Chapter 12

The Importance of Breastfeeding and Barriers of Breastfeeding Practices in Disasters

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Abstract

Natural disasters can have adverse effects on infant nutrition and breastfeeding. Post-disaster challenges, such as infrastructure damage, disruptions in healthcare services, and limitations in food supply, can negatively impact the breastfeeding experience of infants who rely on breast milk. Similarly, disasters and post-disaster conditions can lead to issues in breastfeeding mothers' physical and mental health, causing problems in breast milk supply. Breastfeeding provides health benefits for both infants and mothers, strengthening infants' immune systems and aiding in the prevention of diseases such as diarrhea. However, during disasters, breastfeeding practices may encounter various challenges. These challenges include environmental factors, psychological traumas, insufficient breast milk supply, and difficulties in accessing hygiene and care materials. Therefore, understanding the factors influencing breastfeeding practices in populations residing in disaster-prone regions is crucial. Breast milk holds critical importance for the health and survival of infants, serving as a vital source of nutrition and protection against infections even in disaster conditions. The main goal of this study is to understand the importance of breastfeeding and the impact of natural disasters on breastfeeding practices, address the challenges that arise in this context, and provide guidance for disaster preparedness policies in future emergencies.

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1. INTRODUCTION

Nowadays, the frequency and intensity of natural disasters have gradually increased. The combination of the magnitude of the disaster and the lack of disaster response actions affects the physical and mental health of the population exposed to the disaster. (1,2). However, disasters do not affect all groups of people equally. Specific demographics are more susceptible to the negative effects of disasters, and the most severe consequences are often experienced by mothers and their children (3–7).

Natural disasters can create a challenging environment which significantly disrupts infant feeding and breastfeeding. Such a calamity can often destroy infrastructure, disrupt fundamental health services and restrict food supplies, making it challenging to provide the required nutrition for infants. This disruption can have a detrimental effect on the breastfeeding experience for breastfed infants. Evidence supports that there is a significant risk among infants and young children of mothers who are displaced in disaster camps and may stop breastfeeding (8). On the other hand, disasters and post-disaster environments and conditions affect the physical and mental health of breastfeeding mothers and cause problems in breast milk supply (9–12).

Breastfeeding mothers and their infants constitute a distinct population subgroup requiring special attention in terms of both immediate and long-term healthcare needs. Given the increased rates of child mortality and the decline in breastfeeding prevalence during disasters, comprehensive understanding of the factors influencing maternal breastfeeding practices becomes particularly crucial, especially for the human population residing in disaster-prone regions.

2. BREASTFEEDING

Considering the increased risk of diarrhea and other infectious diseases in emergency situations where hygiene and care practices and supplies are at risk, breastfeeding has a vital protective and beneficial effect for both infants and mothers (13–15). Breast milk is a vital immune-boosting factor, as well as being an essential nutrient that supports the healthy growth and development of infants and newborns. International health authorities such as the World Health Organization (WHO) and UNICEF recommend that infants are exclusively breastfed for the first six months. This period represents a critical period for optimal growth, development and immune system strengthening in infants and newborns (16,17). Exclusive breastfeeding in the first 6 months of infancy and continued breastfeeding between 6-11 months is the most effective public health intervention to reduce child mortality (18). The antibodies, enzymes, hormones, immunological factors and nutrients

in breast milk strengthen the baby's immune system and protect against infections, allergies and other diseases (19,20). Otherwise, inadequate or absent breastfeeding is associated with an increased risk of illness and infant mortality, including acute infections and chronic conditions (21,22).

Diarrhoea is a common killer of infants and newborns in natural disasters, often with high mortality rates (23). Breastfeeding is a safe and healthy source of food and water to help prevent and treat diarrheal diseases (24,25). Furthermore, breast milk protects against diseases with antibodies such as anti-bacterial, anti-viral and anti-protozoal which are crucial for the immune system of infants and newborns. Since they have not yet fully developed their own immune systems at birth, they are protected by active immunity from their mothers (26).

Moreover, antibodies present in breast milk bind to pathogens that enter the infant's intestine, preventing them from adhering to cells in the small intestine. In this way, they are better protected against infections. In addition, breast milk is a living fluid and contains "white cells" such as mast cells, phagocytes and natural killer cells. These white cells contain defence mechanisms against pathogens. They attack pathogens by engulfing and absorbing pathogens or by producing harmful substances. White cells provide non-specific defence and do not require the mother to have had previous contact with a specific pathogen (26).

In conclusion, breast milk is crucial for the health and survival of infants and newborns. It contains white cells that support defence mechanisms against pathogens. During disasters, when basic health services may be limited or unavailable, ensuring access to breast milk becomes even more critical. Even in challenging circumstances, breast milk provides babies with food, water, and most importantly, immunity against infections. In the face of natural and humanitarian disasters, breastfeeding has a great importance in protecting mother and child health and protecting public health problems which come from lack of food in especially disadvantaged groups.

3. FACTORS THAT MAKE BREASTFEEDING DIFFICULT DURING NATURAL DISASTERS

Although breastfeeding plays a crucial role in life-saving during emergencies, the preservation, promotion, and support of breastfeeding encounter various obstacles in emergency situations. These challenges often stem from environmental factors, psychological traumas, lack of privacy, stress induced by displacement and poor living conditions, inappropriate donations, formula distribution, technical knowledge deficiencies among field officials, misconceptions, and misguided guidance regarding breastfeeding (27–30).

Usage of Formula Milk

In disaster areas, infant formula is used as an alternative when access to breastfeeding is difficult or when mothers are unable to breastfeed for health reasons. In such regions, the distribution of formula milk is often a preferred practice. It is well-documented that improper use of formula milk can lead to inadequate nutrition, weakened immune systems, and an increased risk of contracting infectious diseases in infants (31). Studies have observed higher mortality rates in children fed with formula milk during emergencies and natural disasters (3,32). For instance, in Bosnia, an outbreak of diarrhea that resulted in the death of over 500 infant, newborn and young children was 30 times more prevalent among those fed with formula milk (33).

In disaster areas, hygiene conditions are often challenging. Ensuring the necessary hygienic conditions for the preparation of formula milk may be impractical. Factors such as limited access to clean water sources, absence of proper sterilization equipment, the need for electricity, gas, clean containers, and bottles to heat water during formula milk preparation pose significant difficulties and, in addition, can increase the risk of infection (34). Furthermore, the use of formula milk can pose a risk to certain aspects of the immune system in young children, as these products tend to lack the specific antibodies and other immune factors provided by breast milk (11,28). For instance, in India, improper distribution of low-quality and inexpensive baby formula following the tsunami exacerbated the occurrence of diarrhea in infants (3).

On the other hands, media platforms, in the aftermath of disasters, inadvertently promote the excessive donation of formula milk, complementary foods, and other dairy products, leading to the substantial collection of breast milk substitutes (10). Donated or collectively supplied formula milk products lack proper instructions for safe usage (35). These products are distributed in an uncontrolled manner without prior needs assessment or identification of the infants in need (1).

All these situations negatively impacts mothers' breastfeeding practices, leading them to hesitate in continuing breastfeeding and indirectly resulting in premature weaning of from breast milk. (11,29).

Professional Breastfeeding Counseling and Social Support

In disaster camps, mothers often face challenges in accessing breastfeeding counseling services and trained health professionals (15). Many volunteers and healthcare professionals in disaster camps lack the necessary experience and skills to assist breastfeeding mothers (36–38). Insufficient experience

and skills among volunteers and healthcare professionals in disaster camps pose significant challenges in providing adequate support to breastfeeding mothers. In such situations, the promotion of formula feeding over breastfeeding is a common misconception (38). The lack of sufficient professional support in these camps poses a challenge for mothers in choosing to continue breastfeeding or opting for re-lactation if breastfeeding cessation occurs (15,39).

Social support is another important factor guiding mothers' decisions to breastfeed their infants (40). Research on sustaining breastfeeding post-disaster emphasizes the significance of family and community support (30,41–43). For instance, separation from close relatives or the loss of loved ones due to a disaster has been observed to reduce the breastfeeding capacity of mothers (43). These studies reveal the positive effects of both close and extended family support, interpersonal communication, and support from elders in sustaining breastfeeding practices. Prudhon et al. highlighted that promoting breastfeeding through interpersonal communication widely supports breastfeeding practices (30). Hirani et al. pointed out that the lack of support from close relatives and limited avenues for benefiting from social support, particularly after a natural disaster in Pakistan, minimizes mothers' capacities and affects the effectiveness, independence, and control (functionality) of breastfeeding (43).

Breastfeeding Privacy

The breastfeeding environment influences the degree of autonomy and independence mothers can exercise in breastfeeding (43,44). Many studies have identified the fundamental requirement of privacy for mothers to breastfeed their children in the aftermath of natural disasters (9,15,41,45–48), and they have shown that mothers feel uncomfortable breastfeeding in public (5,15). The lack of privacy experienced by breastfeeding mothers during disasters can increase their stress levels, potentially leading to adverse health outcomes (5,15). Designated breastfeeding areas (rooms, tents, or partitions created with curtains) are provided for breastfeeding mothers during natural disasters. These spaces enhance mothers' breastfeeding confidence and self-efficacy (46,47).

After a disaster, mothers who faced challenges regarding privacy while breastfeeding for a period of time considered having a temporary shelter with a designated private area as the most significant assistance they could receive, as they lacked a private space to breastfeed previously (41). MirMohamadalile et al., on the other hand, noted that the sense of preserving privacy among mothers is also rooted in their cultural and religious beliefs (42).

Decrease in Maternal Breastfeeding Self-Efficacy

Self-efficacy can be defined as an individual's ability to perform a specific task or behavior that can be improved (23). Situations such as a decrease in breastfeeding self-efficacy among mothers can arise in the aftermath of natural disasters. Studies have indicated that mothers experience concerns about breastfeeding adequately after disasters, leading to a decline in both the supply of breast milk and the ability to breastfeed effectively (12–14). Hargest-Slade and Gribble noted that after a natural disaster in New Zealand, many mothers were at risk of experiencing a crisis of confidence in breastfeeding (9). DeYoung et al. revealed that mothers who had to relocate to disaster tent camps after an earthquake in Nepal believed that their milk had 'spoiled,' and they no longer had enough milk for their infants (28). Another study identified concerns among evacuated mothers in Canada, who, due to driving for extended periods during the Fort McMurray forest fire evacuation, worried about a reduction in their milk supply (27).

Maternal Well-being and Mental Health

Displacement due to disasters and the aftermath often expose many mothers to physical trauma/injury, the loss of close family members, the disruption of social connections, or giving birth without professional assistance (50). In relief camps established for the displaced individuals, which are often in conditions not conducive to women, mothers with small children tend to rely on donations of basic necessities such as clothing and food. For these reasons, trauma can be induced in mothers (50,51). Subsequently, post-traumatic mothers may develop depression and stress disorders, resulting in an inadequate response to their infants' breastfeeding needs (9–12).

The literature also emphasizes the particular need for sensitive care and breastfeeding support for mothers who have pre-existing health issues, those experiencing complex prenatal or postnatal experiences, and those grappling with newly emerging psychiatric problems due to displacement (12,52). However, there is a gap in the literature regarding how the emotional and mental well-being of mothers, along with the support provided by humanitarian workers, influences breastfeeding practices in displaced mothers in disaster relief camps.

Misconceptions About Breastfeeding

Among the various factors that influence mothers' breastfeeding practices, attitudes, myths, and misunderstandings related to breastfeeding by family

members, community leaders, healthcare professionals, and volunteers in disaster relief camps can lead to adverse outcomes (15,53). For example, there is a misconception that breastfeeding should be stopped if an infant has diarrhoea (54). On the contrary, in such situations, the baby actually needs more breast milk because it contains rich content and antibodies that prevent dehydration (15).

On the other hand, the lack of knowledge among health personnel in disaster camps about breastfeeding can also result in inappropriate outcomes (55). Particularly, the absence of a guideline or sufficient information for healthcare professionals in approaching breastfeeding issues can lead to the improper management of malnutrition problems, misinform mothers, and guide them towards formula feeding (56).

Aftermath disasters, cultural misunderstandings also emerge as one of the reasons affecting mothers' breastfeeding practices (28). For instance, in certain cultures, there may be a perception that breast milk is of poor quality in cases where a mother is malnourished or her psychosocial condition worsens, leading to a tendency to resort to formula supplements (11). Even though the stress experienced by the mother and mild or moderate malnutrition do not significantly alter the quality of breast milk, many mothers in such conditions may tend to discontinue breastfeeding (10–12,15,49). Another common misconception is that mothers believe they won't be able to resume breastfeeding their infants after a few weeks of not breastfeeding in the aftermath of a disaster (11).

4. CONCLUSION

Factors that make breastfeeding challenging include the prevalence of formula feeding, lack of breastfeeding counseling and social support, privacy issues, decrease in breastfeeding self-efficacy, maternal well-being, psychological issues, and misconceptions about breastfeeding. These factors can negatively impact mothers' breastfeeding practices and have adverse effects on the health of infants. In conclusion, special measures need to be taken to meet the needs of breastfeeding mothers and infants during natural disasters. Health authorities and relief organizations should provide education and support for breastfeeding, regulate the distribution of formula, and implement measures that promote breastfeeding, such as establishing breastfeeding areas. This is crucial for supporting the healthy growth and development of infants, reducing mortality rates, and preserving the physical and mental health of mothers.

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