desire to bond with and nourish her baby. Between breastfeeding the mother experiences a normal mood (Heise & Wiessinger 2011).

CONSIDERING PERINATAL MENTAL HEALTH AND D-MER IN PRACTICE

The literature describes an association between low levels of oxytocin and increased symptoms of postpartum depression (Moura *et al.* 2016) and low oxytocin and cortisol availability and negative thoughts (Thomas & Larkin 2020). D-MER and breastfeeding aversion response (BAR) are only recently receiving recognition within evidence-based literature and could be mistaken for postnatal depression. BAR is characterized by involuntary and overwhelming feelings of aversion that occur during an entire breastfeed, at any time during the breastfeeding journey or can be a new experience for women who had a previously uneventful breastfeeding relationship (Morns *et al.* 2022). D-MER and BAR are therefore different conditions.

Infant feeding issues can represent an unmet clinical and educational need relevant for mental health nurses.

Indeed, this can apply to general practitioners / family physicians and other allied healthcare professionals supporting the post-natal woman (Renfrew *et al.* 2012) but we argue that due to the profession's ubiquitous nature, mental health nursing merits special attention. The perinatal period is one of significantly increased risk of mental ill health. Mothers face a range of psychosocial stresses including changes in role (e.g. stopping work, becoming a parent), changes in relationships, concerns whether they and / or their partner will make good parents and fears that there may be medical or other problems for the infant (McCarthy *et al.* 2021). A challenge for mental health nurses is striking a balance between normalizing a mother's experience against minimizing or not recognizing symptoms.

Howard and Khalifeh (2020) show that women both with and without a history of mental health illness are at significantly increased risk of an episode of mental ill health. In fact, Langan Martin *et al.* (2016) report that mental health acute inpatient admission rates are markedly elevated in the early post-partum period and remain elevated for up to 2 years. While post-partum psychosis, post-partum depression and the impacts of severe and enduring mental health illness are well documented, consideration too must be given to the needs of mothers experiencing other conditions such post-traumatic stress disorder, obsessive compulsive disorder, mild to moderate depressive illness, anxiety states and adjustment disorders and distress. Many of the aforementioned conditions can present differently in the perinatal period as compared with other points in the life cycle (O'Hara & Wisner 2014). Risk of death between 6 weeks and 1-year post-partum has been attributed to suicide (18%) and drug and alcohol/other psychiatric impacts (16%) marking over a third of all maternal deaths in the UK and Ireland between 2017 and 2019 (Knight *et al.* 2021). This places an onus on nurses and midwives, particularly mental health nurses, to ask questions about mental health and psychosocial experience when working with women in the perinatal period (Higgins *et al.* 2017). Fisher *et al.* (2012) report the incidence of depression during pregnancy at 15.6% and 19.8% post-natally. In such instances, a mother's presentation may include the established physical, psychological, emotional and behavioural features of depression together with feelings of inadequacy, inability to care for the baby, being overprotective of the baby, bonding difficulties and in some cases, infanticidal thoughts (Daehn *et al.* 2022; Glavin & Leahy-Warren 2013). The dysphoria associated with DMER, on the other hand, is specific to the breastfeeding

experience. Nevertheless, as noted in previous sections some women may experience more pronounced symptoms with the potential to induce sadness, anxiety and irritability. Such symptoms may adversely affect overall mental health either in their own right or through secondary impacts (early breastfeeding discontinuation or impaired mother–infant bonding).

RELEVANCE FOR WOMEN, FAMILIES AND MENTAL HEALTH NURSING SERVICE DELIVERY

The short- and long-term benefits of breastfeeding warrant a greater understanding of D-MER, BAR and the differential diagnosis of post-natal depression by mental health nursing professionals. In the first instance, acknowledging that D-MER is a condition experienced by breastfeeding women during the let-down of milk is most supportive and offers comfort, especially when there is no recognized treatment identified (Wilson-Clay & Hoover 2017). The management and treatment of D-MER is in its infancy. Conservatively, Wilson-Clay and Hoover (2017) described the addition of protein to the diet, and maintenance of blood glucose levels as a supportive remedy with an individual client. Likewise, it is reported that eating and drinking while breastfeeding may be helpful, however, this may not be suitable for all breastfeeding women with D-MER symptoms of nausea and vomiting, for example. Additionally, it is suggested that tiredness, lack of sleep, stress and caffeine may trigger the symptoms (Ureño *et al.* 2019) therefore, extra rest, better hydration and exercise may be helpful (Heise 2011). Uvnas Moberg and Kendall Tackett (2018) offer the opinion that D-MER triggers a fight-flight response, suggesting that breastfeeding women do not feel safe. The goal is therefore to support women to feel safe which turns off the hyperactive stress response.

Mental health nursing professionals are in a prime position to support breastfeeding women and offer support to identify and understand the phenomenon of D-MER. The mental health nurse can provide emotional and practical support. Creating an open discussion with the breastfeeding mother about the symptoms she is experiencing, when they occur and the length of time the feeling persists during a feed is very supportive in understanding what is normal or not while breastfeeding. A mindfulness approach to managing the symptoms may be helpful for some women (Uvnas Moberg & Kendall Tackett 2018), whereby, the mental health nurse can support women to recognize the symptoms

and know that they will ease and stop. Advice in relation to position and attachment at the breast and techniques to alleviate the dysphoria that arises during milk let down all may be considered assistive. Skin to skin contact between the woman and her baby can increase oxytocin which in turn will downregulate stress (Uvnas Moberg & Kendall Tackett 2018). Thompson *et al.* (2020) offer the opinion that personal distraction or calming techniques are supportive, in addition to the use of boundaries with older nursing infants while tandem feeding (feeding a newborn infant and older child simultaneously). Acknowledging that D-MER is a dysphoria experienced by some breastfeeding mothers is validation in itself and reported as meaningful.

Morns *et al.* (2022) investigated the experiences of breastfeeding women who had an aversion response to breastfeeding. Participants described that the experience of BAR was unexpected and challenging for women. Some women were unable to continue breastfeeding while others wished to continue and persevere to meet their breastfeeding goals. There was a psychological barrier to women seeking support with the challenges encountered; a perceived social stigma was associated with disclosing the negative feelings experienced during breastfeeding. Individual person-centred supports enabled women to address the challenges associated with BAR and meet their personal breastfeeding goals.

IMPLICATIONS FOR FUTURE DIRECTIONS IN MENTAL HEALTH NURSING

It is well established that mental health nurses work closely with mothers in the perinatal period. This work is often in specialist settings. Nursing input extends to almost all care contexts, however, be it rural mental health care (Hine *et al.* 2016), perinatal crisis intervention during intensive home treatment (Rubio *et al.* 2021), forensic perinatal mental health (Dolan *et al.* 2019) or displaced persons (Seidi *et al.* 2022) to mention some diverse examples. A woman's mental health presentation in the perinatal period may be distinct when compared to any other time in the lifecycle. Mental health nurses have a key role in supporting recovery and, therefore, at a minimum increased awareness of D-MER is necessitated. This starts at the level of the undergraduate curriculum but extends to both practice and research milieu. In terms of research, Huschke *et al.* (2020) suggest that over medicalization and a dominance of quantitative approaches mark the perinatal mental health landscape. They

argue that women's voices are often unheard especially those of displaced women or ethnic minorities. Mental health nurses are well positioned to address this. In practice, Harvey *et al.* (2018) offer the example of specialist nursing assessment of perinatal mental health need while Higgins *et al.* (2017), in the context of public health nurses, suggest there is a need to move beyond recognition and diagnosis, to the provision of prompt evidence-based supports. Mental health nurses have the experience and expertise to provide such specialist input. D-MER is one aspect of perinatal mental health and the experience of breastfeeding, however, unrecognized and misunderstood, its impact may be significant.

It is widely accepted that breastfeeding has benefits for the infant including mental health benefits (Krol & Grossmann 2018). Such benefits are not simply short term or situational, evidence suggests a longer-term whole of life impact (Binns *et al.* 2016; Loret de Mola *et al.* 2016; Oddy *et al.* 2010). Mental health care, often led by nursing has embraced early intervention. This has been particularly apparent in areas such as psychosis (Sutton *et al.* 2017) and efforts to prevent and mitigate the impact of adverse childhood experiences (ACE) (Grindey & Bradshaw 2022). As champions then of mental health promotion, mental health nurses may look to the perinatal period as a further opportunity to promote good mental health, potentially garnering significant gains both at the individual and societal level. Seeing breastfeeding support as an actual part of the mental health nursing role, as opposed to the sole preserve of any other discipline, is paramount to achieving this.

CONCLUSION

This paper has introduced the topic of D-MER, its reality and relevance to the professional mental health nurse. With increased knowledge of the importance of breastfeeding for infants, women and society, more women are initiating breastfeeding and require the support and assistance of healthcare professionals. The evolution of mental health nursing continues while mental health nurses work in increasingly diverse clinical contexts including the care of the post-natal woman. In this respect, it is important that mental health nurses are provided with a greater understanding of breastfeeding as a holistic, physiological, psychological and sociocultural process (Watkinson *et al.* 2016). Enhanced care can be provided by the mental health nurse to the breastfeeding woman in the early

recognition of D-MER symptoms in order that women feel knowledgeable, comfortable, safe and supported on their breastfeeding journey as challenges are navigated. Indeed, further research in collaboration with mental health nursing colleagues is warranted to explore emotional distress during breastfeeding to support women to reach their infant feeding goals.

RELEVANCE FOR CLINICAL PRACTICE

This work outlines the potential impact of dysphoric milk ejection reflex (D-MER). This is a recently described phenomenon which has relevance for perinatal mental health settings. Awareness of this experience may assist nurses and other health practitioners in establishing differential diagnoses. Increasing knowledge of D-MER may support nurses in promoting continued and extended breastfeeding in practice. This can have long-term positive mental health impacts as well as assisting maternal–infant bonding.

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ETHICAL APPROVAL

None.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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