

Mindfulness-based Intervention as A Psychological Intervention to Support Breastfeeding among Mothers of Babies with Intrauterine Growth Restriction (IUGR)

Nurhazirah Zainul Azlan^{1,2*}, Siti Khadijah Mohd Bustaman³, Muhammad Lokman Md. Isa²

¹Department of Basic Medical Sciences for Nursing, Kulliyah of Nursing, International Islamic University Malaysia, Pahang, Malaysia

²Institute of Planetary Survival for Sustainable Well-being (PLANETIIUM), International Islamic University Malaysia, Pahang, Malaysia

³Counselling & Career Services Department, Office of the Campus Director, International Islamic University Malaysia, Pahang, Malaysia

*E-mail: nurhazirah@iium.edu.my

Intrauterine Growth Restriction (IUGR), also known as Fetal Growth Restriction (FGR) is defined as a condition in which the fetus fails to achieve its genetically predetermined growth potential size. It is also identified when the estimated fetal weight or abdominal circumference falls below the 10th percentile for gestational age, with birth weight of less than 2,500 grams. IUGR may arise from maternal, fetal, or placental factors, with maternal stress as one of the significant yet often overlooked contributor (1). Psychological stressors such as anxiety, depression, job overload and financial constraint can disrupt the intrauterine environment and negatively affect fetal neurodevelopment and growth. Every year, approximately 24% of newborns worldwide are diagnosed with IUGR and 30 million infants are affected (2). Data obtained from the National Obstetric Registry (NOR) (2020), reported that in Malaysia, there were 994 deliveries of IUGR cases in 2016 and 2017, the total delivery number of IUGR cases increased to 1104 (3).

IUGR primarily results from placental dysfunction, leading to fetal hypoxia and hypoglycaemia that impair organ development. Its impact extends well beyond birth, predisposing affected infants to chronic conditions such as cardiovascular, renal, immunological, metabolic, respiratory and neurological disorders. Maternal stress can dysregulate the maternal neuroendocrine and inflammatory systems, which in turn can affect the intrauterine environment and fetal growth and development (4). IUGR is also recognized as

a risk factor for long-term developmental and neurological impairments that may persist into adulthood, increasing susceptibility to cognitive, behavioral, and mental health challenges, particularly when accompanied by preterm birth. Nevertheless, breastfeeding stimulation for IUGR infants has been identified as one of the most effective strategies to mitigate these risk, helping to prevent the health problems associated with the high risk of chronic non-communicable diseases and obesity (5).

However, mothers of IUGR infants frequently report feelings of emotional distress, inadequacy, fear, and helplessness with their infant's fragile condition as their infants struggle to feed or gain weight. Infants with IUGR often require intensive monitoring causing prolonged hospital stays and maternal-infant separation during neonatal care which can further heighten stress, delay breastfeeding initiation and interfere with early bonding. In addition, the stress associated with having a medically fragile infant, coupled with maternal guilt and anxiety, can reduce confidence and milk production, and interfere with their ability to initiate and sustain breastfeeding. Therefore, recognizing and addressing these psychological factors is crucial in promoting successful breastfeeding and improving maternal-infant well-being. Despite the availability of lactation support programs, psychological interventions for these mothers with IUGR infants remain limited. The lack of targeted psychological interventions in supporting breastfeeding highlight a significant

gap in addressing maternal stress and promoting well-being.

The Role of Mindfulness in Supporting Maternal Mental Health

Mindfulness-based interventions are able to offer a promising approach in addressing the psychological challenges experienced by mothers with IUGR infants. Mindfulness is the awareness that arises out of intentionally attending in an open and discerning way to whatever is arising in the present moment. The intervention of mindfulness has been developed to train individuals how to incorporate their practice into daily life (6). Additionally, mindfulness interventions can cultivate awareness of the present moment with openness and acceptance, allowing individuals to respond to distress with calm and clarity. For mothers with IUGR infant that facing anxiety, guilt and uncertainty about their infant's health, mindfulness interventions can foster emotional balance, self-compassion, and confidence in caregiving. By encouraging acceptance and compassion toward one's own experiences, mindfulness interventions reduces the negative thought patterns that often accompany maternal guilt and stress. Techniques in mindfulness interventions such as mindful breathing, grounding technique and STOP (Stop, Take a breath, Observe and Proceed) technique can help mothers remain calm and focused during challenging feeding sessions or neonatal care routines.

Mindfulness interventions also had been shown to improves emotion regulation and enhances resilience among postpartum women. It can also reduce symptoms of stress, depression and anxiety, promoting better sleep and overall well-being. This was demonstrated by previous study that reported decreased in the stress score and increased in oxytocin among breastfeeding mother following mindfulness intervention (7). Another study also reported mindfulness intervention significantly reduced perceived stress and increased mindfulness among patients with cancer, whereas the control group experienced increased stress and decreased mindfulness over time (8). Therefore, for mothers of IUGR infants, mindfulness interventions may help in improving the bonding towards their infants by encouraging a deeper emotional connection with their infants, even in the face of medical challenges or hospital separation.

From a physiological perspective, mindfulness interventions helps in regulating the maternal stress response by reducing cortisol levels and supporting oxytocin release, which facilitates milk production. Moreover, mindfulness interventions reduces the activation of the stress response system as a components of mindfulness interventions, mindful breathing significantly reduced perceived distress and improved physiological responses among palliative care patients, indicating the immediate effects of mindful breathing (9). Mindful breathing is a fundamental mind-body technique that serves as a core component for broader mindfulness interventions. It involves directing focused attention to the breath, enabling individuals to observe its physiological sensations within the body. Through controlled and rhythmic breathing, the practice influences the insula and interoceptive networks, thereby enhancing interoceptive awareness and related functions (10). In this way, mindfulness interventions can indirectly enhance breastfeeding success while strengthening maternal-infant attachment by helping mothers to navigate the uncertainty and fear associated with their infant's condition, fostering greater confidence in caregiving. But more importantly, mindfulness interventions encourage mother to be more acceptance of one-self rather than self-criticism. Therefore, this shift in mindset can reduce the feelings of guilt and inadequacy, consequently empowering mother to cope efficiently with the emotional and physical demands for caring of IUGR infants in improving maternal mental health and breastfeeding outcomes.

Implications for Healthcare Practice

Healthcare provider play an important role in taking care of both psychological and physiological of mothers with IUGR infants. By identifying and recognizing the challenges faced by mothers of IUGR infants, healthcare provider can develop a more comprehensive care plans that address both emotional and physical needs of the mother. Thus, integrating mindfulness interventions into existing maternal support programs can serve as an accessible, practical, sustainable and cost-effective strategy in promoting maternal resilience and emotional in taking care of their infants. Mindfulness interventions can also be tailored to fit into neonatal and postnatal care, by providing a short, structured and guided sessions such as mindful breathing exercise and short guided

meditations, led by trained doctors, nurses or psychologists. From this, healthcare provider can develop a more detailed and comprehensive care plans that integrate mindfulness interventions.

This approach not only able to enhance the maternal mental health and breastfeeding success, but also promote the long-term developmental outcomes for the infant. Furthermore, these care plans or programs can be evaluated for its effectiveness by conducting research to determine the improvements in maternal psychological well-being, outcome of breastfeeding and development parameters of infants. From the findings, valuable evidence can be obtain and re-evaluate to further strengthen the mindfulness interventions in future to ensure the psychological support for the mother with IUGR infants. Additionally, healthcare providers can adopt mindful communication techniques when dealing with stress mothers, by offering empathy, presence, and non-judgmental listening. These kind of approaches align with the principles of family-centered and compassionate care which is emphasized in modern healthcare models.

CONCLUSION

The challenges faced by mother with IUGR infants are reflected in their emotional changes, due to uncertainty and constant struggle in ensuring their infant's well-being and growth. Although medical management remains essential, it is also important in addressing the psychological health of these mother. Mindfulness intervention emphasizes on the present-moment awareness, non-judgmental acceptance and emotional regulation. By integrating mindfulness intervention into maternal and neonatal care, it can promotes maternal emotional balance and resilience, self-efficacy, breastfeeding outcome and ultimately improving the bonding between maternal and infants. Furthermore, healthcare provider and institutions are also encouraged to consider mindfulness intervention as an essential, practical and sustainable elements in maternal care, especially for mothers navigating the complexities of IUGR infants.

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