

**Facilitators and Barriers to Breastfeeding Practices of Internally Displaced Mothers  
Residing in Disaster Relief Camps in Pakistan: A Critical Ethnography**

by

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## **Abstract**

### **Background and Aim**

Disaster relief camps are one of the most vulnerable settings where women are at risk of discontinuing their breastfeeding practices. Although challenges associated with continued breastfeeding during disasters and displacements are prevalent globally, they are particularly problematic in Pakistan. Pakistan is a low-middle income country where infant and child mortality rates are high. This country often faces disasters such as earthquakes and floods that exacerbate the discontinuation of breastfeeding. This study aims to explore the facilitators and barriers to breastfeeding practices of internally displaced mothers residing in the disaster relief camps in Pakistan.

### **Methods**

Critical ethnography was employed as a study design to uncover the breastfeeding experiences of mothers in the disaster relief camps and to situate their experiences within the intersections of maternal, sociocultural, economic, and geopolitical factors. I used the theoretical perspective of critical realism to guide me to uncover reality in relation to human agency and social structures. Data were collected using multiple methods, including field observation, document analysis, and in-depth interviews with 18 displaced mothers who were residing in disaster relief camps in northern Pakistan and who had young children aged one day to 36 months. Mothers were eligible to participate in the study regardless of their breastfeeding practices.

### **Findings**

Three main themes were derived from the data: “facilitators to breastfeeding”, “barriers to breastfeeding”, and “recommendations”. Findings revealed a wide range of maternal (micro

level), socio-cultural (meso level), economic (exo level), and geopolitical (macro level) factors that are directly and indirectly affecting the breastfeeding practices of displaced mothers residing in the disaster relief camps. Recommendations shared by the participants reflected their perspectives on possible solutions to the encountered challenges surrounding the breastfeeding practices of displaced mothers in disaster relief camps in Pakistan.

### **Conclusion**

Multilayered, context-specific, and interdisciplinary interventions at the micro, meso, exo, and macro levels are essential to promote, protect, and support the breastfeeding practices of displaced mothers in disaster relief camps. Breastfeeding-friendly initiatives led by displaced mothers, their family members, the community at large, and country-based and international organizations are instrumental to enhance maternal autonomy in breastfeeding during disaster, displacement, and settlement of displaced mothers in disaster relief camps. In the future, research should also test the feasibility and effectiveness of composite interventions in improving the breastfeeding practices of displaced mothers in disaster relief camps, as well as explore stakeholders' perceptions about encountered challenges in the implementation of the breastfeeding-friendly services during disaster and displacement.

## Preface

This thesis is an original work by Shela Akbar Ali Hirani. This research has received research ethics approval from the University of Alberta Research Ethics Board, Project Name “Facilitators and Barriers to Breastfeeding Practices of Internally Displaced Mothers Residing in Disaster Relief Camps in Pakistan: A Critical Ethnography”, No. Pro00070613, July 18, 2017.

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## **Chapter 1: Introduction**

This introductory chapter presents the problem of the decline in breastfeeding prevalence during natural disasters and relates the impact of this problem with the sudden rise in infant mortality rates due to malnutrition, diarrhea, and infectious diseases. Considering the precarity and vulnerability of breastfeeding women and rising child mortality rates in disaster relief camps in Pakistan, this chapter underscores the need to explore factors that directly and indirectly affect the breastfeeding practices of displaced mothers in disaster relief camps in Pakistan. This chapter introduces the background for the upcoming chapters. This chapter presents the benefits of breastfeeding during disaster and displacement, the effects of post-disaster internal displacement on child health in the context of Pakistan, the prevalence and determinants of breastfeeding in the cultural context of Pakistan, the research problem, identified gaps in knowledge, significance of the undertaken research, main purpose of this research, and research questions.

### **Background**

Climate change is recognized as the leading global health concern of the twenty-first century and has serious repercussions on the health and well-being of the population at large (Costello et al., 2009; World Health Organization, 2016a). Climate change and resultant natural disasters are reported to cause more than 60,000 deaths per year, especially in low and middle-income countries (World Health Organization, 2016a). Natural disasters, such as earthquakes, floods, hurricanes, and landslides, not only result in massive destruction of infrastructure (houses, health care systems, water and sewerage systems, electrical supply systems, roads, and medium of communications) but also expose the affected population to physical injuries, mental health issues, communicable diseases, and precarious health situations (Dimitra, 2012; Hirani, 2014). During natural disasters, people are forced to flee their homes and resettle in temporary

disaster relief camps (temporary accommodations such as huts, tents, and transitional shelters) that are often located on barren ground, far from cities (Hirani, 2014). Although forced displacements intend to save lives and preserve the well-being of internally displaced people, there are health risks associated with these camps that cannot be ignored. Lack of clean water, overcrowding, social disparities, food insecurity, a sudden rise in communicable and non-communicable diseases, and ineffective delivery of health care services adversely affect all aspects of the health and well-being of internally displaced populations (World Health Organization, 2016a).

### **Child Health and Breastfeeding during Disaster and Displacement**

Endangered child health is one of the most serious repercussions of natural disasters. Infant and childhood mortality and morbidity rates increase during disaster and displacement, mainly due to malnutrition, diarrhea, and infectious diseases (Hirani & Kenner, 2011, Olwedo, Mworozzi, Bachoun & Orach, 2008). Globally each year, 760,000 children younger than five years die during natural disasters because of unsafe water consumption and water-borne diseases (World Health Organization, 2016a). In disaster relief camps, without clean water and proper equipment such as clean feeding bottles to prepare formula milk, the use of infant formula milk is reported to cause a sudden rise in infant mortality and morbidity rates (Carothers & Gribble, 2014; Gribble, McGrath, MacLaine, & Lhotska, 2011; Hirani, 2014; Hirani & Kenner, 2011; Sulaiman, Mohamad, Ismail, Johari, & Hussain, 2016). A study undertaken in Haiti after the catastrophic 2010 earthquake reported higher infant and child mortality rates (odds ratio = 2.34, 95% confidence interval: 1.15 to 4.75 and odds ratio = 2.34, 95% confidence interval: 1.10-5.0 respectively) in camp-based households than in non-camp-based households allotted to the displaced families (Chen, Halliday, & Fan, 2016). It was found that young children living in the



disaster relief camps are more prone to malnutrition, which results in compromised immunity and increased susceptibility to infectious diseases (Chen et al., 2016).

During disasters and displacement, promotion, protection, and support of breastfeeding are essential to prevent malnutrition-related mortalities among infants (Carothers & Gribble, 2014; Datar, Liu, Linnemayr, & Stecher, 2013; United Nations Children's Fund, 2010). Globally, malnutrition is reported to cause the deaths of 2.7 million children per year mainly due to sub-optimal breastfeeding (World Health Organization, 2016b). In view of the serious repercussions of insufficient nutrition during the early years of a child's life, the World Health Organization and UNICEF have endorsed initiation of breastfeeding within one hour of a child's birth, exclusive breastfeeding during the initial six months of life, and initiation of nutritionally adequate solid foods at six months along with continued breastfeeding up to two years of age and beyond (World Health Organization, 2016b). Breastmilk completely meets the nutritional needs of infants under the age of six months, promotes growth, fosters brain development, reduces the risks of malnutrition and infectious disease, and minimizes the risk of non-communicable diseases (Stuebe, 2009). A comparison of breastfed and formula fed infants reveals that breastfed infants have lesser prevalence of infectious morbidity, otitis media, lower respiratory tract infection, gastrointestinal infections, necrotizing enterocolitis, obesity, metabolic diseases, neurodevelopmental impairments, sudden infant death syndrome, and mortality rates in the first year of life (Stuebe, 2009). Optimal breastfeeding can save the lives of more than 800,000 young children (aged under five years) per year (World Health Organization, 2016b). Human milk is the best species-specific milk for the human baby because of its unique chemical composition: no other feeding substitutes (infant formula, animal milk, juices, or beverages) can meet these standards (Friel & Qasem, 2016). Compared with the use of breast-milk substitutes,

breastfeeding is the preferred and safest mode of infant feeding during disaster and displacement (World Health Organization, 2016b) as breastmilk has several beneficial bioactive agents, is readily available at the right temperature, does not require supplies for its preparation, and has low chances of contamination (Dimitra, 2012).

Considering the health, nutritional, developmental, psychological, environmental, and economic benefits of breastfeeding (Hansen, 2016), it is particularly recommended to save the lives of young children during humanitarian emergencies (Branca & Schultink, 2016). Despite the benefits of breastfeeding, sub-optimal infant feeding practices and subsequent increases in infant mortality are reported during disasters, displacement, and settlement of displaced communities in disaster relief camps (Branca & Schultink, 2016). Although challenges associated with breastfeeding during natural disasters are global, they are particularly problematic in the context of low and middle-income countries such as Pakistan.

### **Post-Disaster Internal Displacement and Child Health in the Context of Pakistan**

Pakistan is one of the lower-middle income South Asian countries with a total land area of 770,998 km<sup>2</sup>. It is situated “at the crossroads of South Asia, Central Asia, China, and the Middle East” (World Bank, 2017). Ranked number six in the list of countries by population, it has a total population of 188.9 million (World Bank, 2017) of which approximately 21,761,000 are children under five years of age (UNICEF, 2016).

This low-middle income country has low Human Development Indicators (HDI) (World Bank, 2017). Although Pakistan has shown economic progress and the headcount of poverty rate has decreased from 64.3% (2001-2002) to 29.5% (2013-2014) during the past decade, the majority of the population are living around the poverty line (World Bank, 2017). In 2015, the Gross Domestic Product (GDP) was reported as 4.2% and is expected to improve with rapid

economic growth (World Bank, 2017). Public spending on education is 2.1% of GDP. Therefore, literacy rates are low, dropout rates from primary schools are high, and completion rates of primary education are one of the lowest in the world (World Bank, 2017). Although the adult literacy rate is 65 %, gender disparity in education is very prominent in this region that is affecting the country's economy (Rehman, Jingdong, & Hussain, 2015). The female literacy rate is low (40 %) as compared to male literacy rates (69 %) (Rehman et al., 2015). The education of girl children is not usually encouraged because there are no separate schools for girls (Rehman et al., 2015). In this country, the accessibility and affordability of health care are another major concern for the population in general because the public spending on health is only 0.8% of GDP (World Bank, 2017). The life expectancy at birth is 66.18 years (World Bank, 2017). Early marriage before the age of 20 is common in this region. According to recent statistics, a fertility rate of 3.61 births per woman is reported in this country (World Bank, 2017).

For many decades, Pakistan has continued to have high mortality rates among young children. The infant mortality rate is reported as 69 per 1000 live births and the neonatal mortality rate is reported as 42 per 1000 live births (UNICEF, 2016). This country has the second-highest younger-than-five-years child mortality rate (86 per 1000 live births) in South Asia due to sub-optimal breastfeeding practices and malnutrition (Hirani, 2012; Ullah et al., 2014; UNICEF, 2013; UNICEF, 2016). No significant difference is reported in the under-five mortality rates of male children (89 deaths per 1000 live births) versus female children (82 deaths per 1000 live births) (UNICEF, 2016). In Pakistan, the birth of approximately 33.6% of children under the age of five years is registered (UNICEF, 2016). As birth registration practices are uncommon in Pakistan, the current figures for infant and under-five child mortality rates may be much higher. Malnutrition among children is the leading public health concern in Pakistan

and the second highest cause of child mortality and morbidity rates (Hirani, 2012). The general prevalence of stunted growth (moderate and severe) among young children is approximately 45% (UNICEF, 2016) and the prevalence of acute malnutrition among children under five years is approximately 16% (World Bank, 2017).

Pakistan's geographic location increases its susceptibility to natural disasters such as earthquakes, hurricanes, drought, heat waves, and floods brought by monsoon rains each year between July and September. Since 2010, Pakistan has experienced more frequent and intense natural disasters, linked largely to global climate change (Maheen & Hoban, 2017). Disasters and displacement proved to be devastating for the Pakistani population by affecting the country's population health, economy, existing resources, and social capital (Laframboise & Loko, 2012). Although disasters affect Pakistani population from all socio-economic classes, poor families and communities living in the rural, semi-urban, and urban slum areas are more seriously affected by disasters (Laframboise & Loko, 2012). As approximately 65% of the Pakistani population lives in rural areas, the repercussions of natural disaster in the lives of rural populations and the country's economy are devastating due to the destruction of agricultural land, livestock, and crops (Bukhari & Rizvi, 2015). During the past decade, Pakistan experienced the worst ever earthquake, cyclone, and floods after monsoon rains that caused more than a million people to become temporarily homeless (Memon, 2011). In 2010, floods after heavy monsoon rains led to the deaths of 1,985 people, damaged 1.7 million houses, and destroyed 1.4 acres of agricultural land (Maheen & Hoban, 2017). These disasters not only damaged roads, houses, livestock, crops, telecommunication systems, and the infrastructure of various social institutions (including health care settings) (Laframboise & Loko, 2012) but also resulted in increased child mortality and morbidity rates (Hirani, 2014; Hirani & Kenner, 2011; Warraich, Zaidi, & Patel, 2011). During

disasters, child mortality often increases by approximately 10% because of a further decline in breastfeeding prevalence, subsequent rise of childhood malnutrition, and outbreaks of communicable and infectious diseases such as diarrhea and dysentery (Bhutta et al., 2013; Hirani, 2014; Hirani & Kenner, 2011; UNICEF, 2010a; UNICEF, 2010b; Warraich, Zaidi, & Patel, 2011).

During disasters, affected communities and families are temporarily resettled in disaster relief camps established by the government and non-governmental-based humanitarian relief agencies. Specifically, the National Disaster Management Authority (NDMA) of Pakistan in collaboration with other Pakistan-based humanitarian relief agencies, Aga Khan Development Network's humanitarian agency (Aga Khan Agency for Habitat (AKAH)/FOCUS Humanitarian Assistance, Pakistan) and international agencies (World Health Organization (WHO), United Nations Children's Fund (UNICEF), and the United States Agency for International Development) reach out to the disaster-affected community, relocate them to safe places, and establish disaster-relief camps (Hirani, 2014). Aims of these services are to provide temporary shelter to the disaster-affected communities, restore the well-being of affected families, provide basic health care services (first aid, treatment of minor illness, and mass vaccination), organize availability of sanitation facilities and clean drinking water, and gather donated food items and clothes from the donor services and distribute them to the internally displaced people (Hirani, 2014).

### **Prevalence and Determinants of Breastfeeding in the Cultural Context of Pakistan**

*Prevalence of breastfeeding.* In Pakistan, sub-optimal breastfeeding practices and gradual declines in breastfeeding prevalence are reported among breastfeeding mothers (UNICEF, 2016). Early cessation of breastfeeding and early initiation of supplementary foods, like *ghutti* (a

mixture of honey, butter mixed with sugar, and other liquids), bread, homemade liquids, and boiled potatoes are common (Morisky et al., 2002; Hirani, 2008). In comparison to South Asian countries like India, Bangladesh, and Sri Lanka (having similar socioeconomic conditions to Pakistan), Pakistan is reported to have the lowest rate of exclusive breastfeeding and highest rate of supplementary feeding (Hazir et al., 2013). UNICEF (2016) reports that among Pakistani mothers, only 18% of women initiate breastfeeding within one hour of birth, 38% of mothers exclusively breastfeed their infants for six months, and 56% of mothers breastfeed their babies until two years while providing complementary feeding. Due to limited research on breastfeeding practices of Pakistani mothers in the setting of disaster relief camps, the prevalence of breastfeeding (initiation, exclusivity, and continuation) during disaster and displacement, and the reasons behind sub-optimal breastfeeding practices of internally displaced mothers is not available.

***Determinants of breastfeeding.*** Generally, in the context of Pakistan, sub-optimal breastfeeding practices are attributed to many factors. Although Pakistan's population is predominantly Muslim and Islamic laws highly emphasize and promote breastfeeding of young children until the age of two years (Shaikh & Ahmed, 2006), the breastfeeding practices of Pakistani mothers are context specific and depend on a number of factors in the mother's immediate environment (Microsystem), social network (Mesosystem), external environmental (Exosystem), and geopolitical context at large (Macrosystem) (Hirani & Karmaliani, 2013a).

In Pakistan, women usually wear a veil, hijab (headscarf), or prefer to cover their body (especially the front part of the chest and breasts) by using long scarfs (dupatta) as a religious obligation and cultural norm. In Pakistani culture, anything concerning the breast and breastfeeding is considered a private matter and not many women openly talk about

breastfeeding or opt for breastfeeding their children in public places (Maheen & Hoban, 2017). Women highly value privacy while breastfeeding their babies. Lack of privacy at home, workplaces, and public places hinder breastfeeding practices (Hirani & Karmaliani, 2013b; Premani, Kurji, & Mithani, 2011).

In Pakistani culture, living in extended families is the norm and women share a strong social tie with their family members, friends, colleagues, and neighbours (Morisky et al., 2002; Hirani, 2015; Kurji, Shaheen, & Mithani, 2015). Pakistani mothers often seek advice from people in their social network about various aspects of childcare (especially feeding practices), which often informs the breastfeeding decisions and practices of mothers (Meddings & Porter, 2007). Studies undertaken in the Pakistani context report that constant advice from grandmothers and experienced mothers in extended families boost the confidence of breastfeeding mothers and hold major influence over their breastfeeding practices (Ingram, Johnson, & Hamid, 2003; Kurji et al., 2015; Sarwar, 2002).

In many sub-cultures of Pakistan, it is believed that the mother's first milk (colostrum) should be discarded as it is poisonous, that honey should be given to newborns (mainly to promote caregiver-child bonding), that children should be fed only when they cry (rather than feeding on noting feeding cues), that infants must be formula fed to assure steady weight gain, and that the mother should avoid eating certain foods (such as bananas, cabbage, and, cauliflower) to protect the infant from flu and colicky abdominal pain (Aisha, Batool, & Sultana, 2016; Hirani, 2008; Zafar, Fatimi, & Shafi, 2014). There are situations in which mothers receive breastfeeding advice from their social network that is contrary to the health care advice (Hirani & Karmaliani, 2012).

Mothers' access to milk substitutes and role modelling from western cultures is another factor that leads to the early cessation of breastfeeding (Morisky et al., 2002). In Pakistan, comparison of breastfeeding duration among urban and rural mothers reveals that sub-optimal breastfeeding practices are more common among urban, educated, affluent, and employed mothers as compared to rural, less educated, impoverished, and non-working mothers (Morisky et al., 2002; Zafar et al., 2014). Many mothers and their family members consider formula milk superior to breast milk because it is an expensive option, induces sleep among infants, and the child looks 'chubbier' than breastfed infants (Premani et al., 2011).

Availability, affordability, and accessibility of health care support and lactation counselling facilities during the prenatal and postnatal period are a few other determinants that positively affect the breastfeeding practices of Pakistani mothers (Hirani & Karmaliani, 2013b; Kurji et al., 2015; Premani et al., 2011; Zafar et al., 2014). In the social network of Pakistani mothers, health care providers are the essential source of informational support (Premani et al., 2011). However, in Pakistan, the physician to population ratio is very low, health care providers lack adequate expertise, and health care services are often inaccessible and not affordable to marginalized populations (Kenner & Hirani, 2008). Most of the time, women belonging to marginalized groups do not have access to maternal health services and national-and-community level interventions (Mumtaz et al., 2014). Lack of accessibility, affordability, and availability of health care support directly and indirectly affect the breastfeeding practices of Pakistani women.

Reflecting on the breastfeeding practices of mothers from a gender lens leads me to reflect on several unexplored dimensions and determinants surrounding breastfeeding practices of Pakistani mothers. Pakistan is a patriarchal society where women are often considered subservient and inferior to men (Cohen, 2006; Madhani et al., 2017). Gender-based violence and



intimate partner violence are common in all socio-economic classes, urban and rural sectors, and geographical locations (Madhani, Tompkins, Jack, & Fisher, 2014; Madhani et al., 2017). In many sub-cultures of Pakistan, women are not allowed to travel alone, visit a health care facility unaccompanied, or participate independently in health care decisions without consulting male family members (Edgar, 2013). In Pakistani society, women are the primary child caregivers and are responsible for all aspects of childcare, including feeding, disciplining, and educating (Hirani, 2008). Moreover, in this patriarchal society, women are generally housewives, limited within their household boundaries, and expected to manage their childcare responsibilities while simultaneously balancing their household responsibilities, cultural norms, societal expectations, and religious obligations (Habiba, Ali, & Ashfaq, 2016; Sadia, Iqbal, Ahmad, Ali, & Ahmad, 2016). As many times these household responsibilities, cultural norms, societal expectations, and religious obligations are in conflict, Pakistani women often face the challenge of demonstrating autonomy in major aspects of their lives, including breastfeeding.

Maternal autonomy in the context of breastfeeding is defined as “maternal ability to make autonomous decisions using her control, agency, independence, and ethical reasoning that is preceded by maternal competence, availability of support, nature of the setting, and available alternatives in breastfeeding” (Hirani & Olson, 2016; p. 281). In Pakistani culture where male dominance is common, women are highly dependent on support from their social network and extended families and often do not have decision-making power. Many contextual factors in mothers’ environments seem to affect maternal autonomy in breastfeeding. Although religious obligations and guidelines from the health care agencies expect women to sustain breastfeeding practices, women may find it challenging to fulfill these obligations if their family’s

expectations, cultural norms, environmental circumstances, and personal goals do not allow them to demonstrate their autonomy in breastfeeding.

### **Problem Statement and Knowledge Gaps**

In view of the demographic profile of Pakistan, the rising child mortality rates during a disaster, and a wide range of determinants that shape the breastfeeding experiences of Pakistani women, a comprehensive understanding of the range of factors that affect breastfeeding practices of internally displaced mothers is crucial.

Disaster relief camps are usually placed on barren ground located far from the city (Hirani, 2014). Although disaster-affected families are provided with basic first aid, food, and shelter, the needs and rights of breastfeeding mothers are rarely accommodated in these relief camps (Hirani, 2014; Maheen & Hoban, 2017). A qualitative study of 15 Pakistani mothers who experienced internal displacement during the 2011 flood in the Sindh province of Pakistan described women's lives in disaster relief camps as miserable. The camps had inadequate privacy, communal toilets were located far from the temporary shelters, a dysfunctional medical referral system was reported, and there was a lack of obstetric facilities, inadequate health care providers, no female physicians, and no accessibility to food rations and drinking water (Maheen & Hoban, 2017). This study also reported that women with young children often could not receive the supplies of food, water, and other donations because it is culturally inappropriate to stand in queues with men outside their houses. Many women decided to return to their damaged houses, given their deteriorating health status in these disaster relief camps (Maheen & Hoban, 2017).

Another quantitative study undertaken with 800 households in 13 randomly selected severely flood-affected districts of Pakistan reported that disaster relief camps were filthy (76%), overcrowded (83%), lacked safe drinking water (67%), had poorly designed toilets (71%), were

exposed to extreme climate (71%), were potentially unsafe for young women (66%), and lacked disease control measures (90%) (Bukhari & Rizvi, 2015). This study further reported that flood-affected women, including pregnant and breastfeeding mothers, experienced vulnerability because health care facilities were not functional, women lacked autonomy to seek medical services on their own, and women were exposed to risk of sexual assaults and violence (Bukhari & Rizvi, 2015). This study also reported that breastfeeding mothers lacked adequate privacy in relief camps (Bukhari & Rizvi, 2015).

Although the previously undertaken studies with internally displaced women in Pakistan provide insight about the key challenges encountered by women, especially pregnant mothers, these studies do not uncover the factors that shape the breastfeeding practices of internally displaced mothers residing in disaster relief camps. No doubt, the studies undertaken by Maheen & Hoban (2017) and Bukhari & Rizvi (2015) highlight lack of privacy as a major challenge to breastfeeding in the setting of a disaster relief camp and the resultant embarrassment experienced by internally displaced mothers. However, these studies do not investigate the role of sociocultural, economic, gender-based, and geopolitical factors that shape the breastfeeding practices and experiences of mothers in the setting of a disaster relief camp.

In the disaster relief camps in Pakistan, homeless and displaced women with young children are often dependent on donated basic supplies such as clothes and food, live in cramped situations that are often not female friendly, and experience trauma associated with displacement (Hirani, 2014; Maheen & Hoban, 2017; Sadia et al., 2016). A limited number of empirical studies that focus on the breastfeeding practices of internally displaced mothers have been undertaken. Hence, there is a need to explore how disaster and displacement affect the breastfeeding practices of internally displaced Pakistani mothers residing in the disaster relief

camps. A pressing need exists to explore the facilitators and barriers of breastfeeding practices of internally displaced mothers residing in disaster relief camps in Pakistan, as well as to examine the wide range of maternal, sociocultural, economic, and geopolitical factors that directly and indirectly affect the breastfeeding practices of internally displaced mothers.

In view of the circumstances quoted above, a strong need was felt to explore facilitators and barriers to breastfeeding practices of displaced mothers in disaster relief camps in Pakistan. Hence, a critical ethnographic study was undertaken to uncover the breastfeeding experiences of mothers in the disaster relief camps and to situate their experiences within intersections of sociocultural, economic, and geopolitical factors.

### **Significance of Research**

This critical ethnographic research is expected to enable the researcher to bridge identified gaps in the literature and to uncover existing inequalities, possible constraints, sources of domination, and dilemmas surrounding the breastfeeding practices of displaced mothers in disaster relief camps in Pakistan. Hence, the current study is an attempt to generate knowledge that can be utilized to save the lives of young children and to facilitate internally displaced mothers to make autonomous breastfeeding decisions in the context of disaster relief camps in Pakistan.

The focus of this critical ethnographic study is in line with the United Nations Sustainable Development Goals, 2015-2030, with a special focus on goal three, which aims to reduce preventable deaths in children less than five years of age. This research will help relief workers and health care professionals develop context-specific, supportive interventions that may improve breastfeeding practices in relief camps, and in turn potentially decrease deaths of young children in Pakistan. This study will further develop nursing knowledge related to disaster

management, guide future research, and facilitate mobilization of knowledge while caring for internally displaced mothers with young children in disaster relief camps.

### **Purpose**

The main purpose of this critical ethnographic research was to gain insight into the range of factors that shape the breastfeeding practices of internally displaced mothers. The secondary purpose was to explore how existing tensions associated with gender-based, societal, religious, social, and cultural expectations influence internally displaced mothers' breastfeeding practices in disaster relief camps in Pakistan.

### **Research Questions**

The key research questions of this study were:

- “What are the facilitators and barriers to breastfeeding practices of internally displaced mothers residing in disaster relief camps in Pakistan?”
- “What are the maternal, sociocultural, economic, and geopolitical factors that directly and indirectly affect the breastfeeding practices of internally displaced mothers residing in disaster relief camps in Pakistan?”

### **Conclusion**

To sum up, this chapter presents the problem of a decline in breastfeeding prevalence rates among internally displaced mothers residing in disaster relief camps in Pakistan and the resultant rise in infant mortality rates during disaster and displacement. This chapter further reveals several significant gaps in knowledge related to breastfeeding in disaster relief camps. In Pakistan, where there is a dearth of research in this area, the present situation calls for the need to undertake critical ethnographic research to identify maternal, sociocultural, economic, and geopolitical factors that shape the breastfeeding experiences of these mothers. In view of the

identified gaps in knowledge, it is critical to address the identified knowledge gaps to examine the facilitators and barriers to breastfeeding practices of mothers residing in disaster relief camps in Pakistan. Research in this area will help nurses and other stakeholders develop context-specific supportive interventions, improve breastfeeding practices in relief camps, and decrease deaths of young children in Pakistan. The presented ideas in this introductory chapter have been analyzed further in the subsequent literature review chapter.

## **Chapter 2: Literature Review**

To explore the factors that affect the breastfeeding practices of displaced mothers in disaster relief camps both globally and specifically in Pakistan, a review of available literature was undertaken on the topic. This literature review sought to understand what factors facilitate and impede breastfeeding practices of displaced mothers in disaster relief camps and to identify knowledge gaps, specifically related to disaster relief camps in Pakistan.

This chapter includes three sections. The first section presents the literature review methodology. The second section presents a summary of the literature review surrounding the theme of breastfeeding in the setting of disaster relief camps. The third section presents the identified knowledge gaps in the context of disaster relief camps in Pakistan, ending with a research question to address the gap.

### **Literature Review Methodology**

To gain a comprehensive understanding of the factors that affect the breastfeeding practices of mothers residing in disaster relief camps, I undertook an integrative review of the literature. An integrative review allows the inclusion of a wide range of literature (experimental and non-experimental research) to gain an in-depth understanding of the phenomenon (Whittemore & Knafl, 2005). Therefore, this method is considered substantive in building nursing knowledge, informing future research, guiding nursing practice, and enhancing policy initiatives (Whittemore & Knafl, 2005). In view of the identified problem, I used an integrative review method (Whittemore & Knafl, 2005) to search relevant literature on the topic, shortlist literature based on the relevance, review available evidence from a global and Pakistani perspective, extract themes from the reviewed literature, and report findings along with the identified gaps in knowledge.

I searched major peer-reviewed databases, including MEDLINE (2005-2017), CINAHL (2005-2017), EBSCOHost (2005-2017), Google Scholar (2005-2017), and Scopus (2005-2017) without restrictions on the geographical region of the published literature, type of study, and type of literature. Literature published from 2005 to 2017 was included, as during this period several disasters and resultant displacements took place globally and in Pakistan. The search was limited to humans and literature published in the English language. I searched for the following keywords: *breastfeeding, displacement, displaced mothers, natural disaster, disaster relief camp, temporary shelter, factor, facilitators, barriers, and Pakistan*. The identified keywords were combined with the use of the Boolean operators *AND*, *OR*, and *NOT*. To obtain a maximum number of published studies, I also searched for the identified keywords and adjacent keywords that appeared in the title, Medical Subject Headings (MeSH), key fields, abstract, and publication type field.

To augment the literature search, I screened the reference lists of the selected literature and reviewed grey literature, including position papers, newspaper articles, reports from humanitarian agencies, and published abstracts. To supplement the search, I also reviewed the World Health Organization website (<http://www.who.int>), UNICEF website ([www.unicef.org](http://www.unicef.org)) and World Bank website ([www.worldbank.org](http://www.worldbank.org)). Additionally, I searched the ProQuest database to access relevant unpublished dissertations available on the topic.

Out of over 100 sources, 39 were shortlisted based on their relevance to the topic. The shortlisting of the available literature was undertaken by looking at factors that facilitate or impede the breastfeeding practices of mothers affected by disaster or displacement. I excluded literature that were pertinent to the breastfeeding practices of mothers who haven't experienced displacement after a natural disaster or haven't resided in the disaster relief camps (tents or



shelters). Altogether, I shortlisted and reviewed five research papers, 15 perspective papers, four review articles, one commentary, one theoretical paper, six reports from undertaken fieldwork, one editorial, one training material from World Health Organization, one position paper, one position statement paper by the Academy of Breastfeeding Medicine (ABM), one case study paper, one committee opinion, and one book chapter to reveal the findings of this literature review. After reviewing the shortlisted literature, main themes referring to the factors affecting the breastfeeding practices of mothers residing in disaster relief camps were extracted. Table 1 presents the themes derived from the shortlisted literature.

**Table 1**

*Derived Themes from the Shortlisted Literature*

<b>Themes Derived from Literature</b>	<b>Authors and Year of Publication</b>	<b>Type of Publication</b>	<b>Country-specific context</b>
<b>Distribution of free infant formula milk</b>	Hargest-Slade & Gribble (2015)	Perspective paper	New Zealand
	Carothers & Gribble (2014)	Position paper	Global context with examples from Botswana, Macedonia, and Indonesia
	Branca & Schultink (2016)	Commentary	Global context with examples from Syrian refugee camps in Jordan, Croatia, Serbia, Macedonia, and Nepal
	Eidelman (2013)	Perspective paper	Global perspective with examples from Nazi Germany, Java, China, and Myanmar
	Gribble (2013)	Review of internet news reports and press releases	Myanmar and China
	Binns et al. (2012)	Review article with case studies	China and Japan
	Dörnemann & Kelly (2013)	Research article	Haiti
	Gribble (2005)	Perspective paper	Communities in or bordering the Indian Ocean
	Hirani (2014)	Perspective paper	Pakistan

<b>Privacy and safe spaces</b>	Sulaiman et al. (2016)	Report	Malaysia
	Gribble, McGrath, MacLaine, & Lhotska (2011)	Review	Global perspective
	Maheen & Hoban (2017)	Research article	Pakistan
	Bukhari & Rizvi (2015)	Research article	Pakistan
	Ayoya et al. (2013)	Lessons from the field report	Haiti
	UNICEF (2016)	Report from a governmental agency	Haiti
	Brown (2015)	Perspective paper	Global context with the focus on western countries
	Wolf (2008)	Perspective paper (debate)	United States
<b>Beliefs, myths, and misconceptions about breastfeeding</b>	Hargest-Slade & Gribble (2015)	Perspective paper	New Zealand
	Sulaiman et al. (2016)	Report	Malaysia
	Gribble, McGrath, MacLaine, & Lhotska (2011)	Review	Global perspective
	Hirani (2012)	Review	Pakistan
	World Health Organization (2007)	Training material	Global perspective
	Gribble (2013)	Review of internet news reports and press releases	Myanmar and China
	Dörnemann & Kelly (2013)	Research paper	Haiti
	Goudet et al. (2011)	Research article	Bangladesh
	Lawrence & Lawrence (2010)	Book chapter	Global perspective
	Cook (2010)	Perspective paper	United Kingdom
<b>Lactation counselling facilities and support</b>	Hirani & Kenner (2011)	Perspective paper	Pakistan
	Sulaiman et al. (2016)	Report	Malaysia
	Warraich, Zaidi & Patel (2011)	Perspective	Pakistan
	Abney (2010)	Case studies	Greater Antilles and North America
	Chantry, Eglash & Labbok (2015)	ABM Position Statement	Global perspective
	Heinig (2005)	Editorial	United States
Morin (2008)	Perspective paper	United States	

	Hirani (2012)	Review	Pakistan
	Dörnemann & Kelly (2013)	Research paper	Haiti
	Goudet et al. (2011)	Research article	Bangladesh
	Lawrence & Lawrence (2010)	Book chapter	Global perspective
	Cook (2010)	Perspective paper	United Kingdom
<b>Gender-based constraints, control, and violence</b>	Hirani (2014)	Perspective paper	Pakistan
	Hirani & Kenner (2011)	Perspective paper	Pakistan
	Rimawi, Mirdamadi, & John (2014)	Perspective paper	Global context
	Maheen & Hoban (2017)	Research paper	Pakistan
	Nour (2011)	Perspective paper	Global perspective with the focus on resource-poor nations
	Bukhari & Rizvi (2015)	Research paper	Pakistan
	Aoláin (2011)	Perspective paper	Global context
	Banford & Froude (2015)	Theoretical paper	Sri Lanka
	Pittaway, Bartolomei, & Rees (2007)	Perspective paper	Asian and African countries affected by Tsunami
	Asad et al., (2013)	Perspective paper	Pakistan
	Carballo et al. (2005)	Report	Indian ocean countries, mainly India, Indonesia, Malaysia, Maldives, Sri Lanka, Thailand, and Somalia
	The American College of Obstetricians and Gynecologists (2010)	Committee opinion	United States
	Sadia et al., (2016)	Research article	Pakistan
<b>Maternal well-being</b>	Hargest-Slade & Gribble (2015)	Perspective paper	New Zealand
	World Health Organization (2007)	Training material	Global perspective
	Gribble (2013)	Review of internet news reports and press release	Myanmar and China
	Dörnemann & Kelly (2013)	Research article	Haiti
	Hirani (2014)	Perspective paper	Pakistan

	Branca & Schultink (2016)	Commentary	Global context with examples from Syrian refugee camps in Jordan, Croatia, Serbia, Macedonia, and Nepal
	Maheen & Hoban (2017)	Research article	Pakistan
	Callaghan et al. (2007)	Report	United States
	Sadia et al., (2016)	Research article	Pakistan

While undertaking this review, I discovered that knowledge about breastfeeding practices in relief camps mainly comes from anecdotal evidence, empirical studies with limited scope or rigour, and secondary sources such as perspective papers, editorials, commentaries, technical reports from fieldwork, book chapters, and positional papers. This review suggested a dearth of rigorous and credible scientific studies in this area, as well as highlighted several gaps in knowledge that can hamper nurses and other health care professionals in providing quality care to the displaced mothers who wish to sustain their breastfeeding practices while residing in the disaster relief camps.

### **Literature Review Findings**

This review of literature revealed that displaced mothers with young children in disaster relief camps are at risk of discontinuing breastfeeding (Callaghan et al., 2007; Carothers & Gribble, 2014; Eidelman, 2013; Gribble, 2013; Hirani & Kenner, 2011; Nour, 2011; Warraich, Zaidi, & Patel, 2011; World Health Organization, 2007). Six major themes were identified that directly and indirectly affect these women's breastfeeding practices: distribution of free infant formula milk, safe spaces to breastfeed, lactation counselling facilities, beliefs about breastfeeding, gender-based constraints, and maternal well-being. Each of these factors and identified gaps in literature are presented below:

**Distribution of free infant formula milk.** The distribution of free infant formula is common in disaster relief camps and negatively affects the breastfeeding practices of mothers (Branca & Schultink, 2016; Carothers & Gribble, 2014; Dimitra, 2012). The media promotes the donation of infant formula, complementary foods, and other milk products, which often leads to the collection of a huge amount of breastmilk substitutes (Gribble, 2013). Furthermore, manufacturers of infant formula often use disaster relief camps as a platform to promote their products (Carothers & Gribble, 2014). Donated infant formula products, and those that are supplied in bulk, often lack necessary instructions for their safe use. Thus, these products are widely distributed to displaced families without prior need assessment or infant screening (Binns, Lee, Tang, Yu, Hokama, & Lee, 2012). The unscreened distribution of free infant formula milk by the stakeholders (community workers, relief agencies, volunteers, and health care professionals) and donor agencies not only conveys a negative message about breastfeeding but implicitly pressures displaced mothers to prematurely wean their infants (Dörnemann & Kelly, 2013; Gribble, 2005). However, it is unclear from the published literature to what extent the free distribution of formula milk shapes breastfeeding experiences and practices of displaced mothers.

**Privacy and safe spaces.** Lack of privacy and overcrowding in disaster relief camps restrict many mothers who are uncomfortable breastfeeding their babies in public (Bukhari & Rizvi, 2015; Hirani, 2014; Maheen & Hoban, 2017; Sulaiman et al., 2016). The lack of privacy can increase mothers' stress levels, which can have implications for their own well-being (Bukhari & Rizvi, 2015; Sulaiman et al., 2016). Given the importance of privacy and safe breastfeeding spaces for mothers living in disaster relief camps, the establishment of a baby tent (a mother and baby-friendly space in the disaster relief camp) can have a positive influence on

the breastfeeding practices of these mothers (Ayoya et al., 2013; UNICEF, 2010c). Although the literature reports repercussions for mothers when they decide to breastfeed in public (Brown, 2015; Wolf, 2008), very little evidence is available regarding the experiences of internally displaced mothers if they decide to breastfeed publicly in disaster relief camps.

**Lactation counselling facilities and support.** In disaster relief camps, volunteers and health care providers often lack adequate expertise, comfort, and skills to assist breastfeeding mothers (Abney, 2010; Hirani & Kenner, 2011). Hence, they often encourage the use of formula rather than continued breastfeeding (Abney, 2010). Although the presence of those who can support breastfeeding is essential during disaster and displacement (Chantry, Eglash, & Labbok, 2015; Heinig, 2005), displaced mothers often lack social support, lactation counselling facilities, and access to trained health care professionals or peer counsellors in disaster relief camps (Sulaiman et al., 2016). The lack of necessary support in these camps hampers mothers' efforts to sustain their breastfeeding practices or to choose the option of relactation if breastfeeding substitutes are not available (Morin, 2008; Sulaiman et al., 2016). The published literature does not specify to what extent support from trained health care providers affects the breastfeeding practices of displaced mothers in disaster relief camps, and what other sources of social support (formal and informal) shape these women's breastfeeding experiences.

**Beliefs, myths, and misconceptions about breastfeeding.** Breastfeeding-related beliefs, myths, and misconceptions of mothers, their family members, community leaders, health care workers, and volunteers working in disaster relief camps impact the breastfeeding practices of displaced mothers (Hirani, 2012; Sulaiman et al., 2016). It is commonly believed that during disasters, when mothers encounter stress, food insecurity, and compromised nutritional status, they are incapable of producing sufficient and good-quality breastmilk (Dörnemann & Kelly,

2013; Sulaiman et al., 2016). Although stress and mild to moderate maternal malnutrition do not significantly alter the quality or quantity of breastmilk (Black et al., 2008), many mothers stop breastfeeding their babies or initiate breast-milk substitutes during humanitarian emergencies (Dörnemann & Kelly, 2013; Sulaiman et al., 2016) because they believe that during stressful times their breastmilk is not safe or sufficient for their children. Another common belief about breastfeeding is that mothers cannot breastfeed again after not breastfeeding for a few weeks during the immediate crisis of a disaster and displacement (Dimitra, 2012). Although relactation is possible with proper breastfeeding counselling, support, skin-to-skin contact, and frequent suckling (Lawrence & Lawrence, 2010), breastfeeding myths cause discontinuation of breastfeeding and affect children's health, especially because formula milk is often prepared in contaminated water (Cook, 2010; Dimitra, 2012). It is unclear from the published literature whether displaced mothers stop breastfeeding because of their personal beliefs, cultural norms, or because of advice from the people in their immediate social network.

**Gender-based constraints, control, and violence.** Women are differently affected by disaster and displacement due to biological differences (Nour, 2011). Specifically, in resource-poor nations, displaced women, who account for almost 75% of the displaced community, experience malnutrition, gender-based violence, inadequate breastfeeding support, lack of adequate resources to tackle obstetric emergencies, and gender role expectations to care for the young children and other members of their family who are sick and injured (Aoláin, 2011; Banford & Froude, 2015; Enarson & Chakrabarti, 2009; Hirani & Kenner, 2011; Nour, 2011; Pittaway, Bartolomei, & Rees, 2007; Rimawi, Mirdamadi & John, 2014).

Post-disaster internal displacement contributes to the exploitations of women, especially mothers with young children, due to male-dominant social structures, overcrowding,

psychological strain, lack of adequate protection to prevent violence (gender-based, physical, and/or sexual), absence of law and order in disaster relief camps, inadequate environmental safety for women, and insufficient attention towards their sexual and reproductive health (Aoláin, 2011; Asad et al., 2013; Bukhari & Rizvi, 2015; Carballo, Hernandez, Schneider, & Welle, 2005; Nour, 2011; The American College of Obstetricians and Gynecologists, 2010).

In the context of disaster relief camps in Pakistan, where the majority of the stakeholders are males who hold decision-making power and authority, the layouts of the disaster relief camps are often not female friendly (Hirani, 2014; Maheen & Hoban, 2017; Sadia et al., 2016).

Although disaster-affected families are provided with basic first aid, food, and shelter, the needs and rights of women with young children are often overlooked in these camps (Hirani, 2014; Maheen & Hoban, 2017). In these camps, displaced women often encounter gender-based constraints, including lack of opportunity to participate in decision making, inequitable power relations, and violence (Asad et al., 2013; Maheen & Hoban, 2017; Sadia et al., 2016). This situation not only reflects the vulnerability and oppressive side of the lives of displaced mothers, but suggests the need to explore the possible sources of domination, dilemmas, and constraints on mothers of young children who wish to sustain their breastfeeding practices.

**Maternal well-being.** During disasters and resultant displacement, many women experience physical trauma/injuries, the death of a close family member, separation from their social network, and birth without professional assistance (Branca & Schultink, 2016; Sadia et al., 2016). Often, traumatized mothers of young children suffer depression and post-traumatic stress disorder (PTSD) and therefore cannot adequately respond to their infants' feeding needs (Dimitra, 2012). The literature also highlights that displaced mothers with preexisting health conditions (e.g., diabetes, hypertension), a complicated intrapartum or postnatal event (e.g.,



obstructed labor, post-natal hemorrhage), or any newly developed psychiatric condition need responsive care and breastfeeding support (Callaghan et al., 2007). However, it is unclear from the published literature to what extent maternal well-being and offered support from the humanitarian relief workers affect breastfeeding practices of displaced mothers in disaster relief camps.

### **Identified Gaps from the Literature**

A review of the literature suggests that the breastfeeding experiences, behaviours, and practices of displaced mothers are shaped by a combination of gender-based, sociocultural, economic, and geopolitical factors in the setting of a disaster relief camp. Although the literature reveals some of the facilitators and constraints encountered by displaced mothers with young children (e.g., free distribution of formula milk, lack of privacy, non-availability of support, myths and misconceptions about breastfeeding, gender-based constraints, and maternal well-being), it does not fully uncover underlying facilitators of or barriers to mothers' breastfeeding practices in disaster relief camps. The scant number of empirical studies on breastfeeding practices in disaster relief camps reflects the minimal and insufficient knowledge on this topic. Moreover, little qualitative research has been undertaken with a critical perspective to explore a wide range of facilitators and constraints shaping the breastfeeding experiences, practices, and behaviours of displaced mothers residing in the disaster relief camps.

There is a dearth of research on breastfeeding practices in disaster relief camps, particularly in Pakistan. Previous studies with displaced women in Pakistan present challenges encountered by women, mainly pregnant mothers in disaster relief camps, however, they do not uncover the factors that facilitate or impede the breastfeeding practices of displaced mothers in such precarious contexts. As little research is undertaken to examine the wide range of gender-

based, sociocultural, economic, and geopolitical factors that directly and indirectly affect the breastfeeding practices of internally displaced mothers in Pakistan, the imposed constraints or facilitators toward the breastfeeding practices of these mothers are not well understood. It is not surprising, therefore, that the key stakeholders are uncertain about how to design and execute programs, policies, and practices to protect, promote, and support the breastfeeding practices of displaced mothers in disaster relief camps.

Given the precarity and vulnerability of breastfeeding women and the rising child mortality rates in relief camps in Pakistan, there is a pressing need to undertake an inquiry that can uncover the facilitators and barriers towards the breastfeeding practices of internally displaced mothers in Pakistan, as well as to identify maternal, social, political, cultural, and economic factors that shape the breastfeeding experiences of these mothers. A comprehensive understanding of these factors will help nurses, policy makers, and service providers in developing context-specific supportive interventions to improve breastfeeding practices and decrease child deaths in relief camps in Pakistan. The identified gaps in knowledge may pose challenges for nurses and other stakeholders (who design and execute programs, policies, and practices) to protect, promote, and support the breastfeeding practices of internally displaced mothers and to save lives of young children in the setting of disaster relief camps. Therefore, it is critical to address this gap in knowledge to facilitate health care professionals, policy makers, relief agencies, and other stakeholders to identify the kinds of breastfeeding support required for displaced mothers who wish to sustain breastfeeding. In the context of disaster relief camps in Pakistan, where currently there is no standardized program or policies to support breastfeeding, it is essential to address this gap in knowledge so that nurses, relief workers, and other stakeholders can develop context-

specific supportive interventions that may improve breastfeeding practices in disaster relief camps and, in turn, potentially decrease deaths of young children in Pakistan.

Irrespective of geographic location, religious group, and socio-economic class, in many sub-cultures of Pakistan where patriarchy determines that men are the primary decision-makers and control most of the aspects of women's lives, it is also critical to address this gap in knowledge to uncover existing inequalities, possible constraints, sources of domination, and dilemmas surrounding breastfeeding practices and experiences of displaced mothers. Research in this area will critically examine the underlying factors (maternal, sociocultural, economic, and geopolitical) that are placing displaced mothers in even more precarious situations and affecting their breastfeeding practices in disaster relief camps in Pakistan. The research will additionally develop new knowledge in nursing related to disaster management, guide future research in this area, and facilitate mobilization of knowledge while caring for the vulnerable group of displaced mothers residing in the disaster relief camps in Pakistan.

After literature review, the research questions that came out for this study are: "What are the facilitators and barriers to breastfeeding practices of internally displaced mothers residing in disaster relief camps in Pakistan?" and "What are the maternal, sociocultural, economic, and geopolitical factors that directly and indirectly affect breastfeeding practices of internally displaced mothers residing in disaster relief camps in Pakistan?"

### **Conclusion**

To sum up, the reviewed literature presents the issues surrounding breastfeeding practices of displaced mothers residing in disaster relief camps across the globe and specifically in Pakistan. An analysis of literature revealed six major themes that directly and indirectly affect breastfeeding practices of displaced mothers: distribution of free infant formula milk, safe spaces

to breastfeed, lactation counselling facilities, beliefs about breastfeeding, gender-based constraints, and maternal well-being. The literature review revealed gaps in knowledge on facilitators and barriers that shape the breastfeeding practices of displaced mothers residing in disaster relief camps particularly in Pakistan. In view of the vulnerability of displaced mothers and rising child mortality rates in disaster relief camps in Pakistan, there is a pressing need to explore a wide range of factors affecting breastfeeding practices of internally displaced mothers in the disaster relief camps in Pakistan. Research in this area is essential to design and execute context-specific and need-based programs, policies, and practices to protect, promote, and support breastfeeding practices of internally displaced mothers in disaster relief camps in Pakistan.

The subsequent chapter narrates the methodology undertaken to explore the facilitators and barriers to the breastfeeding practices of internally displaced mothers residing in disaster relief camps in Pakistan, as well as to identify maternal, sociocultural, economic, and geopolitical factors that directly and indirectly affect the breastfeeding practices of internally displaced mothers residing in disaster relief camps in Pakistan.

### **Chapter 3: Methodology**

This chapter presents the description of the research design, the philosophical underpinnings, the theoretical framework that guided this research, and the methods that were employed during this study. These methods include setting, sample, sampling, sample size, the researcher's approach to accessing the disaster-affected community, ethical considerations, data collection methods, data management, data analysis, and strategies to assure rigor and trustworthiness of the gathered data.

#### **Critical Ethnography: Research Design**

This study was undertaken using a critical ethnographic design. This design provides an opportunity to critically examine the issues surrounding the lives of people experiencing vulnerability, conflict, and struggle in a context where injustice and unfairness are common (Cook, 2005; Munhall, 2012). Moreover, this design provides an opportunity to examine the experiences of a potentially vulnerable group living in a particular culture and to analyze the association of those experiences within specific power relationships (Harrowing, Mill, Spiers, Kulig, & Kipp, 2010). Critical ethnography facilitates a researcher in gaining insight into the wide range of political, cultural, social, maternal, and economic factors in social structures that shape experiences of vulnerable groups (Cook, 2005), in this case, internally displaced mothers of young children in disaster relief camps in Pakistan. In this study, the disaster relief camps are operationally defined as all types of temporary housing such as tents, transitional shelters, and mud-brick based houses where disaster-affected families have been living since the time of a major disaster.

The overall intent of critical ethnography is threefold. It theorizes social structural constraints and human agency, unmask the dominant social constructions and interests, and

studies society to transform it (Anderson, 1989; Atkinson, Coffey, Delamont, Lofland, & Lofland, 2007). Moreover, the emancipatory role of critical ethnography enables researchers to address inequities, achieve positive social change, and improve the well-being of the vulnerable group (Atkinson et al., 2007; Cook, 2005; Madison, 2012). Critical ethnography is considered a health promotion research method that can explore determinants that shape experiences of the vulnerable group (Cook, 2005). Moreover, this research design holds a political purpose of improving the lives of the groups experiencing vulnerability (Cook, 2005). In comparison with other forms of ethnography, critical ethnography presents a unique perspective of involving participants in the iterative process of data collection and data analysis, critically examining their experiences, and facilitating them to reflect on why a problem exists and what can be done to resolve the issue (Cook, 2005; Madison, 2012). Hence, this iterative nature of critical ethnography enables the participants to gain insight into the issue, become knowledgeable about the factors affecting their well-being, and identify ways to resolve the issue (Atkinson et al., 2007; Madison, 2012).

Considering the increase in child mortality rates during disasters (You, Hug, Ejdemyr, Beise, & Idele, 2015), I undertook this critical ethnographic study as a step to reduce deaths of young children and protect breastfeeding practices of women in the context of the disaster relief camp in Pakistan. In view of the identified gaps in knowledge, the research questions for this study included: “What are the facilitators and barriers to breastfeeding practices of internally displaced mothers residing in disaster relief camps in Pakistan?” and “What are the maternal, sociocultural, economic, and geopolitical factors that directly and indirectly affect breastfeeding practices of internally displaced mothers residing in disaster relief camps in Pakistan?” To answer these research questions, this critical ethnographic research provided an opportunity to

gain access to the reality behind varied breastfeeding practices of displaced mothers residing in the setting of disaster relief camps in Chitral, Pakistan.

I employed this research design to examine the facilitators and barriers towards breastfeeding practices of internally displaced mothers residing in the disaster relief camps in Pakistan. In Pakistani society, where internally displaced mothers are often exposed to gender-based violence, oppression, food insecurity, and health inequalities (Asad et al., 2013; Carballo et al., 2005; Nour, 2011), I found critical ethnography suitable to establish a meaningful dialogue with the marginalized group of internally displaced mothers and to learn about their breastfeeding experiences. In the setting of a disaster relief camp in Pakistan, this design facilitated close examination of the breastfeeding experiences of the marginalized groups of internally displaced mothers, including those who are breastfeeding, those who have chosen not to breastfeed, and those who gave up their breastfeeding practices during a disaster, displacement, or settlement in the disaster relief camps. Moreover, this research design facilitated the examination of other aspects of culture, such as the role of healthcare professionals, people in mothers' formal and informal social networks, donor agencies, humanitarian relief agencies, infrastructure of disaster relief camps, and the environment at large (social and geopolitical) in shaping the breastfeeding experiences of mothers in the disaster relief camps in Pakistan.

Use of critical ethnography as a research design guided the research process and aided in uncovering a wide range of maternal, sociocultural, economic, and geopolitical factors that shape breastfeeding experiences of mothers in the disaster relief camps in Pakistan. The critical nature of inquiry was instrumental in identifying factors affecting breastfeeding practices of vulnerable groups of displaced mothers and in promoting their self-reflection during the iterative process of

data collection and analysis. Moreover, the critical nature of inquiry facilitated the use of multiple methods of data collection and helped me to be mindful of my own positionality as a researcher as well as to be aware of power differences during my fieldwork in the precarious context of disaster relief camps in the northern region of Pakistan. This inquiry gave displaced mothers the opportunity to share insights on various facilitators and barriers affecting their breastfeeding practices and to propose recommendations to promote and protect their breastfeeding practices during disasters, displacement, and settlement in the disaster relief camps.

### **Philosophical Underpinnings and Theoretical Framework**

The ontology, epistemology, and theoretical framework that guided this critical ethnographic research are discussed below:

**Ontology.** As per the ontological assumption of critical ethnography, there is no single reality, there are multiple truths that are socially constructed, and the disparities surrounding the lives of the vulnerable group is an uncovered reality (Thomas, 1993).

**Critical realism.** Although critical ethnographers often use the ontological assumption of historical realism to gain insight into different factors that shape reality, I used the ontological assumption of *critical realism* because this approach facilitates in uncovering reality in relation to human agency and social structures. The ontological assumption of critical realism is grounded in the belief that human behavior, actions, and perceptions are shaped by a wide range of social structures and underlying mechanisms that are interrelated and complex (Clark, Lissel, & Davis, 2008). In this study, this approach assisted in the examination of multiple factors i.e., maternal, socio-cultural, economic, and geopolitical factors that affect breastfeeding practices of displaced mothers.



Being a critical realist, I draw from the early work by Roy Bhaskar who conceptualizes reality into three domains: the actual, the real, and the empirical (Archer, Bhaskar, Collier, Lawson, & Norrie, 2013). The ‘actual’ refers to observable events and actions; the ‘real’ refers to the underlying power, authority, and social structures that shape the events and actions in the actual domain; and the ‘empirical’ refers to human experiences and perceptions (Archer et al., 2013; Clark et al., 2008; DeForge & Shaw, 2012). Roy Bhaskar proposes critical realism as a philosophical assumption to gain insight into the reality that is multifaceted, complex, and can be utilized to transform social structures that are negatively affecting human agency (Bhaskar, 2009). The critical realism that is positioned between realism and relativism believes that agency (human beliefs, attitudes, and meanings), structural factors (sociocultural, geopolitical, economic, and other environmental factors), and mechanisms (underlying association between the agency and structural factors) lead to the emergence of an event (Clark et al., 2008).

As per this ontological assumption, a social phenomenon is complex, multilayered, socially embedded, and affects human agency (Clark et al., 2008). Hence, critical realist ontology is instrumental in facilitating a researcher to gain insight into the phenomenon not only by knowing the observable factors (actual domain) but by exploring the underlying factors (real domain) and critically analyzing the deeper association among those factors (Archer et al., 2013; Clark et al., 2008). This ontological assumption connects well with critical ethnography study design that aims to examine the sources of domination leading to vulnerability, identify underlying factors in the social structures affecting the well-being of the population, and begin an emancipatory movement during the research process (DeForge & Shaw, 2012).

In view of the critical realist ontology, I believe that breastfeeding experiences, behaviors, and practices of internally displaced mothers are shaped by a combination of maternal,

sociocultural, economic, and geopolitical factors in disaster relief camps. A review of the literature revealed some constraints encountered by displaced mothers (i.e., free distribution of formula milk, lack of support, compromised nutritional status, gender-based constraints, and lack of privacy). However, my literature review suggested several significant gaps in knowledge related to breastfeeding practices of displaced mothers in the setting of disaster relief camps. Also, very little empirical research is undertaken in Pakistan to uncover underlying facilitators or barriers towards breastfeeding practices of internally displaced mothers and to identify a wide range of maternal, sociocultural, economic and geopolitical factors that affect breastfeeding in the setting of a disaster relief camp. In this study, the ontological assumption of critical realism provided an avenue to uncover the reality behind the breastfeeding experiences of internally displaced mothers that are shaped by a wide range of contextual forces embedded in the social structures of these mothers. The chosen ontological assumption assisted in exploring the underlying factors that are placing internally displaced mothers in precarious situations and affecting their breastfeeding practices in the context of a disaster relief camp.

The role of critical realist ontology is widely acknowledged in enhancing nursing knowledge, especially in the field of women's health (Clark et al., 2008). I believe that the ontological assumption of my research provided an opportunity to gain an in-depth understanding of the phenomenon of breastfeeding among internally displaced mothers. During the iterative process of data collection and data analysis, this ontological assumption facilitated me to uncover the deeper causes (wide range of contextual factors) that affect breastfeeding and to identify the interplay between maternal agency and contextual factors serving as facilitators or barriers to mothers' breastfeeding practices.

In the context of Pakistan, where breastfeeding is often considered a women's personal matter and there is a dearth of research in this area, it was challenging to understand the dynamic association between the maternal agency, structural factors, and mechanisms surrounding breastfeeding decisions and practices. The critical realist perspective used in this study provided a theoretical direction to address the knowledge gaps by gaining access to the stories surrounding breastfeeding practices of displaced mothers who are facing recurrent disasters, experiencing subsequent displacement, and are residing in various types of temporary housing (shelters, tents, huts, or unstable houses) after disasters. None of the previous studies in this area used a critical lens to explore the reality behind a wide range of breastfeeding practices of displaced mothers. In this study, the use of ontological assumption of critical realism provided an opportunity to gain insight into a reality that is multifaceted, complex and interrelated. While using critical realist ontology (Archer et al., 2013), I uncovered the multiple realities by gaining access to the experiences of participants (empirical domain of reality) and triangulating those experiences with the facts gathered from field observations and document analysis (actual and real domain of reality). The undertaking of critical ethnographic research from a critical realist ontology also strengthened my conceptual understanding of the phenomenon and helped me to establish associations between emerging themes, sub-themes, categories, and subcategories derived from the participants' voices.

**Epistemology.** As per the epistemological assumption of critical ethnography, being a *constructivist*, I believe that the researcher and participants co-construct the data through direct involvement and communication. Data gathered through this process is neither objective nor subjective but “intersubjective” in nature because it represents a mutual effort of the researcher and the study participants within a cultural context (Agar, 1997).

In a critical ethnography study, it is important that the researchers are aware of their *positionality* and power differences throughout the research process (Madison, 2012). In view of the utilized epistemological assumption, communication between the researcher and participants is an essential element to establish mutual understanding and minimize power and positionality differences during the research process (Hardcastle, Usher, & Holmes, 2006; Munhall, 2012). In the process of communication, the researcher immerses into the culture and demonstrates rationality by removing conscious or unconscious barriers to communication and facilitates participants to speak openly about their situations (Munhall, 2012). Aside from using the epistemological assumption of constructivist, I have utilized the approach proposed by Carspecken to maintain a trusting relationship with the study participants, engage in a meaningful dialogue, and generate meaning through the interaction process (Munhall, 2012). Carspecken's approach suggests that researchers establish interaction by first observing participants' behavior and verbal discourse, and subsequently engaging in a meaningful dialogue with the participants to generate knowledge (Hardcastle et al., 2006; Harrowing et al., 2010). During fieldwork, I maintained trusting relations with the displaced mothers and engaged in dialogue with them. Hence, the knowledge acquired through this process aided in-depth examination of the facilitators and barriers towards breastfeeding practices of internally displaced mothers in Pakistan, as well as enabled me to identify the wide range of maternal, sociocultural, economic, and geopolitical factors that directly and indirectly affect maternal autonomy in breastfeeding.

**Theoretical framework.** Besides critical realism, the theoretical framework that guided this study is Amartya Sen's capability approach. In this study, critical realism provided a theoretical foundation to uncover factors that directly and indirectly affect breastfeeding

practices of internally displaced mothers. As a next step, the capability approach framework by Sen (2005) provided a conceptual ground to examine the dynamic association and interrelationship between maternal agency and contextual factors that shape the breastfeeding experiences and practices of displaced mothers residing in a variety of temporary housing. Hence, in this study, both critical realism and Sen's capability framework provided an opportunity to first identify the contextual factors (facilitators and barriers) and then analyze the mechanisms through which structural factors (maternal, sociocultural, economic, and geopolitical) affect agency of the displaced mothers pertinent to their breastfeeding practices. The capability approach framework is discussed below.

***Capability approach.*** In 1979, Amartya Sen introduced the notion of human capability and proposed a theoretical framework that holds relevance to a wide range of disciplines, including philosophy, public health, medicine, nursing, sociology, economics, psychology, social policy and politics (Hirani & Richter, 2017; Sen, 2005). This framework identifies five key concepts, including capabilities, functioning, agency, endowment, and conversion factors (Sen, 1999a, 1999b). *Capabilities* refer to 'possible and available opportunities to an individual'; *functioning* refers to 'choices, values, and willingness to pursue the possible and available opportunities'; *agency* refers to 'ability to act'; *endowment* refers to 'available resources in the environment' (i.e., physical, mental, social, political, or public) that reinforces the capabilities and functioning of an individual; and *conversion factors* refer to the wide range of 'personal, socio-cultural, economic, and geopolitical factors' that affect the capabilities and functioning of an individual (Hirani & Richter, 2017; p. 52).

In this research (fifth and sixth chapters of this thesis), Amartya Sen's capability approach is used as a framework to discuss the interplay of a wide range of contextual factors on

capability, functioning, and agency of breastfeeding mothers residing in disaster relief camps in Pakistan. Sen's capability approach acknowledges the crucial role of an individual's internal environment (individual characteristics) and external environment (socio-cultural, economic, and geopolitical factors) on human capabilities and functioning (Sen, 1999a, 1999b). This framework has guided me to critically analyze the interrelationships between different factors affecting breastfeeding practices of displaced mothers, to draw conclusions from the findings, and to propose recommendations for practice setting, future research, education, and policy.

## **Methods**

Critical ethnographers play a unique role during the entire research process. They begin the research process by considering an "ethical responsibility" to break the status quo to address the issues surrounding social injustice, inequality, and oppression (Madison, 2012). Critical ethnographers adapt the reflective approach to explore the relationship between "knowledge, society, and freedom from unnecessary social domination" (Thomas, 1993). Critical ethnographers work with a marginalized group in a particular context and gain access to their experiences that were previously out of reach (Madison, 2012). Keeping in view the chosen research design, this section presents information about the setting, sample, sampling method, sample size, ethical considerations, data collection methods, strategies adapted during fieldwork, data analysis methods, and researcher's efforts to assure rigor and trustworthiness.

**Setting.** I undertook this study in the disaster relief camps located in Chitral, Pakistan. Chitral is situated in the Khyber Pakhtunkhwa province of Pakistan with an approximate population of over 479,000 people (Pakistan Poverty Alleviation Fund, 2015). Chitral is a mountainous region located in the extreme north of Pakistan (lies at an average elevation of 1500 meters above sea level). The altitude of the mountains in Chitral ranges from a minimum of 4000

feet to over 20,000 feet (Bureau of Statistics, 2014). As shown in Figure 1, this region shares borders with Afghanistan on its north, south, and west border, and with China on its north and north-east border (Pakistan Poverty Alleviation Fund, 2015).

**Figure 1. Map of Pakistan identifying Chitral (marked in red)**



Source: [https://upload.wikimedia.org/wikipedia/commons/5/5d/Chitral\\_map.png](https://upload.wikimedia.org/wikipedia/commons/5/5d/Chitral_map.png)

This region has many snowy peaks, green valleys, glaciers, rivers, and lakes. Chitral has warm summers (ranging between 25 to 40 C) and cold winters (below freezing temperatures ranging between -7 to -15 C). During the past few years, this region has had heavy snowfall ranging from two feet (in general) to up to 70 feet mainly at higher elevations (Pakistan Poverty Alleviation Fund, 2015). There are approximately 100 small villages in the mountainous region of Chitral, with an average population ranging from 2000 to 5000 people in each village (Bureau of Statistics, 2014). Although Urdu is the national language of Pakistan and is understood and spoken by many people in Chitral, the commonly spoken local language is Khowar. Due to ethnic diversity, there are various other local languages that are spoken in this region. In Chitral,

the predominant religious groups include Sunni Muslims, Ismaili, and Kalash (Bureau of Statistics, 2014). Sunni Muslims constitute approximately 87 percent to 90 percent of the Muslim population. They believe in the teaching of the Holy Quran and believe that Prophet Muhammad was the last messenger of God (Allah) who did not clearly designate any successor. The place of worship of Sunni Muslims is called Mosque. Ismaili Muslims, also known as Ismailis are the Shia Muslims who are led by a hereditary Imam. They believe that Imams are the direct descendants of Ali, the son-in-law and cousin of Prophet Muhammad. The role of the Imam is to provide spiritual and moral guidance to this religious group. Ismailis offer their prayers in a prayer hall called *Jamat Khana*.

The Kalash religion is a form of ancient Hinduism that is often referred to as animism and is a derivative of the Indo-Aryan religion. They believe in gods and goddesses (polytheistic). The followers of this religion visit shrines, offer prayers in temples, undertake prayers in front of fire, and offer sacrifice animals, including horses, cows, goats, and sheep for their gods and goddesses. The cultural beliefs, practices, and religious ceremonies differ in various sub-cultures and religious groups in Chitral. Regardless of the socio-economic class and religious background of Chitrali families, the tradition of hospitality and the extended family system is common in all parts.

During the past decade, this region has experienced a sudden drop in tourism due to political instability at the Afghan border, tribal disputes (concerning land, forestry, and water), and recurrent natural disasters (mainly earthquakes, landslides, glacial lake outburst flooding, and flash flooding). The region has many villages in the mountainous region of Chitral that are underserved due to the isolated nature of their geographic location, political instability, tribal disputes, or inaccessibility during humanitarian emergencies. Many villages in Chitral are remote



and have non-availability of basic facilities, such as clean drinking water, health care units, schools, proper roads, public transportation, electricity, sanitation facilities, and waste disposal systems (Pakistan Poverty Alleviation Fund, 2015).

In Chitral, livestock rearing is common. Cattle (cows), goats, and sheep are the major livestock that meet the livelihood of many Chitrali families. During all weather conditions, these livestock serve as the biggest source of milk and dairy products (butter and cheese), and many Chitrali families often supplement their income by selling wool (Pakistan Poverty Alleviation Fund, 2015). Approximately ninety percent of the Chitrali population are agriculturists and the major crops include maize, wheat, barley, rice, and vegetables (Pakistan Poverty Alleviation Fund, 2015). In some of the families, men work away from home in Chitral City, in jobs associated with trading, construction work, government services, or armed forces as Chitral scouts or frontier constables (Bureau of Statistics, 2014). Production of handicrafts by women, mainly sweaters made of wool, stitched clothes in various designs and embroidery work, is a common household tradition in various villages of Chitral; in a few households, women often use these skills to supplement their family's income and participate in income generation activities while remaining within the premises of their households (Bureau of Statistics, 2014).

In Chitral, there are two predominate sub-communities, Kalash and Khow. Women in the Kalash community are not obliged to follow the strict veil (*pardah*) system and are allowed to work in fields. However, they are not given many rights to participate in family level decision making and inheritance (Pakistan Poverty Alleviation Fund, 2015). On the other hand, in the Khow community, women are required to observe the strict veil (*pardah*) and do not have mobility rights unless they have permission from the male members or household heads, or unless any male member accompany them (Pakistan Poverty Alleviation Fund, 2015). During the

past few years, the traditional gender roles have been changing in Chitral, and women are sharing the workload of men in the farmland, opting to pursue higher education within and outside Chitral, and seeking employment outside their homes (Pakistan Poverty Alleviation Fund, 2015).

During the last decade, a Water and Sanitation Extension Program (WASEP) as a joint venture and rural-based initiative of Aga Khan Development Network Agency with the German government and other local non-governmental authorities has been striving to provide safe drinking water (through household tap stands and communal taps), sanitation facilities (installation of latrines), and health and hygiene education to many underprivileged communities in various villages of Chitral (The Express Tribune, 2015). There are, however, still many villages in Chitral in which these services are either unavailable or under the conception phase.

There are two major healthcare sectors in Chitral, including the government department of health and Aga Khan Health Services, Pakistan. The public sectors facilities include 22 civil dispensaries (clinics), 21 basic health units (primary level of healthcare for health promotion), three administrative divisions (*tehsil* headquarters), and one district headquarter hospital (Shaikh, Khan, Maab, & Amjad, 2014). On the other hand, there are 17 health centers, four dispensaries, eight family health centres, and three secondary care facilities of Aga Khan Health Services, Pakistan that provide coverage to approximately 60 percent of the Chitrali population where they avail physician's consultation, labour and delivery services, vaccination facilities, and health sessions on prevention of communicable and non-communicable diseases (Shaikh et al., 2014). As most of these facilities are located in specific villages, it is challenging for the entire Chitrali population to access these facilities considering the distance, cost, and time involved in travelling to these villages through the unstable roads in the mountainous regions of Chitral. Home-based

deliveries undertaken by traditional birth attendants are quite common in this region. In similarity with other parts of Pakistan, maternal and under five child mortality rates are quite high at 275/100,000 live births and 75/1000 live births respectively. This is quite a bit higher than the global average (Shaikh et al., 2014).

During 2015, thousands of families in Chitral were affected by the Glacial Lake Outburst Flooding and subsequent earthquake. The glacial outburst flooding and subsequent earthquake have accumulated a large number of debris on the residential and agricultural land of the affected villages (see figure 2). Refer to the following photo that shows the accumulated hard-to-move debris on the residential and agricultural land. This photo was taken on March 27, 2018, approximately 2.5 years after the glacial lake outburst flooding in Bumburate (Kalash valley of Chitral).

**Figure 2. Accumulation of hard-to-move debris on the residential and agricultural land after glacial lake outburst flooding in Chitral**



The recurrent disasters in this region resulted in many families living in temporary settlements, where people are housed in tents, transitional shelters allocated by the disaster relief agency, or makeshift huts built out of mud and brick (locally known as *katcha houses*). Many of

these disaster relief camps are allocated by humanitarian relief agencies (mainly Aga Khan Agency for Habitat, Pakistan).

Many of the disaster relief camps (mainly shelters and tents) are placed at the top of the hill and mountain, mainly due to the unavailability of residential land, the immovable nature of debris, the unavailability of manpower to move the debris from the residential land, and to prevent the possibility of drowning of the affected families in the case of a subsequent glacial lake outburst flooding. (Refer to Figure 3 showing the location of angle iron green transitional shelters at the top of the hill. This photo was taken during the fieldwork in the Zhitoor village i.e. Garam Chashma valley of Chitral, Pakistan on March 28, 2018).

***Figure 3. Angle iron green transitional shelter located on the top of the hill***



Considering the temporary nature of the setting and the unique context of the disaster relief community, I consulted with the Aga Khan Agency for Habitat, Pakistan (humanitarian relief agency) to identify villages having families who are residing in the disaster relief camps and

having diverse cultural and religious backgrounds. In consultation with the humanitarian relief agency, I undertook my fieldwork in the four different disaster-affected villages of Lower Chitral, including Shali, Bumburate (Kalash valley), Zhitoor (Garam Chashma valley), and Beshqair (Garam Chashma valley). Each of these villages was located far from each other and travelling to these villages required approximately 1.5 to 2.5 hours of one-way travel from Chitral City. I accessed these villages, with the support of the Aga Khan Agency for Habitat, by travelling through unstable roads on mountains, and used ground transportation to gain access to the participants residing in those villages. Figure 4 depicts unstable roads in the mountainous region of Chitral, Pakistan.

**Figure 4. Unstable roads in the mountainous region of Chitral**



**Sample.** Keeping in view the aim, theoretical underpinnings, and design of this research, I drew a sample of 18 displaced mothers who were residing in a variety of disaster relief housing (referred to as disaster relief camps) in different villages of Chitral, Pakistan and who had young children of age one day to 36 months. As inclusion criteria, mothers were eligible to participate in the study regardless of their breastfeeding practices (either currently breastfeeding or not). To

gain insight into the facilitators and constraints encountered by mothers, I included displaced mothers having varied practices of breastfeeding (i.e. mothers who are currently breastfeeding, mothers who have recently discontinued breastfeeding, mothers who are using mixed feeding (feeding both formula and breast milk), and mothers who have previously discontinued breastfeeding but were trying to establish relactation due to the absence of breastmilk substitutes in the setting of the disaster relief camp).

Approximately 40 displaced mothers were approached in the identified villages (i.e., Shali, Bumburate, Zhitoor, and Beshqair) to confirm if they met the inclusion criteria. I included displaced mothers who met the inclusion criteria for this study and provided informed consent to participate in this study.

**Sampling method.** To enhance the richness of data, I used *emergent, purposive, and maximum variation sampling methods* to recruit potential study participants having varied practices of breastfeeding. Emergent sampling enables ethnographers to collect data from the participants who are willing to spend time and share their experiences (Agar, 1997; Patton, 1990). This method also allows the researcher to add to the sample on encountering "unforeseen opportunities", especially when the area of research is novel and requires exploration (Suri, 2011). Secondly, I employed purposeful sampling to recruit study participants who are knowledgeable, meet the inclusion criteria, have sound experience about the phenomenon of interest, can communicate their experiences, and are willing to participate in the study (Palinkas et al., 2015). Thirdly, use of maximum variation sampling method enabled me to include mothers with young children (age one day to 36 months) having varied breastfeeding practices, including mothers who were breastfeeding before a natural disaster and who stopped afterwards, mothers who continued their breastfeeding practices regardless of the disaster and displacement, mothers

who were previously using formula milk but breastfed their babies post-disaster, mothers who never breastfed their babies, as well as mothers who lived in diverse types of relief camps and temporary settlements.

The chosen sampling methods enabled me to recruit internally displaced mothers who were able to shed light on a wide range of factors that shape their breastfeeding experiences in the context of disaster relief camps in Pakistan.

**Sample size.** Altogether, 18 internally displaced mothers (1 mother from Shali, 3 mothers from Bumburate, 10 mothers from Zhitoor, and 4 mothers from Beshqair) were recruited from the four villages of Chitral, Pakistan where many families were living in a variety of disaster relief housing (referred to as disaster relief camps), including transitional shelters, tents and mud-brick based houses (*katcha* houses). During the iterative process of data collection and analysis, strategies that guided me to determine the sample size for this study included sufficiency (richness) of data, practical wisdom, peer review from the thesis supervisory committee and consensual validation (Patton, 1990).

**Ethical considerations.** Ethical approval was sought from the University of Alberta Research Ethics Board before the commencement of the fieldwork. Refer to Appendix A to view the Ethics approval letter from the University of Alberta Ethics Board, Canada. I identified the disaster-affected community and accessed the disaster relief camp in the northern region of Pakistan (Chitral) through the Department of Emergency Management (FOCUS Humanitarian Assistance) of AKAH, Pakistan. An approval was sought from this humanitarian relief agency based in Pakistan. As there is no community-based ethics review board in Pakistan, this humanitarian relief agency reviewed the research proposal and agreed to provide me access to the disaster relief camp based in Pakistan after receiving an approval from the Ethics Review

Board of the University of Alberta, Canada. Refer to Appendix B to view the letter of support from the humanitarian relief agency based in Pakistan i.e. the Department of Emergency Management (FOCUS Humanitarian Assistance) of Aga Khan Agency for Habitat.

I sought the support of a community mobilizer (an employee of the Aga Khan Agency for Habitat) who was a woman, local resident of Chitral, knowing the local languages, and having awareness of the cultural context. The community mobilizer identified displaced mothers who met the inclusion criteria and invited them to participate in this study. At that stage, a consent to contact form was utilized to recruit study participants. Refer to Appendix C to view the invitation letter (Consent to contact form) for the mothers eligible to participate in the study.

On my first contact with study participants, I explained my role as a researcher. I informed mothers about the purpose of the study, method of data collection, potential benefits and risks of the study, and their right to withdraw from the study without any penalty. Refer to Appendix D to view the information letter for the study participants. The participants were told that their participation was completely voluntary and that they would have the option to withdraw their data by contacting the researcher during the fieldwork of this study. Participants' right to withdraw from the study was respected at all times and they were informed that if they decided to withdraw from the study then the data would be destroyed on request. They were informed that withdrawal from the study would not affect their relationship with the Aga Khan Agency for Habitat.

Considering the nature of the disaster relief camp and the varied literacy skills (reading and writing level) of the study participants, I collected verbal consent. Refer to Appendix E to view the components of the verbal consent form. With the permission of the study participants, their verbal approvals to participate in this study were recorded after assigning a unique identification



number. All of the information was provided in the national language of Pakistan (Urdu). Participants were allowed to ask questions or seek clarification before giving informed consent or anytime during data collection. Participants were informed that only the principal investigator and the thesis committee members will have access to the data. Participants were additionally informed that they had a choice to not to answer any questions if they did not want to.

Being a critical ethnographer, I was mindful of my positionality as a lactation consultant and nurse, hence I did not intervene or become involved in the provision of healthcare services to study participants. As the participants were women who have experienced disaster and trauma in the recent past, I anticipated the possibility that the women might experience an emotional breakdown during the interview. I decided that on encountering such a situation, I would pause the interview to allow participant to settle down and if required I would reschedule that interview at some other time. During the in-depth interviews, two participants cried during the interview but asked to continue to allow them to vent their feelings.

Participants were assured of their anonymity and confidentiality during the process of data collection, analysis, reporting, and dissemination. To assure anonymity and strict confidentiality of the participants, identification numbers were used instead of real names or pseudonyms to report the study findings. Consent forms were linked to identification numbers. Data was stored in a password protected Google drive that provides a secure virtual research environment for storing research data. The laptop computer was encrypted and remained in possession of the researcher. While being in the disaster relief camps in Pakistan and during my travel from Pakistan to Canada, I kept all the data, field notes, transcripts, and laptop in a locked container and in my possession. The transcriptionist for this study was required to sign an oath of confidentiality. Refer to Appendix F to view the confidentiality agreement form.

**Data collection methods.** Data was collected through multiple methods, including field observation, review of available documents, and in-depth interviews. In view of my theoretical lens and emancipatory agenda of critical ethnography, use of multiple methods of data collection facilitated me to uncover truths at a deeper level and examine a wide range of maternal, sociocultural, economic, and geopolitical factors that shape the breastfeeding experiences of internally displaced mothers, as well as to assure rigor and add richness to the gathered information. I maintained field notes and reflexive journal entries throughout the process of data collection. The procedure for each of the chosen method of data collection is discussed below.

**Observation.** First, field observation was undertaken. Considering my positionality (partial insider and outsider), I assumed the role of “participant as an observer” during which I undertook observation without participating in the group activities (Kawulich, 2005). The depth and nature of my field observation evolved during my engagement in the field. I referred to Spradley’s nine dimensions of observation (Spradley, 2016) to guide my field observation, hence I took notes about space, object, act, activity, event, time, actor, goal, and feelings. My field observation was selective and specific to internally displaced mothers and available breastfeeding support for these mothers in their environmental context. Specifically I observed the environmental resources/facilities available for mothers (clothes, space, specific feeding supplies, food portion provided to women, privacy issues, bathing, and sanitation facilities) at the identified disaster relief setup; roles and responsibilities that mothers were undertaking during the day (division of labor, leisure time etc.); and attitudes of people (family members, healthcare professionals, relief workers, volunteers) towards mothers (supportive or non-supportive). Refer to Appendix G to view the template that I used for the field observation.

**Document analysis.** Second, I conducted a document review related to information about displaced mothers or families having mothers of young children from the records maintained by the Aga Khan Agency for Habitat and Aga Khan Health Services, Pakistan. I also gathered information from the documents, such as flyers, newsletters, and reports maintained by the relief agency, as well as from the newspaper articles published during the period of disaster and resettlement of the internally displaced population in the disaster relief camp of Pakistan. These documents were identified by undertaking an internet search, reviewing websites of the humanitarian agencies working for the disaster-affected community, and meeting key stakeholders of the relief agency (Aga Khan Agency for Habitat, Pakistan) and health services (Aga Khan Health Services, Pakistan) to gain access to the relevant newsletters, flyers, reports, and records pertinent to the disaster-affected community in Chitral. Refer to Appendix H to view the template that was utilized for gathering information from the documents.

**In-depth interviews.** After identifying mothers having young children (age range one day to 36 months) and receiving their informed consent (verbal), demographic information of the study participants was gathered, and then in-depth interviews of 40-60 minutes were undertaken with each participant using a semi-structured interview guide in the Urdu language. Refer to Appendix I to see the English version of the demographic profile information gathering tool and Appendix J to refer to the preliminary draft of the interview guide. The interview guide for the semi-structured interview evolved as the research unfolded during the fieldwork, hence the researcher added more probes and questions with the progressive interviews. On a need basis, the researcher contacted a few of the participants (depending on their accessibility) to seek clarification and to probe for additional details.

In-depth interviews were conducted in the national language of Pakistan (Urdu) and were audio recorded. A few of the study participants understood Urdu but were more comfortable responding in their local language (mainly Khowar), so those participants were asked to respond in their local language (Khowar). Due to non-availability of a transcriber who could first transcribe in Khowar and then interpret it into Urdu, it was decided to undertake on the spot interpretation. Assistance of a local community mobilizer having proficiency both in Khowar and Urdu was sought as an interpreter to undertake on the spot interpretation of participants' views from Khowar to Urdu. Considering participants' ability to understand Urdu, to assure the validity of the interpretation, the interview was paused after each set of interpreted response and the community mobilizers and participants were asked to verify the information.

Interviews were conducted at the shelters allotted to the disaster-affected community. Before conducting in-depth interviews, the researcher ensured that the identified location was private, was comfortable for the participants, and was free of distractions. The audio recorded interviews in Urdu were translated into English and then transcribed by a transcriptionist who had proficiency both in Urdu and English. I undertook the audit trail of all the interviews to verify the translation and content of the interview. Ten percent of the translated verbatim in English were translated back into Urdu by a language expert to check the accuracy of the translated version. More than one interview was undertaken with four participants to assure the sufficiency of data, triangulate data gathered through field observations, and seek clarification on specific aspects of the facilitators and barriers towards the breastfeeding practices of mothers in the context of the disaster relief camp.

**Strategies utilized during fieldwork.** As a critical ethnographer, I adapted a variety of strategies during my fieldwork in Chitral. The strategies included demonstration of a *reflective approach, critical consciousness, practical wisdom, cultural immersion, mindfulness of positionality, and trust building strategies*. Each of these strategies is discussed below.

***Reflective approach.*** Throughout the research process, a critical ethnographer assumes an ethical responsibility and adopts a reflective approach to study sources of domination while engaging with the participants (Madison, 2012). A critical ethnographer plays a significant role in assuring that the research process proves mutually beneficial for the researchers and participants (Madison, 2012). In view of this approach, during the conduct of this critical ethnographic study, I practiced self-reflexivity (by reflecting and practicing journaling), documented field notes, utilized multiple methods of data collection, maintained the confidentiality of the study participants, informed participants about all aspects of the study, involved them in the iterative process of data collection and analysis, demonstrated cultural sensitivity, maintained a trusting relationship with the disaster-affected community, and assured the best interests of the study participants during the conduct of the study.

***Critical consciousness.*** As critical ethnographers often hold power and positionality differences with the participants, demonstration of critical consciousness is identified as an essential ethical consideration during the research process (Aluwihare-Samaranayake, 2012). The goal of critical consciousness is to respect the autonomy of study participants, assure reciprocity in the research process, maintain transparency while handling any ethical challenges, and assure methodological and ethical rigor of the undertaken research (Aluwihare-Samaranayake, 2012).

Critical consciousness helps a researcher to adhere to ethical principles such as respect, justice, beneficence, and non-maleficence in all types of interactions (written, spoken, and visual) with the study participants (Aluwihare-Samaranayake, 2012). Moreover, a critically conscious researcher maintains transparency in the research process and involves in self-reflexivity, which enables them to present research findings that are reflective of reality and the voices of the participants (Aluwihare-Samaranayake, 2012; Freire, 1993). During all phases of this critical ethnographic study, I applied the philosophy of critical consciousness as an ethical tenet to critically assess and analyze ethical challenges affecting the lives of the study participants. During this study, I was involved in self-introspection by maintaining a journal and having regular meetings with my thesis supervisory committee.

***Practical wisdom (phronesis).*** Phronesis involves intellectual engagement with the participants and research context, as well as a demonstration of critical understanding of moral and ethical implications of decisions (Barry & Hansen, 2008; Jarvis, 2016). As ethnographers often encounter an unexpected ethical dilemma or situations where they are required to undertake ethical decisions, phronesis facilitates an ethnographer to demonstrate awareness of their own values and to trust self-intuition about the implications of a decision in immediate and future situations (Jarvis, 2016; Lipson, 1994).

During the fieldwork of this critical ethnographic research, there were various unexpected scenarios, such as bad weather conditions and unstable roads affected by landslides and earthquake tremors. Phronesis facilitated my ability to ensure my personal safety during the fieldwork. I consulted key stakeholders of the relief agency (Aga Khan Agency for Habitat) to identify villages in Chitral, checked weather conditions, and looked into the condition of roads before travelling from Chitral city to the villages located in the remote areas of Chitral. As

advised by the key stakeholders of the relief agency, considering the geopolitical situations of the region (armed conflict and disputes based on nationality) and the possible threat to my personal safety, I refrained from disclosing that I am currently residing in Canada. At all times I communicated in the national language of Pakistan. I also always carried my Pakistani national identification card to prove my status as a Pakistani citizen when entering villages having security check posts managed by Pakistani army and Chitral scouts. These interventions facilitated me in meeting security requirements and in gaining access to the villages. I also used practical wisdom (phronesis) to make methodological decisions surrounding the sample size, managing resources and time during the fieldwork, undertake field observations, and modify the interview guide as the fieldwork unfolded.

***Cultural immersion.*** In critical ethnography, cultural immersion brings new insight into the phenomenon of interest and facilitates the ethnographer to critically examine the social structures that contribute to oppression, inequality, and domination (Thomas, 1993). During the research process, the researcher immerses into the culture through fieldwork and an iterative process of data collection and analysis (Bahadir, 2004). Data gathered through this process is neither objective nor subjective but “intersubjective” in nature because it represents a mutual effort of the researcher and the study participants within a particular cultural context (Agar, 1997).

Cultural immersion begins with the process of gaining, building, and maintaining a trusting relationship with the key stakeholders and the target group (Kauffman, 1994). Irrespective of if an ethnographer is an outsider or insider, common challenges critical researchers may encounter are related to positionality, power, and knowledge construction, especially if there is any difference in race, color, gender, social class, culture, or status of the researcher and participants

(Humphrey, 2007; Merriam et al., 2001; Pitman, 2002). Cultural immersion and trust building are essential strategies to negotiate these differences and overcome possible challenges in the conduct of research. Moreover, the fundamental process of building and maintaining a trusting relationship with the gatekeepers, stakeholders, and participants is essential to produce trustworthy findings (Kauffman, 1994). As stated earlier, I initially approached gatekeepers (i.e. stakeholders of the humanitarian relief agencies) to seek their permission to access the setting. To establish trusting relationships with the gatekeepers (heads of the humanitarian relief agency and team members working locally), I shared the intent of the research, clarified my role as a critical ethnographer, shared a copy of my research proposal, and provided information about the potential implications of the research findings. I accessed the disaster relief community upon receiving approval from the gatekeepers and key stakeholders.

*Mindfulness of positionality.* Upon reflection of my *positionality*, I acknowledge that I approached this critical ethnographic study as a partial insider. I am an insider to this research because I am a Pakistani female with proficiency in the national language (Urdu). I am a mother with prior experience in breastfeeding as well as a nurse cum lactation consultant with the prior experience of conducting research in low income and semi-urban settings in Pakistan, particularly with vulnerable women. However, simultaneously I approached this research as an outsider because I was born, raised, and lived in an urban city in Pakistan. I am an educated Muslim female who belongs to an upper-middle class family, who is pursuing my PhD in nursing, and who had been living in Canada for two years prior to data collection. I have no prior personal experience of being internally displaced and managing breastfeeding while residing in a disaster relief camp. Depending on the location of the disaster-affected area, there were possibilities that the sub-culture, socio-economic class, provincial language, and religion of the



participants would be different than mine. My positionality being a partial insider and partial outsider provided me with an opportunity to embrace new knowledge, perspectives, and diverse aspects of the culture during my data collection. Before entering into the field, it was my assumption that the displaced people would be living at a single geographic location in tents allocated by the disaster relief agency. However, on entering into the field I came to know that displaced families are residing in a variety of temporary housing, mainly transitional shelters (described in the finding chapter), tents, or mud-brick based houses constructed at the higher altitude places (top of the hills) to prevent drowning during flooding. In view of literature describing the existence of gender disparities in Pakistan, it was my assumption that displaced families would have been receiving continued humanitarian aid and unmonitored formula milk donations. However, data collection and its analysis uncovered a different reality about humanitarian aid and the availability/use of breastmilk substitutes (described in the finding chapter). A few other assumptions that I had based on the context specific literature and my own experience as a woman from a Pakistani culture were surrounding existence of gender bias whereby boys would be preferred over girls. Moreover, I was of the view that as compared to the facilitators there would be more barriers to breastfeeding practices, hence there would be many reported cases of infant mortality in that region.

To uncover the reality without imposing my assumptions, during my fieldwork I remained mindful of my assumptions, practiced reflexivity through journaling, used more than one method of data collection to validate the truths, and continuously asked for clarification from the participants and other stakeholders. My theoretical lens (critical realist ontology, constructivist epistemology), use of critical consciousness, and continued efforts for assuring trustworthiness of the data were instrumental in overcoming the power and positionality differences, and most

importantly my personal biases being a nurse and lactation consultant. For instance, during my fieldwork, I refrained from judging mothers who were not continuing breastfeeding or were using formula milk despite their ability to sustain their breastfeeding practices. Instead, I used these situations as an opportunity to uncover barriers that are negatively affecting maternal agency and resulting in discontinuation of their breastfeeding practices.

***Trust building strategies.*** During my fieldwork, I followed Kauffman's (1994) five phases as a strategy to build *trusting relationships and negotiate the power differences* between the participants and myself. The phases included: impressing, behaving, swapping, belonging, and chillin' out (Kauffman, 1994).

***Impressing.*** During the initial phase "impressing", the researcher spends a few weeks in the field to gain insight into the cultural context of the participants and characteristics of the myths, and then practices the research topic. Being a critical ethnographer, before entering into the field, I first learned about the Chitrali culture, ways of behaving, and customs through available resources on the Internet. Moreover, I established connections with the key stakeholders of the humanitarian relief agency and reviewed available documents on their website to gain knowledge about the context. At the beginning stage of my fieldwork, I adopted the customs (ways of meeting and greeting), followed the community's way of dressing, and established rapport with the health care team in the setting of disaster relief camps. I maintained a trusting relationship with the community mobilizer who accompanied me to different villages during my fieldwork in Chitral and guided me on a specific way of behaving. I followed etiquette practiced locally (for example, saying *Asalam-o-alikum*, which means 'may peace and integrity be upon you') and wore the traditional dress of Pakistan i.e. *Shalwar kameez*, to earn the respect and

approval of the community. Figure 5 reveal the cultural dressing that I followed during my fieldwork.

**Figure 5. My photographs during my fieldwork in Chitral**



To gather supplementary information about breastfeeding practices of mothers, I conducted a review of records, documents, flyers, and newsletters maintained by the Aga Khan Agency for Habitat, Pakistan and Aga Khan Health Services, Chitral to understand the nature of services offered to the disaster-affected community. During this phase, the assistance of the community mobilizer was sought in identifying disaster-affected families and inviting displaced mothers whose youngest child was between the age of one day and 36 months. Self-reflexivity as an important practice in ethnography was practiced throughout the fieldwork by reflecting and writing down my self-perceptions, beliefs, feelings, and actions that may create a barrier in the process of communication.

*Behaving.* The second phase is “behaving”. During this phase, I undertook field observations and noted the layout of temporary housing (shelters and tents) provided to disaster-affected families by the relief agencies. I also observed the child care practices, the role of family members, resources available for the displaced mothers, attitude and practices towards

breastfeeding, and community-based resources (roads, accessibility to health units, availability of clean drinking water, public transportation and other services).

During this phase, I continuously evaluated my actions while undertaking field observations and interacting with the gatekeepers, stakeholders (healthcare team and members of the humanitarian relief agency) and participants. While strengthening my rapport with the community, I ensured that my social class as an educated female from an urban locality, as well as my positionality as a nurse and lactation consultant, did not serve as a barrier during formal and informal interactions with the participants in the identified setting. I avoided attending to any “unrequested act” (Kauffman, 1994, p. 181) such as helping, assisting, advising, teaching or intervening. Throughout this stage, I maintained field notes to demonstrate a non-judgmental attitude and maintained trusting relationships with the participants.

*Swapping.* The third phase is “swapping”. During this phase, I conducted in-depth interviews to gain an in-depth understanding of the perspective of the displaced mothers about the encountered facilitators and barriers to breastfeeding within their social context of living in a disaster relief camp. I engaged in meaningful dialogues and discussions with the participants through one-to-one in-depth interviews while using a semi-structured interview guide. During all my initial interaction with the participants, I ensured I sat at their level (mainly on the floor); introduced myself; asked for their consent before interviewing them; maintained the flow of communication at their pace; and allowed them to talk more, ask questions, or seek clarifications. During in-depth interviews, I verified some of the observations made during the fieldwork and information that I gathered through documents. I further probed on some of the specific details gathered from other participants or observed in other villages of Chitral. During this phase, I also observed the mothers’ personal hygiene, facial expressions while responding to

a particular question, and their response to their child's feeding cues. I was mindful to identify any sign of emotional distress during the in-depth interview. I maintained field notes and reflexive journals throughout this phase.

*Belonging.* The fourth phase is "belonging" during which the researchers openly talk with the participants about issues that previously provoked discomfort and uneasiness (Kauffman, 1994). Building this mutual trusting relationship between the researcher and the participants facilitates opens discussions about issues, such as sources of domination in the specific context (Kauffman, 1994).

During this phase, I built rapport and trusting relationships with the participants which facilitated them to talk and discuss challenges associated with their breastfeeding practices without any hesitation or shyness. During this phase, I further focused on observing and exploring specific details about daily routines, personal beliefs, social structures, and family circumstances affecting the breastfeeding practices and decisions of displaced mothers. With each in-depth interview, as a gesture of hospitality, I was offered tea and asked to join the family for their lunch meal, during which I got an opportunity to have informal conversations with the family members of the displaced mothers, including mothers-in-law, fathers-in-law, sisters-in-law, and elder children. These informal interactions enabled me to explore challenges encountered by the family to place a tent or get transitional shelter; identify family routines and dynamics; note the quality, quantity, and type of food available to the family during lunch time; explore the responsibilities of women within the household; observe the nature of social ties that the family members and neighbors were maintaining; and observe the type of childcare support offered to the displaced mothers by their family members and neighbors.

Considering environmental issues (recurrent and ongoing earthquakes and windstorms during fieldwork), political instability in the region, and prolonged travel on unstable roads on mountains, I could not stay in each of the villages for an extended time period. However, I maintained contact with most of the participants through phone or in person visits to seek verification of the interpretations drawn from the data. Through the iterative process of data collection and analysis, I assured that the intersubjective data gathered during the third and the fourth phase is reflective of emic perspective i.e. displaced mothers' values, beliefs, practices, and attitudes in the setting of disaster relief camps.

*Chillin' out.* The fifth phase is "chillin' out". The phase consists of "settling in" during which the researcher and participants gain a deeper understanding and acceptance towards each other (Kauffman, 1994). Due to accessibility issues, political instability, and recurrent disasters happening in the region I couldn't maintain prolonged engagement with the participants, so I collected data using multiple methods in more than one village of Chitral. I uncovered a wide range of facilitators and barriers affecting breastfeeding practices of internally displaced mothers in disaster relief camps. The trust-building strategies supported participants to verbalize sources of domination affecting their breastfeeding practices and to share recommendations to overcome it. Towards the end of my fieldwork, I shared my gratitude to the key stakeholders, gatekeepers, community mobilizer, and the participants for their contribution and engagement in the research process. At the time of my exit from the field, I reflected on various aspects of my fieldwork that enabled me to gather so much information during my fieldwork, including ongoing guidance and support offered by the relief agency (Aga Khan Agency for Habitat), the role of the community mobilizer, the receptiveness of the gatekeepers, the hospitality offered by the displaced community, and most importantly the willingness of the participants to share their experiences

concerning their breastfeeding practices. I further reflected that because I was an outsider I had the option to exit from the region, which was holding a number of unfavourable geopolitical circumstances (political instability, risk of subsequent major disaster, unfavourable living conditions, and an active earthquake risk of low to moderate magnitude), I was worried about the displaced mothers and their family members who had no such choice. They still wanted to live in that region as it was their hometown and they were hopeful that something good would happen. I was extremely appreciative of the stakeholders and team members of relief agencies and health services who are risking their lives each day to offer services in the challenging circumstances and who are committed to improving the quality of life of many displaced families in the mountainous region of Chitral.

**Data management.** I used a password protected shared Google drive to store the research data in a confidential and secure virtual research environment. It enabled me to have the research data secured throughout the study and provided a secure way of sharing files of audio interviews with my thesis supervisory committee. The access rights of the password protected shared folder was assigned to my thesis supervisors to receive continued mentorship from them during data collection and analysis process.

**Data analysis.** In critical ethnography, the data analysis is iterative and inductive. It starts from the time of identification of the research problem and continues until the end of the research process (Fetterman, 2010). Although data analysis facilitates representation of a huge amount of data in a meaningful manner, in critical ethnography the process requires using a critical lens, paying close attention to the context, and examining the data in relation to wider social, cultural, geopolitical, and economic factors (Hardcastle et al., 2006).

Examining the emerging maternal, socio-cultural, economic, and geopolitical factors from the gathered data, transcripts, documents, and fieldnotes from the observations were analyzed manually. Several steps were followed to analyze the data. The initial step involved selection and isolation of information (codes) revealing the behaviour of participants and events in the wider social, cultural, geopolitical, and economic context which are directly or indirectly affecting breastfeeding practices of the displaced mothers. The subsequent step involved comparison of information gathered through multiple sources i.e. in-depth interviews, document analysis, and field observations. This step facilitated validation of the data and identification of patterns of behaviour, thoughts, and action in the data set. The next step involved comparison, contrast, and identification of categories until distinct thoughts, behaviours, and practices were identified surrounding the notion of facilitators and barriers to breastfeeding practices of internally displaced mothers. Color coding was used to categorize whether the derived information (codes) related to maternal, sociocultural, economic, or geopolitical factors. At this stage of data analysis, I further analyzed all the emerging patterns within the data set (in-depth interviews, document analysis, and observation), compared the patterns, extracted sub-categories, and finally identified broad themes and sub-themes. Appendix K presents the analyzed themes, sub-themes, categories, sub-categories, and codes that were derived from the multiple sources of data gathered during the fieldwork.

To assure the trustworthiness of the data and rigor in the process of data analysis, one of my doctoral supervisors audited the data gathered from multiple sources, undertook independent coding of 20 percent of the in-depth interviews, and actively participated in the process of derivation of categories, sub-categories, themes, and sub-themes.

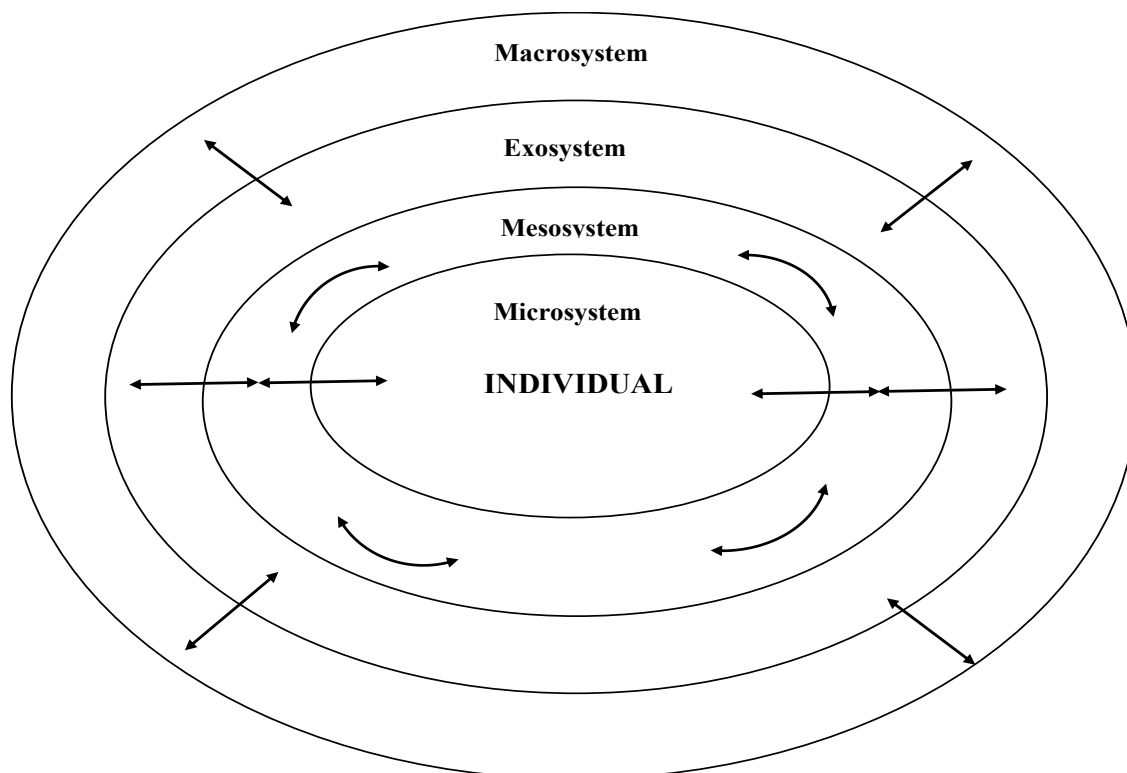


**Data presentation.** The emerging themes, sub-themes, categories, and sub-categories derived from the findings of this study fitted well with the Bronfenbrenner's socioecological model (1979) by Urie Bronfenbrenner. Although I analyzed the data inductively, I adapted Bronfenbrenner's socioecological model (1979) to present the findings of this critical ethnographic research in a comprehensive manner. Derived categories and sub-categories from data analysis represented a wide range of maternal (microsystem), socio-cultural (mesosystem), economic (exosystem), and geopolitical (macrosystem) factors that directly or indirectly affect the breastfeeding practices of mothers in the context of a disaster relief camp in Pakistan.

In view of this model, an individual is viewed in continuous interaction with their immediate environment (microsystem), socio-cultural network (mesosystem), external environment such as economic situations (exosystem), and geopolitical context at large (macrosystem). This model depicts a dynamic interaction, interrelationship, and interdependence between these layers of environment and factors within the microsystem, mesosystem, exosystem, and macrosystem (Bronfenbrenner, 1979). In view of this framework, internally displaced mothers in the setting of disaster relief in Pakistan are viewed in constant interaction with the several layers of environments and networks surrounding them that shapes their breastfeeding practices.

Figure 6 presents Bronfenbrenner's socio-ecological model that was adapted in the fourth chapter of this thesis to present the findings surrounding facilitators and barriers to the breastfeeding practices of displaced mothers in the disaster relief camps in Pakistan.

**Figure 6. Bronfenbrenner's Socio-ecological Model**



**Rigor and trustworthiness.** In critical ethnography, the researcher acts as a research tool and uses the lens of critical theory to examine power relationships, social structures, oppressions, and social injustices (Vandenberg & Hall, 2011). Considering the ethical responsibility to accurately represent the real experiences of the study participants, I used multiple strategies to assure rigor and trustworthiness of the gathered data.

**Collaboration and prolonged engagement.** Collaboration and prolonged engagement enable a critical ethnographer to establish interactive, dialogic, and reciprocal relationships during the research process (Creswell & Miller, 2000; Horner, 2004). Collaboration and prolonged engagement with the key stakeholders and study participants during the research process are essential to minimize the power and positionality differences and to assure that the research will equally benefit both the parties (Creswell & Miller, 2000; Horner, 2004). I maintained collaboration and prolonged engagement with the identified humanitarian relief

agency throughout the research process. Although due to environmental issues I could not stay in the field for a prolonged period of time, I practiced cultural immersion, maintained a trusting relationship with the community, and collaborated with the participants during the iterative process of data collection and analysis.

***Reciprocity, relationality, and multivocality.*** As the intent of critical ethnography is to reduce existing inequalities in the social structures, during the iterative process of data collection and analysis, I practiced reciprocity, relationality, and multivocality as strategies to be aware of my positionality, personal biases, and the social context. *Reciprocity* refers to maintaining a supportive and mutually trusting relationship with the participants throughout the research process (Vandenberg & Hall, 2011). *Relationality* refers to sharing the power of decision making with the participants to achieve social change (Vandenberg & Hall, 2011). *Multivocality* refers to carrying forward the voices and experiences of the study participants to others (Horner, 2004) by using their direct quotations from in-depth interviews. Use of these strategies enabled me to ensure that the findings are reflective of participants' points of view and could be equally useful for them to attain freedom from the sources of domination existing in their social structures.

***Self-reflexivity.*** Throughout the process of data collection and analysis, I practiced self-reflexivity by writing field notes. Self-reflexivity refers to being aware of one's own assumptions and the multiple social locations that one occupies, including class and gender (Creswell & Miller, 2000; Horner, 2004; Porter, 2007). Self-reflexivity enables critical ethnographers to undertake rigorous examination of their own selves, examine their relationship with the participants, question if they hold any power over the participants, analyze the need to change their behaviour during the field work, gain know-how with their unconscious behaviour that affects the research process, and critically scrutinize their own motives and methods affecting

any aspect of the research (Creswell & Miller, 2000; Anderson 1989; Horner, 2004). My regular interaction with the thesis supervisory team was another strategy that helped me to keep track of my self-reflexivity and positionality.

***Triangulation.*** Triangulations i.e. the use of multiple methods of data collection and testing one source of information against another is another strategy to increase the rigor and trustworthiness of the ethnographic data (Fetterman, 2010). I used method triangulation and validated the data collected through in-depth interviews, observation, and document analysis during the iterative process of data collection and analysis.

Although one of the methodological challenges in critical ethnography is the continued presence of the researcher in the field who is an outsider (Groenkaer, 2002), use of strategies such as self-reflexivity, critical consciousness, triangulation, trust-building with the participants, and maintenance of prolonged engagement with the relief organization enabled me to overcome this methodological challenge.

### **Conclusion**

To sum up, this chapter presents the philosophical underpinnings, ethical tenants, and theoretical perspectives that guided this critical ethnographic research in the setting of disaster relief camps in Pakistan. In this chapter, I have discussed the rationales and approaches employed surrounding key elements of the methods, including setting, sample, sampling, sample size, ethical considerations, data collection methods, data management, data analysis, and rigor. In view of the research questions and methodology, the subsequent chapter presents the findings of this critical ethnographic research that was undertaken in disaster relief camps of Chitral, Pakistan.

## **Chapter 4: Findings**

This chapter presents the demographic characteristics of the participants and the findings derived from the analyzed data gathered through in-depth interviews, field observations, and document analysis. In view of the research question, the findings are presented under three main themes: facilitators to breastfeeding, barriers to breastfeeding, and recommendations to improve breastfeeding practices of internally displaced mothers residing in disaster relief camps in Northern Pakistan. Each theme has sub-themes, categories, and sub-categories that present the wide range of factors that affect breastfeeding practices of mothers residing in the disaster relief camps of the identified setting in Pakistan. As the emerging themes, sub-themes, categories, and sub-categories derived from the findings of this study fit well with Bronfenbrenner's socioecological model (1979), I adapted this model to present the findings of this study. To assure strict anonymity and confidentiality of the participants, the quotes of the participants were assigned numbers instead of pseudonyms or any other identifier. The findings are presented below.

### **Demographic Characteristics of the Participants**

A sample of 18 internally displaced women meeting the inclusion criteria were recruited from four disaster-affected villages of Chitral, including Shali, Bumburate (Kalash valley), Zhitoor (Garam Chashma valley), and Beshqair (Garam Chashma valley). A summary of the demographic characteristics of the participants is provided in Table 2.

**Table 2****Summary of the Demographic Characteristics of the 18 Participants**

<b>Characteristics</b>	<b>Findings</b>
<b>Age range</b>	18 to 40 years
<b>Villages</b>	
Bumburate	3
Beshqair	4
Shali	1
Zhitoor	10
<b>Education</b>	
Illiterate	8
Grade 1 to Grade 10	6
Bachelor's degree	4
<b>Mother tongue</b>	
Khowar	13
Others	5
<b>Religion</b>	
Sunni	4
Ismaili	13
Kalashi	1
<b>Type of family</b>	
Nuclear	4
Extended	14
<b>Type of housing</b>	
Angle iron shelter	14
Tent	3
With relative in a kutcha house	1
<b>Age of youngest child</b>	
Less than 1 year (0 to 11 months)	5
1 to 2 years (12 months to 24 months)	10
3 years (25 months to 36 months)	3
<b>Type of feeding</b>	
Exclusive breastfeeding	3
Breastmilk along with breast-milk substitute	11
Breast-milk substitute (cow's milk, formula milk, and/or solid food)	4

The demographic profile of individual participants with regard to their age, education, ethnic background, religion, mother tongue, number of people in household, type of family, total number of children, age of youngest child, length of stay in disaster relief housing, and type of

disaster relief housing is available as Appendix L. The participants' ages ranged from 18 to 40 years. The education level of the mothers varied from illiterate to university education (Bachelor of Science). Their religious backgrounds included Sunni Muslim, Ismaili Muslim, and Kalashi<sup>1</sup> (information about each of these religions is available in the methodology section). The participants were from diverse ethnic backgrounds<sup>2</sup> including Bazaki, Jalendari, Kalash, Katoray, Musingay, Gajani, Darwaish, Jhatak, Turkali and Dhundaray. The mother tongue of the majority of the participants was Khowar, whereas the first language of a few participants included Pushto, Ludhvi, Kalashi, and Nuristani.

The majority of the participants were living in an extended family system (with in-laws, grandparents, husband, and children), whereas four out of the 18 participants were living in a nuclear family system (with husband and children). The total number of people in their household ranged from four to 15 members. The total number of children per participant ranged from one child to seven children. The age of the youngest children ranged from three months to three years. The gender of most of the youngest children was male (altogether 10 boys and 8 girls). For 10 participants, their youngest child was born before a disaster occurred, while for the rest of the participants the youngest child was born during their settlement in the disaster relief camps (tent or shelter). Three of the 18 mothers were exclusively breastfeeding their infants, 11 were feeding breastmilk along with cow's milk, solids and/or formula milk, and four mothers

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<sup>1</sup> Sunni Muslims believe in the teaching of the Holy Quran and believe that Prophet Muhammad was the last messenger of God (Allah) who did not clearly designate any successor. Ismaili Muslima believe that Imams are the direct descendant of Ali, the son-in-law and cousin of Prophet Muhammad. Kalash are the ethnoreligious minority group in Pakistan who believe in many gods and goddesses (polytheistic)

<sup>2</sup> While participants self-identified themselves as belonging to a specific ethnic group, little information was available regarding specific ethnic differences.

were using breast-milk substitutes (cow's milk, formula milk and/or solids) to meet the nutritional requirement of their youngest child.

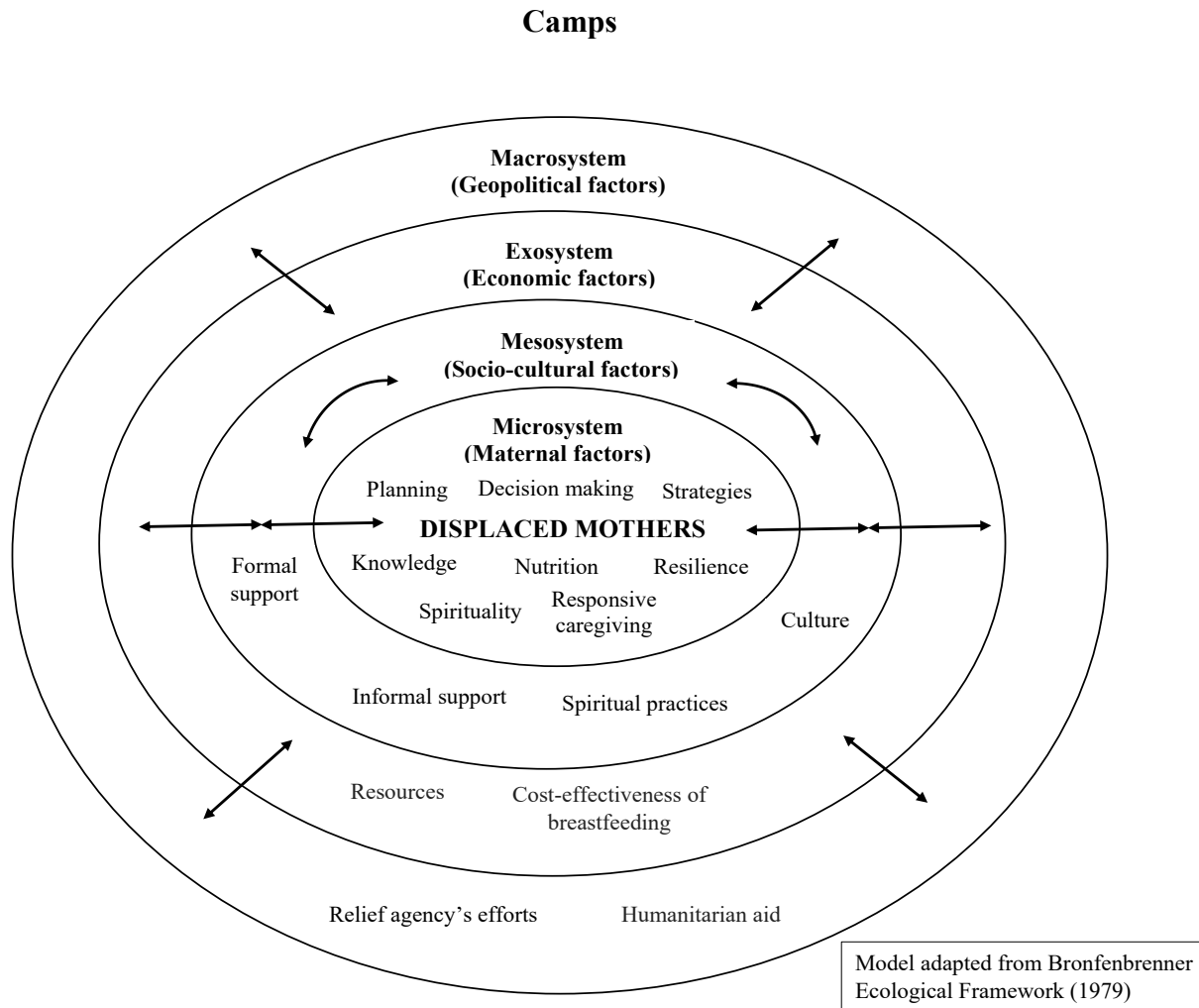
As described earlier (in the methodology chapter), this area had experienced a number of natural disasters in recent years, including floods, earthquakes, and landslides. These events made rebuilding extremely challenging, and consequently people had been forced to reside in a variety of disaster relief temporary housings for as long as 2.5 years. At the time of the interviews with the displaced women (March 2018), 14 participants were living in angle iron green shelter allocated by Aga Khan Agency for Habitat (see Figure 3), three participants were living in a tent and a damaged house, and one participant was living with relatives as a tent or a shelter was not allocated to her. Of the 14 women living in a shelter, two had previously lived in a tent and had been recently provided sturdier lodging, three participants had mud brick house (*kutchra house*) of their own, one participant had both a shelter and tent, and the rest of the eight participants were either in the planning or implementation phase of finding land and building their own mud brick-based houses.

### **Theme 1: Facilitators to Breastfeeding**

The first theme presents the findings surrounding facilitators to breastfeeding practices of mothers residing in the disaster relief camps. This theme has been divided under the sub-themes of “facilitators at the micro level”, “facilitators at the meso level”, “facilitators at the exo level”, and “facilitators at the macro level” to present maternal, socio-cultural, economic, and geopolitical factors that serve as facilitators to the breastfeeding practices of displaced mothers residing in disaster relief camps. In view of Bronfenbrenner's socio-ecological model (1979), Figure 7 depicts the findings surrounding facilitators to breastfeeding practices of mothers residing in the disaster relief camps.



**Figure 7. Facilitators to the Breastfeeding Practices of Mothers Residing in Disaster Relief**



### **Facilitators at the Micro Level**

This sub-theme represents displaced mothers' immediate surroundings (mainly maternal factors) that facilitate and sustain their breastfeeding practices during disaster, displacement, and settlement in the disaster relief camps. "Maternal factors" is the main category that is derived from this sub-theme.

#### **Maternal Factors that Facilitated Breastfeeding**

Analysis drawn from the data gathered through multiple sources revealed the maternal factors that facilitated displaced mothers to sustain their breastfeeding while living in the disaster

relief camps included consumption of adequate nutrition, knowledge concerning breastfeeding, planning to breastfeed, strategies to sustain their breastfeeding practices, responsive caregiving of infants, decision-making related to breastfeeding continuation, spirituality as an indirect facilitator of breastfeeding, and demonstration of resilience. Each of these sub-categories are discussed below:

### ***Consumption of adequate nutrition***

In the cultural context of Chitral, mothers judged the adequacy of their breastmilk through a variety of infant responses, including the child no longer crying or falling asleep soon after being breastfed. Mothers who were living in disaster relief camps emphasized how their own diet affected breastfeeding, specifically having three meals per day and consuming healthy food, including meat (beef, goat, chicken, and mutton), vegetables, and dried fruits grown in that region, mainly apricot, almond, walnut, and pine nuts. All participants connected their own diet with their ability to sustain their breastfeeding practices. One of the participants who studied until grade 10 and was living in an extended family system in a transitional shelter shared that during illness her breastmilk completely stops and that consumption of a healthy diet, mainly vegetables, meat, and dried fruits, facilitates her to regain her breastmilk supply. She explained:

“When I am sick I am unable to breastfeed my child because the breastmilk supply stops. But when I consume a healthy diet my milk supply comes back to normal. I sometimes eat vegetables, meat, and dried fruits.” (Participant 7, p. 16)

Another participant, who was able to sustain her breastfeeding practices while living in a tent and shelter, verbalized the challenges associated with disaster and displacement:

“At first, my breastmilk stopped because of the lessened food intake, but as I started to eat again the breastmilk supply resumed” (Participant 14, p. 4)

A participant, who experienced low breastmilk supply soon after the disaster and used temporary breast-milk substitute until the time her breastmilk supply was adequate, shared:

“I had to take considerable care of my diet and food intake and that increased the breastmilk supply...it took almost a month.” (Participant 1, p. 6)

### ***Knowledge concerning breastfeeding***

Participants who were sustaining their breastfeeding practices demonstrated *knowledge concerning breastfeeding*, specifically about the benefits of breastfeeding; protective factors present in breastmilk; use of breastfeeding as a contraceptive; breastfeeding techniques; the role of hygiene towards maternal and child well-being; and health risks associated with the use of breast-milk substitutes. Demographic profile and information gathered through in-depth interviews revealed that participants gained knowledge through their prior breastfeeding experiences with older children, awareness programs, personal judgment used during child care, or professional training as a female health worker. While highlighting the benefits of breastfeeding and the worries associated with the use of breast-milk substitutes using feeding bottles, one of the participants, who was continuing breastfeeding while living in the shelter, shared:

“I have never used the bottle feeder. I have fed her [my child] breastmilk, because that is nutritional... If a woman doesn't breastfeed her child, she may encounter lots of issues. God forbid, the feeding bottle may get damaged or its nipple may get dirty. The woman who gives her own breastmilk to the child will be free from all these worries.” (Participant 1, p. 8)

On inquiring the reasons for choosing breastfeeding as the only feeding option during and after the disaster, another participant responded:

“I knew that a mother's milk is important for the child and a mother has to breastfeed her child for about three years. Breastmilk has lots of nutritional value which help in combating diseases. It is a complete nutritional food for the child so as a mother you need

to breastfeed your child. If it is not sufficient then you should give him [child] something extra. This is the information which I have.” (Participant 17, p. 5)

Another participant, who continued breastfeeding her child during disaster and her settlement in the disaster relief camp (shelter), verbalized:

“Mother’s milk is extremely important for the child and that is why I feed him [child] my own milk. This is the first thing. Now when the children don’t get nursed by their mothers they usually get sick so that is why it is extremely necessary.” (Participant 8, p. 1)

Another participant, who was exclusively breastfeeding her child while living in a shelter, shared:

“I breastfeed my child because my child will stay away from diseases and it will be highly beneficial for him [child]. Secondly, if I put him on some other milk; it will not be as beneficial for him as my own milk...my child has not gotten sick yet and I haven’t taken him to the hospital even once.” (Participant 2, p. 2)

A participant, who was pregnant for the second time and was living in the transitional shelter, shared:

“Cow’s milk generally upsets the stomach or makes the child weaker. It is not advisable that a child drink this milk. That is why my second child will feed with my breastmilk.” (Participant 12, p. 13)

### ***Planning to breastfeed***

Most of the participants mentioned that they *plan to breastfeed* their children until they are three years old. Participants mentioned that their planning surrounding breastfeeding facilitated them to look after their children’s nutritional needs during emergency evacuation and to maintain adequate birth spacing. One of the participants shared that she plans her next pregnancy after breastfeeding her youngest child for three years. The mother stated:

“I conceive a child every three years and that is long enough, I don’t do it before it. I wait for my menstruation cycle to be in order when I get pregnant...we feed our children for three years with our own milk. After three years, when they stop feeding the child, that is when we prepare ourselves for conceiving another one.” (Participant 14, p. 5)

Another participant, who could not continue to breastfeed her first child due to little privacy in the shelter and a subsequent pregnancy within a few weeks of the interruption in breastfeeding, shared about her plans to breastfeed her second child. The participant stated:

“I want to breastfeed my second child at least until he or she is two years old... I have already planned that I will not allow anyone [guests] inside the room this time because I need to be in peace with my child.” (Participant 12, p. 13)

### *Strategies to sustain their breastfeeding practices*

Field observation and in-depth interviews with the participants revealed that displaced mothers adopt certain *strategies to sustain their breastfeeding practices* during disaster, displacement, and settlement in the disaster relief camps. Those strategies include emergency evacuation with the young children, relocation to a safe place, multitasking to manage breastfeeding with household responsibilities, breastfeeding in a corner or outside the relief camp, use of a veil during breastfeeding when there is no privacy, demonstration of health-seeking behavior on encountering breastfeeding challenges, and use of a temporary breast-milk substitute.

In Chitral, where most of the mothers live in an extended family system, during the period of emergency evacuation many times family members especially the mother-in-law, father-in-law, sister-in-law, brother-in-law, and husband assemble children and relocate them to a safer place. Considering the chances of finding refuge at different places following disaster and emergency evacuation, participants were of the view that during emergency evacuation they keep their youngest child with themselves all the time, so they can respond to their hunger on a timely basis. Most of the participants shared that *emergency evacuation with children, especially with the youngest child* is a useful strategy to save the lives of their children and that it supports

the continuation of breastfeeding during their relocation to a safer place. One of the participants verbalized:

“When the earthquake came everyone was scattered and people started screaming. We grabbed our children and went away to a safer location. I was breastfeeding my child at that time. We were worried, but we did take care of our children at that time.” (Participant 9, p. 2)

In view of the lack of adequate privacy to breastfeed in disaster relief camps (for details refer to the section on “no privacy” under the theme of “barriers to breastfeeding”), regardless of the type of temporary housing (tents and shelters), most of the participants strategically *used their veil (long scarf)* during breastfeeding in combination with choosing a secluded location to breastfeed. As Participant 2 explained,

“I sit in a corner and I breastfeed him [child] after covering him in a long scarf [dupatta].” (Participant 2, p. 2)

During fieldwork, I observed that many mothers were covering themselves with a long scarf and preferring to sit in a corner (where nobody could see them) to breastfeed their children in the shelter, outside their shelter, and in the fields. One morning, I entered a shelter that was overcrowded. There were two breastfeeding mothers in that shelter who had children aged three months and 24 months. In that shelter many family members were present, including a mother-in-law, sister-in-law, father-in-law, brother-in-law, and elder children. As a windstorm was occurring outside the shelter and the mothers could not go outside the shelter to breastfeed their children, each mother moved to a corner and breastfed her child by spreading her long scarf all over herself and her child. While I was present, many participants responded to their children’s feeding cues (including thumb sucking, licking lips, and smacking sounds) and breastfed their infants while covering themselves in front of me. This illustrates that the privacy issues were gendered; although I was a stranger, it was appropriate to breastfeed in front of me, but this

would never have been the case if a man was conducting the interviews. Although this strategy allowed mothers to breastfeed, infants who had respiratory issues such as a productive cough (cough with sputum) and nose blockage appeared to find it difficult to breastfeed while being fully covered in their mother's long scarf.

“We had to bend and cover ourselves with a cloth [dupatta, i.e. long scarf] so that we could hide ourselves and breastfeed the child... we cover the child too so that everything is hidden, and no one is able to see us. Sometimes we would also go out [outside shelter in an open space] and feed our child there.” (Participant 14, p.2).

A few of the participants shared that despite the negative effects of disaster they were able to sustain their breastfeeding practices by using *continued latching* (increasing frequency of having child on mother's breast) as one of the strategies to re-establish the breastmilk supply. A participant verbalized:

“During the earthquakes the breastmilk supply generally stops for all the mothers because of the jerks and the stress. But if a mother continues breastfeeding the child despite that, the supply becomes better. My breastmilk supply resumed to normal after two days.” (Participant 13, p.3)

In the cultural context of Chitral, where women are expected to look after multiple household responsibilities (cooking, cleaning, washing clothes, looking after family members and cattle), mothers were *multitasking* to sustain their breastfeeding practices: they breastfeed and continue managing their household chores. One of the participants verbalized:

“If I am cooking and my child starts crying, then at that time I pick him [child] up to breastfeed him and cook food simultaneously.” (Participant 9, p. 5)

### ***Responsive caregiving of infants***

During field observation and during in-depth interviews, participants as primary caregivers demonstrated and verbalized the importance of *responsive caregiving* to their infants, including their prompt response to their child's feeding cues, vigilance towards the child's feeding needs,

consideration of the child as the priority over their household work and other responsibilities, and being concerned for their child.

A participant who was living in a shelter and continuing breastfeeding mentioned that regardless of her busy schedule due to multiple household responsibilities she always gives priority to her child:

“If I am cooking and my child starts crying then at that time I pick him [child] up to breastfeed him and cook food simultaneously... if I am unable to multi-task then I leave that work and breastfeed my child. The work can be done later but I breastfeed my child first. Feeding the child on time is necessary and our responsibility. I can work some other time or when he is sleeping.” (Participant 9, p. 5)

Another participant, who was living in a shelter with her extended family, shared that she gives preference to the child’s need over her household responsibilities. She shared:

“During work, if my child cries then I calm him [child] down, breastfeed him, and then continue with my work. My family doesn’t say much when it comes to this; they ask me to calm the child before continuing with work.” (Participant 5, p. 5)

This same participant, who breastfed her child before and after the disaster, emphasized adequate nurturing and responsive caregiving of young children. She stated:

“My life before this was very comfortable but even though all this happened I have put this all in the past and focused on my children to take better care of them. There is nothing more important for a mother than her child. The child always comes first... I am able to take good care of my children. They are very sensitive when it comes to eating, so a mother should be vigilant in terms of what she should feed her children and what she should do.” (Participant 5, p. 2)

### ***Decision-making related to breastfeeding continuation***

Participants who were continuing breastfeeding during disaster, displacement, and their settlement in the disaster relief camps spoke about their *decision-making* concerning breastfeeding continuation with or without breast-milk substitute. Mothers explained how they navigated their own preferences with the constraints and challenges they encountered during and



after the disaster and decided to continue their breastfeeding practices in the variety of circumstances encountered during and after the disaster.

A participant, who initially encountered challenges to breastfeeding her child during the disaster and displacement, fed cow's milk to her infant with a spoon. The mother shared that when her breastmilk supply stopped, she decided not to use the feeding bottle as she did not want her child to become habitual with it. Considering the benefits of breastfeeding, she decided to seek health care assistance to regain her breastmilk supply. In view of the health advice, she increased her dietary intake and continued to suckle the child on her breast while providing the cow's milk. Within a month's time, she was successful in resuming her breastmilk supply. This mother further shared that in view of the benefits of breastmilk over other types of milk, it is her decision to continue breastfeeding even if there is a subsequent disaster:

“Allah [God] knows the best, but if it [disaster] happens again, I will only feed my milk to my child. I am not considering using bottle feeding.” (Participant 1, p.11)

Another participant, who was living in a shelter and was continuing breastfeeding along with the provision of breast-milk substitute (cow's milk) to her seven-month-old child, shared her decision-making surrounding breastfeeding and use of a breast-milk substitute. Although cow's milk is not recommended by the World Health Organization before a child is 12 months old, feeding cow's milk to a six-month-old child is a cultural norm in Chitral (explained further in the subsequent section on barriers to breastfeeding practices). Thus, she was merely continuing what was a normative practice before the disaster. She shared why she supplemented breastmilk with cow's milk and supplementary food:

“I feed him [child] my own milk so that he doesn't get sick. I will breastfeed him [along with cow's milk and supplementary food] until he is two years and four months or two years and five months old; now as he is growing and this [breastmilk] isn't enough for him, I give him something extra to eat.” (Participant 5, p. 2)

### *Spirituality as an indirect facilitator of breastfeeding*

The spiritual aspects highlighted by the participants include their trust in God (Allah), gratitude to God, use of amulets, and acceptance of God's will as some of the facilitators that indirectly affect their breastfeeding practices. Informal conversations with the local people revealed that spirituality often serves as a source of healing. Representatives from the relief organization shared that in many villages of Chitral, people hold strong beliefs on supernatural forces and possessions (called *Saya by jinn and pari* in local terminology). It is believed that these supernatural forces take control of one's body, and prayers and recitation of religious verses are essential to end the possession. To remove the possession by supernatural forces, special prayers and recitations are commenced by the spiritual healers.

During my fieldwork in various villages of Chitral, I observed that many women and young children were wearing amulets (*tawiz* in local terminology) to prevent themselves from the influence of supernatural forces and possessions. An amulet is a locket that has verses from the Holy Quran, Islamic prayers, or symbols; it is believed to provide protection against the influence of supernatural forces and possessions. One of the participants, who believes that possession by supernatural forces often affects her health, mentioned that the spiritual treatment, especially the use of an amulet, served as a temporary relief for her. The participant shared that during the times of possession by supernatural forces (called *Saya* in local terminology) she becomes mute for many days, sits in a corner, cries for hours, and cannot take care of herself and her children. She mentioned that although she has had this condition since she was a teenager, her condition worsened after living through recurrent disasters and subsequent homelessness for more than 2.5 years. This participant shared that she feels better after using an amulet prepared by the spiritual healers in her village. Although this mother could not sustain her breastfeeding

practices, she was of the view that the spiritual healing power of an amulet removes possessions from her body, after which she regains consciousness of her surroundings and resumes her daily life activities, including her child-care responsibilities. While sharing the spiritual beliefs, the participant stated:

“My health condition has worsened since the earthquake. I could neither take care of myself nor for my children. I became very stressed and worried especially because my house got destroyed. There is nothing that has been helpful, I have already tried everything. The amulets help me for a while or so.” (Participant 15, p. 12)

One of the participants acknowledged that her trust in Allah and recitation of religious verses during her emergency evacuation provided spiritual strength for her to safely evacuate with her young children during a severe earthquake. The participant verbalized:

“I just ran outside, we all ran outside. The jerks [of the earthquake] were pretty serious and we just ran as fast as we could while trusting Allah. It was chaos everywhere. We just called out Allah’s name (recited ‘*kalma*’) at that time.” (Participant 17, p. 2)

Another participant who was able to breastfeed her young child during and after the floods also verbalized her trust in Allah and in prayers. The participant shared:

“We were in our house and my children came and told me that there was a flood coming here; we all thought it was a joke. We didn’t know how much destruction it would cause and how it would take everything away from us. But praise be to Allah [God], we were able to save our lives. We lost everything else. Our car, shops, and animals were all gone. We lost everything, but while trusting Allah [God] we moved forward and he has given us our lives and health which is something irreplaceable. If we try harder, then we will be able to live a better life than before. Right now, my prayers are that Allah [God] gives us good health: that is all I want right now.” (Participant 8, p. 2)

While acknowledging sufficiency of breastmilk supply during disaster and displacement as Allah’s kindness, a mother who continued breastfeeding during and after displacement verbalized:

“My breastmilk supply is constant and has never been insufficient... such times have not come on me because Allah [God] is kind towards me.” (Participant 9, p. 6)

### *Demonstrating Resilience*

Study participants acknowledged the seriousness of the stress experienced during the disaster, displacement, and settlement in the disaster relief camps. Participants mentioned that they tried to cope by reflecting on the positive aspects of the aftermath of the disaster, such as that their children are safe, that the disaster that did not happen during the night, and that the severity of the disaster could have been worse than the one encountered. The demonstrated resilience facilitated many mothers to sustain their breastfeeding practices during the disaster, relocation to a safe place, and the settlement in a disaster relief camp. One of the participants, who continued breastfeeding during and after the disaster and settlement in a tent, mentioned:

“Everyone was crying because we lost our house and all the animals (goats and sheep) with the floods. But then we saw our children, and we felt glad about that. If, God forbid, the floods had come during the night, then we would have all gone with it. No one would have been alive. We felt happy when we saw the children and we stopped crying because we didn't want Allah to get upset with us. Our children were safe and that was a blessing. We accepted what we had and lived in the tent. As far as the child is concerned, I continued breastfeeding the child even after that.” (Participant 10, p. 3)

Another participant who initially faced issues with milk supply and was able to re-establish her breastmilk supply while residing in a transitional shelter specified:

“We faced many troubles; we lost everything: our home and animals. But I was thankful that my child and I were safe, and there wasn't any other issue other than that. I am also thankful that everyone else in my family was also safe, and we had no loss of life.” (Participant 1, p. 11)

A similar view was shared by a mother who sustained her breastfeeding practices during a disaster and displacement. The participant stated:

“After the floods, I felt like it was a blessing that Allah spared our lives; I didn't need anything more than that. This life is enough, and my children are everything to me. Once we had wishes where we wanted to have many things, but now we don't have such desires. Our spared lives were the biggest blessing for us. We don't ask for anything now.” (Participant 8, p. 9)

### **Facilitators at the Meso Level**

This sub-theme represents displaced mothers' immediate social network (mainly socio-cultural factors) that serve as facilitators to their breastfeeding practices during disaster, displacement, and their settlement in the disaster relief camps (shelter or tent). "Socio-cultural factors" is the main category that is derived from this sub-theme.

#### **Socio-cultural factors that supported breastfeeding practices**

Socio-cultural factors that serve as facilitators towards breastfeeding practices of mothers residing in the disaster relief camps include informal support, formal support, culture, and spiritual practices. Each of these sub-categories are discussed below:

##### ***Informal Support from family and others***

Participants acknowledged the informal support towards their breastfeeding practices from their immediate and extended family members (parents, husband, in-laws and older children), as well as from their relatives, neighbours, and neighbouring villagers. The type of support included nutritional guidance, provision of a special diet (milk and goat's meat broth) to increase breastmilk supply, encouragement for breastfeeding, financial help, accommodation at a relative's place at the time of disaster, donated supplies to meet daily necessities (food, milk, and clothes), assistance in meeting child-care responsibilities and household chores, and land for placing the temporary shelter or tent. Field observations supported what mothers described, particularly with support in cooking, cleaning, child care, care of cattle, and fieldwork from their family members and neighbours. In fact, women's interactions with one another were an important component of daily life, as I observed women chatting with one another within and outside their temporary housing (shelter and tent), at the canal where they retrieved water and

washed clothes, to and from the prayer hall (*Jamat Khana*), and in the fields where they were growing crops.

During my fieldwork, I further observed that mothers-in-law were helping participants in taking care of the children. During in-depth interviews with participants, mothers-in-law were taking care of the young children, supervising their play activities inside a shelter and out in nearby open areas. A participant, who was facing ongoing, recurrent earthquakes of low intensity in her village and had a three-month-old child who was born during her settlement in the temporary housing, acknowledged the *support received from the mother-in-law and the immediate family members* concerning breastfeeding and the importance of maintaining adequate nutrition:

“My mother-in-law told me that if I pay proper attention to my diet then he [child] will be fine; otherwise, if I don’t pay attention to the diet then he [child] will not get the proper amount of breastmilk which he should be getting...My family had a goat slaughtered and gave me the broth for strength. They also gave me cow’s milk in the morning so that my diet would be nutritious and that I could be healthy; in return the child would also get properly nursed.” (Participant 5, p. 4)

Another woman who was living in a transitional shelter and continuing her breastfeeding practices acknowledged a similar kind of support. She verbalized:

“My mother would tell and guide me when I wasn’t able to breastfeed the child; she told me this is how I should breastfeed the child... She told me how to lay him [child] down properly and breastfeed him...They gave me fresh meat broth. They sacrificed the goat in the house and gave me its broth. (Participant 2, p. 5 and p.6)

Another participant, who was living in a transitional shelter, shared that *breastfeeding support and guidance received from her mother* enabled her to breastfeed her child properly. The participant verbalized:

“I sought suggestions from my mother; she told me that he is crying often because I am not breastfeeding him [child] properly. Slowly and gradually I learned how to properly

breastfeed my child and after that my child never cried in the night. This is when he was newly born.” (Participant 5, p. 4)

Most of the participants acknowledged the *support from family members, relatives, and neighbours*, especially in looking after their household chores and child care responsibilities, which enable them to sustain their breastfeeding practices. During my fieldwork, I observed that although the transitional shelters were situated on different hills within the village, people in the village held close social ties and knew each other very well. During afternoons, women in the neighbourhood used to visit each other, share food (regardless of it was limited in quantity), drink tea together, chat about their daily routine, and offer advice/assistance in child care. One of the participants who was able to sustain her breastfeeding practices while living in a tent expressed:

“My relatives and neighbors sometimes come over and take care of my child. At times they help with the chores too, such as when washing dishes and kneading the dough, picking up the child, and making bread. They help around in lots of things.” (Participant 16, p. 3)

Another participant, who was living in a shelter and continuing breastfeeding, verbalized:

“My family did cooperate with me. On receiving the food aid, they used to first feed the children so that they didn’t stay hungry for long. Other than that, they also took good care of them, changed their clothes if they became dirty, and washed their clothes too. So, this way we had lots of help from our family members and relatives.” (Participant 10, p. 12)

Participants also acknowledged the support received from their relatives and neighbouring villagers who provided them refuge during the initial few days of disaster, arranged food and clothes for them, and offered their land on which to place a shelter or tent. Participants believed that this informal support enabled them to cope and look after their child-care responsibilities during a challenging time.

One of the participants, who was living in a shelter that was built on a relative's land, shared:

“This land belongs to our uncle's brother. He cannot plant anything here because of us, because we have placed our shelter here.” (Participant 6, p. 16).

While sharing the event of emergency evacuation during the flood, and acknowledging the support of neighbouring villagers, another participant verbalized:

“I went a little far away [during the flood] and the people started screaming that there is a flood coming here too, and then we had to run again. We all went to a house which belonged to someone else. We stayed there for some time.... When we went there we all got stoles (dupatta) for ourselves because there were lots of people and we had to cover ourselves. It was evening, and we stayed there for the night.” (Participant 12, p. 2).

One of the participants, who did not get a shelter or tent after the complete destruction of her house and who faced health issues, considered relatives' support as the only support that enabled her family to survive and facilitated her to look after her child-care responsibilities during a period of homelessness. The participant shared:

“We lived in a different area within Chitral where my house was completely destroyed. The relatives live nearby, so I travel to different villages to stay with my relatives. I keep on moving from one village to the other. I am living with a relative right now and I own a room there. I sleep and sit there; my children live there too, and I cook in the same room; this is how I am surviving.” (Participant 15, p. 5)

In the cultural context of Chitral it was observed that the elder siblings, especially the eldest female children in the family, were assisting their mothers with the household chores and looking after their younger siblings even at the time of emergency evacuation. One of the participants, who was grateful that her children survived the disaster and who was able to sustain her breastfeeding practices during disaster and settlement in the disaster relief camp, acknowledged the support of her elder daughter. She stated:

“My eldest daughter grabbed him [her youngest sibling] as soon as the disaster happened. She ran to him before I could. These four sisters have one brother, that's why. When the



people announced that the flood was here and that we should all run away and save our lives, my eldest daughter instantly took him and was the first one to leave the place.” (Participant 10, p. 2)

Thus, in this period of hardship, people relied on the social networks within the village and nearby locales in the immediate aftermath of a disaster, and in the months (even years) afterward. For breastfeeding mothers, the support of family in particular was crucial in ensuring that they had the knowledge, skill, support, and nutrition required to sustain breastfeeding.

### ***Formal support from the healthcare unit***

While informal supports were critical for survival post-disaster, formal supports from governmental and non-governmental agencies were also important in the immediate aftermath of a disaster. Participants particularly acknowledged the *formal support from the health care units*. Most of the participants mentioned that the nutritional guidance from the health units during the period of disaster and displacement improved their health and facilitated the re-establishment of their breastmilk supply during their settlement in disaster relief camps. For example, a participant who was living in the shelter and continuing breastfeeding along with the provision of cow’s milk stated:

“They [health units] instruct us to eat healthy so that the child can be healthy too. They tell us to eat a nutritious diet when they come here. They advise us on these matters. (Participant 9, p. 6)”

Another participant, who experienced low breastmilk supply soon after the disaster and fed cow’s milk as a temporary breastmilk substitute to her infant, described the role of the disaster camp health unit in re-establishing breastfeeding:

“I went to the doctor and got myself checked. They gave me medicines and advised me to focus more on my diet, and gradually my milk supply came back to normal.” (Participant 1, p. 4)

A few other participants acknowledged the curative and health promotive aspect of the care that they received, including medical treatment of illness, prenatal guidance about breastfeeding, measures to prevent malaria and flu, health checkups and visits, health and hygiene training, and informational booklets in Urdu (the national language of Pakistan). The information gathered from the documents, mostly newsletters and reports maintained by the health unit (mainly Aga Khan Health Services, Chitral) also support that at the time of the disaster several awareness sessions, health camps, and vaccination campaigns were organized for the disaster-affected communities. These services were offered by the locally-trained community workers and health care providers, including female health visitors, vaccinators, doctors, and nurses. As disaster-affected communities could not access the healthcare setting due to health issues, non-availability of transportation, and damaged roads after a major disaster, the locally-trained healthcare providers and volunteers (nurses and doctors) from the southern parts of Pakistan formed a mobile team and travelled to the disaster-affected areas, set up free-of-cost medical camps and mobile outreach clinics, and offered health promotive, medical, and emergency services to many disaster-affected families. The report maintained by the Aga Khan Health Services, Chitral indicated that they checked and treated 150 patients diagnosed with diarrhea, gastro complaints, sore throat, hypertension, depressive illness, and body aches. Free medications were administered to the sick people. As flooding destroyed medicines and medical supplies, to overcome the shortage the team of Aga Khan Health services assembled and transported required supplies to the mobile team administering healthcare in different villages of Chitral. The team also distributed water purification tablets and conducted health education sessions for the displaced people on prevention of dehydration, diarrhea, water borne diseases and management of mental health (mainly stress and depression).

During in-depth interviews with the displaced mothers, the role of formal support was acknowledged by a few other participants who were exclusively breastfeeding their infants. Participants who received formal support from healthcare providers acknowledged the context-specific nature of the guidance. In Chitral most of the households have their own cows, goats, sheep, and chickens, as well as fields where they grow grains, vegetables, and fruits; many families living in villages have access to milk, milk products, meat products, dried fruits, vegetables, and seasonal fruits. During a disaster when families have lost their fields, crops, and cattle, they received food items as humanitarian aid only for one month. At the time of my fieldwork, displaced families living in temporary housing (mainly tents and shelters) were responsible for their own livelihood, since the last disaster in the area happened in 2015. Consequently, participants had variable access to food depending on their family income, availability of cattle, and fields to grow crops. Participants who received context-specific nutritional advice from the health care providers acknowledged that the guidance was appropriate to their individual economic situation and availability of resources. A participant, who was living in a shelter and had goats and sheep, stated:

“The doctor advised me to drink the goat’s broth, so it will increase my breastmilk production. They also advised me to drink more milk.” (Participant 2, p. 6)

Although health units were not accessible to most of the displaced families because of the scattered nature of the temporary housing across the landscape, there were a few participants whose shelters/tents were located near the health center, and this facilitated their access to formal supports related to breastfeeding. A participant whose shelter was located near a health center acknowledged the role of health units in the provision of informational support through written materials about breastfeeding, prenatal counseling in the health unit (mainly information about

diet, postnatal care, and breastfeeding), home visits to her temporary housing (shelter), and information sessions on maternal and child health at the health centers. The mother shared:

“Sometimes when I visit the health unit, they give us a book based on breastmilk and they also brief you on the topic. So, this is where I get my information from. When people and expecting mothers go there for their checkups, they are given a booklet where all this information is mentioned. They also tell us that we should breastfeed our child and if we don’t then these are the disadvantages and effects. They warn us and keep us aware. Sometimes they visit the village and create awareness amongst the people.” (Participant 17, p. 6).

This does suggest that for mothers without this kind of access to health supports, continuing to breastfeed in the months post-disaster may become increasingly challenging.

### ***Cultural aspects that supported breastfeeding practices***

Although Chitral has many sub-cultures that reflect different ethnic and religious communities (as specified in the demographic profile), in-depth interviews with 18 participants within four different villages reflected that norms surrounding breastfeeding and child care practices were similar. Participants shared various positive aspects of their culture that help them to sustain their breastfeeding practices even during the stressful time of disaster, displacement, and their relocation in the disaster relief camps.

Participants shared that despite the barriers imposed by disaster and displacement, breastfeeding as a cultural norm encourages them to sustain their breastfeeding practices. Most of the participants shared that they exclusively breastfeed until six months and then continue to breastfeed until up to the age of three to five years while supplementing breastmilk with cow’s milk and solid foods. Participants further shared that as soon the child is born, female members in their family or neighbourhood usually encourage them to breastfeed their first milk (colostrum) to the newborn and provide support in positioning the newborn during latching. During in-depth interviews, participants further shared that they only opt for feeding formula

milk when a mother dies, is too sick, or is unable to produce adequate breastmilk. There was no evidence of wet-nursing among participants. The only available feeding options for the young children included breastmilk, cow's milk (mainly cow and goat's milk), solid foods, or formula milk if nothing is available.

A participant who continued breastfeeding her child during and after disaster acknowledged the *norm of breastfeeding in the village* that facilitates breastfeeding practices of nursing mothers. The participant shared:

“In our village all the mothers breastfeed their children. They don't use the milk [formula milk] from the store because we live in a village and people don't have jobs here or studies, so that is why they nurse their children themselves and they don't require store bought milk...some people are poor and for them the milk is expensive. While the others who are not in need simply breastfeed their children. Some people do get it from the market if it is extremely necessary or maybe if the mother isn't able to produce enough breastmilk or that she has been operated or is no more alive. These people consult these situations with the doctors who are in the hospital at Chitral. People here are aware and educated now, there was nothing here before but now these people are getting aware and informed.” (Participant 8, p. 11)

Participants acknowledged that at the household level there are *no gender disparities* when it comes to breastfeeding daughters and sons. During my fieldwork in four different villages of Chitral I noticed that girls and boys were treated equally: both were served food in equal quantity, sent to schools, and allowed to play outside their temporary housing. During in-depth interviews I further observed that mothers were equally sensitive and responsive to the feeding cues of their child regardless of if their child was a girl or a boy. Participants' stories regarding emergency evacuation further revealed that they assured safety of all their children (girl or boy), and despite prolonged hunger they continued to breastfeed their children regardless of their gender. I did not notice any differences in the health-seeking behaviors of family or in developmental milestones and nutritional status of a girl or boy child. I noticed that in a few of the households there were sick children (both boy and girl) who had respiratory infections, and

family members were equally concerned for their sick children regardless of if they were a girl or a boy.

A participant who had four daughters and one son whom she was currently breastfeeding shared:

“I have breastfed my daughters as well. I breastfeed my children till they are four to five years old... there is no difference between the two, we do the same for both daughters and sons.” (Participant 10, p. 14)

Participants acknowledged that at the household level there is a norm of *equitable distribution of the food items and the humanitarian aid*. A participant, who believed that this household norm facilitated her to sustain her breastfeeding practices while living in the tent and transitional shelter, shared:

“I did get the support [humanitarian aid] but it wasn’t the same as what we had in our homes. We were surviving in those times. It was equally distributed among all the members, no one used to get less or more food.” (Participant 13, p. 7)

A few other participants believed that this norm of equitable distribution of food items provides nursing mothers an equal opportunity to look after their nutritional needs while experiencing the stress of disaster, displacement, and settlement in the relief camps. These participants further acknowledged that depending on the availability of food, displaced women often decide to eat less and give more food to their children, elderly kin, and male members who work outside the home in fields. This indicated that in view of the economic circumstances and availability of food, women often go against this household-based cultural norm in view of their personal choice and societal values that expect women to sacrifice whenever required (further discussed in the section on “covert oppression” under the theme of “Barriers to breastfeeding”).

Another cultural norm that was helpful for the nursing mothers residing in relief camps was the *use of a swing cradle*. Swing cradles provided a personal safe space to the infants, allowing nursing mothers to let the infant fall asleep after breastfeeding, and enabling mothers to attend to their household responsibilities soon after breastfeeding. During field observation, I noticed that while a few of the participants had a formal swing cradle in their transitional shelters, most of the participants were using a cloth-based swing cradle (modified form). After a disaster many displaced families adapted to a low-cost cloth-based swing cradle, considering limited resources and availability of limited space in their temporary housing (shelters and tents). The swing cradle enabled the family members, especially the fathers, to participate in the child care while the mother was busy with the household chores. One of the participants who was living in the tent and was continuing breastfeeding along with the provision of a breast-milk substitute (cow's milk) verbalized about usefulness of the swing cradle:

“We have a swing for the child - actually made up of cloth, we hang that and put the child to sleep after breastfeeding. A long rope is tied to the swing which helps me put him [child] back to sleep in the swing when he [child] wakes up; afterwards I can continue with my chores.” (Participant 16, p. 3)

### ***Spiritual practices supporting breastfeeding practices***

During fieldwork, it was noticed that attending a religious place like a mosque, shrine, or prayer hall (*jamat khana*), is a common practice among families belonging to all religions. Although there were few or no health care settings in the villages where fieldwork was undertaken, most of the villages had spiritual healing clinics meant to offer spiritual advice, as well as amulets and exorcize possessions in order to alleviate sickness and improve well-being. There was a cost involved in seeking spiritual treatment; one of the participants shared that the cost is typically Pakistani Rs. 10,000/- to Rs. 25,000/- (Canadian \$100-\$250). Participants identified money as the only form of payment and did not mention the exchange of goods or

services for the spiritual healing. As these clinics were more accessible, many people in villages who could afford the cost of spiritual treatment opted for healing in these clinics. Two participants who could not sustain their breastfeeding practices after the disaster and did not find medical treatment effective enough shared that they would prefer to receive spiritual treatment if they had the money. Participants also acknowledged that *prayers* offered by relatives to enhance the well-being of nursing mothers and *spiritual treatments* administered by spiritual healers both affect mothers' well-being and their abilities to fulfill their maternal responsibilities.

A participant who was unable to sustain her breastfeeding practices right from the time of disaster underscored that an arrangement of *prayers* by her community people or relatives could have facilitated her to re-establish her breastfeeding practices. This participant was from the Kalash culture (considered an indigenous people of Asia that migrated to Afghanistan from various regions of South Asia) in which the community believes in many gods and goddesses (polytheists). They are also known as 'Black Kafirs'. During menstruation and childbirth, Kalashi women are sent to a separate communal house called "*bashaleni*" with their breastfeeding children until they end their menstruation. This ritual is considered essential to restoring the purity of women. Although the Kalashi participant did not share much about the possibility of fulfilling this ritual during the period of disaster and displacement, she underscored that in her religious community, communal prayers in temples and shrines (*pooja* in local terminology) are preferred and are considered powerful in easing difficulties and sickness, including issues surrounding breastfeeding or insufficient breastmilk supply. The participant verbalized:

"Based on my belief, I think that when my milk got dried up at that time [during disaster]. If someone would have given me blessings and arranged prayers for me then that would have been helpful to re-establish my milk supply instantly. But no one did that for me."  
(Participant 4, p. 9)



Another participant who reported ill health due to the influence of possessions by supernatural forces (*Saya* is the local term), and who was unable to sustain her breastfeeding practices, considered that *spiritual healing often* supported her recovery from the influence of these possessions and facilitated her ability to resume her child-care responsibilities. The formal and informal conversations during my fieldwork revealed that local people of all socioeconomic, cultural, religious, and educational backgrounds believed in the influence of possession by supernatural forces. This participant shared that when the locally-trained doctor was unable to find any medical cure for her condition (participant used to become mute for many days, sit in a corner, cry for hours, and could not take care of herself and her children), he advised her to receive spiritual treatment from the spiritual healers available in her village. The participant shared:

“The doctors have also advised me that I do the same [go for spiritual treatment] because they told me that ‘we have treated you for so long, so you should see a spiritual healer,’ and when I go to the spiritual healer then it helps me for some time and I feel better.” (Participant 15, p. 12).

### **Facilitators at the Exo Level**

This sub-theme represents displaced mothers’ external environment (mainly economic factors) that serve as facilitators to their breastfeeding practices during disaster, displacement, and their settlement in the disaster relief camps (shelter or tent). “Economic factors” is the main category that is derived from this sub-theme.

#### **Economic Factors that Supported Breastfeeding Practices**

Economic factors that facilitated displaced mothers’ ability to sustain their breastfeeding practice are the cost-effectiveness of breastfeeding and the resources available to the participants

at the time of disaster, displacement, and their settlement in the disaster relief camps. Each of the sub-categories is discussed below:

### ***Cost-effectiveness of Breastfeeding***

Most of the participants who were breastfeeding their children during and after the disaster highlighted the cost-effectiveness of breastfeeding. They acknowledged that during the time of disaster when they had no resources, availability of breastmilk substitutes, or related supplies, they preferred to continue breastfeeding as it prevents sickness, saves lives, and does not require any supplies or financial resources. One of the participants verbalized:

“During the time of the flood, we had to evacuate the area with our children during the night time. The helpful thing was that I was breastfeeding my child, therefore, there was not any problem to feed my child. I didn’t have to request people for their help in providing supplies or worry about my child’s lost feeding bottle; it was nothing of that sort. At that time, I fed her [child] my own breastmilk even if I was hungry myself.” (Participant 1, p. 3)

Another participant who lost everything in the disaster [flood] and sustained her breastfeeding practices during disaster, displacement, and settlement in the shelter verbalized:

“I was breastfeeding my child [during disaster and displacement] that is why I didn’t have any issues but if I was using cow’s milk or any other type of milk I would have had issues about that. Because then I would have to care about cleaning the bottle and boiling the milk. There was nothing like this and I breastfed my child and that is why I had no issues.” (Participant 8, p. 7).

A participant, who lost everything during massive disaster [glacial lake outburst flooding and flash flooding], stayed in the mountains for four to five days and had no access to food or shelter during the initial days of the disaster, but sustained her breastfeeding practices as it was the only cost-effective option to save her child’s life. She stated:

“There is a covering in the mountains, we all took our children and went there. We were not having any proper setup for food for the next four to five days. The place was at a height and there was no way on either side of it. I was breastfeeding my youngest child

because it was a situation of dire need, otherwise the child would have gotten hungry and things would have been very tense for us. It was a bad situation for everyone and I wasn't able to take care of myself, but I took care of my children." (Participant 3, p. 2).

### *Availability of Resources*

Participants mentioned that during the period of disaster and displacement, a few of the available resources that facilitated their survival and ability to look after their children included survival of their cattle, availability of breastmilk substitutes (mainly cow's milk), a partially damaged house, leftover household items, temporary housing (tent, shelter, or relatives' house), and land to rebuild the damaged house or to place the shelter or tent.

A participant, who provided breastmilk substitute (cow's milk) to her child because her breastmilk supply stopped soon after the disaster and displacement, felt grateful that her brother had a few cows that survived the disaster. Hence, everyone in the family was dependent on the cow's milk when there was nothing to eat. The participant stated:

"It was the time [before disaster] when they [brother's family] took the cattle uphill for grazing. All of them died because of the flood except a few cows which survived. So, he used to feed that milk to the children and used to give it for all of us to consume." (Participant 4, p. 7).

Another participant, who was able to sustain her breastfeeding before and after the disaster, acknowledged that the damaged house was the only available resource where they cooked food and breastfed the youngest child. The participant stated:

"After the disaster, some houses still had their kitchen intact, so we stayed there [in the damaged house] and cooked food for our men. Men were trying to build shelters, huts, and houses for themselves and their families. We women participated equally with our husbands to help them. As we had a kitchen which was spared [in the damaged house], I fed my child over there." (Participant 8, p. 3).

Another participant who was able to continue her breastfeeding practices while living in the tent and at a relative's place acknowledged that the availability of tents met their housing needs, especially at the time when nothing was left after the disaster. She stated:

“We had two large and spacious tents; that is why we had no issues in that. Other than the winds and the dirt there were no other troubles. There was enough space for us to sit inside.” (Participant 18, p. 9).

### **Facilitators at the Macro Level**

This sub-theme represents geopolitical factors that serve as facilitators to mothers’ breastfeeding practices during disaster, displacement, and their settlement in the disaster relief camps (shelter or tent). “Geopolitical factors” is the main category that is derived from this sub-theme.

#### **Geopolitical factors that Facilitated Breastfeeding Practices**

Geopolitical factors that participants considered as facilitators towards their breastfeeding practices include humanitarian aid and relief agency’s efforts.

#### ***Humanitarian aid***

In-depth interviews confirmed that affected families received *humanitarian aid* from the government, relief agencies, volunteers, and neighbouring villagers for only about two weeks post-disaster. A review of records and documents maintained by the humanitarian relief agency further confirmed that during two major recent disasters in Chitral (glacial lake outburst and flash flooding in July 2015 and earthquake in October 2015) most of the accessible villages and displaced families were provided food and non-food items for two weeks. The documents maintained by one of the relief agencies showed that after each of these major disasters, the disaster-affected families received the food and non-food items only once. The food items included flour (40 Kg), rice (10 Kg), sugar (1 Kg), powdered milk (1 Kg), lentils (4 Kg), tea (1 Kg), salt (1 packet), and cooking oil (5 liters). The non-food items included one tent (to households that were completely damaged), blankets (four per household), tarpaulin sheet (one per household), hygiene kits (one bag per household), kitchen sets (one set per household),

winter clothes (as per need of affectees), and a water cooler (one per household). Most of the participants acknowledged that the contribution of humanitarian aid, including food items (rice, oil, powdered milk, flour), non-food items (clothes, blanket, mattress, utensils), insulated shelters, and financial assistance enabled them to survive during the time of disaster and facilitated participants' abilities to look after the basic needs of their children. Most of the participants mentioned that they did not received formula milk for the infants, however, they received powdered milk that they used in preparing tea.

While acknowledging the role of *humanitarian aid*, a participant who was able to continue breastfeeding while living in a tent and shelter shared:

“We did receive some support and items as help... we received oil, blankets, flour, and a lot of other things. We also received some clothes... I am thankful that we had that at least. In our homes [before disaster] we had lands and lots of food. Comparatively, this was much less than that, but I am thankful that we got this much at least.” (Participant 14, p. 3).

Another participant verbalized:

“We got flour, beds and foam, rice, lentils, and milk along with water and dishes. They cooperated with us on a major level. The stuff which they gave us had lots of food in it.” (Participant 10, p. 4).

A participant, who lived in a tent for a short period of time soon after her childbirth, acknowledged the contribution of donations. She stated:

“We were trying to survive. I had some money saved and I also had these relief donations which helped us to survive at that time.” (Participant 18, p. 8).

A few of the participants acknowledged that the aid did not include formula milk or feeding bottles. Instead, they received a milk donation for the tea [a popular drink among all age groups in Chitral]. When asked about the donation of formula milk as an aid, a participant who was feeding breastmilk substitute (formula milk) to her child mentioned:

“No such thing [formula milk] was provided for the children. They used to give us milk for tea and something to eat.” (Participant 4, p. 4).

Most of the affected families received transitional shelter after a few weeks or months. They viewed shelter as the greatest assistance received, as they had no private place to breastfeed their children. Participants mentioned that the disaster forced their family members to live separately due to homelessness, therefore, before the allocation of shelter they were either living in overcrowded tents, open space (ground or mountain), or at relatives' places having limited space. The participants mentioned that in comparison to tents, open spaces, and relatives' houses, *shelters* provided them a better place to live, where they could breastfeed in privacy in an enclosed space. For example, one participant who lived in a tent for five months and then moved to a shelter acknowledged the contribution of a shelter in facilitating her breastfeeding practices. She stated:

“We were given shelters five months after the disaster. They [shelters] actually came in before that, but it took them five months to build and construct them. When we moved into the shelter, it was better than before [tent] at least. It [shelter] was also a little more comfortable for us as we could go into a corner and breastfeed the child easily. I was also able to cook food and look after my children.” (Participant 13, p. 4).

While specifying the benefit of having a shelter as compared to a tent, one of the participants shared:

“They [shelters] are bigger in size and people can actually live together in it and eat together. There is plenty of space to sleep. A tent is only there to provide refuge against the open sky. It gets damp when it rains as the water seeps through it. A shelter is better than that because at least it doesn't get wet during rain and you can sit in a dry place. That is why a shelter is better than a tent.” (Participant 17, p. 12).

A number of temporary shelters have been used in the area, illustrated in figures 8 through 10. Shelters have evolved over time, considering environmental conditions, mainly extremes of cold temperatures, large family size of the disaster-affected families, and challenges encountered

by the displaced families due to non-availability of the communal washroom facilities in the mountainous region of Chitral.

Informal discussions with the team members of the relief agency indicated that the single room-based '*angle iron green shelter*' provided to displaced families (see Figure 8) was better than the old design of shelter that was allocated to 85 disaster-affected families in 2010 (see Figure 9) and the pre-fabricated model of shelter conceived and allocated by the Aga Khan Agency for Habitat to the 260 earthquake-affected families in Chitral during 2015-2016 (see Figure 10).

**Figure 8. Angle iron model of the green shelter constructed and allocated by the Aga Khan Agency for Habitat to the 415 flood-affected families in Chitral during 2015-2016**



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**Figure 9. Old design of the shelter allocated by the Aga Khan Agency for Habitat to the 85 disaster-affected families in 2010**



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**Figure 10. Pre-fabricated model of shelter conceived and allocated by the Aga Khan Agency for Habitat to the 260 earthquake-affected families in Chitral during 2015-2016**



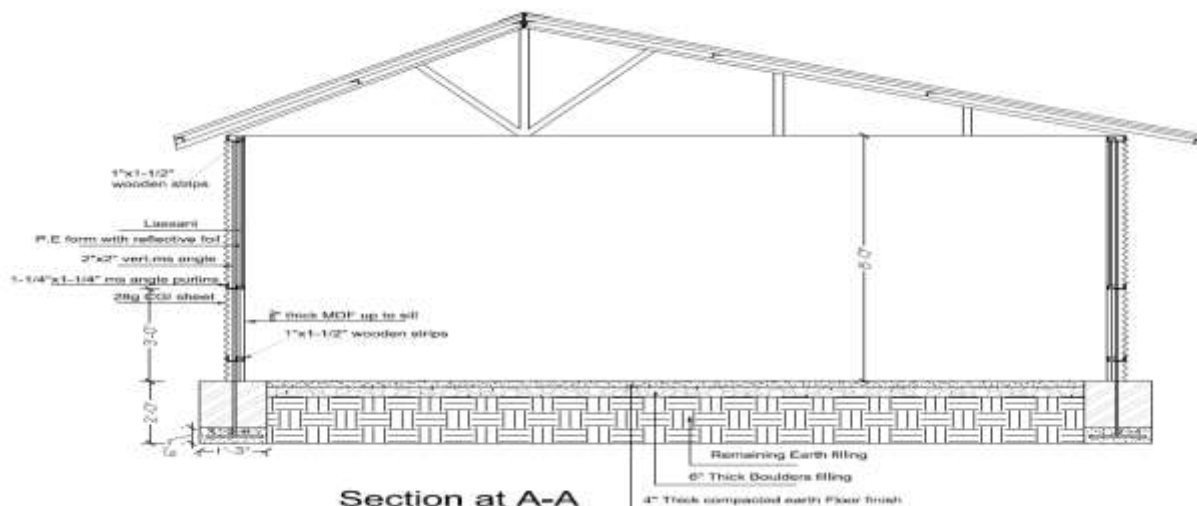
© Aga Khan Agency for Habitat



The angle iron green shelter (see Figure 8) was insulated, allowed space for the entire family to live together, and facilitated mothers to look after their child-care responsibilities as well as to sleep, rest, cook, and undertake other household chores. The angle iron green shelter had a door, windows, and attached washroom (with no water supply) (see figure 11 showing the layout of the green transitional angle iron shelter).

The review of documents maintained by the Aga Khan Agency for Habitat, Pakistan about the development of the angle iron green shelter indicated that the design of the single room shelter (see figure 11), with a total area of 300 square feet and a living area of 271 square feet, intended to provide an insulated environment to a displaced family. The documents further revealed that the interdisciplinary team of Aga Khan Agency for Habitat, Pakistan conceived and developed different types of transition shelters to meet the individual needs of the disaster-affected community. Refer to figure 11 for the design of the green transition angle iron shelter conceived, developed, and allocated by the Aga Khan Agency for Habitat, Pakistan to the disaster-affected families.

**Figure 11. Layout of the angle iron green transition shelter**



While acknowledging the insulated nature of the shelters allocated by the relief agency, one of the participants who was continuing her breastfeeding practices while residing in a shelter mentioned:

“When I am feeding her [child] it’s much better that we sit inside the shelter because the shelter is an enclosed warm space and the child wouldn’t feel cold inside, and nor would I, during that time.” (Participant 1, p. 2).

### ***Relief agency’s efforts***

Participants acknowledged the *efforts of the relief agencies* in provision of environmental alerts about the possibility of an approaching disaster, facilitation of emergency evacuation during disaster, allocation of aid and disaster relief camps (tent or shelter), instructions about boiling and cleaning water, and establishment of a clean water supply through the Water and Sanitation Extension Program (WASEP). Participants mentioned that all these efforts of the relief agency saved their and their family members’ lives. They helped them to feel content with their children and looked after their feeding needs during a disaster, displacement, and settlement in the disaster relief camps.

A participant who was residing in a shelter and was able to sustain her breastfeeding practices during and after disaster mentioned:

“I went through some stressful times as a mother and as a wife because I was worried for my children. But thanks to Allah [God], they [family members] survived, and they [family members] are safe, as I ran to save them as soon as it [disaster] happened. Everything else was gone with the floods and the entire household stuff drowned, but my children were safe and all my family members were sound, that is why I was happy. We didn’t have a house, but we didn’t stay homeless for long because the relief organizations who work for us gave us a shelter and provided a place over our heads where we moved in afterwards.” (Participants 10, p. 2)

While acknowledging the efforts and support offered by multiple relief organization, the participant further stated:

“My children didn’t even have proper clothes at that time [during the disaster]. They had only what they were wearing at that time [during the disaster]. After that, when the rescue teams came in they brought clothes for us. The relief groups from SRSP [Sarhad Rural Support Program] and FOCUS [Aga Khan Development Network’s Humanitarian relief agency] came and helped us a lot. Islamia Relief was also an organization which helped us a lot.” (Participant 10, p. 6)

A participant who continued breastfeeding her child during and after a disaster while living in the shelter allocated by the relief agency, acknowledged the environmental warnings that they receive from the relief agency on a regular basis. The participant verbalized:

“The representatives from FOCUS [Aga Khan Development Network’s Humanitarian relief agency] did come in to alert us about the weather. The houses which were destroyed in the floods are now rebuilt again because these people [villagers] cannot make their house somewhere else, so they have to rebuild them at the same spot using their land. People who came here from FOCUS [relief agency] have already warned that people shouldn’t make houses there or rebuild their destroyed houses because there is a chance that the floods will strike again.” (Participant 6, p. 16)

Another participant shared:

“I knew that something like this [disaster] would strike because that is what we were told in the Jamaat Khaana [prayer hall]. They [relief agency] had announced that the floods would strike, and people should take care of their important documents. That is why we knew about this. I had prepared a bag where I kept some clothes for a child and other related items. And I took that bag and the child when the time came and ran away.” (Participant 12, p. 4)

Most of the participants acknowledged the contribution of the Water and Sanitation Extension Program (WASEP) for the availability of a clean water supply. A participant whose child was born while she was living in the shelter and who sustained her breastfeeding practices along with the provision of breastmilk substitute (cow’s milk) shared:

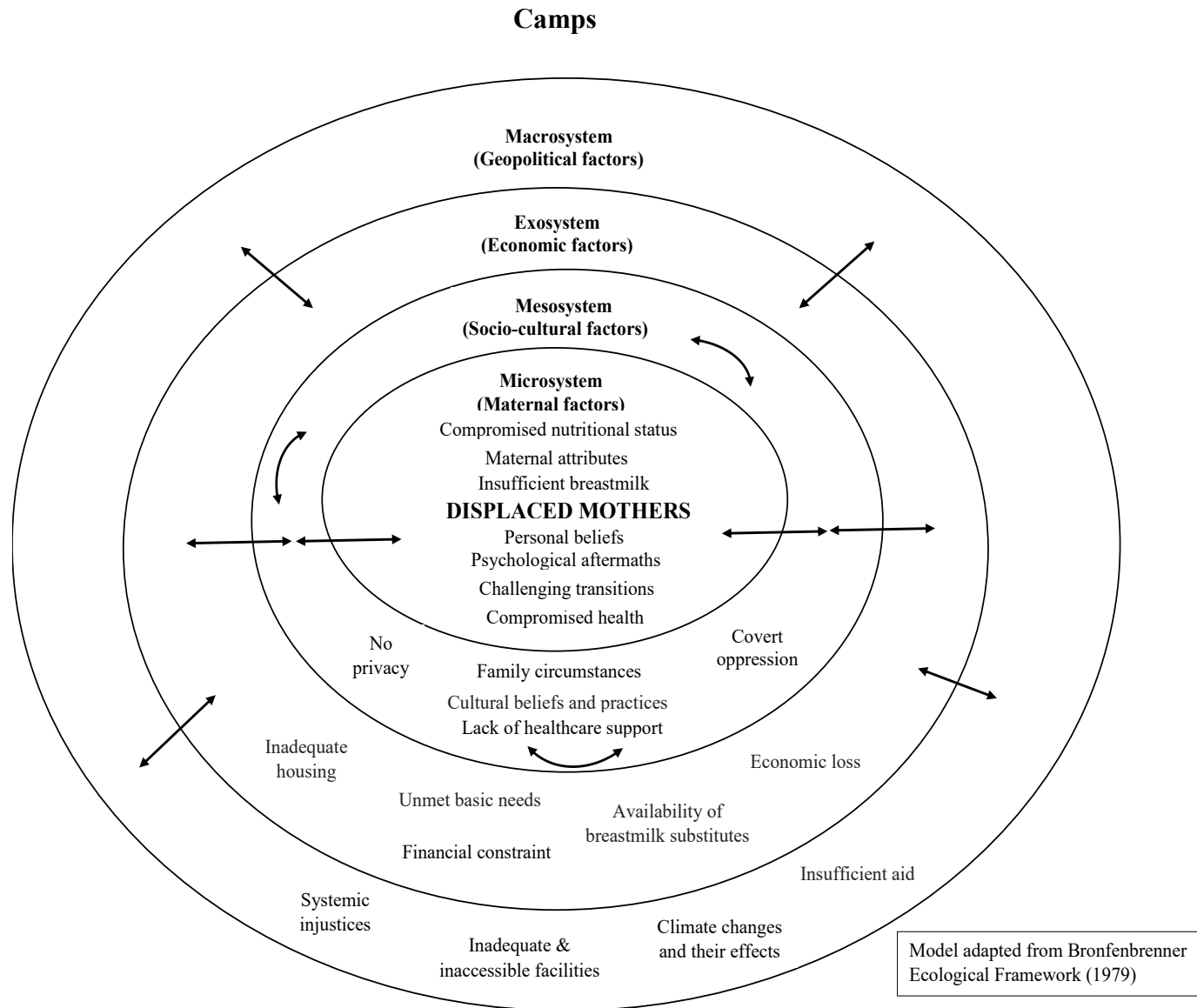
“Water is supplied here through WASEP [Water and Sanitation Extension Program]...this is by Aga Khan planning and building services. They are handling various projects in this area; they have made shelters here. This was the first place where they started giving out

water. Some people were badly affected and had no water supply but now it is all back to normal and we are getting clean water...there is a single tap provided to each house which we can use.” (Participant 5, p. 13)

## **Theme 2: Barriers to Breastfeeding**

The second theme presents the findings surrounding barriers to breastfeeding practices of mothers residing in the disaster relief camps of the identified setting in Pakistan. This theme has been divided under the sub-themes of “barriers at the micro level”, “barriers at the meso level”, “barriers at the exo level”, and “barriers at the macro level” to present maternal, socio-cultural, economic, and geopolitical factors that serve as barriers to the breastfeeding practices of displaced mothers residing in disaster relief camps. In view of the Bronfenbrenner Ecological Framework (1979), Figure 12 depicts the findings surrounding barriers to the breastfeeding practices of mothers residing in the disaster relief camps.

**Figure 12. Barriers to the Breastfeeding Practices of Mothers Residing in Disaster Relief**



This sub-theme represents the displaced mothers' immediate surroundings (mainly maternal factors) that served as barriers to their breastfeeding practices during a disaster, displacement, and their settlement in the disaster relief camps (shelter or tent). "Maternal factors" is the main category that is derived from this sub-theme.

## Maternal Factors as Barriers to Breastfeeding Practices

Maternal factors that served as barriers towards breastfeeding practices of mothers residing in the disaster relief camps include insufficient breastmilk, compromised maternal nutritional status, psychological aftermath of the disaster, myths, beliefs, and attributes, compromised health and hygiene, and challenging transitions.

### *Insufficient breastmilk*

Most of the participants mentioned that *insufficient breastmilk* served as the biggest barrier towards their breastfeeding practices. Insufficient breastmilk was assessed by their infant's behaviour; for example, if the child continued crying after feeding or did not fall asleep soon after being breastfed, this suggested that the breastmilk supply was inadequate (see nutrition section for further means of assessing breastmilk adequacy). They mentioned that low breastmilk supply, interrupted breastmilk supply, and completely dried up breastmilk forced them to initiate breast-milk substitutes (cow's milk, milk curry i.e. finely ground semolina in milk, formula milk, tea and, solids) to respond to their child's hunger.

While acknowledging insufficiency of breastmilk as a barrier toward breastfeeding practices, a participant who was supplementing breastmilk with cow's milk and milk curry, after experiencing insufficient breastmilk supply stated:

“I started cow's milk because my breastmilk isn't sufficient for him [child]. I feed him my own milk; it's not like I don't feed him, but other than that I also give him cow's milk and milk's curry which we prepare here so that he doesn't stay hungry.” (Participant 5, p. 2)

Another participant, who continued breastfeeding along with the provision of formula milk, shared:

“I feed my own milk [breastmilk] to my child but that is not enough for the child, so I add some store-bought milk [formula milk] in the child's diet as well. I breastfed my other children when they were young, but after the earthquake my breastmilk supply has reduced, and this is not sufficient for my child. One of my breasts is not producing milk at

all, while the breastmilk from the other one is not enough. That is why I need to feed my child with store-bought milk [formula milk].” (Participant 18, p. 1)

A few of the participants were unsure of the reason behind insufficient breastmilk supply. However, a few participants considered compromised maternal nutrition, stress, and uncomfortable living conditions after a disaster as possible contributors to their insufficient breastmilk supply. One of the participants who was substituting breastmilk with cow’s milk was of the view that her breastmilk was insufficient, as her child continued crying after breastfeeding and slept soon after receiving the breastmilk substitute. The participant mentioned:

“Sometimes my breastmilk isn’t sufficient for the child because of which she cries [after breastfeeding], that is why I give her cow’s milk... sometimes breastmilk is just not enough. I don’t know the reasoning behind it, but it does get a little less that is why we give her cow’s milk.” (Participant 7, p. 1)

Another participant who noted a similar behavioral response in her child (continuous crying and restlessness after breastfeeding), substituted breastmilk with cow’s milk and solids at six months. She also shared possible reasons for her insufficient breastmilk supply, including stress, compromised nutrition, and cramped living conditions:

“My breastmilk was not sufficient, and my child cried. So, I decided that I should give her cow’s milk and also include some soft homemade food in my child’s diet. I was worried, and I was not comfortable in the way we lived. We didn’t eat proper meals and all these reasons were a contributing factor to it [insufficient breastmilk]. When the breastmilk was not enough, I had to give her cow’s milk.” (Participant 17, p. 14)

### ***Compromised nutritional status***

Most of the participants shared stories about the negative effects of their compromised nutritional status at the time of disaster, emergency evacuation, and their settlement in the relief camp. Participants mentioned that they experienced weakness, hunger, and starvation either due to no food, inadequacy of the quantity and quality of the food that they had, or personal choice to skip meals. One of the participants shared that major disasters in Chitral (earthquake and glacial

lake outburst flash flooding in the year 2015) has badly affected their economic situations and many displaced families are living hand-to-mouth. She further shared that after the disaster and displacement male members of the family had to work much harder than before to make ends meet and arrange money to buy food, buy land at a safer location, and build a new house. In view of these circumstances, during the period of economic hardships, especially when the availability of food items is limited, many displaced women consider skipping meals in order to fulfill the nutritional needs of their family members (young children, elderly, and male members working outside the home in fields).

The participants were of the view that a compromised nutritional status affected their health, ability to fulfill their child-care responsibilities, and produce sufficient breastmilk. During fieldwork, I noticed that most of the women appeared underweight, pale, and had dark patches on their cheeks, looking tired and reporting fatigue. Although many in the disaster-affected community received food items as aid after major disasters during 2015 (as discussed before in the section 'humanitarian aid'), it was only provided during the first two weeks of the major disaster in 2015. After that, the disaster-affected families had to be on their own to earn their livelihood. During my fieldwork, I noticed that mothers who were living in temporary housing for 2.5 years due to economic hardships were eating yogurt, homemade bread, and vegetable curry in limited amounts. The food was served on a mat placed in the middle of the shelter where family members would sit together and share food that was served with a single utensil. Although most of the participants mentioned that they eat three meals a day, I noticed that the availability of food was limited compared to the total number of family members and most of the time the food was lacking in sources of protein, iron, and vitamins. This reflected household food insecurity among the displaced families living in a variety of temporary housing.



A participant who was unable to sustain her breastfeeding practices soon after disaster due to compromised nutritional status and who decided to use a breast-milk substitute (formula milk) for her child, mentioned:

“I couldn’t breastfeed my child at that time [during disaster and displacement], the production had stopped. The child was on formula milk ever since then through a feeding bottle. If someone would have taken care of my diet and proper nutrition, I wouldn’t have to go through all this. In my life, I have never given formula milk through a bottle to my children, but this time I had no other option.” (Participant 4, p. 6)

A participant who was unable to sustain her breastfeeding practices and fed formula milk to her child stated:

“I wasn’t getting sufficient nutrition, that is why I couldn’t produce sufficient breastmilk. I fed my child with breastmilk twice a day and the next two times I would just give her [child] the bottle feeder. There was no sufficient food available and I couldn’t maintain my own diet, so ultimately that decreased my breastmilk supply day by day.” (Participant 15, p. 2)

Another participant mentioned reduced frequency of meals due to non-availability of adequate food items after the disaster. She stated:

“In our own house [before disaster], we used to eat and cook as we liked. We used to eat as many times as we wanted, but here [in the disaster relief camps] we can’t. Here [in the disaster relief camps] we only eat once.” (Participant 14, p. 4)

### ***Psychological aftermaths affecting breastfeeding practices***

Most of the participants mentioned that psychological aftermaths of disasters negatively affected their breastfeeding practices, child-care responsibilities, and health.

A participant who could not sustain her breastfeeding practices soon after disaster shared her painful memories and experiences during the period of disaster:

“My daughter was breastfeeding at that time [before the disaster] and I was in the kitchen preparing food. When the earthquake came, I screamed and took my daughter and ran outside. Everyone came running after they heard me screaming. At that time my breastmilk supply completely stopped, and I had to use a feeding bottle. I used the store-bought milk

for her at that time. My milk completely dried out. I took medicines and ate other things in my diet, but nothing worked so I had to give her a feeding bottle.” (Participant 16, p. 6)  
Another participant shared that she experienced lots of difficulties and psychological

aftermaths of disaster that affected her breastmilk supply. She stated:

“After the earthquakes and floods, there was a lot of distress, because of which my milk stopped coming. We had to live with lots of difficulties. The earthquakes had caused much stress and anxiety. When I checked myself [my breast] there was decreased milk production [after the disaster]. The child started crying too. When he [child] cried a lot, I went to my mother’s house. Before that we were living in a tent.” (Participant 14, p. 2)

One of the participants shared that she experienced confusion at the time of the disaster, she verbalized:

“He [my child] was almost eight months to one year old. When the floods came, I wasn’t able to take care of my child properly. We were tied up in a lot of other things. We came to our senses after four to five days and tried to understand what we should do and what is necessary for us to work with.” (Participant 8, p. 2)

Informal discussions with the relief workers and a review of the documents (mainly reports maintained by the relief agency and governmental reports on the regional profile of Chitral) pertinent to effects of climate change in the mountainous region of Chitral revealed that this region is at a high risk of subsequent disaster and future glacial lake outburst flooding or flash flooding triggered by heavy rain. One of the relief workers mentioned that currently there are 250 active glaciers in Chitral that make this region prone to future glacial lake outburst flooding. At the time of fieldwork, a 5.4 magnitude earthquake along with windstorms was recurrently happening in Chitral followed by electricity failure, interruptions in communication channels (phone lines and internet), landslides, and damaged roads within the mountainous regions. During that period, most of the participants mentioned their *fear of subsequent major disaster* and reported *sleeplessness* associated with fear. One of the participants stated:

“The fear is still there in our hearts. Last night, there were talks that there are winds blowing again; so, yesterday we had to run back again [undertake emergency evacuation].

There is still fear and we leave our place when it rains. At this time, there is a lot of water in the canal, it will be beyond one's imagination. We are quite afraid of the subsequent flood." (Participant 5, p. 10)

A participant identified *depression and suicidal risks* as potential long-term psychological aftermaths of disaster, displacement, and life in the cramped disaster relief camps (tent or shelter). She was of the view:

"If a person is not comfortable, how will he or she be able to survive in this life? The mother will always be under stress and then surviving in such conditions [cramped and uncomfortable disaster relief camps] will be difficult. In such circumstances, mothers may commit suicide as a last resort. They cannot do anything; neither can these organizations and the other people or the government." (Participant 17, p. 6)

### ***Personal beliefs as barriers to breastfeeding practices***

The data collected through multiple sources revealed that several personal beliefs of the participants were serving as barriers to their breastfeeding practices.

The *maternal personal beliefs* that were affecting the breastfeeding practices included 'child must be breastfed only when they wake up or cry', 'inadequate maternal nutrition leads to minimal breastmilk production', 'maternal stress transfers to child through breastmilk', 'use of undergarment (brassiere) cause troubles in breastfeeding', and 'influence of possessions (witchcrafts) affects maternal and child health.

Although many participants viewed that stress leads to insufficiency of breastmilk, a few of the participants believed that maternal stress transfers to the child through breastmilk and that it is harmful for the child to receive breastmilk when a mother is stressed. A participant elaborated on her belief and verbalized:

"If you breastfeed your child when you are stressed that will definitely affect your child. I think that is it. When he [child] grows up, he [child] will lead a similar life which is surrounded with tension and stress. Most of them [breastfeeding mothers] who aren't aware of these situations breastfeed but those who completely understand do not breastfeed their child." (Participant 17, p. 8)

A participant who was breastfeeding her youngest child before a disaster shared about her belief surrounding the *influence of witchcraft* on herself and her child, which meant therefore that she could not sustain her breastfeeding practices. She shared:

“When the floods came in, my youngest child and I both were under the influence of witchcraft (*Saya*, “local term for the influence of supernatural forces and possessions”). It was only on my youngest child [the one who was breastfeeding] and she is sick until now. My breastmilk dried up and its supply completely stopped. I had to use powdered milk at that time.” (Participant 4, p. 2)

Another commonly shared belief by most of the participants was ‘*inadequate maternal nutrition affects the quantity and quality of breastmilk*’. There was varied understanding of insufficient nutrition among participants. Most of the participants considered eating less than three meals per days as insufficient nutrition, whereas there were a few participants who connected nutritional insufficiency with the state of a prolonged period of hunger during emergency evacuation and disaster. One of the participants who was living in a shelter shared:

“Your milk supply decreases when you stop having food or eat less. It [my nutrition] got very insufficient and that’s why he [child] cried all the time for four to five months. I don’t know what happened during the floods with this child. He is still not able to talk.” (Participant 6, p. 10)

### ***Maternal attributes that served as barriers to breastfeeding practices***

In-depth interviews with the participants revealed that *maternal attributes* that served as barriers towards breastfeeding practices included shyness, hesitation to breastfeed (in the presence of others and men), age (young or old), subsequent pregnancy, lack of empowerment, maternal employment, and inadequate breastfeeding knowledge (about feeding cues and frequency of breastfeeding).

Maternal hesitation and shyness to breastfeed in the presence of people, especially male members, were the key barriers to breastfeeding. During in-depth interviews, I noticed that there

were a few participants who viewed breastfeeding as a private matter and were hesitant to discuss it. During interviews, many of these participants responded to my questions in short sentences without mentioning any details and a few were covering their mouth with their scarf out of shyness after providing a brief answer to my questions. On further probing, these participants shared that despite covering themselves to breastfeed their child with a veil, they feel shy to discuss breastfeeding with anyone or seek help or support for any issues surrounding breastfeeding. They further mentioned that despite their veil they feel shy, hesitant, and uncomfortable to breastfeed if there are any male members in the shelter or tent. A participant who was living in a shelter identified *hesitation and shyness* to breastfeed as major barriers towards her breastfeeding practices. She verbalized:

“I obviously face difficulties if there are too many men and people in the shelter. I feel shy and face troubles while breastfeeding him [child].” (Participant 2, p. 2)

Maternal pregnancy was another barrier to continued breastfeeding. In view of the economic hardships and compromised nutritional status after disaster, pregnant mothers residing in temporary housing (shelter or tent) were opting for cessation of breastfeeding. A participant who stopped breastfeeding her older child due to a *subsequent pregnancy* mentioned:

“I breastfed her [older child] until she was nine-months-old. I got pregnant after that so stopped breastfeeding the child. The older one [older child] started having cow’s milk at that time and she also had bread at that time. She would also eat some biscuits and stuff like that. She ate and slept at that time. When I stopped breastfeeding my child, it [breastmilk] started getting less in supply during the initial months of my pregnancy and now my breastmilk has completely stopped.” (Participant 12, p. 6)

Young maternal age and limited knowledge about child care was another maternal attribute that was serving as a barrier towards their breastfeeding practices. In Chitral, for many decades early marriage has been a common norm and girls are usually married before the age of 18 years. The same trend was followed after the event of disaster and many mothers residing in different

types of temporary housing (shelter or tent) reported having their first child before the age of 18 years. One of the participants, whose child is reported to have recurrent sickness (dysentery), considered her *young age* and *limited knowledge of child care* as the main barriers to her breastfeeding practices. This mother was the youngest study participant. On exploring her child's feeding routine, the mother responded that she feeds her child three to four times a day only when her child wakes up or cries due to hunger. The mother shared that whenever she could not take care of her child during the disaster, her mother-in-law fed cow's milk to her child by using a bottle. On asking the mother about the practices surrounding cleaning of the feeding bottle, she shared that she boils the bottle once a day in the morning. In view of the perceived barriers to her breastfeeding practices, the mother shared:

“I don't know much about this [breastfeeding] because I got married at a very young age. I have no idea about all these things [breastfeeding and child rearing] because I gave birth to my child at a very young age. I am very young; I don't know much about raising a child. I was approximately 15 years old when I got married. I was studying in Grade 9.”  
(Participant 7, p. 17)

### ***Compromised health as a barrier to breastfeeding practices***

The data gathered using in-depth interviews and observations during fieldwork revealed that *compromised maternal health*, specifically maternal sickness (cholera, pain, backache, tiredness, and headache); poor health condition after disaster; injuries; and unhygienic practices directly and indirectly affected their breastfeeding practices and other child-care responsibilities.

A participant highlighted *maternal sickness* as one of the barriers to continuing to breastfeed. She shared:

“I feed her [child] my own milk [breastmilk]. When I am fine there is no issue with it but when I am sick or unwell then the milk supply decreases; that is why I have to take care of this and give her something else to eat so that he stays healthy.” (Participant 8, p. 1)

Another participant, who could not sustain her breastfeeding practices due to her ill health, and who initiated formula feeding her child, mentioned:

“I have not been to hospital, not even at the time of childbirth. During the time of the flood, I had cholera for the very first time and I got my first drip [intravenous infusion] in hospital. It felt quite odd. But in my life, I have never been taken myself or my children to the hospital. I couldn’t breastfeed my children at that time, the production had stopped. The child was on formula milk ever since then through feeding bottle.” (Participant 4, p. 6)

Another participant who could not sustain her breastfeeding practices due to negative effects of the disaster on her health verbalized:

“My health was badly affected because I used to worry about my children and think all that time about how I should make a house and have food for myself. I fed my children and starved myself, that is why my health is badly affected.” (Participant 15, p. 5)

Participants shared that they experienced injuries at the time of emergency evacuation and displacement. A participant who experienced physical injuries during an emergency evacuation sought refuge in mountains [open space] for 10 days, and sustained her breastfeeding practices to save her child’s life, shared:

“During the flood, we ran barefoot and climbed the mountain. We didn’t have shoes [during emergency evacuation]. We climbed the mountains and some of us were injured and wounded too. But we had to run away and save our lives. There are many people who died during the floods, there was loss of animals too.” (Participant 10, p. 9)

### ***Challenging transitions***

Participants talked about *challenging transitions* as a barrier to their breastfeeding practices. Mothers were of the view that soon after a disaster they experienced multiple challenging transitions in their lives, including stressful escapes in the moments post-disaster, living in the open until they could relocate to relief camps, adapting to displacement, and relief camp struggles.

A participant who could not sustain her breastfeeding practices after a disaster was living with her relatives in an unstable house as she was not allocated a shelter or a tent. The participant verbalized about her challenging survival:

“I keep on moving from one village to the other. I am living with a relative right now and I am living in a room there. I sleep and sit there; my children live there too, and I cook in the same room; this is how I am surviving. It’s a *katcha* [unstable] house. The room where I am staying is made up of sand, and it is a single room. I am living in there. When it rains the water starts to drip in.” (Participant 15, p. 5)

Many participants shared challenges that they encountered since the stressful time of the disaster. They shared that they struggled to find a safer location to seek refuge and had to relocate frequently to save the lives of themselves and their family members. During the initial period of the disaster, when people from the relief agency could not access the villages, disaster-affected families had to seek temporary refuge in the mountains with their young children. During this period, displaced families, including breastfeeding mothers, faced a prolonged period of hunger while they continued to breastfeed. After many days, displaced families struggled to find temporary refuge at a relative’s place or lived in their damaged houses. Members from the same family lived separately for many months with their relatives in different villages until they received a tent or a transitional shelter from the relief agency. After many months of separation, when the family reunited in one tent and shelter, they struggled to meet their basic needs and faced economic hardships. Displaced mothers shared that due to recurrent disasters and economic constraints they have been living in temporary housing for 2.5 years, where they have limited space and cannot maintain an intimate relationship with their husband, avail adequate privacy to breastfeed, and protect themselves and their young children from the extreme temperatures during the summer and winter seasons.



A participant who faced all these troubles and challenging transitions shared:

“There were lots of troubles after the floods so that is why we aren’t properly able to take care of our children. My life before this was very comfortable.” (Participant 8, p. 1)

In the cultural context of Chitral, where women are the primary caregiver and have various household responsibilities, a participant who had to substitute breastmilk with cow’s milk and solid food shared about her increased responsibilities after the disaster:

“My mother-in-law is old, and the men of the house are busy with their work in the fields. There was a lot of work which we had to do after the floods came in. We had to dig up the whole place [land having rock debris] after the floods came, there was a lot that we did. It was men’s work, but we help them too. We had to cook for them and bring the food all the way there [to field].” (Participant 11, p. 6)

### **Barriers at the Mesosystem**

This sub-theme represents the displaced mothers’ immediate social network (mainly socio-cultural) factors that serve as barriers to their breastfeeding practices during a disaster, displacement, and their settlement in the disaster relief camps (shelter or tent). “Socio-cultural factors” is the main category that is derived from this sub-theme.

#### **Socio-cultural factors as barriers to breastfeeding practices**

Socio-cultural factors that served as barriers towards the breastfeeding practices of mothers residing in the disaster relief camps include no privacy, cultural beliefs, practices and expectations, oppression, lack of healthcare support, family circumstances, and encouragement of a breast-milk substitute. Each of these sub-categories are discussed below:

##### ***No privacy***

*Lack of privacy* to breastfeed was identified as the top barrier affecting breastfeeding practices of mothers. All the participants shared that during a disaster, displacement, and their

settlement in the relief camp (shelter or tent), there was no privacy or availability of women-friendly spaces to breastfeed.

Participants were of the view that their privacy continued to be jeopardized while living in the overcrowded tent and shelter. They felt uncomfortable to rest and breastfeed their young children in front of their relatives, male family members, and guests. A participant who was living in a tent and substituting breastmilk with cow's milk shared:

“I faced lots of troubles when my child was born. It was cold, and everyone [family members] was there. I couldn't sleep comfortably or get relaxed, so faced lots of issues in this [tent]. I had troubles when people would come in [guests and relatives] while I was breastfeeding the child. I could not sleep at all. I couldn't breastfeed my child in front of them [guests and relatives].” (Participant 16, p. 5)

During the field observation, it was noticed that women in Chitral wear long shirts and loose-fitting trousers (called *shalwar kameez*) and fully cover themselves with a long scarf (*dupatta* in Urdu). As their long shirts do not have buttons in front or have a lower cut, they usually lift their shirt to attach their child to their breast and then breastfeed the child while covering their breast and the child's head under their shirt and long scarf. Although mothers considered ‘use of veil (long scarf)’ as a strategy to navigate the issues surrounding lack of privacy to breastfeed, they shared that breastfeeding using a veil often suffocates their children, after which they scream and try to remove the long scarf. A participant, who on encountering the challenge of lack of privacy to breastfeed made sure to cover herself with her long shirt and scarf while breastfeeding the child but could not sustain her breastfeeding practices, shared:

“There is a single room [shelter] and all the people in family share this space. It gets difficult when the child is screaming and removing the long scarf (*dupatta* in local term) from over her [child] during breastfeeding.” (Participant 4, p. 9)

Women in Chitral often restrict their movement to certain locations in the village, such as canal, field, prayer hall, and a neighbour's house. The participants mentioned that during disaster

and displacement when they had to run to far places to find refuge, they had nothing to cover themselves, had no privacy to breastfeed, and felt “unfenced” (in the state of *Bay pardagi* in Urdu). While sharing the nature of the painful experience, one of the participants said:

“When the floods came in we were left completely unfenced and became unveiled (“*bay pardha*”). We didn’t have shelter at that time, we lived in a tent for a month. The men would live outside the tent, whereas women lived inside the tent. The mothers and children were also living inside the tent. There were no clothes for the children. They only had what they were wearing. Whenever I had to breastfeed my child, there was no privacy (“*bay pardagi*”). We couldn’t breastfeed them [children] comfortably like a mother does in her own house. There were difficult times.” (Participant 13, p. 1)

While sharing the challenge of breastfeeding in open spaces with no privacy, another participant who initially had no place to live stated:

“When you are homeless as a mother it becomes very difficult. It becomes embarrassing when you have to breastfeed your child and you are on the streets and in the open space. It doesn’t feel good nor is it something that a mother feels comfortable to breastfeed. It was very painful for us as there were many people on the streets who passed by and all that time you think that this person is watching you and you keep on adjusting yourself. It wasn’t easy to breastfeed your child at that time.” (Participant 6, p. 10)

Due to the lack of adequate privacy in the disaster relief temporary housing, participants further shared that they experience cold on breastfeeding the child outside their shelter. One of the participants shared:

“We take our children outside [due to no privacy] and they feel cold. We cover ourselves with a blanket, but we also feel cold. We also feel troubled when we go out. We go out just so we don’t have to breastfeed in front of the guests.” (Participant 11, p. 2).

### ***Cultural beliefs and practices as barriers to breastfeeding practices***

Participants shared their cultural beliefs and practices concerning food restrictions, beliefs on supernatural forces, and encouragement to feed cow’s milk and tea to infants at six months. Mothers shared that most of the time these beliefs and practices negatively affect their health, breastfeeding practices, and management of their child-care responsibilities, especially during

the time of a disaster and displacement when they try to cope with additional responsibilities, transitions, and stressors.

Most of the participants shared that according to their culture and the availability of cattle (mainly cows and goats) at their household they prefer feeding cow's milk (boiled and diluted) to their children whenever their breastmilk is insufficient. As per the guidelines on feeding young children, World Health Organization recommends exclusive breastfeeding until six months and continuation of breastfeeding until two years along with the provision of complementary foods. In view of these guidelines, cow's milk is not recommended until the child is 12-months-old. However, in Chitral cow's milk was fed to infants when they were six-months-old. Although a contradiction existed between the infant feeding guidelines proposed by the World Health Organization and the cultural practices concerning feeding cow's milk, participants were still feeding cow's milk as the preferred breast-milk substitute. Demographic characteristics further revealed that the majority of the participants were supplementing breastfeeding with cow's milk and home-based solid foods made from cow's milk. During my fieldwork, I noticed that most of the households in the villages had cows and their milk was used to prepare tea, cheese, butter, and yogurt.

A participant shared the norm to feed cow's milk to children when they are six months old.

She shared:

“We breastfeed our children for six months. After six months, we give him [child] some extra food to start with. We give him some cow's milk and also feed him our own milk. When he is old enough and around seven to eight months, then we start by giving him [child] some extra food, such as bread etc.” (Participant 9, p. 1)

Tea (*chai*) is one of the most popular cultural drinks, enjoyed by Chitrali families several times a day. Participants shared that they also feed tea to their children from a very early age.

One of the participants shared:

“We give tea (*chai*) to children who are young too. My niece who is 19 months old drinks tea, she drinks tea with me in the morning. Because if we drink it alone then they scream and ask for it; so, we start by giving them small sips, then they grow up to be habitual of that.” (Participant 5, p. 8)

A few of the participants shared that they often receive encouragement from their immediate family members, particularly mothers and mothers-in-law, to feed breast-milk substitutes (mainly cow’s milk) to their infants, especially whenever the child cries due to hunger, the mother’s breastmilk is insufficient, or when the mother is busy with household chores. A participant, who was living in a tent and was supplementing her breastfeeding with cow’s milk, shared that her mother encourages her to initiate breast-milk substitute (cow’s milk) whenever her child cries in hunger. She shared:

“My breastmilk is insufficient so my child cries and screams. My mother scolded me and said that he [child] is hungry, that is why I should give him something extra [other than breastmilk] because now he is seven months old. That is why I feed him cow’s milk and he doesn’t even cry when he is full.” (Participant 16, p. 2)

The same participant also shared:

“I gave cow’s milk to my child before he was seven months. I think that breastmilk is not sufficient for the child; I don’t buy the cow’s milk from the store, my relatives send some every day which I give to my child, if they don’t send the cow’s milk then I don’t give it to him [child].” (Participant 16, p.2)

Another participant, who in view of her mother-in-law’s advice was substituting breastmilk with cow’s milk for her six-month-old child, shared:

“I feed her [my child] timely, and sometimes when she [child] cries my mother-in-law gives her cow’s milk. She [mother-in-law] uses a feeding bottle. I add a little water to the cow’s milk because the doctor says that it affects the child’s stomach. So, I add some water and boil it, cool it down, and then pour that in a bottle so that the child drinks it.” (Participant 7, p. 8)

A few of the participants mentioned the cultural beliefs of their community people surrounding the *influence of supernatural forces and possessions after the disaster*. They were of the view that after a disaster these supernatural forces have negatively affected women's health and their child-care responsibilities, including breastfeeding. A participant who could not sustain her breastfeeding practices due to the influence of witchcraft on her health shared:

“There are many mothers who believe in supernatural and possessions (*Saya*). Sometimes they go absolutely quiet and sit in the corner and cry, they don't take care of their children after that. We strongly believe in those possessions. They [people in community] also believe that the Jinns and Fairies [supernatural forces] can take over you.” (Participant 15, p. 10)

Participants also shared their cultural beliefs and practices surrounding *food restrictions*. A participant talked about the food restrictions for breastfeeding mothers based on cultural beliefs that they have been following as per the received advice from their ancestors and elderly people in the family/community:

“They say that I shouldn't eat cheese because that will be dangerous for the child as he will vomit the food out. They say that if the mothers eat cheese then the child can vomit the food out. They also avoid sweet food or something that is sugary because they say that it can cause stomach ache. They don't allow cow's meat by saying that it can also be dangerous for the child. Some people follow these regulations while others don't. There are certain foods (like '*Khalkhalichol*' in local language) which are considered warm but benefits both mothers and child. They say that it also has benefits for the skin. It is bitter in taste.” (Participant 12, p. 9)

### ***Covert Oppression as a barrier to breastfeeding practices***

In-depth interviews with the participants reflect that at the societal level women often experience covert oppression, specifically during the period of disaster and displacement. In this section, covert oppression refers to hidden forms of control and power issues at the societal level that negatively affect the physical, mental, emotional, and spiritual well-being of women. The displaced women verbalized societal expectations for women, control in the lives of women,

suffering due to lack of empowerment, and negativity towards women (act of ridiculing) who are dependent on others for their survival, especially after disaster and displacement.

In Chitral, where women are expected to cover themselves with a long scarf all the time, restrict their mobility to their house or neighbourhood, and get the permission of men/head of the family before going outside (as described in the previous chapter), study participants mentioned the challenges and struggles experienced during the period of disaster and displacement.

Participants shared that during disasters many women faced criticism as during the emergency evacuation they had to leave the premises of their homes without seeking permission, had no scarf (*dupatta* in local terminology) to cover themselves during emergency evacuation, and had to live and breastfeed their crying children in open spaces (fields and mountains) having limited privacy. Participants shared that the disaster (glacial lake outburst flooding and flash flooding) continued for many days, hence the relief agency could not reach all of them during the initial few days of the disaster and provide them food or clothes to cover themselves. As disaster-affected families were escaping from one hill to the other and from one village to the other for several days, participants shared that during this period they had no long scarfs or veils to fully cover themselves, hence they felt embarrassed for going against the cultural norm and were afraid of being judged by relatives and neighbouring villagers who were unaffected by the disaster and displacement.

A few of the participants further shared struggles in the lives of women during their settlement in the overcrowded temporary housing. Some women who previously had unhealthy relationships with their extended family members had to stay with them after the disaster. Their poor relationship was aggravated when these women had to reside with their extended family

members in an overcrowded transitional shelter or tent. A participant shared examples about the nature of control and suffering in the lives of women:

“Sometimes when they [women] have a fight with their mother-in-law or father-in-law or maybe with the wife of your brother-in-law, they commit suicide due to these issues [domestic violence]. These issues [domestic violence] generally persist. Before it was very common but now it’s not so common. Sometimes there are cases of divorce around here as well but that is very rare. They [women] are not allowed to leave the house without permission because they [males and community people] think that a woman is supposed to be hidden.” (Participant 17, p. 7)

A participant who sustained her breastfeeding practices while juggling multiple responsibilities shared societal expectations for women concerning ‘birth spacing,’ ‘breastfeeding,’ ‘workload,’ and ‘responsibilities’. Although this participant was 40 years old, she appeared very tired and older than her age. Her quote revealed a few of the key aspects surrounding gender social locations and the gender responsibilities of being a woman:

“We do all the work and duties of a man too. Secondly, we feed our children for three years with our own milk [breastmilk]. After three years when they [women] stop breastfeeding the child that is when we prepare ourselves for conceiving another one. We do all the hard work and that is why we appear much older than we really are. You will find many people like this who will appear as if they are their husband’s mother but in reality, they are their wives. Men look younger than the women here because we work more than them. This is true for the entire village.” (Participant 14, p. 5)

One of the participants who was pregnant shared that for an easy labour pregnant mothers are encouraged and are expected to work more (household responsibilities, fieldwork, and cattle care) during the last trimester of pregnancy. The participant was of the view that this societal expectation increases their tiredness to a great extent during the postnatal time period, hence indirectly affects their breastfeeding practices. She shared:

“In our culture, it is said that the more a pregnant woman works the sooner your child is born. They say that pregnant mothers should work as much as they can so that the child will be born early in the ninth month. Sometimes the work is too much. I think there are 85 percent here who work this much; there are a lot less people here who don’t force woman to work more.” (Participant 12, p. 8)



A few of the participants mentioned that during economic hardships it is quite common for women to starve themselves or skip meals to fulfill the nutritional needs of their family members and older children. Participants were of the view that this practice negatively affects breastfeeding mothers' health, nutritional status, and breastmilk supply. Although participants acknowledged that at the household level there is no gender inequality and the norm of equitable distribution of food exists, there were evidences of gender inequality at the societal level that were shaping women's attitudes, behaviour, and practices. At the societal level, it was believed that '*being a woman*' means often sacrificing and eating less or skipping meals when there is a shortage of food. The participant stated:

“Sometimes you have to take these steps [skip meals] because men work outside, and you have to give the food to your children too. If you aren't getting some then you need to be silent sometimes...women cook food but don't eat it themselves. They [women] provide to others but skip their own meals. You need to manage it for your children and in-laws too.” (Participant 11, p. 16)

Another participant shared a norm related to food distribution:

“We gave it [food] to those members [family members] who work outside and then to the children; I eat last. Sometimes I get more for myself, sometimes less.” (Participant 13, p. 7)

Participants further shared that disaster and displacement have increased their suffering and have increased their dependency on those who are not affected by disaster or are responsible for aid distribution. They shared that as a primary caregiver when they reach out to people to seek support, they often are ridiculed, ignored, or considered dependent. A participant who did not receive humanitarian aid or a place to live (shelter or tent) could not sustain her breastfeeding practices. She shared her suffering and the reaction of others:

“In those times if they [relief agency or donors] had given me a house or taken care of my expenses, then I wouldn't have been ridiculed amongst the people. The stress which I faced when I had to go to my relatives' place and ask for help was also very tough for me as that

also took a toll on my health. Some of my relatives make fun of me.” (Participant 15, p. 10)

The same participant also verbalized her suffering and mentioned that she has no voice, limited authority, and lack of empowerment as being a woman she could not go to the males in the community (responsible for the aid distribution) to ask for the humanitarian aid or support needed. She shared:

“People [disaster affected] who cannot talk or stand up for themselves aren’t sent forward [to receive aid or support]. I didn’t get anything [humanitarian aid], and neither could I talk to anyone or go in front of a man and demand this. People who are cunning and can speak for themselves are sent forward [to received aid or support], whereas the others do not get anything. I haven’t gone to any man and complained against this. I did complain to other women, but they couldn’t do anything either.” (Participant 15, p. 9)

### ***Lack of health care support as a barrier to sustaining breastfeeding practices***

Although a few of the participants acknowledged the support they received from a healthcare unit, most of the participants considered *lack of health care support* as one of the major barriers towards sustaining their breastfeeding practices. Evidence gathered during field observation confirms that many villages in Chitral did not have a health care center or hospital where they could avail healthcare support from the trained healthcare professionals. During fieldwork, I noticed that most of the villages did not have any health care units. There was one basic health unit located in one of the villages, however, the services were only offered during the day. There was no emergency health care clinic or health unit available for the displaced community and other people living in those villages. The government-based health care facilities and hospitals (usually offering free services) were not only inaccessible because of their distance from Chitral (approximately 250 km to 350 km) but also lacked staff and expertise among health care professionals. The private health units that held adequate expertise among health care

professionals were both inaccessible (located more than 100 km from the villages) and were expensive due to the cost attached to travel, consultation, medicine, and hospitalization.

A review of newspaper articles indicates that major and ongoing disasters in Chitral, mainly earthquakes and landslides, resulted in damaged roads and the destruction of health care units located in Chitral. Because of this, people in need of health care could not access health units that were located in their catchment area, nor could the health and relief workers fully access the disaster-affected communities. Informal discussions with community people revealed that most of the time they could not seek treatment in hospitals for illnesses due to inaccessibility caused by unstable and damaged roads in the mountainous region of Chitral and by their unaffordability related to the direct and indirect costs involved in travelling, paying hospital bills, and buying medicines. I also came to know that women often deliver at home (temporary housing) and use traditional birth attendants for support during birth as healthcare settings are inaccessible both generally and during disaster. Informal discussions with community people revealed that women who deliver at the hospital face many challenges. During labour pains, women usually wait for their husband and the head of the family to return back from work so they can take them to the health units by hiring a horse or a private transport. Displaced mothers who gave birth in hospital also mentioned the challenges of reaching government health care units due to unstable roads in the mountainous region of Chitral, recurrent landslides, and non-availability of public transportation.

Participants mentioned challenges associated with inadequate and infrequent visits to the villages by the health care team; lack of breastfeeding counselling, advice, or guidance from health care units; and no proper guidance on preparation of formula milk if they opt for this option due to insufficient breastmilk.

A participant who initiated formula feeding during disaster and displacement due to inadequate breastmilk supply shared:

“No one [health care team] came here and neither did anyone advise us [about breastfeeding]. I went about with what we thought was right at that time. If they [health workers] would have given me a medicine which I could consume, and my breastmilk flow would increase, I would have readily agreed to that.” (Participant 18, p. 8)

Another mother, who could not sustain her breastfeeding practices soon after the disaster and initiated formula feeding, shared:

“No one [health care team] came on this side to tell us what to eat and what medicines to take to re-establish the breastmilk supply.” (Participant 4, p. 5)

Another participant talked about the infrequent visits by the health team in the village:

“They [health team members] did come here and gave us free medicines once or twice. Ever since the floods they came in once or twice. They come here almost after every six months so it’s not that helpful for us. We don’t get any medicines when we are sick. (smile and sigh).” (Participant 11, p. 7)

A participant, whose child had dysentery (with fever and stomach ache) and required treatment at the Chitral hospital located in the Chitral City three to four hours away from her village, mentioned:

“They [health team at Chitral hospital] didn’t tell me anything about breastfeeding. They gave us medications and briefed us on the timings when we should use them.” (Participant 7, p. 4)

### ***Family circumstances***

A few of the participants shared their *family circumstances* such as husband working and living away from home, elderly grandparents and in-laws who required support during emergency evacuations, and geographic separation from family during the disaster as impacting their breastfeeding practices. In Chitral, where informal support is crucial for mothers to manage their child-care responsibilities (as described in the section “informal support from family and

others”), mothers without these supports were unable to properly look after their child-care responsibilities (including breastfeeding) and to avail themselves of other informal supports from their immediate family members.

A participant, whose husband was away from home for work and who was living with her elderly grandparents and in-laws while serving as the primary caretaker of her family, shared her painful experiences of juggling multiple responsibilities and decision-making during the period of disaster and displacement. She verbalized:

“Only Allah knows what happened with us during the floods. My parents were also living far away at that time and I don’t even want to remember the details of those days. My mother-in-law was old, my child was young, and I didn’t know what I should do at that time because I am also young. If I would have grabbed my grandmother during the floods, then my grandfather would have gone away with the floods. There was no one here and my husband was also quite far away at that time. I grabbed them both and slowly went towards a safer location. When I went to the other place, there were lots of other older people there and I knew that they would not get the needed treatment at that time.” (Participant 12, p. 1)

Another participant, whose husband lives away from home due to his work in the armed forces, shared how her extended family was separated during the disaster and the displacement that followed. She shared:

“[After disaster] my father came and took me back to his home where I stayed for a while. My mother-in-law went to her parent family and my brother in law’s wife went to her mother’s house. So, everyone went back to their families. We all got separated and had to live in different places.” (Participant 6, p. 7)

### **Barriers at the Exo-system**

This sub-theme represents displaced mothers’ external environment (mainly economic factors) that served as barriers to their breastfeeding practices during disaster, displacement, and their settlement in the disaster relief camps (shelter or tent). “Economic factors” is the main category in this sub-theme.

## **Economic Factors as a Barrier to Sustaining Breastfeeding Practices**

Economic factors that served as barriers to the breastfeeding practices of the displaced mothers include unmet basic needs, inadequate housing, economic loss, availability of breast-milk substitute, and unaffordability. Each of the sub-categories are discussed below:

### ***Unmet basic needs***

Most of the participants mentioned their *unmet basic needs*, including non-availability of food, homelessness (life in the open field and no place to sleep), lack of adequate clothes (one set of clothes and a pair of slippers), and inadequate supplies to meet the basic needs of life as the biggest barrier towards their breastfeeding practices.

One of the participants shared:

“We faced so many challenges. When the floods came, we ran a great distance, our children didn’t have shoes or hats on them, we just had to run to a different village. We stayed at a relative’s place for 10 days; we had lots of issues at that time. I had other children too so we didn’t get clothes or food properly at that time. It was a difficult time for us. There was no place to sleep too. There were too many people living in one house, so we were sharing space with so many people.” (Participant 11, p. 7)

Another participant, who was breastfeeding her child and experienced homelessness soon after a disaster, shared:

“When the floods came; don’t ask what happened to us that day (sigh). We all were scared and frightened. We started screaming and crying and didn’t know what to do. All the routes were closed, and we were left homeless. We were homeless, so stayed on the streets (sigh). No one came to us at that time [during disaster]. We didn’t eat anything for an entire day... I did not have anything except a scarf (*dupatta*). I had what I was wearing, a single pair of slippers, and a scarf. There was nothing else and the same was for my child. We had lost everything, except the clothes that we were wearing at the time of evacuation.” (Participant 6, p. 7)

Another participant who was sustaining her breastfeeding practices while struggling with unmet basic needs shared:

“There was no choice, we had to do it [live a challenging life] anyway. We were tolerating all those difficulties and breastfeeding the child. We were having tea and would wait for

someone to get warm milk for us so that we could drink that. It was difficult for us. The water which we had stored was all gone during the day. We also had difficulties with drinking water. Then, in the morning we would go into some washroom down in the mountains and then use them, wash our clothes, and dry them up somewhere in the sun so that we can take them back in as soon as they are dried. It was really hard for us. We didn't have boots to wear at that time. We had a stole [scarf], that's all, because they informed us last minute that the flood is here, and we should evacuate, so we grabbed our children and ran." (Participant 10, p. 9)

### ***Inadequate housing***

Following a disaster, participants had to live in the mountains, relatives' houses, their own damaged house, or in a tent or shelter allocated by the relief agency. Therefore, they had diverse experiences surrounding inadequate housing which were affecting their breastfeeding practices. The challenges shared by the participants included no land to place a tent or shelter; non-availability of land to rebuild their house at a safer location; overcrowded living spaces (tent, shelter, or damaged house); no cooking facilities (or stove); inadequate space for breastfeeding; uncomfortable living conditions during extreme temperatures; suffocation due to poor ventilation; struggles associated with living in a tent [non-insulated living space, exposure to dirt and rain, non-availability of washroom and cooking space, defecation in fields, and no water supply]; and struggles living in a shelter [single room, limited space as compared to family size, no water supply in the washroom, and no bathing facilities or space to clean menstruation clothes].

As glacial lake outburst flooding and a subsequent earthquake in Chitral resulted in the accumulation of a large amount of debris on the residential and agricultural lands of affected villages, participants who were allocated a tent following these major disasters had no land to place their tents. This situation forced many families to place their tents on the top of the hill; however, there were families who could not find any land and had to live in their damaged houses that were unsafe and located in the disaster-prone area. A participant shared:

“They gave us the tent the very next day, but it was difficult for us to find the space for placing that tent. We lived in hard times. During the day time, affected people used to come to their destroyed houses to save their belongings but used to get stuck in floods.” (Participant 4, p. 5)

Participants who lived in a tent or are still living in a tent with their extended family also shared the encountered struggles. A participant shared the challenges surrounding life in a tent:

“It was hard for us. How we can feed the baby while living in the tent? There was no space to feed the child or to sleep, eat or, stay. We couldn’t sit, sleep, or feed properly in the tent. We couldn’t do anything. It was tiresome for us.” (Participant 14, p. 2)

Another participant shared the unavailability of adequate space and facilities to fulfill daily activities of life and maintain their personal hygiene while living in a tent. She verbalized:

“The tents which we were given were not that comfortable or spacious for us as we were more people in each family and that is why we had difficulties there... We weren’t able to breastfeed the child when we were inside the tent, so we had to take them [child] outside. It [tent] wasn’t exactly a place to breastfeed the child because there were many people, also we had to go out and sit in a corner when we had to eat. We couldn’t even eat together because there were many people and the tent was quite congested... We and our children couldn’t sleep properly as one because of less space, because someone may be sick the entire night and cough which would disturb us. We would make our children sleep and sit beside them all night... We would all go to an empty space in an open area and urinate there if we needed. We didn’t have anything in the tents. We would go there [in open space] in the night. The damaged washrooms which were spared in the floods were still useful so during the day we would use that. Everyone came down to use those washrooms.” (Participant 10, p. 5 and 7)

Participants who were relocated to a transitional shelter (refer to Figure 8 of green transitional shelter) by the relief organization also mentioned the challenges surrounding their lives in a shelter. While specifying *overcrowding* as one of the key *challenges in the allocated shelter*, a participant who gave birth to her child while living in the shelter verbalized:

“Pregnancy was also tough on me. We, 10 to 12 people, lived in a single shelter, and when the guests used to come the numbers reached till 15 or 20. There was not enough space to sleep in a single shelter, so sometimes we had to sleep outside.” (Participant 11, p. 10)



A participant shared the disruption in her breastfeeding practices related to overcrowding and limited space in the shelter to accommodate her large family size:

“We face lots of difficulties. We are almost 10 to 12 people who live in a single shelter so that is why we feel shy while nursing in front of other people. We also face issues while breastfeeding our children, living and eating because we are 10 to 12 people who are living in one shelter. If we have guests over then they also come and live with us in the same shelter. There is no proper place to eat or cook; so, living in a single shelter is troublesome for us.” (Participant 11, p. 1)

During fieldwork it was observed that there were *no separate and private bathing facilities for women*. As there were no washing facilities, space to dry clothes (especially women’s undergarments and menstruation clothes), or water supply in the washroom attached to the shelter, women had to go down a hill to wash their clothes in a canal and river.

Participants mentioned inadequate bathing, cleaning, and washing facilities in the setting of disaster relief camps (tents and shelters). They shared that they were unable to take care of their hygiene, especially during the time of menstruation. Chitral is in the northern region of Pakistan and experiences severe weather conditions and freezing temperatures; participants shared that it was challenging to take care of their hygiene in the absence of required facilities and warm water supply.

One of the participants shared:

“If we recall that time, we feel like crying. At that time, clothes that we wore were also dirty and they smelled; there was no place where we could wash them and there was nowhere to go because we couldn’t leave our children while they slept as it was a deserted area.” (Participant 16, p. 10)

A participant shared the challenge related to the unavailability of a gender-sensitive and culturally-appropriate space to maintain their hygiene, especially during menstruation and the postnatal period:

“Mothers who are menstruating have difficulty because they don’t have a separate room where they can dry the used clothes and wash them as well. There is a special place needed for this. We cannot dry them in the bathrooms nor anywhere outside. It becomes very difficult for us. That is why I am telling that they should make some proper arrangements for us. It is very troubling. When a woman gives birth to a child she needs to stay in a shelter and stay somewhere for almost a month. She also gets her period at that time. There

is only one washroom which she cannot use properly because there are other members of the family using that too. That is why it is troubling. You cannot dry these clothes [menstruation clothes] in the washroom or anywhere outside.” (Participant 6, p. 19)

### ***Economic loss***

Participants shared that economic losses associated with the disaster have negatively affected all aspects of their health and have indirectly affected their breastfeeding practices, mainly due to hunger, inadequate nutrition, homelessness, and cramped living conditions in a shelter or tent where there is no privacy to breastfeed. A participant, who was residing in a transitional shelter and encountered challenges with her breastfeeding practices due to limited privacy in cramped living conditions and a lack of adequate nutrition, verbalized the worries associated with massive economic loss during major disasters in her village. She shared:

“Ever since the flood came, we have gotten older [appear aged] because of the stress and worry. Our houses and businesses are all gone. We don’t have anything to wear or eat. Our lands are all gone too. We have to think about a lot of things: our children, food and the way of living. We have lost all our cattle and there is no food and drinks left for us. All this is for the woman to think and that is why they appear depressed and aged. We are tense (sigh).” (Participant 14, p. 6)

Many participants shared that they usually earn their livelihood from home-based businesses and farming. They shared that many families in Chitral who used to run home businesses faced massive economic loss after the disaster. Participants verbalized their worries surrounding economic loss after which they had no money or liquid assets available to build a house, buy new land, or meet their basic needs. Mothers believed that economic loss indirectly affected their breastfeeding practices by increasing their stress level and compromising their nutritional status. One of the participants, who faced challenges with her breastfeeding practices after an economic loss, shared:

“We make our own cheese but because of this [disaster] we lost almost 20,000 PKR to 25,000 PKR worth of cheese in the floods. We usually cover the cheese and take that out when the time is right, but it is all gone [with floods]. There were other valuables too that

we lost. We also had a house but other than that there was a lot of other stuff that went with it.” (Participant 10, p. 10)

A participant who was living in a transitional shelter after the disaster recalled the living environment (inside and outside their house) and a peaceful life before the disaster in which there were not many economic hardships. She shared that before the glacial lake outburst, floods, and the earthquake, they had land, crops, cattle, household items, and houses with four to five rooms where they had privacy to breastfeed. With a sigh, the participant shared about their economic loss that often increases their stress levels and negatively affects production of their breastmilk:

“There were houses here everywhere and there were trees too. We had plum trees, apricot, and apple trees; everything was there and there was a lot of greenery. Our house was also beautifully made. There was a space right outside our house, but nothing is left now.” (Participant 5, p. 10)

Another participant, who could not sustain her breastfeeding practices soon after the disaster due to inadequate nutrition and stress after an economic loss and homelessness, recalled her living conditions before the disaster where she had privacy and resources that facilitated her to breastfeed her elder children. The participant shared:

“I had five rooms in my house and all my belongings were in it, but I couldn’t save anything at that time, I could just save myself and my children. I also had chicken, cattle, and other animals which are all gone now. These times have been fairly difficult on us.” (Participant 4, p. 2)

### ***Financial Constraint***

As disaster contributed to unstable financial situations, participants identified *financial constraints* as another economic factor that is negatively contributing to all aspects of their health and child care, including breastfeeding. Participants shared aspects related to limited assets, non-availability of monetary support, and unaffordability of various expenses, including children’s

medical treatment, healthcare for self and family, daily household expenses (food and school fees for older children), expensive spiritual treatment, and financial resources required to buy land or build their houses at a safer place.

A participant who encountered challenges with her breastfeeding practices during and after disaster shared that her elder child was healthy before the disaster, however, after the disaster her child experienced developmental delays. She further shared that her younger child who was born after the disaster has club foot for which treatment is required from a private hospital located in the southern part of Pakistan. The mother verbalized her stress associated with the cost of her child's continued treatment plan and the unaffordability of the treatment needed. She shared:

“My child was not able to speak so I had to take him [child] to Karachi; there were lots of issues [financial] that we had to face, especially in my family. At first, my child was not able to stand, then was not able to speak; when my second child was born he was born with defective legs (club foot) and we took him to Karachi (a city in the southern part of Pakistan) for that where he got treated at AKU (Aga Khan University). Then he [child] was brought here [shelter]. There were no cows here, so we had to arrange one from there (another village).” (Participant 6, p.2)

Another participant was unable to sustain her breastfeeding practices due to her ill health. She shared that after the disaster her health condition worsened due to the recurrent influence of supernatural forces (*Saya* in local terminology) that totally control her body and make her numb for many days, therefore, she could not look after her child-care responsibilities and breastfeeding during those time periods. In Chitral, where spiritual treatment is expensive considering its high demand and the spiritual beliefs of the local community, the participant shared that due to *financial constraints* she feels helpless as she could not afford either spiritual treatment or breast-milk substitute for her child. She verbalized:

“At that time [disaster] our house was completely destroyed so I had to ask around and request my neighbours to have some milk for my child. We didn't have money, so during that time our neighbours took turns to help us and provide milk for the children...I wish if I would have financial assistance then I could pay for the spiritual healer who takes these

possessions off. The spiritual healers said that only after receiving money they will stop those possessions to influence me [sigh]. They [spiritual healers] charge around 10,000 to 12,000 PKR [100 to 120 Canadian dollars] approximately.” (Participant 15, p. 12)

A participant mentioned economic hardship in many disaster-affected families and the growing malnutrition among children, due to *financial loss*. She shared that after disaster many families cannot afford to buy food items and cover their household expenses. The participant stated:

“There are some people [disaster-affected families] who are quite poor and they aren’t able to get the food and nutrition required and their children aren’t healthy because of this. When I see their children and ask them why they look so weak they tell me the reason that there are the issues such as these is there are three to four children in one house, they need to pay proper school fees for them, and there are food expenses too.” (Participant 9, p. 11)

#### ***Availability of breast-milk substitutes***

In Chitral, availability of breast-milk substitute was dependent on economic stability, affordability, or the economic supports available to the displaced families. In-depth interviews with the participants reflected that availability of breast-milk substitutes, mainly cow’s milk, formula milk, buffalo milk, milk curry, and tea were providing an instant solution to their children’s hunger, especially whenever breastmilk was considered insufficient or the mother could not breastfeed due to sickness, lack of privacy, or increased workload.

In-depth interviews with participants further reflected that during emergency evacuation when breastmilk substitutes were not available, most of the participants made continued efforts to sustain their breastfeeding practices. During that time, many mothers who reported insufficient breastmilk made continued efforts and used the strategy of continued latching (increasing frequency of having the child on the mother’s breast) to re-establish their breastmilk supply. However, after their settlement in the disaster relief camps, displaced mothers who had access to breastmilk substitutes (especially cow’s milk) either substituted breastmilk with cow’s milk

when the child was six months old or completely switched to cow's milk on encountering any challenge surrounding their breastfeeding practices. No doubt, while the instant availability of breast-milk substitutes was sometimes necessary, it was also serving as a barrier towards maternal continued efforts to sustain their breastfeeding practices. Moreover, during the period of displacement where there was non-availability of clean water, utensils, boiling facilities (to boil cow's milk or feeding bottles), or proper instructions in the local language (especially on preparation of formula milk), availability of all types of breast-milk substitutes were posing more risks than benefits towards the health of young children.

One of the participants who was residing in a shelter and who substituted breastmilk with cow's milk and had the availability of a cow at her household shared:

“He [child] used to cry after I fed [breastfeed] him [child]. (laugh) He [child] cried a lot and everyone said that he has been doing this because he is still hungry. When I gave him cow's milk, he [child] stopped crying. We have a cow at our house. We don't get it [milk] from the market. (Participant 5, p. 2)

I observed that many families or their acquaintances (relatives and neighbours) had their own cow and that cow's milk was serving as the top choice of breast-milk substitute. Moreover, each village had a few local stores that were selling household items (such as biscuits, clothes, tobacco, shampoo, soap, eggs, detergent, toothbrushes, toothpaste, and stationery items) and formula milk (mainly *Nestlé* products). The availability of breast-milk substitutes in the community contributed to the use of these substitutes to satisfy the child's hunger.

A participant who was substituting breastmilk with a variety of breast-milk substitutes, including cow's milk, tea, and formula milk, shared:

“I am feeding him [child] on my breastmilk and if the milk is not sufficient then we give them cow's milk and if that [cow's milk] is not available then we get the milk from the store such as *Nido* or any other brands. (Participant 6, p. 1)

### **Barriers at the Macro Level**

This sub-theme represents geopolitical factors that serve as barriers to their breastfeeding practices during disaster, displacement, and their settlement in the disaster relief camps (shelter or tent). “Geopolitical factors” is the main category that is derived from this sub-theme.

#### **Geopolitical Factors as a Barrier to Sustaining Breastfeeding Practices**

Geopolitical factors that participants considered as barriers towards their breastfeeding practices included climate change, inadequate and inaccessible facilities, insufficient aid, and systemic injustices. Each is discussed below.

##### ***Climate change and its effects***

All the participants shared that *climate change and its effects* are serving as a barrier to their breastfeeding practices. They shared the negative effects of recurrent and subsequent disasters, harsh weather conditions (cold, heavy winds, and extremes of temperature), destruction during disasters, and contamination in the water soon after the disaster. Participants shared that they are living in a state of fear and anxiety because of the repercussions of climate change, which negatively affects all aspects of their health, breastfeeding practices, and fulfillment of their child-care responsibilities.

A review of documents, mainly newspaper reports, confirms that various villages in Chitral encountered subsequent and recurrent disasters, including earthquakes, landslides, and glacial lake outburst flooding. It is reported that this region has more than 5000 glaciers which make this region prone to flash floods, glacial lake outburst floods, landslides, and avalanches. Many villages in Chitral encountered glacial lake outburst flooding on July 29, 2015, that lasted for a month. Reports gathered through newspapers indicated that in 2015 the glacial lake outburst flooding damaged and wiped out many villages in Chitral, mainly Zhitoor Garam Chashma,

Sonoghur, Brep, Reshun, Bumburate, Muzhgor, Phargam, Shoghor, Washich, Orsoon, and Booni Gol. It is reported that the flooding cut off these villages from other parts of the district for more than three weeks, pushed more than 2134 families into homelessness, and forced many of them to live at high altitude places in the mountains for many days without any food or assistance. The flood resulted in 34 deaths and caused heavy damage to residential property, crops, and cattle sheds. It also damaged 11 suspension bridges, nine irrigation channels, and three bridges that were connecting villages. Moreover, the flooding resulted in discontinuation of the water and electricity supply in many villages of Chitral. Reports maintained by Aga Khan Health Services, Chitral Pakistan, indicated that the flood completely damaged the health centre at Reshun (village) and partially damaged the basic health unit located at Saht (village), hence interrupting delivery of health care services to the catchment area.

Almost three months after the flooding, there was a major earthquake (Hindu Kush earthquake) of a magnitude 7.5 on October 26, 2015, that resulted in 221 deaths, injuries among approximately 1000 people, and homelessness in the province of Khyber Pakhtunkhwa, specifically in Chitral, Peshawar, Bajaur, Shangla, and Malakand Division. Earthquakes of a magnitude five and under are still common in this region and often take place more than once in a week. Along with other types of disaster, landslides are quite common in this region. Newspaper reports further indicated that during past years landslides have resulted in blocked roads, interruption in the communication channel between major cities and villages in Chitral, and difficulties in offering relief and rescue response to the affected people in Chitral. Hence, injured people could not be taken to tertiary care hospitals located outside Chitral in the Khyber Pakhtunkhwa province of Pakistan, specifically in Peshawar (approximately 350 km away from Chitral) and Swat (approximately 250 km away from Chitral).



This geographic region still experiences recurrent earthquakes of a mild to moderate intensity. The subsequent and recurrent disaster affected the community and contributed to long stays in tents or shelters, more than 2.5 years.

A participant talked about the recurrent and continued nature of the disasters. She stated:

“The floods didn’t come in a single day. It was recurring for the entire month. In other areas, it came once and caused a lot of destruction. Here, the glaciers were melting and that was the reason why the floods kept on happening for the entire month.” (Participant 4, p. 4)

A participant, who was facing challenges concerning breastfeeding and has lived in the relief camp (both in a tent and a shelter), shared the negative effects of the disaster on their lives:

“Floods have affected us badly.....the floods have taken away both our houses and lands. Everything just drowned in it, there is nothing left.” (Participant 14, p.6)

Another participant, who encountered challenges with her breastfeeding practice soon after disaster, shared:

“Once it rained to such an extent that the tent fell on the ground. After the rains we had to reconstruct it and live in the same again...if it rains heavily then the water lines are clogged and there is no other way. Mothers have to go all the way to the springs to get some water for their use.” (Participant 17, p. 14)

Before the most recent disaster, the majority of households in Chitral were accessing drinking water from the river and some of the households had a tap that supplied clean water from the river directly to the house. Glacial lake outburst flooding and a subsequent earthquake not only polluted the river water but also damaged the infrastructure and resulted in inaccessibility of clean drinking water. Participants were of the view that climate change and the resultant destruction after the major disasters have increased their household responsibilities. One of the participants, who could not sustain her breastfeeding practices, described the interruption in clean water supply during major disasters. She shared:

“The major thing affected [during the flood and earthquake] was the water supply. We had to go at a distance to fetch some for us. We had to carry heavy buckets of water that made us weaker and that gave us headaches and pain in the body. We went to the doctor too and he [doctor] said the same that because of the affected water supply it has created a huge impact on our health. We had to leave the place to get water for so many people; the children would scream and cry the entire time. In a way, we couldn’t breastfeed them properly. We had to feed them as soon as we were done to get more water. These are the kinds of issues we faced.” (Participant 3, p. 6)

### *Inadequate and inaccessible facilities*

Data collected through multiple sources indicated that *inadequate and inaccessible facilities* were other barriers affecting the breastfeeding practices of mothers residing in the disaster relief camps (tent or shelter). Participants shared how the unavailability of health centres and hospitals in their villages affected them. The hospital was located in the main city of Chitral and damaged roads (due to landslides and disaster) and unavailability of transportation (both public and private) made it more challenging to save lives during obstetric emergencies and sicknesses. A few other facilities that were unavailable during the periods of active disaster included electricity, waste disposal system, and clean water supply.

A participant shared about the challenges associated with the inaccessibility of the healthcare setting:

“It takes us three to four hours by walking to reach there [hospital located in Chitral City]. It becomes really difficult. It is very hot, that is walking there is aching and difficult. We don’t have cars or any other transportation through which we can go to the hospital with ease, that is why it becomes difficult for us. If the child is sick or if I am sick it becomes very hectic.” (Participant 7, p. 4)

During field observation, it was noticed that there was no waste disposal system in the villages. Local villagers were trying to dispose of the waste by dumping or burning the waste. Disputes were observed among villagers and mothers of young children who believed that improper disposal of waste by their neighbours was accumulating flies outside their shelter/mud-

brick house and affecting their children's health. One of the participants shared the challenge of disposing of her menstruation clothes. She stated:

“During menses, we looked after ourselves and threw the clothes as well which we used. Basically, we don't have a gutter line [sewerage system], so we dig up the ground and put those clothes inside the ground.” (Participant 18, p. 11)

### *Insufficient aid*

Participants highlighted *insufficient aid* as a barrier towards breastfeeding practices of mothers affected by disaster. They shared inadequacy of humanitarian aid, non-timely allocation of aid, delays in getting a shelter or tent, inadequate assistance for the real victims, provision of aid for a limited time, no need-based donations, and distribution of aid (especially powdered milk and infant formula) without proper instructions about its use and contraindications.

A participant, who could not sustain her breastfeeding practices and did not receive humanitarian aid on a timely basis, shared:

“[During and after disaster] there wasn't anything available to us to eat. The problem was that all the roads were destroyed on the way out of here. We got the aid almost after a month.” (Participant 3, p. 3)

Another participant shared the challenges associated with *non-timely allocation of aid* that negatively affected the health of children and the breastfeeding practices of mothers affected by disaster. She shared:

“If we had a house or gotten a tent sooner and proper food then it was helpful for us and the children. Lots of children from other families were sick because of not consuming proper diet. We didn't get the tents on time and when we did I was already at my father's place. Other people who stayed here weren't given food at that time and they were extremely worried because of that.” (Participant 16, p. 9)

Although participants acknowledged that shelters were better than tents, they shared that shelters were only allocated after several months or years, which affected their health and all aspects of child care, including breastfeeding. Due to *delay in the allotment of the shelters*, many

participants spent the winter season in a tent, their damaged house, open spaces (mountain or fields), or at a relatives' place where there were several challenges to their breastfeeding practices. A participant shared:

“It took us five to six months to move into the shelter. The floods came in November. They made it after five to six months, but they weren't able to construct it properly because there was no electricity, that is why it took more time. We shifted here in March.” (Transcript 4, p. 4)

One of the participants who was living in a tent shared about the *inadequacy and limited duration of the humanitarian aid*:

“We got the tent at that time [after the earthquake]. People who were government representatives and those who were working for relief organizations visited homes and wrote down the names of all the members of the family but that did us no good because there were many people and not all of them got their share. I don't know what happened. People who were injured didn't receive anything either. People who had come from FOCUS [relief agency] although did provide us with some expenses. I got mine. I got it for a month only and after that it stopped too. The people here cannot do anything about it.” (Participant 17, p. 10)

A few of the participants shared that they *received formula milk and powdered milk by donation without any instructions* regarding whether it was for children or adults. They either used it to prepare tea (famous cultural drink), feed older children, or passed it on to the mothers who had insufficient breastmilk or hungry infants. A participant shared:

“We did get some powdered milk for tea. We weren't told that the powdered milk is for tea. We added it to the tea ourselves. No one told us anything we did all of it ourselves.” (Participant 16, p.6)

Another participant verbalized:

“They [relief agencies and donors] did give us some milk, but I didn't give that to my child. They [mothers in the village] did use formula milk [received as donation] and gave it to their children. We used the one [powdered milk] which they gave for adding to the tea. I gave it [formula milk] to others who were in need. There were mothers who couldn't produce milk and their children were hungry, so I would give it [formula milk] to them.” (Participant 10, p. 5)

As there were no proper instructions with the donated powdered milk, a participant shared that families were using it for preparing tea and offering it to young children. She shared:

“It [powdered milk] was for adding to tea or giving to children. It was Nido Milk [powdered milk by *Nestlé* company]. I saw many children eating in the powdered form because it was sweet. I told them [mothers] not to do that and mix that in water so that will be beneficial for them [children].” (Participant 8, p. 11)

### ***Systemic injustices***

Many participants shared about *systemic injustices* that provoked their stress level, hence affected their health and breastfeeding practices. Participants mentioned favouritism, inequitable distribution of humanitarian aid, inadequate needs assessment before allocation of humanitarian aid (including shelter), lack of governmental support, corruption by the influential people in the village, non-supportive relief authorities, and lack of a participatory approach by relief authorities (consultation with the affected communities) to understand their needs and provide them context-specific need-based services.

A participant shared the worries surrounding inequitable distribution of the humanitarian aid:

“We don’t get the relief funds properly because the people who are in charge of the distribution get hold of it first.” (Participant 6, p. 18)

Another participant who did not receive a shelter or tent, has been homelessness for more than 2.5 years, and could not sustain her breastfeeding practices, elaborated on multiple forms of systemic injustices (favouritism, corruption by influential people of the village, and inadequate needs assessment of the victims) that affected her health and breastfeeding practices:

“Some of them got the relief items while the others didn’t get anything...if the influential people who are distributing all these items [aid and donated items] knows you then a person can readily get those items. I stand at the back and no one comes here at our doorstep to give us anything. People who were clever got their way, but I and my husband are not that cunning, and we stood at the back and got nothing. The external donors don’t know who the victims are and who are not. They look for victims by asking local

influential people about the affected families. The people of the village only share names of people who they know [on a personal basis regardless of if they are a victim or not]. These [influential] people are in charge, the members and the counsellors of the community. They call people according to their preference and say to the donors that such and such has been affected greatly. But the external donors are absolutely unaware of the real victims who are actually affected by this [disaster]. Those who were not really affected got everything for themselves and their relatives, but no one came to us and gave anything for me or my children.” (Participant 15, p. 7)

Another participant who initiated formula milk soon after the disaster stated:

“I received less [aid] as compared to others. They gave more aid to other people. When I used to go there, I used to receive it. Otherwise, I would have not known about it.” (Participant 4, p. 4)

A participant who lived in the damaged house before moving to a tent and faced challenges to sustaining her breastfeeding practices mentioned a lack of initiatives from the government.

She shared:

“We had a one-room-based house that was damaged after the disaster, so we repaired the same house and lived in there for some time. We don’t have any choice; the government doesn’t listen to us in any matter. We had no other option.” (Participant 18, p. 4)

### **Theme 3: Recommendations Proposed by Participants to Improve Breastfeeding Practices**

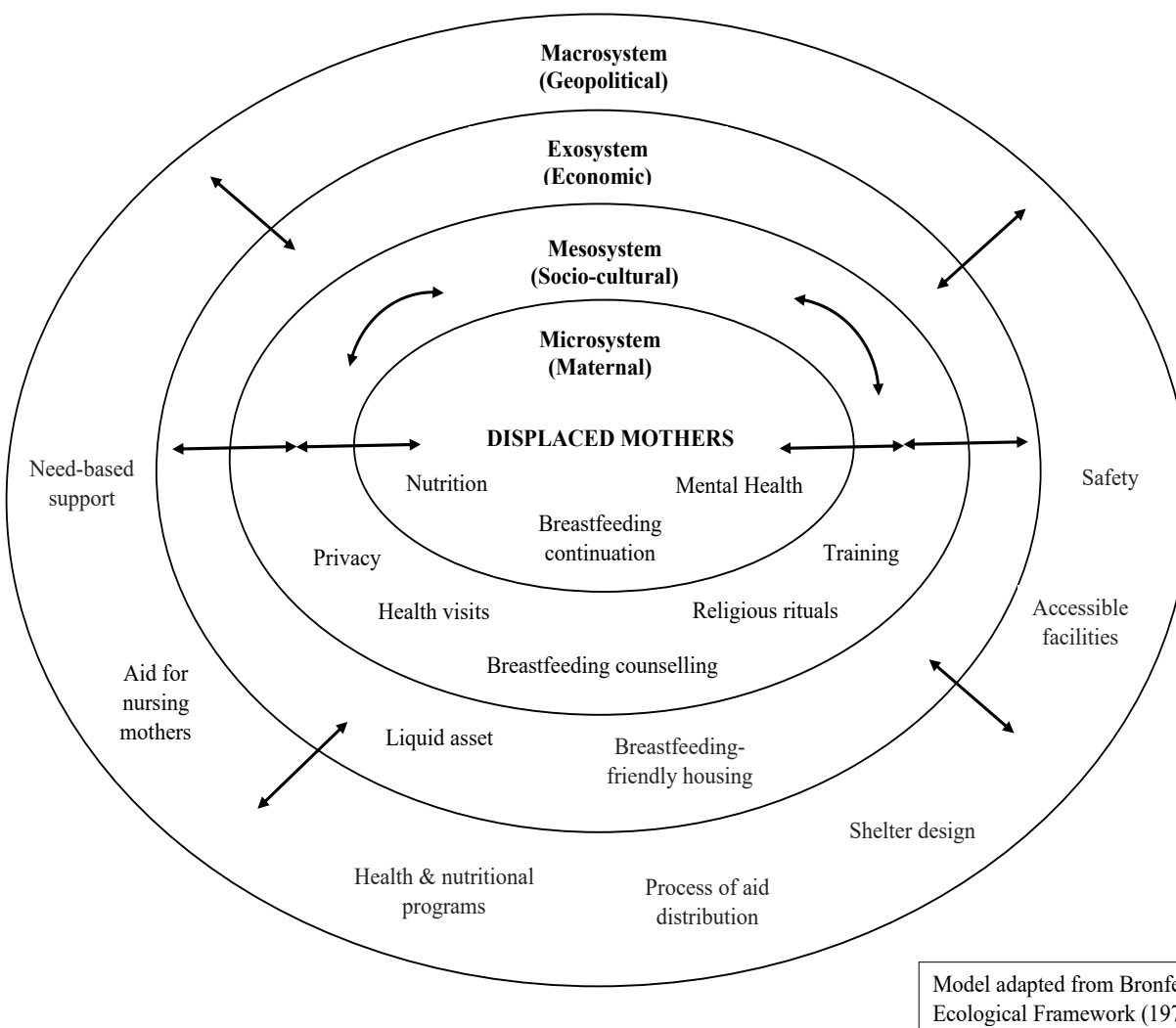
The third theme presents the ‘recommendations shared by the participants’ to improve the breastfeeding practices of mothers residing in the disaster relief camps. During in-depth interviews, participants identified various barriers to their breastfeeding practices and shared recommendations regarding some solutions to the existing challenges towards their breastfeeding practices. Participants acknowledged that being a woman, they never got a chance to share their views or recommendations before and considered it the first ever opportunity where they were sharing about possible solutions to their existing problems.

This theme surrounding ‘recommendations’ is divided under the sub-theme of “recommendations at the micro level”, “recommendations at the meso level”, “recommendations

at the exo level”, and “recommendations at the macro level” to better categorize the recommendations from the participants at the maternal, socio-cultural, economic, and geopolitical levels.

In view of the Bronfenbrenner Ecological Framework (1979), Figure 13 presents the findings surrounding recommendations from participants to improve breastfeeding practices of mothers residing in the disaster relief camps.

**Figure 13. Recommendations from Participants to Improve Breastfeeding Practices of Mothers Residing in Disaster Relief Camps**



### **Recommendations at the Micro Level**

This sub-theme represents recommendations shared by the participants, displaced mothers, that can facilitate nursing mothers to sustain their breastfeeding practices during disaster, displacement, and settlement in disaster relief camps. “Maternal” is the main category that is derived from this sub-theme.

### **Recommendations at the Maternal Level**

During in-depth interviews, participants shared recommendations surrounding *maternal nutrition, mental health, and breastfeeding continuation*. Each of these sub-categories sharing specific recommendations at the maternal level are presented below:

#### ***Adequate maternal Nutrition***

As participants were of the view that the quantity and quality of breastmilk are greatly affected by *maternal nutritional status*, most of them highlighted the importance of adequate maternal nutrition. In the cultural context of Chitral, where displaced women living in economic hardship often decide to skip meals to assure that their family members get an adequate quantity of food, participants recommended that depending on the availability of the food, nursing mothers must pay attention to their dietary intake and eat nutritious foods to sustain their breastfeeding practices during disaster and displacement. A participant emphasized:

“Nursing mothers should increase their diet as compared to before. They should eat more, they must take more bread and lentils/pulses or whatever is available. Whatever they have they should consume that just like other mothers who are breastfeeding their children or are expecting a child. Their food is for the mother and the child, that is why they should eat more and pay more attention towards their health.” (Participant 11, p. 14)



Another participant who could not sustain her breastfeeding practices due to her inaccessibility to the humanitarian aid, inadequate nutritional intake, stress, and subsequent cessation of breastmilk supply recommended:

“Nursing mothers should be given proper diets and nutritional foods, so they can stay healthy.” (Participant 4, p. 8)

### ***Maternal Mental health***

Participants highlighted the importance of *maternal mental health*. Although participants were of the view that there must be a support system in mothers’ external environments, they emphasized that despite environmental challenges mothers must try to take care of themselves and try to cope with the situation to better able to look after their child-care responsibilities, including breastfeeding. A participant recommended:

“A nursing mother should care for herself. She should maintain her diet and should not get stressed out because she has a tiny life [child] to support. That is why it is important that a mother should care for herself and after that she should be careful with her child.” (Participant 8, p. 9)

### ***Breastfeeding continuation***

Participants emphasized the *continuation of breastfeeding* in all circumstances to fulfill the child’s nutritional needs during natural disasters and to better respond to the challenging circumstances. A participant who was continuing her breastfeeding practices during disaster and during her settlement in the disaster relief camps recommended:

“Mothers should breastfeed their child because this is a facility and a blessing for them. They [mothers] themselves are worried and during that time [disaster] they [mothers] cannot put this burden on someone else and ask around for help. In those times everyone in the family is worried and concerned, so mothers should breastfeed their child. That’s how they can assure that they [mothers] are not a burden on anyone.” (Participant 1, p. 8)

### Recommendations at the Meso Level

This sub-theme represents recommendations shared by participants at the socio-cultural level that can facilitate nursing mothers to sustain their breastfeeding practices during disaster, displacement, and their settlement in the disaster relief camps. “Socio-cultural” is the category that is derived from this sub-theme.

#### Recommendations at the Socio-cultural Level

During in-depth interviews at the socio-cultural level, participants strongly recommended the need for *training, health visits, breastfeeding counselling, religious rituals, and privacy* to facilitate displaced mothers to sustain their breastfeeding practices. Each of these sub-categories sharing specific recommendations at the socio-cultural level are presented below:

##### ***Training***

During in-depth interviews, participants identified the need for *frequent training* of breastfeeding mothers (at least every three months) regarding breastfeeding and safety measures during disaster and emergency evacuation. In Chitral, where recurrent disasters are prevalent and many families have pregnant women, postnatal mothers, and young children, participants recommended frequent training for nursing mothers so they can receive adequate information on ways to manage specific breastfeeding issues during the period of disaster, displacement, and settlement in a variety of temporary housing. One of the participants recommended:

“I think nursing mothers should be trained after every three months based on what they should and shouldn’t do. I think this should be done; this will be the best way, nothing else. This way, mothers will be able to take care of themselves and their children. Nothing is more fit than this.” (Participant 8, p. 14)

Another participant, who considered maternal knowledge essential to sustaining breastfeeding practices, recommended:

“Mothers should be trained that if there is a flood or any disaster, they should be able to take care of own self, their family, and children. They should be specifically trained and

made aware of all these possibilities... As floods come during this type of season. There must be doctors and other professionals, like LHVs [Lady Health Visitors] who assemble mothers during the time of floods to conduct sessions and guide them. They should arrange these sessions with the mothers on how they can handle the children during times of flood.” (Participant 1, p. 12)

In many villages of Chitral where health units are inaccessible, participants further emphasized *training of local girls* regarding prenatal and postnatal assessments. They were of the view that local girls can be trained to be a source of informal support to breastfeeding mothers living in disaster relief camps. A participant recommended:

“Local girls should be trained so that they can pay home visits, identify the basic health concerns, can check blood pressure and other things, provide health advice to mothers, especially give advice to expectant mothers about what they should eat and what should be contained in their diet. Mothers who are breastfeeding and expecting should be made aware as to what they should do further about health and hygiene. They [trained local community members] should also tell expectant women what tasks they are supposed to avoid during pregnancy because women here who are expecting have lots of house chores to deal with so based on that the families should be made aware of what they [family members] can do and what the expectant mothers can do. Something like health hygiene-based education should be provided.” (Participant 5, p. 9)

### ***Health visits***

Participants acknowledged the importance of *formal support* from health care professionals, hence highly emphasized monthly health visits by healthcare professionals and workers who can give health checkups and provide needs-based guidance regarding breastfeeding and other aspects of child care. A participant recommended:

“There must be a monthly health visit for nursing mothers, which briefs them on cleanliness and health, so this will be enough. When they will constantly advise the women they will take it more seriously and breastfeed their children properly because people are moving towards using a bottle feeder which is in fashion here.” (Participant 16, p. 13)

A study participant mentioned the gaps in the mothers' knowledge related to breastfeeding and recommended:

“There should be a regular checkup for the women, especially those who are breastfeeding or expecting a child. These women don't know it clearly and their families don't take them to the health units that often as hospitals are far away. So, if these facilities are provided nearby, they can go there themselves.” (Participant 5, p. 9)

### ***Breastfeeding counselling***

Participants emphasized the need for *breastfeeding counselling* so mothers can receive need-based guidance on various aspects of breastfeeding, including breastfeeding techniques, continuation of breastfeeding during a disaster, nutritional requirements of breastfeeding mothers, and management of breastfeeding challenges like insufficient breastmilk supply. One of the participants recommended:

“Mothers should be given proper guidance on how they can breastfeed the child, what they should eat and what they shouldn't. If anything like this [disaster] happens, it [guidance] will be good enough for the mother.” (Participant 13, p. 7)

Another participant who faced breastfeeding challenges shared her wish to receive breastfeeding consultation to address the problem of insufficient breastmilk supply. She verbalized:

“I would have liked if someone had consulted with me and advised me [about breastfeeding]. Any advice regarding child's health, milk, and the diet a mother can take to increase the breastmilk supply. I would have been very happy if I could receive any advice in that regard.” (Participant 18, p. 8)

### ***Religious rituals support***

A few of the participants emphasized the importance of *religious rituals*, including arrangement of prayers, spiritual healing, and amulets for nursing mothers who encounter challenges towards their breastfeeding practices.

While recommending religious rituals for the nursing mothers, one of the participants who could not sustain her breastfeeding practices shared:

“When my milk got dried up at that time if someone would have given me blessings and arranged prayers for me then that would have been helpful to re-establish my milk supply instantly.” (Participant 4, p. 9)

### *Privacy needs*

Considering the lack of adequate privacy to breastfeed, participants recommended the need for a private space and peaceful environment for the mothers. A participant recommended:

“There should a separate room for the nursing mothers so that they can breastfeed their children when they want to.” (Participant 9, p. 11)

Another mother, who initially lived in a tent before moving to a shelter, emphasized the provision of a space for mothers where they can breastfeed comfortably. She shared:

“I can say that they [relief agency] could have provided me with a proper space where I could have breastfed my child properly and comfortably. I wished it that way as a mother.” (Participant 13, p. 3)

In view of the inadequate privacy to breastfeed during the time of disaster and displacement, another participant recommended a need for a communal space i.e. a breastfeeding tent or shelter where mothers can breastfeed their children. The participant recommended:

“There should be a separate room or separate shelters where mothers can go to breastfeed their children without any issues or troubles. They [mothers] should also have tents [to breastfeed]. These tents should be put up in places which are safe so that breastfeeding mothers can instantly go and comfortably breastfeed their children with peace of mind. There should be a separate shelter for the mothers only so that no man is allowed to enter there.” (Participant 1, p. 9)

### **Recommendations at the Exo Level**

This sub-theme represents recommendations shared by the participants at the level of the displaced mothers' external environment (mainly economic situation) that can facilitate nursing mothers to sustain their breastfeeding practices during disaster, displacement, and their settlement in the disaster relief camps. "Economic" is the main category that is derived from this sub-theme.

### **Recommendations at the Economic Level**

Participants recommended the need for *female and breastfeeding-friendly housing* and *liquid assets* to facilitate displaced mothers to sustain their breastfeeding practices. Each of these sub-categories sharing specific recommendations at the economic level are presented below:

#### ***Female and breastfeeding friendly housing***

During in-depth interviews, participants shared economic constraints to their efforts to rebuild a comfortable house after losing all their assets (house, crops, cattle, and belongings) in a disaster. As currently displaced mothers were living in overcrowded tents or shelters, almost all the participants recommended *female and breastfeeding-friendly housing* where there is a separate room for breastfeeding mothers (to sleep, rest, and breastfeed in privacy), adequate ventilation, proper kitchen (with stove), heating system during winter, and separate bathroom/washroom for women with warm water supplies (to take care of their personal hygiene).

One of the participants who was facing challenges toward sustaining her breastfeeding practices due to inadequate space in the shelter recommended comfortable living conditions for breastfeeding mothers. She shared her feelings:

"I sit in a corner and cry while hoping and praying that I get some space of my own. I am old enough now and it would have been comfortable for me if I had some space. I wish to have my own separate space where I could eat properly and breastfeed my child... We

[mothers] hoped that we would suddenly find a house or any other place where I could go and sit down comfortably, so that I could breastfeed my child properly, eat and use the bathroom myself. I wished for some level of comfort at least.” (Participant 14, p. 4)

In view of the economic challenges of the disaster-affected families having pregnant mothers and mothers with young children, a participant emphasized the need for a house for disaster-affected families where mothers can give birth and sustain their breastfeeding practices in a comfortable environment. She shared:

“People [mothers] who are living here aren’t that rich that they can afford to give birth outside their houses, so they will do it [childbirth] in the shelters here. There are lots of people who cannot even go to the hospital. If support agencies can arrange a house for mothers, it will be helpful.” (Participant 6, p. 12)

Another participant who could not take care of her hygiene after her childbirth and living in an overcrowded shelter recommended:

“They [mothers] should also have a room to take bath because it gets extremely difficult during the winters and snow. Taking showers is a chaos both for women and children. There should be a separate room for the ladies or at least one bathroom allocated to five to six houses where they can go and wash their clothes, wash their hair, and give showers to their children with warm water. So, mothers should be given a proper bathroom [*Hamaam* is the local term] with a warm water supply.” (Participant 3, p. 8)

While sharing the challenges and inconveniences during the period of menstruation, another participant who was living in an extended family system and continued breastfeeding recommended:

“The washroom should be big enough and there should be some facilities where it gets easier for the women to wash their menstruation clothes and hang them in the washroom for drying. There should be some heating units for the women during the winters where they can place these clothes and they can dry because there is no space outside.” (Participant 5, p. 12)

### ***Liquid assets***

Participants underscored the importance of having some *liquid assets* during disaster and displacement so displaced mothers can look after the basic needs of themselves and their family members, look after their child-care responsibilities, and sustain their breastfeeding practices. One of the participants, who faced multiple economic hardships and could not sustain her breastfeeding practices, recommended availability of liquid assets (cash). She emphasized:

“If I had the expenses [money] and the proper meals for me then obviously I would have breastfed my child on my milk. I wouldn’t be stressed about anything, neither would I have to ask others for the milk that they should give me anything or be dependent on them for any reason.” (Participant 15, p. 10)

Another participant recommended:

“They [mothers] should have some finances [cash] with which they can support their child and raise him/her [child] in a better way. She [mothers] should also have the facility to buy things out of her own choice and eat their preferable food.” (Participant 3, p. 8)

### **Recommendations at the Macro Level**

This sub-theme represents recommendations shared by the participants at the level of the displaced mothers’ country-based cultural context at large (mainly geopolitical situations) that can foster breastfeeding practices of displaced mothers. “Geopolitical” is the main category that is derived from this sub-theme.

### **Recommendations at the Geopolitical Level**

Participants shared recommendations surrounding *accessible facilities, shelter design, aid for nursing mothers, health and nutritional programs, the process of aid distribution, safety, and need-based support*. Each of these sub-categories sharing specific recommendations at the geopolitical level are presented below:



### *Accessible facilities*

Participants strongly recommended the need for *accessible facilities*, including hospitals, health centres, dispensaries, schools, and clean water supply to eliminate some of the major barriers toward their breastfeeding practices. Considering the inaccessibility of hospitals and schools for older children, one of the participants recommended:

“Schools and hospital should be nearby. I prefer having hospitals near, which will be a major help for the mothers especially. It is quite far from where we live, and we need to walk on foot there.” (Participant 3, p. 8)

The disaster-affected communities demonstrated health-seeking behaviour. They were, however, unable to access health-care services due to inaccessibility of the facilities. Many mothers faced challenges during the prenatal and postnatal period that affected their breastfeeding practices. A participant recommended:

“The hospitals and health units are all far away; that is why we travel at great distances. They [health care facilities] need to be nearby in our villages or at least near them [mothers] so that will be beneficial for the mothers. We don’t have enough resources as we are poor that we can book cars and go in them. A pregnant woman has to go for an hour or two to reach the hospital or the health unit. They need to go there every month for a regular checkup and TT course [Tetanus vaccine]. It would have been easy for us if there was a health unit somewhere nearby, so that would highly facilitate the mothers.” (Participant 11, p. 7)

In view of the inaccessible facilities and their effect on the lives of nursing mothers affected by disaster and displacement, another participant recommended:

“Firstly, we require clean water. Secondly, there should be a nearby hospital for the mothers so that they can get themselves checked when they are sick and reach there on time. Now here, because the hospital is far away, we aren’t able to go there alone, and family members cannot take us there on time, that makes mothers even weaker and ill. So, a hospital facility should be there close by.” (Participant 2, p. 8)

### ***Shelter design***

Due to recurrent and subsequent disasters, participants who were living in transitional shelters for more than 2.5 years and facing challenges towards their breastfeeding practices shared recommendations surrounding *shelter design* that can better facilitate nursing mothers to sustain their breastfeeding practices. These recommendations focus the layout of a shelter like a house and include spacious living space as per the family size, availability of water supply, and other facilities (kitchen and floor carpet).

A participant who was facing challenges due to overcrowding in the shelter and limited privacy to breastfeed recommended:

“It [shelter] should be built like a house...there should be separate rooms in the house, so we can properly breastfeed a child there and sleep in a separate room.” (Participant 6, p. 13)

Another participant who was living in a shelter with her extended family and continuing her breastfeeding practices recommended:

“I wonder sometimes it would have been easier if they had made the shelter more spacious because this is a small space. Sometimes, when we all sit together there isn’t enough space where we can even lie down. So that is when I think it would have been easier if the room had more space, and it had a kitchen with it.” (Participant 5, p. 6)

One of the participants who was living in a nuclear family system (husband and four children) recommended:

“I can think of a separate room with a shelter for the children along with a bathroom and a kitchen so this way it can be a facility for us. Our children will be able to sleep better that way and so will we. It should have water supply and the bathroom should be spacious.” (Participant 14, p. 6)

### ***Aid for nursing mothers***

Apart from the list of items provided to the disaster-affected families (food and non-food items), participants recommended the idea of *aid for nursing mothers* to facilitate displaced

mothers to sustain their breastfeeding practices soon after a disaster and during their settlement in the disaster relief camps. Participants recommended having a separate shelter/tent for the nursing mothers, adequately equipped with a mattress, chairs, warm clothes, blankets, and toys for children. A participant shared:

“I think it was easy if we had two tents instead of one. One tent could be for the mothers, so they can stay in there with their children and properly help them grow and nurture.” (Participant 10, p. 7)

Another participant who faced challenges, recommended:

“We didn’t have much choice in anything. We needed a pan to boil milk and for giving it to the children; we also needed a spoon and a bowl or a plate. Everything was a need for us. Everything which wasn’t given to us should be given to mother. They should be provided with all the needed facilities which they can use to take care of their child so that she can easily stay in a tent or a shelter. I also felt that we should be given warm blankets and clothes for children so that we can save them from the cold and harsh weather. If we had also gotten a separate shelter where we could breastfeed our child, even for the guests a separate room should have been there. Cooking wouldn’t have been hectic because we would have a room for ourselves.” (Participant 11, p. 10)

While recommending the inclusion of a few additional supplies (foam, chair, and toys) in the list of donated supplies, a participant shared:

“There should be a mattress [foam] or a chair, so they [mothers] can sit or lie down and feed the child. Necessary items for children such as toys should be provided. At that time [disaster] there should be toys because children get tensed as they see us in stress in such times [disaster and displacement].” (Participant 5, p. 10)

### ***Health and nutritional programs***

Considering inaccessibility to healthcare services and present health needs of the disaster-affected families with pregnant mothers, nursing mothers, and young children, participants recommended the need for *health and nutritional programs* (comprised of aid, support, and needed interventions) to improve the health of mothers and children, prevent childhood illnesses,

and better support families who cannot afford food after experiencing economic loss. One of the participants shared:

“While living in the tent we have a wish to receive an aid that could have prevent our children from illnesses. We as an adult often don’t think for ourselves and are more concerned for the children.” (Participant 10, p. 6)

Another participant recommended:

“There are some people [disaster-affected families] who are quite poor and they aren’t able to get the food and nutrition required and their children aren’t healthy because of this. So, for them, I think there should be a proper setup [program]. There should be proper food provided to them or maybe there should be something done for them [disaster-affected families] which can improve the health of the child and the mother. Because mothers are living under stressful conditions, they need to think about the house and take all the work responsibility too. When mothers breastfeed their children without proper food intake, they get very weak.” (Participant 9, p. 11)

### ***Process of aid distribution***

Most of the participants viewed inequitable distribution of aid as one of the key barriers to their health and well-being, and hence recommended an adequate *process of aid distribution*.

Mothers were of the view that the process of aid distribution must be ‘fair’, ‘free from injustices’, ‘equitable’, ‘timely,’ ‘need-based’, and must consider the rights of the affected people and assure fairness thorough monitoring of the aid distribution.

One of the participants, who believes herself a victim of systemic injustices and was allocated neither a shelter nor a tent, recommended:

“People [stakeholders] who are in charge for these funds should monitor everything [needs of the affected families] themselves. They should visit houses and see for themselves who is more deserving. Or they can create a community of honest members who don’t operate just by looking at the people’s faces, but they should properly visit these people [disaster-affected families] and provide them aid. Another thing is that people who have been affected should have a house of their own. I wasn’t even given a shelter where I could live comfortably with my children. Starting next time, they should give these shelters after checking the details of the people who are victims.” (Participant 15, p. 9)

With regard to fairness in the process of aid distribution, another participant recommended:

“They should keep a Quran (Holy book) in front of these workers [responsible for the donation of aid] and take references from Hadith given to us by the Holy Prophet and then they should do justice to their work [aid distribution]. They should give the rights to the poor - this is my opinion. People who are being recruited in these organizations [relief agencies] should be selected wisely so that they are able to do something good for the people. This money was given by the government but people in Chitral often got most of it even though they were the members of the same family. But the poor people didn't get what they deserved. There are three mothers in our village who are widowed, and they have no sons, they didn't even get the shelter or any funds given by the government.” (Participant 17, p. 11)

### *Safety*

In view of the recurrent and subsequent disasters and no resources available to the disaster-affected families to relocate or rebuild their houses at a safer place, participants wished for *safety of themselves and their family members*. Participants recommended a safe space for nursing mothers where they can physically and psychologically feel safe. They recommended that efforts must be made by the stakeholders (relief agencies and government) for the relocation and settlement of nursing mothers with young children at a safer place. As many mothers had to live in open areas (ground, field, or mountains) for many days before moving into a tent and a shelter, they further recommended having access to a safer place to stay in case of evacuation following a natural disaster.

A participant who faced challenges during emergency evacuation and could not sustain her breastfeeding practices recommended:

“Mothers should be moved to a place where there is no further threat of floods, so they can live there in peace and they can take care of their children too.” (Participant 4, p. 8)

Another participant who encountered two major disasters i.e. glacial lake outburst floods and then an earthquake two months after the floods, shared:

“We lost everything [during the disasters] that we had. At that time, we wished if we would have built our own house at a safe place then we would have not faced this challenge of being displaced.” (Participant 10, p. 7)

### ***Need-based support***

Participants emphasized *need-based support* from government and relief agencies. They recommended that the government must consider the economic hardships of the disaster-affected families and provide them need-based monetary and tangible support, so these families can fulfill their basic needs as much as possible. A participant shared:

“Basic needs, which are a necessity of their lives, should be provided to these mothers [affected by disaster]. There is a proper system in the countries abroad such as America. But our government just focuses on their own needs. They don’t take care of us who are poor people. No one does. They should look into such matters if they can.... I must say that if the government gives out their funds to the deserving affectee then at least they can have proper toilet and they can maintain their hygiene.” (Participant 17, p. 13)

Another participant shared:

“No one came here [village affected by disaster] and neither did anyone advise us. I went about with what we thought was right at that time. If I had received some monetary help, then I could have arranged something for my children.” (Participant 18, p. 7)

## **Conclusion**

To sum up, this chapter presents the findings derived from the data gathered through multiple sources, including document analysis, field observations, and in-depth interviews with 18 mothers residing in disaster relief camps in Chitral, Pakistan, and having diverse demographic characteristics and attributes. Three main themes were derived from the data: “facilitators to breastfeeding”, “barriers to breastfeeding”, and “recommendations”. The findings presented a wide range of maternal (micro level), socio-cultural (meso level), economic (exo level) and

geopolitical (macro level) factors that are directly and indirectly affecting the breastfeeding practices of mothers residing in disaster relief camps. The recommendations shared by the participants reflect their perspectives about possible solutions to the encountered challenges surrounding the breastfeeding practices of mothers affected by disaster and residing in the disaster relief camps.

## **Chapter 5: Discussion**

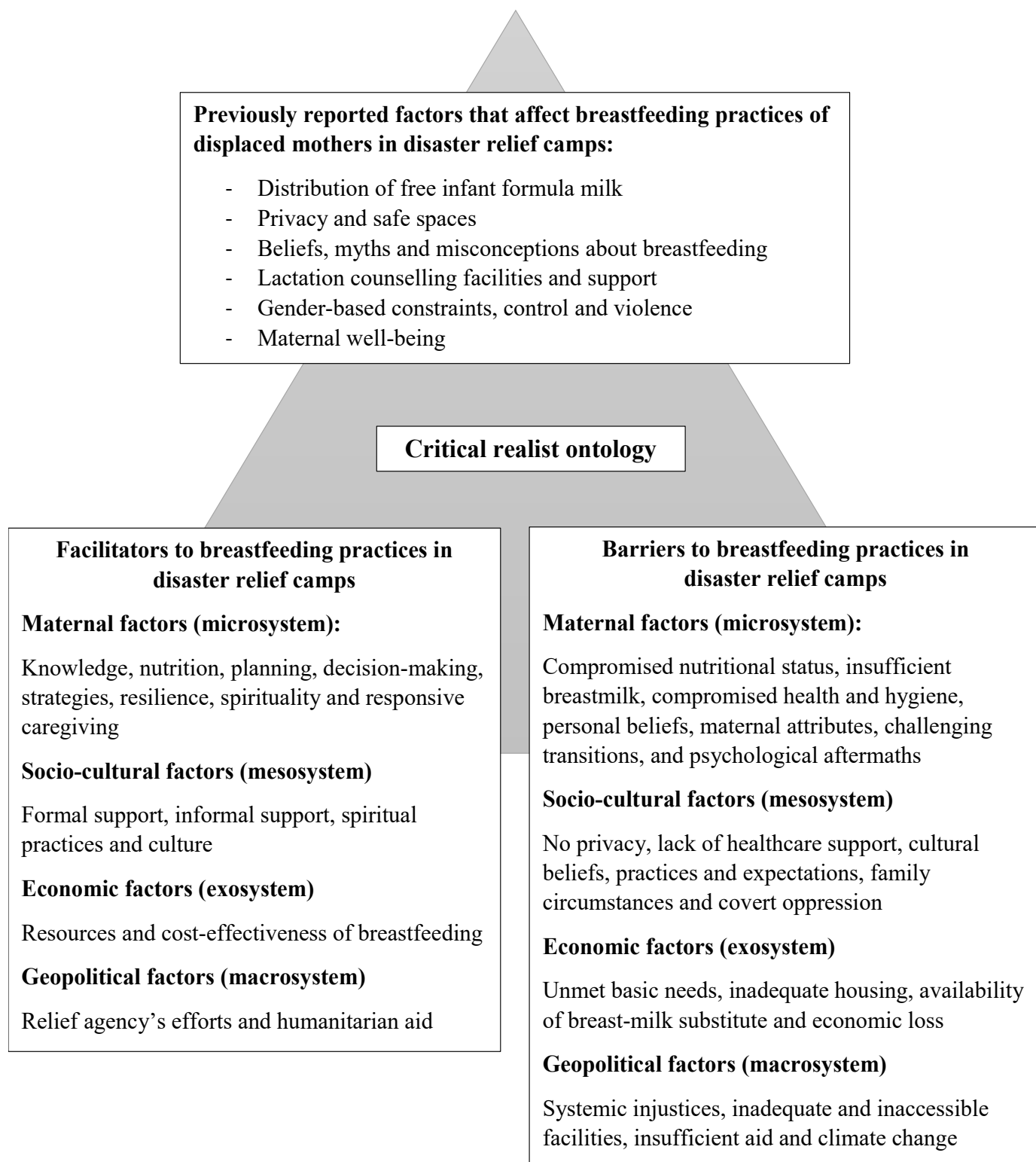
This chapter presents the discussion surrounding the findings of this critical ethnographic study. As described in the methodology chapter, in this study critical realism provides a theoretical foundation to explore factors that affect the breastfeeding practices of internally displaced mothers. The capability approach framework by Sen (2005) offers philosophical and conceptual grounds to examine the interrelationship between maternal agency and contextual factors shaping the experiences and breastfeeding practices of internally displaced mothers residing in temporary housing (disaster relief camps) in Chitral, Pakistan. In view of these theoretical foundations, this chapter presents a discussion of the findings and draws on insights from the literature. Moreover, this chapter presents the strengths and limitations of this study undertaken in the setting of disaster relief camps in Chitral, Pakistan.

### **Discussion of Findings**

During the research process, the critical realist ontology provided the theoretical grounds to uncover maternal, socio-cultural, economic, and geopolitical factors that directly and indirectly affect the breastfeeding practices of internally displaced mothers residing in disaster relief camps in Pakistan. Figure 14 depicts a comparison of previously available knowledge and new knowledge generated from the current study pertinent to breastfeeding practices of displaced mothers in the context of disaster relief camps in Chitral, Pakistan.



**Figure 14. Summary of findings derived from previous studies and the current study**



A close examination of facilitators and barriers to the breastfeeding practices of displaced mothers suggests that limited information was previously available about facilitators and barriers to the breastfeeding practices of mothers residing in disaster relief camps. It can be deduced from Figure 14 that the scope of previous findings was limited to societal and maternal factors. Use of the ontological assumption of critical realism (as described in the methodology chapter) provided an opportunity to gain insight into a reality that is multifaceted, complex, and interrelated. The findings suggested a wide range of structural factors at displaced mothers' microsystems (maternal), mesosystems (sociocultural), exosystems (economic), and macrosystems (geopolitical) that directly and indirectly affect their breastfeeding practices. While using the critical realist ontology (Archer et al., 2013), I uncovered multiple truths about facilitators and barriers to breastfeeding practices of displaced mothers by gaining access to their experiences (empirical domain of reality) and triangulating those experiences with the facts gathered from field observation and document analysis (actual and real domains of reality). None of the previous studies in this area used a critical lens to explore the reality behind a wide range of breastfeeding practices of displaced mothers. The critical nature of this inquiry contributed to the depth and breadth of knowledge pertinent to the breastfeeding practices of displaced mothers residing in a variety of temporary housing (disaster relief camps).

To analyze the dynamic association and interrelationship between the agency of displaced mothers, structural factors, and mechanisms that shape the breastfeeding experience of displaced mothers, I am using the capability approach framework proposed by Amartya Sen, in the year 1979 (Sen, 2005). The five key concepts of this theoretical framework that relate to the findings of this study are capabilities, functioning, agency, endowment, and conversion factors (Sen 2005; Sen 1999a, 1999b). Capabilities refers to *possible and available opportunities* that an individual

possesses within their internal and external environment (Sen, 1999a, 1999b). Functioning refers to choices, values (preferences), and willingness of an individual to pursue those opportunities (Sen, 1999a, 1999b). Agency refers to an *individual's ability to act and demonstrate freedom to achieve set goals* (Sen, 1999a, 1999b). Endowment refers to resources, including monetary, mental, physical, social, public, or political resources (Sen, 1999a, 1999b). Conversion factors refer to *personal, social, or environmental factors* that positively or negatively affect an individual (Sen, 1999a, 1999b). In this study, conversion factors were maternal, socio-cultural, economic, and geopolitical factors that were affecting the capabilities and functioning of displaced mothers in the setting of disaster relief camps in Chitral, Pakistan. To analyze the reality behind breastfeeding practices and experiences of displaced mothers, each of these concepts is integrated into the findings of this study. The analysis drawn from the findings of this study guided by the critical realist perspective and capability approach are presented below:

**Capabilities and Functioning Surrounding Breastfeeding Practices of Displaced Mothers.** Capabilities refers to *possible and available opportunities* that an individual possesses within their internal and external environments (Sen, 1999a, 1999b). On the other hand, functioning refers to the choices, values (preferences), and willingness of an individual to pursue those opportunities (Sen, 1999a, 1999b). In view of this theoretical approach, valuation refers to functioning that matters to an individual to achieve life goals or live a quality life. Rather than 'utility' or 'resources', Sen's capability approach places major emphasis on evaluating the availability of capabilities for a functioning that people value in their lives (Clark, 2005). In view of this theoretical framework, displaced mothers' capability to achieve valuable functioning during the period of disaster, displacement, and settlement in disaster relief camps is viewed as essential in facilitating autonomous decision-making surrounding breastfeeding.

The findings reflect that there were various facilitators in displaced mothers' *internal and external environments* that were serving as possible and available opportunities to sustain women's breastfeeding practices. In this study, displaced mothers were undertaking feeding decisions in view of their capabilities and values surrounding breastfeeding. Displaced mothers who chose to sustain their breastfeeding practices (valuable functioning) opted to identify, explore, pursue, avail, and demonstrate the use of potential or available opportunities (capabilities) to make an autonomous decision surrounding their breastfeeding practices. This study suggested that equity issues, gender disparities at the societal level, conflicting advice, and prominent gaps in policies and practices were diminishing maternal autonomy during the period of a disaster and displacement. Similar gaps were identified in the literature and considered as foremost barriers towards the maternal ability to avail opportunities, demonstrate autonomy, and achieve their breastfeeding goals (Cox & Turnbull, 1998, 2000; Meier & Labook, 2010). In view of the theoretical framework of the capability approach, Meier and Labook (2010) consider the mother/child dyad as a 'right holder' and the community at large as a 'duty bearer' responsible for enhancing maternal autonomy surrounding breastfeeding. To promote maternal autonomy in breastfeeding, emphasis is placed on equity, support, and expansion of freedom in public policy to eliminate barriers that limit maternal choices, opportunities, and functioning (Cox & Turnbull, 2000; Labbok, 2006; Meier & Labook, 2010).

The theoretical framework of the capability approach considers that the internal environment of an individual is always in constant interaction with the external environment (Sen, 1999a, 1999b), hence focuses on analyzing a range of personal and social aspects (Sen, 1999b). Findings reflected that displaced mothers had different sets of capabilities within their internal and external environments that were influencing their breastfeeding decisions and

practices (functioning). The capabilities in the internal environment of displaced mothers were their personal characteristics and attributes that were supportive of their breastfeeding decisions. On the other hand, capabilities in displaced mothers' external environment were the sets of opportunities (capabilities) in their socio-cultural, economic, and geopolitical environment. In this study, a dynamic interaction was evident between displaced mothers' personal attributes, social support, and environmental circumstances within which their motherhood and breastfeeding experiences were embedded. This dynamic interaction was shaping maternal choices, values, and practices surrounding breastfeeding. In the context of breastfeeding and motherhood, literature highlights the role of a women's life circumstances and the dynamic association between her personal and structural context in shaping maternal choices, values, and decisions (Marshall, Godfrey, & Renfrew, 2007; Sheehan, Schmied, & Barclay, 2010). The literature also identifies a dynamic interaction among various capabilities and resources (endowment) at mothers' internal and external environments, including maternal personality traits and emotional states, family circumstances, social environmental context, and societal attitudes that affect breastfeeding outcomes (Eidelman, 2018, 2016; Kearney, 1988; Kukla, 2006). A qualitative study concerning disaster relief experiences undertaken in Iran reported that a combination of maternal, neonatal, management, and context-based factors—mainly social support, maternal self-efficacy, availability of trained staff during disaster, and privacy—affect maternal functioning surrounding breastfeeding (MirMohamadali, Jazani, Sohrabizadeh, & Nasrabad, 2019).

In this study, from the perspective of the displaced mothers, being resilient, knowledgeable about breastfeeding, well-nourished, sensitive to the needs of their infants, and strategic were the key capabilities that they valued to achieve their breastfeeding goals and demonstrate valuable

functioning during the period of disaster and displacement. This study reflected that capabilities at mothers' *internal environment* enable mothers to demonstrate freedom and valuable functioning surrounding breastfeeding. Concerning the role of maternal attributes and duration of breastfeeding, a study undertaken with 602 mothers who had an infant aged six to 12 months reported that mothers with a high level of extraversion, emotional stability, and conscientiousness had a longer duration of breastfeeding as compared to mothers who were introverted and anxious, and were as a result reluctant to seek breastfeeding support (Brown, 2014). Within the maternal internal environment, a few other capabilities that are reported to support exclusive breastfeeding practices include maternal self-efficacy, confidence, and knowledge about breastfeeding management (Februhartanty, Wibowo, Fahmida, & Roshita, 2012). Another study identifies maternal sensitivity to infants as one of the strong predictors of breastfeeding duration during the first postpartum year (Britton, Britton, & Gronwaldt, 2006). Mothers experiencing pregnancy-specific distress, postpartum anxiety, or depressive symptoms are reported to have affected functioning surrounding breastfeeding initiation and continuation (Ritchie-Ewing, Mitchell, & Christian, 2018).

In this study, many mothers demonstrated *capabilities within their internal environment* to sustain their breastfeeding practices, however, they could not convert those capabilities into *valuable functioning* (breastfeeding initiation and continuation) due to various barriers in their internal environment and external environment. Although many displaced mothers wished to sustain their breastfeeding practices, unmet basic needs (i.e. food to maintain adequate nutritional status, clothes to properly cover themselves during breastfeeding, and adequate housing during and after the disaster) were diminishing their functioning surrounding breastfeeding. The findings reflect that many mothers were lacking 'basic capability', which Sen

(1992) refers to as ‘the ability to satisfy certain elementary and crucially important functioning up to a certain level’ (p. 19). Basic capabilities are considered ‘real opportunities’ that are essential for survival and crucial to avoid deprivation, demonstrate freedom to achieve survival goals, and achieve well-being (Robeyns, 2016). In view of Sens’s capability approach and the findings of this study, the direct association between inadequate basic capabilities and resultant vulnerabilities surrounding the lives of displaced mothers is evident. Surjan, Kudo & Uitto (2016) consider that in the context of natural disaster, vulnerability (shaped by a range of social, economic, and political factors) poses a detrimental effect on capabilities and well-being (physical, psychological, and social), sets back the development processes, and poses a threat to food security, livelihoods, and long-term sustainable development. In the context of the lives of displaced mothers, this study reflected that vulnerabilities due to diminished basic capabilities (food, clothes, and shelter) were contributing to physical and psychological distress, compromised quality of life of displaced mothers, and diminished functioning surrounding their breastfeeding decisions and practices. Vulnerabilities experienced by women during disaster and displacement are reported to outweigh their capability, especially for breastfeeding mothers who are prone to nutritional deficiencies, have unmet basic needs, and encounter disparities and safety issues (Delica, 1998; Rahman, 2013). The literature highlights a strong relationship between vulnerability factors (maternal confidence, postpartum depression, adequacy of support, and supplementation options) and breastfeeding outcomes among postnatal mothers at six weeks postpartum (Dunn, Davies, McCleary, Edwards, & Gaboury, 2006). Vulnerabilities often provoke emotional stress, depression, and post-traumatic stress disorder that lead to breastfeeding cessation (Eidelman, 2018; Hibino et al., 2009). The vulnerability is reported to evoke stress and shameful feelings among breastfeeding mothers, mainly negative feelings

towards breastfeeding (sufficiency or adequacy) and their milk-producing body and/or child, consequently affecting breastfeeding continuation (Palmer, Carlsson, Brunt, & Nystrom, 2014). In this study, displaced mothers facing vulnerability were doubtful about the sufficiency of their breastmilk. Their perception about insufficient breastmilk was the topmost barrier toward their functioning surrounding breastfeeding, hence leading mothers to introduce breast-milk substitutes and solid foods with or without breastfeeding. A similar finding is reported in a mixed-method study undertaken with 1131 Haitian mothers experiencing vulnerability in the post-earthquake situation. In that study displaced mothers reported to have lost confidence in their capability to breastfeed and produce quality breastmilk for their infants (Dörnemann & Kelly, 2013).

### **Agency and Breastfeeding in the Context of Disaster Relief Camps**

Agency refers to the ability of individuals to bring change and pursue the goals/functioning they value in their lives, and the ability to engage in a variety of socio-cultural, economic, and geopolitical actions (Sen, 1999a, 1999b). In this study, displaced mothers in disaster relief camps were actively involved in making breastfeeding decisions in view of their personal, socio-cultural, economic, and geopolitical context. They held diverse values surrounding child feeding practices and these values were influenced by their personal and environmental circumstances. Therefore, these mothers were demonstrating a range of child feeding practices. The literature supports that mothers demonstrate their agency in view of their personal and external environmental factors, hence pursuing a specific infant feeding practice after thoughtfully considering their choices, values, and environmental context (Andrew & Harvey, 2011; Gengler, Mulvey, & Oglethorpe, 1999; Williams, Innis, Vogel, & Stephen, 1999; Winikoff, Castle, & Laukaran, 1988). A study undertaken with 434 mothers with nine-month-old infants reported that



mothers attributed the choice to breastfeed to personal factors, whereas attributed the choice to use breast-milk substitute (formula milk) to environmental factors (Williams et al., 1999) that were strongly influencing their agency and functioning surrounding breastfeeding.

The theoretical framework of the capability approach refers to agency as an ability to maintain an interaction with *socio-cultural, economic, and political actions* (Sen, 1992). Sen's capability approach further highlights that agency demonstrates the availability of capabilities and barriers at the personal, socio-cultural, economic, and geopolitical levels that are affecting freedom or achievement of the desired level of functioning (Sen, 1992). In this study, displaced mothers were maintaining close interactions with their socio-cultural, economic, and geopolitical environments. The capabilities available to displaced mothers were embedded within their personal and external environmental circumstances and mothers were practicing their agency in view of their environmental context. Jackson (2005) highlights that human agency and social structures share a close bond and are inseparable, and this phenomenon was evident in this study. The findings reflect that many displaced mothers wanted to breastfeed their babies during disaster and displacement, however, not all of them were able to achieve this goal due to fewer facilitators (capabilities) and more barriers in their personal and contextual environments. A qualitative study undertaken among Chuukese immigrant women living in the country of Guam revealed that the presence of facilitators was supportive of successful breastfeeding practices, whereas the presence of more barriers than facilitators was persuading mothers to use formula milk (breast-milk substitute) instead of continuing breastfeeding (Wood & Qureshi, 2017). In the context of disaster, the presence of barriers as compared to facilitators is reported to affect maternal choices, freedom, and agency surrounding breastfeeding (MirMohamadalile et al., 2019; Muchacha & Mtetwa, 2015).

Sen's capability approach clarifies that agency may lead to an achievement of goals, however, it may not necessarily lead to the achievement of well-being (Sen, 1992). In this study, displaced mothers had a range of capabilities at the personal and environmental levels, hence were demonstrating a different level of functioning surrounding their breastfeeding practices. The findings reflect that during the period of disaster, displacement, and settlement in the relief camps, most of the mothers had the primary goal of 'satisfying their child's hunger' either through breastfeeding, feeding breast-milk substitute (alone or in combination with breastmilk), or complementary feeding. In this study, many displaced mothers were able to achieve their primary goal of 'satisfying their child's hunger' to assure their survival. However, the chosen feeding practices were not necessarily assuring the well-being (physical, psychological, and economic) of the mother-child dyad. Mothers in the context of disaster and displacement were demonstrating agency to assure their child's survival, hence mothers were valuing feeding practices (breastfeeding or its alternatives) that were crucial for their infant's survival and not necessarily for their infant's well-being. To assure an infant's survival and prevent malnutrition-related mortality or morbidity, the life-saving role of breast-milk substitutes, complementary feeding, and other feeding alternatives is acknowledged in the literature, especially in situations when a mother cannot breastfeed due to medical reasons or environmental factors (Binns, Lee, Tang, Yu, Hokama, 2012; Esterik, & O'Connor, 2017; Lowe, 2016; Scrimshaw & Underwood, 1980; Wolf, 2010). Esterik and O'Connor (2017) explain that a breastfeeding mother while making a breastfeeding decision, may consciously go against her values and reject expert advice or societal norms in her attempt to meet the survival needs of her child.

### **Conversion factors in the Context of Disaster Relief Camps**

As per Sen's capability approach, conversion factors refer to contextual and environmental circumstances that positively or negatively affect an individual (Sen, 1999a, 1999b). The following section presents an analysis of the conversion factors, including maternal, socio-cultural, economic, and geopolitical factors that were affecting the capabilities and functioning of displaced mothers surrounding their breastfeeding practices.

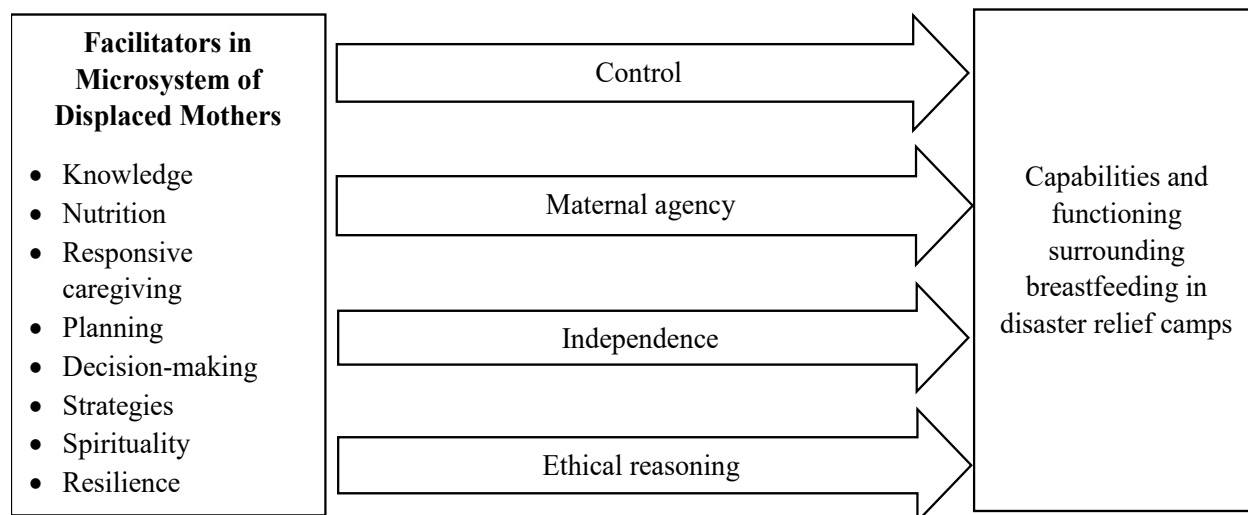
*Maternal factors affecting capabilities and functioning.* In this study, various maternal factors were found to positively or negatively affect maternal capabilities and functioning. Enabling factors (facilitators) at the maternal level represented capabilities within the internal environment of displaced mothers. These capabilities positively influenced the functioning of displaced mothers surrounding their breastfeeding decisions and practices. A close examination of maternal factors indicates that these factors were interconnected, and one factor was holding influence over the other. The dynamic interaction between these capabilities (facilitators) was better preparing displaced mothers to sustain their functioning surrounding breastfeeding during the stressful period of disaster, displacement, and settlement in the relief camps. For instance, in this study maternal knowledge about breastfeeding enabled women to choose to breastfeed, consider its benefits, make a prenatal decision about breastfeeding, and adopt a variety of strategies to re-establish breastmilk supply. The role of maternal knowledge about breastfeeding is well acknowledged in strengthening maternal functioning surrounding initiation and continuation of breastfeeding (Kornides & Kitsantas, 2013; Susin et al., 1999). Knowledge about breastfeeding is also reported to increase maternal confidence (Chezem, Friesen, & Boettcher, 2003), self-efficacy (Thomas et al., 2015), and ability to cope with breastfeeding challenges (O'Brien, Buikstra, Fallon, & Hegney, 2009).

Maternal nutrition is another capability that was interconnecting with other maternal factors and influencing displaced mothers' functioning surrounding their breastfeeding practices. Studies report that many breastfeeding mothers perceive that their compromised nutritional status affects the quality and quantity of their breastmilk (Dörnemann & Kelly, 2013; Sulaiman et al., 2016). The literature highlights that breastmilk is selectively affected by maternal nutrition (Bravi, Wiens, Decarli, Dal Pont, Agostoni, & Ferraroni, 2016; Segura, Ansótegui, & Díaz-Gómez, 2016) and mothers' capacity to produce breastmilk in sufficient quantity and quality is not affected by nutritional deprivation (Butte, Stuebe, & Motil, 2010). As maternal nutrition affects the health, well-being, and energy levels of breastfeeding mothers (UNICEF, n.d), it is recommended that breastfeeding mothers receive adequate nutrition (a minimum of 1800 calories per day) as they lose more nutrients during breastfeeding, pregnancy, and childbirth (Segura et al., 2016). This reflects that during disaster and displacement when breastfeeding mothers are prone to a variety of nutritional deficiencies, maternal nutrition (capability) can facilitate mothers to strengthen their internal environment and facilitate their functioning surrounding breastfeeding.

In view of the ontological assumption of critical realism and Sen's capability approach, these maternal factors were analyzed in view of four key attributes of maternal autonomy in the context of breastfeeding: control, maternal agency, independence, and ethical reasoning.

Figure 15 presents the mechanism through which facilitators at displaced mothers' microsystem were contributing to enhanced capabilities and functioning surrounding breastfeeding in disaster relief camps.

**Figure 15. Facilitators in Microsystem and Enhanced Capabilities and Functioning Surrounding Breastfeeding in Disaster Relief Camps**



In this study, displaced mothers who were able to sustain their breastfeeding practices were demonstrating control over various aspects of their internal and external environmental circumstances. *Control* is one of the attributes of maternal autonomy in the context of breastfeeding (Hirani & Olson, 2016). The literature underscores that control facilitates mothers to take charge of their bodies, resources, information, and decisions regardless of if others disagree with their choices and actions (Bloom, Wypij & Gupta, 2001; Brunson, Shell-Duncan, & Steele, 2009; Muers, 2010; Schmied & Lupton, 2001), as well as enables mothers to better respond to a variety of circumstances that may or may not be in favor of their breastfeeding practices (Liamputtong, 2010; Shaw, 2004). In this study, maternal factors such as knowledge about breastfeeding, nutrition, spirituality, responsive caregiving, and resilience were empowering displaced mothers to demonstrate control over their child's feeding practices. Hence, displaced mothers were better equipped to respond to a variety of socio-cultural, economic, and geopolitical circumstances having multiple challenges towards their breastfeeding

practices. On the other hand, inadequate knowledge about breastfeeding, compromised nutritional and health status, psychological aftermaths of disaster, and challenging transition were a few of the barriers that negatively affected displaced mothers' capabilities and functioning. Thus, in the presence of these barriers, mothers demonstrated a lesser level of control over their breastfeeding decisions and practices. In this study, although maternal attributes such as young age, subsequent pregnancy, employment status, and myths about breastfeeding were not directly connected to the disaster or displacement, these factors were also negatively affecting maternal control and subsequently affecting displaced mothers' functioning, especially breastfeeding decisions and practices during and after a disaster. Although limited information is available on the role of the above mentioned maternal attributes in the context of disaster, studies undertaken in hospital and community-based settings report young maternal age (Amin, Hablas, & Al Qader, 2011), unintended pregnancies (Hromi-Fiedler & Perez-Escamilla, 2006), myths and beliefs (Kamath, Garg, Khan, Jain, & Baliga, 2016), and maternal employment status (Tarrant, Younger, Sheridan-Pereira, White, & Kearney, 2010) as factors that negatively impact maternal capacity to sustain breastfeeding practices.

*Maternal agency* is another key attribute of maternal autonomy in the context of breastfeeding (Hirani & Olson, 2016). The role of maternal agency in enabling mothers to make choices and decisions from the available options is well acknowledged in the literature (Cassidy & Tom, 2015; Fineman, 2004; Reece, 2008). This study reflects that in the context of disaster relief camps, maternal factors (capabilities in the internal environment) such as decision-making utilized strategies to re-establish breastmilk supply, and planning surrounding breastfeeding strengthened maternal agency, thereby enabling displaced mothers to make appropriate breastfeeding decisions in view of their internal and external circumstances. In this study, the

maternal agency was enabling displaced mothers to make situation-specific decisions based on environmental circumstances. Mothers who initially switched to a breast-milk substitute due to lesser capabilities and more barriers in their environment tried to gain control over their circumstances by using a variety of strategies to re-establish their breastmilk supply, hence used their agency to sustain their breastfeeding practices and demonstrate autonomy in breastfeeding. This study further indicated that maternal attributes such as young age, shyness, hesitation to breastfeed, subsequent pregnancy, employment, and inadequate knowledge about breastfeeding had negative effects on the maternal agency, thereby increasing mothers' reliance on their external environment to avail need-based support and assistance towards their breastfeeding practices. This highlights that capabilities (facilitators) in mothers' external environment are essential in strengthening the internal environment of displaced mothers who wish to sustain their breastfeeding practices during disaster, displacement, and settlement in a variety of temporary housing (disaster relief camps).

*Independence* is another attribute of maternal autonomy in the context of breastfeeding (Hirani & Olson, 2016). Independence refers to mothers' ability to practice freedom surrounding their breastfeeding decisions (Fineman, 2004; Hausman, 2013; Waltz, 2014). In the cultural context of Chitral, although women were not the primary decision-makers, their gender role expectations as the child's primary caregiver provided an opportunity to practice independent decision-making surrounding their breastfeeding practices. In this study, displaced mothers' independence in making breastfeeding decisions was evident in the form of a wide range of breastfeeding practices i.e. exclusive breastfeeding, breastfeeding combined with breast-milk substitute, and exclusive use of breast-milk substitute. Mothers often switched from one method of child feeding to another by making independent feeding decisions. In this study displaced

mothers who sustained their breastfeeding during a disaster, displacement, and settlement in disaster relief camps demonstrated independence by planning to breastfeed their children and using a variety of strategies to sustain their breastfeeding.

The findings concerning maternal factors further revealed that displaced mothers were using *ethical reasoning* to make informed decisions surrounding their nutrition, childcare, and breastfeeding practices. Ethical reasoning as one of the attributes of maternal autonomy in the context of breastfeeding (Hirani & Olson, 2016), refers to mothers' autonomous decision-making considering the best interest of own selves and children (Shaw, 2004) and their ability to pursue an ethically-sound decision, regardless of if it is against societal values, cultural norms, or health-care advice (Kukla, 2006). For instance, in this study considering non-availability of adequate resources and food items, many participants were making informed decisions to skip meals or eat limited food to be able to feed their older children, elderly people in their family, and male members who were working in the fields during the day. Although this decision resulted in mothers experiencing prolonged hunger and not sustaining breastfeeding due to compromised nutritional status, displaced mothers expressed contentment with their decisions that were in the best interest of their immediate family members. Moreover, this study further reflects that displaced mothers were considering risks, benefits, cost, feasibility, accessibility, and contextual acceptability of breast-milk alternatives, hence were basing their breastfeeding decision on their ethical reasoning.

***Socio-cultural factors affecting capabilities and functioning.*** As one of the components of the external environment (mesosystem), in this study the influence of socio-cultural factors was evident on breastfeeding functioning, decisions, behaviors, and practices of displaced



mothers residing in the disaster relief camps. Both positive and negative aspects of culture were evident in the lives of displaced mothers who wished to sustain their breastfeeding practices.

The presence of support from the formal and informal social network served as capabilities for the displaced mothers. In this study, displaced mothers were highly reliant on the social support offered from their immediate family members, health care providers, relatives, and neighboring villagers. Literature also acknowledges that the biggest sources of emotional, tangible, and informational support for breastfeeding mothers are their formal and informal social networks (Gill, 2001; Raj & Plichta, 1998; Hong, Callister, & Schwartz, 2003; Riordan & Gill-Hopple, 2001). Findings reflected that non-availability of support from people in the social network and limited avenues to avail social support were minimizing capabilities and affecting maternal agency, independence, and control in breastfeeding (valuable functioning). In this study, displaced mothers who lacked these capabilities reported insufficient knowledge about breastfeeding, challenging transition, compromised nutritional status, and difficulties in sustaining their breastfeeding practices. During the period of disaster and displacement, disruption in the social support network is reported to affect displaced mothers' functioning surrounding breastfeeding (Gribble et al., 2011).

In this study, maintenance of social ties with informal social networks was serving as a buffer for displaced mothers during the stressful time of disaster, displacement, and settlement in the relief camps. In the cultural context of Chitral, where women are expected to take care of various responsibilities in and outside their homes, support from informal social network as a key capability was strengthening maternal agency to manage household chores and childcare responsibilities. In this study, informal support from the experienced women in the family was strengthening maternal agency and increasing maternal functioning surrounding their

breastfeeding practices. First-time mothers and young mothers who had limited knowledge about breastfeeding were not only seeking breastfeeding advice from experienced women in their immediate social network but were also reliant on support from them to fulfill their gender roles and responsibilities. Previous studies undertaken with breastfeeding mothers in Pakistan also suggested similar findings. Social support in the form of constant advice from informal social networks, including grandmothers and experienced mothers in the extended family system is reported to boost Pakistani mothers' confidence surrounding infant feeding practices (Ingram, Johnson, & Hamid, 2003; Sarwar, 2002).

In this study, non-availability or inaccessibility to healthcare providers constrained mothers' capacity to overcome challenges surrounding their breastfeeding practices, mainly insufficient breastmilk supply. The findings of this study reflected that availability of avenues to avail support from formal social networks, especially breastfeeding counselling, could have had positive effects on displaced mothers' health and functioning, as well as physical, mental, emotional, spiritual, and social well-being. Evidence from the literature suggests the importance of formal support for breastfeeding mothers. Formal support in the form of one-on-one breastfeeding counselling is reported to promote, protect, and support breastfeeding practices of mothers (Bhandari et al., 2005; Bica & Giugliani, 2014; de Oliveira, Giugliani, do Espírito Santo & Nunes, 2014; Ochola, Labadarios & Nduati, 2013). Formal support facilitates breastfeeding mothers to share concerns surrounding their infant feeding and seek practical assistance for encountered breastfeeding issues (Lauwers & Swisher, 2015; Lawrence & Lawrence, 2010). It further empowers breastfeeding mothers by enhancing their confidence level, knowledge, self-efficacy, decision-making, and breastfeeding management skills (Lauwers & Swisher, 2015).

The 'setting' determines the extent to which mothers can demonstrate their agency and autonomy in breastfeeding (Bloom et al., 2001; Hausman, 2004). Presence or absence of privacy, people's attitudes towards breastfeeding, and acceptance of breastfeeding in the setting are reported to hold considerable influence on breastfeeding practices (Hausman, 2004; Schmied & Lupton, 2001). In this study, the breastfeeding culture in the village (as a capability in the external environment) was promoting maternal agency to sustain their breastfeeding practices for up to three years. In view of this cultural practice, displaced mothers were offered nutritious food, breastfeeding guidance, and assistance in household chores by their mothers-in-law, sisters-in-law, and neighbours that facilitated their capabilities and functioning surrounding breastfeeding. Despite the existence of gender disparity surrounding child feeding practices in other parts of Pakistan and in the South-Asian context (Fledderjohann et al., 2014; Jatrana, 2003; Miller, 1997), the findings suggested breastfeeding was viewed as the best feeding option for both genders, hence breastfeeding culture was serving as an avenue to maintain and promote gender equality. Besides strengthening displaced mothers' capabilities in the internal environment, it was also enabling them to use their agency, independence, control, and ethical reasoning surrounding their breastfeeding decisions regardless of their child's gender. The role of breastfeeding culture during natural disasters is well acknowledged in literature as an avenue to promote the health and well-being of the mother-child dyad (Wolf, 2008).

The findings suggested an absence of privacy as a major barrier toward valuable functioning and increasing vulnerability of the displaced mothers. Mothers who had no privacy to breastfeed not only experienced stress and psychological aftermaths of disaster but also experienced a negative impact on their breastmilk supply. The findings and recommendation from participants suggested the importance of breastfeeding-friendly housing (in disaster relief

camps) and avenues for the displaced mothers that are gender-sensitive as capabilities in the external environment that can promote maternal functioning surrounding breastfeeding. The findings also suggested that the availability of capabilities such as privacy and a safe space for breastfeeding mothers can promote their independence to sustain their breastfeeding practices and goals in the context of disaster relief. Previously undertaken studies with displaced Pakistani mothers in flood-affected districts (Bukhari & Rizvi, 2015) and Sindh province (Maheen & Hoban, 2017) also reported that lack of adequate privacy for women in shelters and disaster relief camps had negatively affected their health, well-being, and safety. The literature further highlights the importance of privacy and safe spaces during disasters to facilitate mothers to make autonomous decisions toward their breastfeeding practices and improve their functioning (Ayoya et al., 2013; Brown, 2015; Bukhari & Rizvi, 2015; Gribble et al., 2011; Maheen & Hoban, 2017). Considering the role of privacy and safe space, the literature identifies a breastfeeding tent as a space where mothers can avail privacy and one-to-one breastfeeding counselling from healthcare professionals (Ayoya et al., 2013; UNICEF, 2010c).

In this study, various cultural myths, beliefs, and practices surrounding child feeding were, directly and indirectly, affecting maternal agency surrounding breastfeeding. In the context of Chitral where avenues to access health care support were limited, spiritual healing and practices based on cultural beliefs and practices were preferred. Family members, community people, and spiritual healers in the social network of mothers were the key providers of these practices. In this study displaced mothers who could not sustain their breastfeeding practices wished to receive spiritual support. Although the interrelationship and effects of spiritual rituals on breastfeeding practices are unclear, spiritual practices are viewed as avenues to promote mental relaxation and socialization during the stressful period of disaster and displacement. Several

studies undertaken with survivors of disaster acknowledge that spirituality, spiritual practices, and faith-based interventions facilitate in building resilience, enhancing coping, and promoting reintegration of survivors of disaster into normal life (Alawiyah, Bell, Pyles, & Runnels, 2011; Jang & LaMendola, 2007; Jang & Wang, 2009; Lawson & Thomas, 2007; Ramsay, Manderson, & Smith, 2010; Subandi, Achmad, Kurniati, & Febri, 2014).

***Economic factors affecting capabilities and functioning.*** Economic factors that were serving as capabilities for the displaced mothers and promoting their functioning surrounding their breastfeeding were ‘cost-effectiveness of breastfeeding’ and ‘resources’ (such as a damaged house, cattle who survived the disaster, and money) available to the displaced community. Literature acknowledges the cost-effectiveness and perceived benefits of breastfeeding as a pursuing factor that promotes, protects, and supports breastfeeding practices, especially in resource-limited settings and low-socioeconomic groups (Neault et al., 2007; Rollins et al., 2016). Although specific factors shaping the breastfeeding choices of mothers living in poverty is unclear, evidence suggests that mothers living in poverty are reported to have a higher chance of breastfeeding as compared to their counterparts (Vanderlinden, Levecque, & Rossem, 2015).

In this study, loss of resources and economic constraints after major disaster shaped the breastfeeding decisions and practices of displaced mothers in many ways. Although the resources available to the displaced families were not enough to meet their basic needs, many mothers were still sustaining their breastfeeding practices (achieving valuable functioning) considering the cost-effectiveness of breastfeeding and the limited resources available to them. Economic hardships following disaster contributed to overcrowded living conditions and precarious housing situations where there was no privacy or safe space to breastfeed, hence there were more environmental challenges surrounding breastfeeding practices that were minimizing

maternal capabilities. The findings reflected that displaced mothers who continued to breastfeed while living in precarious housing (mountains, tent, overcrowded shelter, or unstable mud-brick based house) analyzed the ‘benefits of breastfeeding’ and cost associated with ‘breast-milk substitutes and related resources’ (supplies such as feeding bottle, clean water, and nipple). Hence, displaced mothers based their decision on sound reasoning, used their agency, and relied on their capabilities (within the internal and external environment) to pursue an autonomous decision surrounding their breastfeeding practices. The findings further suggested that displaced mothers were using their economic circumstances and resources (endowment) as a frame of reference but relying on their capabilities, agency, and ethical reasoning to make breastfeeding decisions in the best interest of their children and family. This finding relates to Sen’s capability approach in which he argues that material resources are not respected to achieve valuable functioning and well-being, rather it is the capabilities that lead to valuable functioning (Clark, 2005). As poverty and economic hardships hold serious long-term consequences and intergenerational effects on the health, well-being, and nutritional status of women and children (Behrman et al., 2017; Merchant & Kurz, 2018), the findings also suggest the need to invest in increasing the capabilities of displaced mothers and their families for better quality of their lives. The role of economic development and skill-building programs targeting displaced women and their family members is viewed as crucial in breaking the intergenerational cycle of poverty and resultant health issues among a vulnerable group of women and children (Leigh & Blakely, 2016; Rollins et al., 2016).

***Geopolitical factors affecting capabilities and functioning.*** Geopolitical factors were both positively and negatively affecting maternal capabilities and functioning. In this study, the miseries and increased precarity of displaced mothers due to the detrimental effects of climate

change (mainly recurrent disasters in the region) were diminishing their capabilities (within the internal and external environment) and were affecting maternal well-being and functioning surrounding breastfeeding. In this study, recurrent disasters were forcing mothers to face frequent transitions in their lives that were undesirable and challenging. No doubt, pregnancy, childbirth, and breastfeeding are a few of the transitions in women's lives (Miller & Tina, 2005). In this study, mothers were encountering additional transitions and stressors during those sensitive times of life because of recurrent disasters, frequent displacement, and settlement in a variety of temporary housing (relative's house, tents, huts, transitional shelter, and mud-brick based house). Recurrent disasters were contributing to increased risks and vulnerabilities in the lives of women and affecting their agency to make autonomous feeding decisions. During disasters, displaced mothers with young children were unable to avail basic rights, including breastfeeding their children at a safe place, accessing healthcare facilities and social services, and living with their immediate family members. Literature highlights similar challenges in the lives of displaced mothers during the period of disaster, displacement, and their settlement in a variety of temporary housing (Ashraf & Azad, 2015; Brunson, 2017; Hirani & Richter, 2019; Maheen & Hoban, 2017; MirMohamadalile et al., 2019).

Humanitarian aid and efforts of relief agencies (before, during, and after the emergency evacuation) were capabilities that facilitated survival, health, and well-being of the displaced mothers and their family members. Mothers who had minimal or no access to these capabilities were less prepared to cope with disaster and displacement, hence revealed challenging transition, compromised health, psychological aftermaths of disaster, and compromised nutritional status that negatively affected their breastfeeding practices. Findings suggested various pitfalls surrounding humanitarian aid that increased vulnerability and negatively affected maternal

agency and their functioning surrounding breastfeeding. Although various relief agencies executed distribution of aid in the form of temporary housing, food, and non-food items, this aid was inaccessible to many displaced mothers due to systemic injustices and gender insensitivities. Literature concurs similar issues, as it is reported that humanitarian aid often neglects the notion of cultural and gender-sensitive services, does not always reach the intended communities, and is often not equitable (Palmer & Zwi, 1998) which further increases the vulnerability of displaced women and children (Bwerinofa & Chiweshe, 2017; Nunn & Qian, 2014). In this study, there were families who received support from multiple relief/donor agencies and other families who did not receive any aid as they were not in direct contact with the donor agencies or held less powerful positions in their communities.

The findings further reflected that the aid did not include feminine hygiene kits that could have assisted women to look after their personal hygiene in general, especially during menstruation. In this study, families that were not allocated a transitional shelter or tent on a timely basis had to live in damaged houses with limited privacy and safety. This further increased the vulnerability of displaced mothers and affected their agency surrounding their breastfeeding decisions and practices. Moreover, the processes of execution and distribution of humanitarian aid were not providing equal opportunities to the displaced mothers to receive humanitarian aid, services, or assistance. Literature underscore that injustices and gender insensitivities in distribution of aid increases women's vulnerability towards disaster and negatively affects their preparedness and capacity to look after their child care responsibilities, including breastfeeding (Ashraf & Azad, 2015; Grown, Addison, & Tarp, 2016; Hirani & Richter, 2019; Siahaan & Tambunan, 2016; Richter, 2011).



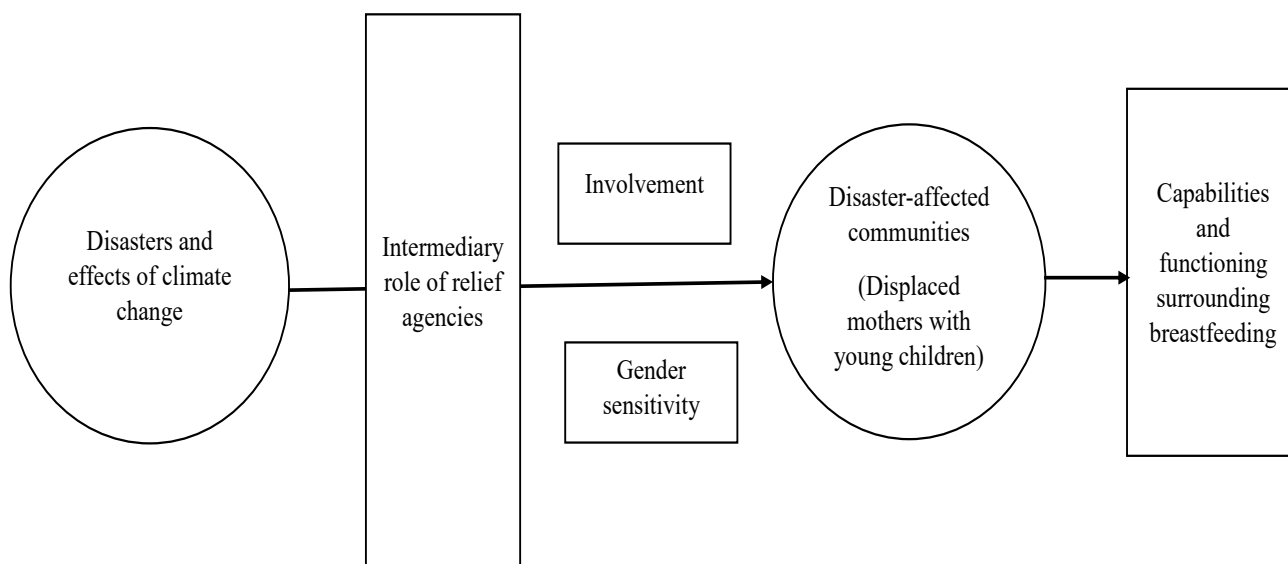
The short-term nature of humanitarian aid (food and non-food items) was another challenge that was leading to food insecurity, mental distress, and challenging transition among displaced mothers, and was negatively affecting the breastfeeding practise of displaced mothers who wished to sustain their breastfeeding practices. In the context of Chitral, where recurrent disasters are prevalent, humanitarian aid lacked context-specific interventions and need-based support for the disaster-affected families, especially for mothers and young children. Literature underscores that traditional humanitarian responses that lack need-based services and context-specific interventions increase vulnerability and jeopardize the well-being and safety of displaced women and children (Clarke & Campbell, 2015; Clarke & Herbst, 2018; Nidzvetska et al., 2017).

In this study, another concern related to humanitarian aid was the unmonitored distribution of powdered milk without proper instructions and guidance that further increased vulnerability, negatively affected maternal agency, and minimized functioning. The narratives of participants revealed that disaster-affected families received powdered milk without any instructions. Although displaced mothers mainly utilized the powdered milk to prepare tea (cultural drink), they sometimes fed the powdered milk to their infants as a breast-milk substitute. Mothers who had limited knowledge of how to prepare and use powdered milk reported water-borne diseases among their infants and an increase in the economic and emotional burden of caring for a sick child while managing other responsibilities. Previous studies also highlight similar issues surrounding distribution of free formula milk to displaced mothers that negatively affect the health and well-being of the mother-child dyad (Binns et al., 2012; Branca & Schultink, 2016; Carothers & Gribble, 2014; Eidelman, 2013; Gribble, 2005; Gribble, 2013; Hargest-Slade & Gribble, 2015).

Another reported pitfall of humanitarian assistance is the narrow scope of interventions and inadequate attention to the long-term development of the displaced people (Coyne, 2013; Olorunfoba & Gray, 2006). The findings suggested the importance of a collaborative approach among local, national, and international relief agencies in undertaking proper planning surrounding scope, design, and distribution of humanitarian aid. Moreover, strategies to assure proper monitoring and evaluation of the process of aid distribution are essential to overcome the issues of systemic injustices and gender insensitivities of humanitarian aid.

The role of the relief agency was another capability that was shaping maternal agency and functioning surrounding their breastfeeding practices. Literature highlights that during the period of disaster and displacement, relief agencies play multiple roles as informants and distributor (Chakraborty, Thapa, & Majchrzak, 2018), provider of relief and services (Hanafi, Hilal, & Takkenberg, 2014), the world's caregiver in health crises (Hayden, 2015), mediator connecting donors and victims (Waters, 2018), and the provider of development-oriented services (Demusz, 1998). A close examination of the findings reflects that relief agencies were playing an 'intermediary role' during the period of disaster by fulfilling the basic needs of the disaster-affected communities. Recommendations from the participants reflected that relief agencies' involvement and gender-sensitivity in their approach are vital in enhancing maternal functioning surrounding their breastfeeding decisions and practices. Here, involvement refers to the maintenance of close contact, time spent with them to understand their needs, cultural sensitivity, and provision of need-based support. Gender-sensitivity refers to creating avenues for displaced mothers to promote their health and protect their breastfeeding practices. Figure 16 explains the potential contribution of relief agencies in enhancing capabilities and functioning surrounding breastfeeding.

**Figure 16. Intermediary role of relief agencies in increasing capabilities and functioning surrounding breastfeeding**



Efforts of relief agencies in providing weather alerts, facilitating emergency evacuation, distributing humanitarian aid (food and non-food items), and looking after the settlement of disaster-affected communities in temporary housing (tents and transitional angle iron shelters) were promoting capabilities of the affected communities by meeting their basic needs. In this study, weather-proof angle iron shelters (refer to Figure 8) that were insulated, compact, spacious, and had a built-in washroom met the housing need of many disaster-affected families and provided a safe place for displaced mothers to breastfeed in privacy. Literature underscores the role of disaster relief shelters in meeting the immediate housing needs of the affected families, facilitating recovery from the physical and psychological trauma of disaster, and providing an avenue for displaced families to rehabilitate (Bashawri, Garrity, & Moodley, 2014). In this study, inequitable distribution and injustices surrounding allocation of the temporary housing was evident. Literature highlights similar issues surrounding the allocation of temporary

housing to the disaster-affected families. It is reported that temporary housing programs by governmental and non-governmental agencies often present with issues surrounding non-availability of materials and manpower, cost constraints, delays in allocation, poor location selection, and poor designs leading to substandard living conditions (Bashawri et al., 2014; Johnson, 2007). These issues are attributed to ad hoc planning undertaken during and after a chaotic period of disaster (Johnson, 2007). The findings further suggested that displaced mothers who were not allocated any kind of temporary housing demonstrated affected well-being and limited functioning surrounding their breastfeeding practices. Considering the crucial role of temporary housing programs on the health, well-being, and quality of life of the disaster-affected families, the literature highlights the importance of having pre-disaster strategic planning, a collaborative approach among relief agencies, and an in-depth examination of environmental, economic, technical, and socio-cultural factors to overcome such challenges (Bashawri et al., 2014; Johnson, 2007).

### **Strengths of this Study**

This critical ethnographic study was conducted in collaboration with the local community-based relief organization, the Aga Khan Agency for Habitat, Pakistan, that provided an avenue to gain access to the experiences of displaced mothers residing in a variety of disaster relief camps i.e. transitional shelters, tents, huts, and mud-brick based kutchha houses in Chitral, Pakistan. My own positionality as a Pakistani female who knows the Pakistani cultural and communicates in the national language of Pakistan (Urdu), as well as the involvement of a local female Chitral community mobilizer who has a sound understanding of local languages and context, facilitated and navigated the challenges related to language comprehension and cultural interpretation during the fieldwork. Moreover, during the fieldwork, this collaboration facilitated gaining

access to a variety of information, such as the background of the shelter program, facilities available in the community, political context of the region, and cultural norms of the community. It also supported validating the data gathered through field observation and in-depth interviews with participants.

This study was conducted in four villages of Chitral, Pakistan that were ethnically, economically and religiously diverse. Moreover, in each of these villages, there was diversity in the type of disaster relief camps (temporary housing) where displaced mothers were residing. This provided an opportunity to uncover a wide range of facilitators and barriers to the breastfeeding practices of displaced mothers and to validate the findings with participants who had diverse demographic characteristics, including diverse ages, religious backgrounds, ethnicities, housing, and living conditions. Moreover, to enhance the richness of the data, in this study efforts were made to triangulate data by using multiple methods of data collection, including field observation, in-depth interviews, and document analysis.

### **Limitations of this Study**

Due to unstable roads in the northern region, volatile political circumstances, and active disasters as well as prioritizing and caring for my own personal safety, I could not collect data from villages in the upper Chitral and other northern regions of Pakistan that are also severely affected by natural disasters. The scope of this study was to include displaced mothers who were residing in a variety of disaster relief camps at the time of fieldwork. To prevent recall bias, mothers who have returned to stable houses and those who have never lived in disaster relief camps were excluded. This exclusion criterion may have potentially affected the richness of the data. In the northern region of Pakistan, there are various underserved areas and zones where many families affected by armed conflicts are living in relief camps. In view of the political

situations and safety issues, this scope of this study was limited to communities affected by natural disaster and residing in a variety of disaster relief camps.

In ethnographic research, a researcher is expected to fully immerse into the culture for a prolonged time period. However, in view of the active disaster in the region, the risk of political instability, and the non-availability of safe accommodation (hotel or motel) in the villages (field sites where disaster relief camps were located), I had to limit my stay in the field to seven to eight hours per day and travel back to Chitral city to a safe location (hotel). Moreover, in view of the environmental risks (including, landslides during my road travel to villages having a disaster-affected community, recurrent earthquake tremors of more than five on the Richter scale, risks of massive destruction of roads and/or airport in the case of aftershocks, extended hours of travel i.e. four to six hours per day through an unstable mountainous region, and non-availability of health care services in case of injury or sickness), after gathering sufficient data from in-depth interviews and field observations I left Chitral and moved to Karachi, under the consideration of guidance from my thesis committee. Although I maintained a prolonged engagement with the humanitarian relief agency and continued gathering data before and after my fieldwork in Chitral (for six months), I acknowledge that an extended stay in each of the identified villages in Chitral may have further enhanced the depth and breadth of this study.

Although most of the study participants understood Urdu (the national language of Pakistan and the medium of the interview), a few of the participants were more comfortable responding in their local language. Being a partial insider and outsider, I was unable to fully understand the local language (Khowar) so I sought the assistance of the community mobilizer to undertake interpretation of the responses from the participants during the in-depth interviews. I decided to go with interpretation instead of translation considering a variety of reasons, mainly

due to non-availability of a transcriber who can first transcribe in local language and then translate it to Urdu/English and the nature of data collection in a setting where prolonged engagement or regular contacts with each of the participants was not possible due to environmental issues (recurrent earthquakes, unstable roads, and extended travel time to access participants residing in a variety of temporary housing located on isolated lands or hills) and the cost involved in accessing the participants living in the mountainous region of Chitral. Although during the in-depth interviews I validated the interpreted information from participants in my subsequent questions during the interview process, there are chances of interpretation errors during the interview process, especially with the participants who responded in their local language.

### **Conclusion**

To conclude, the theoretical perspective of critical realism provided grounds for the exploration of a range of factors that shape the breastfeeding experiences and practices of displaced mothers residing in disaster relief camps. In view of the theoretical perspective of the capability approach, this chapter presented the discussion surrounding the analyzed facilitators (capabilities) and barriers within the internal and external environment of displaced mothers that were affecting their functioning surrounding their breastfeeding practices. Moreover, this chapter presented the role of conversion factors (maternal, socio-cultural, economic, and geopolitical factors) that were shaping the breastfeeding experiences and practices of displaced mothers residing in a variety of temporary housing (disaster relief camps). The role of capabilities, functioning, and agency in enhancing maternal autonomy in breastfeeding and their interrelationship is discussed in the context of disaster and displacement. The presented interconnection between the conversion factors and their effects on breastfeeding practices is

supported in the literature, mainly empirical studies undertaken with breastfeeding mothers in a diverse context. This chapter concludes with an acknowledgment of the strengths and limitations of this critical ethnographic study undertaken with displaced mothers residing in a variety of temporary housing (disaster relief camps).



## **Chapter 6: Recommendations, Knowledge Translation, and Conclusion**

This chapter presents recommendations for the practice and education settings and future research, as well as for strategic policies that promote, protect, and support breastfeeding practices during a disaster, displacement, and settlement in disaster relief camps. Additionally, this chapter presents the plan for knowledge translation and the conclusion.

### **Recommendations**

Recommendations are proposed for practice, education, future research, and policies to better support the breastfeeding practices of displaced mothers and reduce infant mortality rates during disasters and displacements.

#### **Recommendations for Practice Setting**

The theoretical perspectives of this study (ontological assumption of critical realism and capability approach) provided philosophical foundations to uncover a range of facilitators and barriers, and as a next step facilitated an examination of a dynamic association between maternal agency and contextual factors (maternal, socio-cultural, economic, and geopolitical) affecting breastfeeding practices. The findings of this critical ethnographic study suggested a need for interdisciplinary and multilayered interventions to promote, protect, and support the breastfeeding practices of displaced mothers residing in a variety of temporary housing. In view of the theoretical perspective of the capability approach, the aim of the suggested recommendations is to increase the capabilities and functioning of displaced mothers, as well as to strengthen maternal agency and autonomy surrounding their breastfeeding practices. The recommendations for practice setting are as follows:

**Interventions at the level of displaced mothers.** The recommendations at the level of displaced mothers surround breastfeeding and child care counselling, maternal nutrition, and maternal mental health.

***Breastfeeding and child care counselling.*** The findings of this study reflect the need to counsel displaced mothers on various aspects of breastfeeding management, specifically frequency of breastfeeding (eight to 10 times per day), feeding cues, breastfeeding positioning, and the dangers of using breast-milk substitutes (water, cow's milk, formula milk, or tea) during the initial six months of a child's life. In Chitral, where recurrent disasters are common, mothers can be offered breastfeeding and child care counselling as part of their prenatal training and be equipped with strategies to sustain their breastfeeding practices in case of major disaster and subsequent homelessness.

In the setting of disaster relief camps where mothers have diverse needs and varied knowledge about breastfeeding and child care, efforts must be made to offer them free one-on-one, need-based breastfeeding and child care counselling by trained professionals (such as health care professionals, a lactation consultant, and/or early child development professionals). It is imperative that these trained professionals have sound knowledge about breastfeeding and child health and provide culturally sensitive care to the displaced mothers. These professionals must maintain follow-up with mothers of young children to provide them with timely and need-based breastfeeding support, assess the need for referral, and identify the need for breast-milk substitutes if other options do not work. During the active period of disaster in case the trained professionals cannot access displaced mothers, a helpline or telehealth facilities could be established to provide timely guidance to displaced mothers on matters surrounding breastfeeding and child care.

**Maternal nutrition.** During disaster and displacement when several gender-based, socio-cultural, economic, and geopolitical factors affect maternal nutrition and many displaced women (especially breastfeeding and pregnant mothers) experience prolonged periods of hunger, programs must be in place to promote maternal nutritional status. As breastfeeding mothers require 200 more calories per day than pregnant women (Reifsnider & Gill, 2000), special emphasis must be placed on maternal nutrition to restore the health and well-being of breastfeeding mothers.

During disaster, displacement, and settlement of mothers in disaster relief camps, maternal nutritional status can be restored by identifying families with breastfeeding mothers, undertaking a household food insecurity assessment, and assessing maternal nutritional status. Additional interventions can include allocating additional rations (a good source of protein, iron, calcium, and multivitamins) for displaced mothers with young babies, and providing dietary supplements (folic acid, vitamin C, zinc, and vitamin B) to mothers who have micronutrient deficiencies or do not have access to a balanced diet. Moreover, meal replacement supplement drinks can be offered to breastfeeding mothers who are experiencing malnutrition, are at risk of malnutrition, do not have access to prepared food, or are facing food insecurity during the period of disaster, emergency evacuation, displacement, and settlement in the relief camps.

**Maternal mental health.** As findings revealed that displaced mothers were experiencing various psychological aftermaths of disaster and displacement, attention must be paid to provide free of cost mental health services to displaced mothers residing in disaster relief camps. A few of the recommended strategies that can facilitate displaced mothers to recover from post-traumatic stress disorder are debriefing sessions and mental health counselling sessions by trained psychologists, healthcare providers, or community volunteers. Mothers showing the

symptoms of postnatal depression, post-traumatic stress disorder, or other mental illnesses must have access to psychiatrists and should be able to avail free treatment without any stigmatization. Regular follow-up must be maintained with mothers who require medications to treat mental illness. In Chitral, where women have limited opportunity to socialize and consider neighbours as the greatest source of their informal support, recreational or cultural events must be organized in their neighbourhood where women can socialize, vent their feelings, and form support groups.

**Interventions at the socio-cultural level.** The recommendations at the socio-cultural level include a well-being camp, empowerment of the local people, women/breastfeeding-friendly spaces, spaces for prayers and religious rituals, and promotion of breastfeeding culture.

***Well-being camps.*** During the time of disaster and displacement mothers must have access to preventive, curative, and rehabilitative services in *well-being camps* run by a team of multidisciplinary and interdisciplinary professionals, including lactation consultants, physicians, nurses, lady health visitors/workers, psychologists, psychiatrists, nutritionists, and early child development workers etc. Accessibility and availability of these services will foster all aspects of health and well-being of displaced mothers who wish to sustain their breastfeeding practices and have been facing barriers such as limited knowledge about breastfeeding and child care, insufficient breastmilk production, compromised nutritional status, physical injury during emergency evacuation, mental health issues, and sickness.

***Empowerment of local people.*** The affected community must be involved as a partner by empowering and training local people. Empowerment of the local people will serve as an asset for the community during the event of disaster and emergency evacuation. Moreover, they will serve as an avenue through whom breastfeeding mothers will receive culturally sensitive care in their local language. In the cultural context of Chitral where health units are often inaccessible

and unaffordable, to promote the well-being of displaced mothers, women from the local context should be trained as certified doulas and breastfeeding counsellors. Governmental and non-profit organizations must hire locally-trained women to conduct regular home visits to the displaced mothers for providing breastfeeding support, attending childbirth, undertaking postnatal checkups, offering guidance surrounding child care, maintaining regular follow-ups with mothers, and setting referrals (if required) after coordinating with the local health units.

***Women and breastfeeding-friendly spaces.*** During disaster and displacement, women and breastfeeding friendly spaces, for example breastfeeding tents, is an option where mothers can breastfeed in privacy without any fear, embarrassment, discomfort, or hesitation. These spaces must be comfortable, safe, and exclusive for mothers with young babies. Moreover, there must be female-friendly bathing spaces with a warm water supply for the women living in disaster relief camps, where they can take care of their personal hygiene, especially during menstruation and after childbirth. Separate mobile toilets and bathing spaces for men and women must be installed for the disaster-affected families living in tents or in overcrowded shelters.

***Spaces for prayers and religious rituals.*** Spaces for prayers and religious rituals are essential to promote the mental, emotional, social, and spiritual well-being of the disaster-affected community, especially for breastfeeding mothers who view prayers and religious rituals as facilitators to their breastfeeding practices. Religious beliefs and rituals of the displaced community/families must be respected at all times without any prejudice and stigmatization. Safe, accessible, and clean spaces for the displaced community/families where they can offer prayers and undertake religious rituals without any restrictions, is important. In view of the religious ideology of the displaced families, spiritual and religious leaders must be involved as

key stakeholders. Disaster-affected families must be encouraged to seek spiritual support during the stressful time of disaster and displacement.

***Promotion of breastfeeding culture.*** In view of the identified barriers to the breastfeeding of displaced mothers, a culture of breastfeeding must be promoted through various avenues, such as women-to-women chat sessions in the neighbourhood, use of flyers in the local language, announcements in prayer halls, home visits to the disaster-affected families, and mass media (radio, television, and newspaper). Promoting breastfeeding culture is important and raising community awareness of both the consequences of various breast-milk substitutes (cow's milk, tea, and formula milk) and the benefits of breastmilk, to clarify any myths and misconceptions about breastfeeding in general and during a disaster, is essential. Moreover, a variety of stakeholders (for example, religious leaders, community head, locally-trained community workers, and traditional birth attendants) can be involved in promoting a breastfeeding culture in the setting of disaster relief camps. Displaced mothers who sustain their breastfeeding practices must be appreciated and presented with an incentive.

**Interventions for the economic well-being of displaced families and communities.** In view of the direct and indirect effects of economic factors on breastfeeding practices of displaced mothers, recommendations to improve the economic well-being of displaced families and communities include financial literacy programs, economic skill-building training, microcredit programs and loans, and employment opportunities.

***Financial literacy.*** As many disaster-affected communities in Chitral are still at risk of subsequent disaster and related damage to their assets (fields, crops, mud-brick based houses/shelters, valuables, and cattle), a financial literacy program must be offered to these families. Financial literacy will facilitate disaster-affected families to make informed and

effective financial decisions with their currently available financial resources and future investments, hence respond better to any uncertainty.

***Economic skill-building training.*** To overcome a few of the economic barriers affecting breastfeeding, both men and women in the disaster-affected community must be offered economic skill-building training. This training will empower the disaster-affected communities to learn new skills, identify possible avenues of livelihood, and contribute to the economic upliftment of the family.

***Microcredit programs.*** To facilitate the disaster-affected community to recover from the massive financial losses, microcredit programs at low interest rates can be offered to disaster-affected families by governmental and non-profit organizations. These programs will facilitate the disaster-affected families to rebuild damaged houses, pursue education, and start or rebuild their businesses on a small scale. In Chitral, where women are pursuing higher education and participating in income generation activities, microcredit programs can further facilitate women to pursue technical education in various fields, run home-based businesses, and participate in raising the economic status of their families.

***Employment opportunities.*** Although the majority of the Chitrali population are agriculturists, the effects of climate change and recurrent disasters have badly damaged the agricultural land and source of livelihood of many families affected by disasters. There should be community development projects targeting economic upliftment of the disaster-affected community. Employment opportunities should be created by local, provincial, and federal governments for both men and women (within villages, local institutions, industries, and governmental agencies) to facilitate displaced families to uplift their economic status after disaster and other uncertainties.

**Interventions targeting the geopolitical environment of displaced mothers.** The recommendations targeting the geopolitical environment of displaced mothers include emergency preparedness, response, and recovery; thoughtful, equitable, and context-specific humanitarian aid; healthcare units and telehealth facilities; the availability of safe drinking water and supplies; restricted donation of formula; and the inclusion of breastfeeding content in training offered to relief workers.

*Emergency preparedness, response, and recovery.* Considering the risk of subsequent disaster in Chitral, there should be a well-thought-out disaster management plan with clear steps on emergency preparedness, response, and recovery. Disaster-affected communities should be prepared for emergency evacuation through mock exercises. It is essential to identify safe places and communicate to the community possible ways of evacuation during a disaster to promote their cooperation and reduce their stress levels at the time of an emergency evacuation. Plans regarding disaster response need to be strategized in coordination with the communities at risk of disaster. Volunteer recruitment from the community to execute the plans in case of disaster is essential. It is vital to raise the awareness of the disaster-prone community of the possible risks of disaster through a wide range of avenues (for example, announcements in the prayer hall, media, and mobile messages). Considering the vulnerability of women and young children, a separate protocol of emergency response for saving the lives of this vulnerable group and recovering them from the physical injuries and psychological aftermaths of disasters is proposed. During the recovery phase, assisting families to identify land where they can place their tents or shelters is important. Families who decide to live in damaged houses need assistance in finding safe places for their temporary housing. To facilitate a smooth transition from emergency evacuation to settlement in the disaster relief camps, national and international relief agencies



need planning and implementation of resettlement strategies, created in collaboration with both men and women from the disaster-affected families.

***Thoughtful, equitable and context-specific humanitarian aid.*** Responding to the needs of the community during a disaster and emergency evacuation by government and non-profit humanitarian relief agencies is important to ensure the humanitarian aid is thoughtful, equitable, and context-specific. Involvement of the disaster-affected community (both men and women of different villages in Chitral) is needed in identifying supplies that are required during disaster, displacement, and settlement in the disaster relief camps. This approach will assure that the aid is timely, need-based, gender-sensitive, and culturally appropriate.

A systematic process of aid allocation to the displaced families is necessary. This will ensure that the aid is distributed in an equitable manner and there are no systematic injustices. Collaboration between the relief agencies (both national and international) is essential to design the systematic process of aid allocation in view of the needs of the displaced community. Various processes can be placed in collaboration with the key stakeholders to ensure allocation of aid to the displaced families (both accessible and inaccessible families) on a timely basis to ensure their survival and well-being. Monitoring and evaluation of the distributed aid must be undertaken collaboratively by the national and international relief agencies.

***Healthcare units and telehealth facilities.*** With the aim to promote health and improve well-being, government and non-profit organizations (national and international) must collaborate to open health care units and set up telehealth facilities for the disaster-affected communities. During the time of disaster, displacement, and settlement of the displaced communities in disaster relief camps, it is important that government and non-profit organizations offer health cards and vouchers to the disaster-affected families, especially to

displaced mothers who were offered referrals, so they can avail free-of-cost treatments by trained health care professionals in a variety of private sectors located in Pakistan.

***Availability of safe drinking water and supplies.*** During disaster and displacement, it is important that safe drinking water be made accessible to the families affected by the disaster, especially to the breastfeeding mothers. Mothers must have access to safe drinking water to produce enough breastmilk, breastfeed eight to 10 times per day, and prevent themselves from dehydration. In case infants require breastmilk alternatives (i.e. infant formula milk in special circumstances) the availability of safe drinking water and related supplies is important to boil and sterilize feeding bottles and nipples before and after every feed.

***Restricted donation of formula.*** It is essential that humanitarian relief agencies protect, promote, and support the breastfeeding practices of displaced mothers by restricting the donation of formula milk among disaster-affected families with young children. Formula or breast-milk substitutes should only be offered after a proper need assessment by a trained professional in the case when breastmilk is not available. This recommendation must be consistently followed by all governmental and non-profit humanitarian relief agencies.

***Inclusion of breastfeeding content in training offered to relief workers.*** Relief workers must receive training on child feeding in emergencies, with a focus on the importance of breastfeeding, the dangers of breast-milk substitutes, and resources in the local community that can be utilized to promote the breastfeeding practices of mothers. The emergency response team training for relief workers can include the importance of demonstrating cultural competency and a gender-sensitive approach while providing services in the setting of disaster relief camps.

## **Recommendations at the Policy Level**

*Policies targeting displaced mothers.* During the time of disaster and displacement, special attention must be placed on maternal nutrition. There must be a national level policy to improve the nutritional status of mothers of young children affected by disaster, displacement, and/or living in precarious housing in a disaster-prone zone. Moreover, there must be a national level policy to support breastfeeding practices during emergencies. In view of this policy, breastfeeding counselling must be made accessible to displaced mothers by using multiple avenues, i.e. formal or informal support and a face-to-face or virtual medium to promote, protect, and support the breastfeeding practices of mothers. There must be a country-level health policy to promote the health and well-being of displaced mothers affected by disaster and displacement. In view of this policy, collaboration between local, provincial, and federal governments, as well as non-governmental organizations and international agencies, must be encouraged to design and execute programs to promote the physical, mental, psychological, and spiritual well-being of displaced mothers.

*Policies targeting issues at the socio-cultural level.* There must be a local, provincial, and federal policy to support the privacy needs of breastfeeding mothers affected by disaster and displacement. In view of this policy, displaced mothers who wish to sustain their breastfeeding practices must be offered a baby-friendly space during the period of disaster, displacement, and settlement in the disaster relief camps/temporary housing. Additionally, local institutions working for disaster-affected families must have a policy to offer culturally-sensitive, gender-sensitive, and context-specific services to disaster-affected families. Considering this policy, all service providers (mainly relief agency workers and health care providers) must consider the socio-cultural beliefs, practices, and norms of the disaster-affected families, especially in

planning and executing a variety of programs for displaced mothers who wish to sustain their breastfeeding practices. Considering the religious and cultural diversity in Chitral, at the local and provincial levels there must be a policy to facilitate disaster-affected families and communities in undertaking religious rituals and in seeking spiritual healing in view of their cultural norms, beliefs, and practices surrounding breastfeeding. Considering the existence of covert oppression and gender insensitivities during the period of disaster and displacement, awareness raising campaigns must be initiated to promote the capabilities, functioning, and well-being of displaced mothers. Moreover, there must be a policy surrounding safeguarding the welfare, rights, and safety of displaced mothers affected by disaster and displacement.

***Policies targeting issues at the economic level.*** In view of the recurrent disasters in the region, there must be a country-level policy surrounding economic upliftment of the disaster-affected community. As per this policy, local, provincial, and federal governments must collaboratively provide avenues (microfinance institutions, skill-building programs, employment opportunities, and economic skill-building programs) for the economic development of the displaced families. In view of this policy, economic interventions must be thoughtfully planned and executed in light of the economic situation and cultural context of the displaced community.

***Policies targeting issues at the geopolitical level.*** Policies to promote, protect, and support breastfeeding during emergencies must be developed and consistently followed by all relief agencies. Collaboration between policy makers from the local, provincial, national, and international levels is vital in the planning and execution of policies to support breastfeeding during emergencies. Policies should be in place to prohibit free distribution of formula milk, breast-milk substitute, and feeding bottles to the disaster-affected community without a needs assessment and proper education administered by trained breastfeeding professionals. In view of

this policy, donated milk and dried milk to meet the dietary requirements of the adults must be carefully administered to the disaster-affected community. It is essential to inform and provide proper instructions (verbal and written instructions in the local language) to the disaster-affected families on restricting the use of dried milk and cow's milk to adults and children who are over 12 months of age.

### **Recommendations for the Education Setting**

As a wide range of factors shape the breastfeeding experiences of the displaced mothers and innovative solutions are required to overcome the barriers, educational settings must include courses on “disaster management and calls to innovation” at the baccalaureate, graduate, and post-graduate levels. This will build the capacity of students who are associated with diverse fields, such as nursing, medicine, public health, psychology, psychiatry, nutrition, early child development, media, anthropology, sociology, pharmaceutical industry, finance, management, engineering, and construction etc. Moreover, inclusion of these courses will foster future multidisciplinary and interdisciplinary professionals to understand the needs of the displaced community, identify the importance of making a difference through collaborative work, and take part in designing innovative interventions (surrounding health, housing, economic upliftment, and well-being) for the displaced communities.

Multidisciplinary health care professionals working at diverse care settings can be offered an elective course on breastfeeding to build their capacity in promoting, protecting, and supporting the breastfeeding practices of displaced mothers in case of any humanitarian emergency. Moreover, healthcare professionals, especially lactation consultants, can be offered an onsite clinical experience in the disaster relief camps or refugee camps. This will enhance their competency, hands-on skills, knowledge, and cultural sensitivity while providing care to

displaced mothers with a variety of clinical presentations and breastfeeding concerns. Continuing education sessions and seminars must be organized for a wide range of health care professionals to update their knowledge about breastfeeding and facilitate evidence-based practice in the setting of disaster relief camps in Pakistan.

### **Recommendations for Future Research**

Future research must focus on areas such as stakeholders' perceptions about encountered challenges in offering services to breastfeeding mothers, feasibility and effectiveness of multi-layered interventions in the setting of disaster relief camps, development of a validated and context-specific instrument to provide need-based breastfeeding counselling to mothers with young children, and the effects of various types of housing on the breastfeeding practices of displaced mothers. Further research can compare the difference in feeding practices and underlying factors affecting breastfeeding practices of displaced mothers in the context of low-income, middle-income, and high-income countries. As this study was undertaken with mothers who were affected by natural disaster and were residing in the disaster relief camps, future research can also uncover facilitators and barriers to the breastfeeding practices of mothers affected by armed conflicts.

### **Knowledge Translation**

Being a critical ethnographer who undertook this study with an emancipatory agenda, I will ensure translation of findings from this study in the practice setting. As Aga Khan Agency for Habitat (FOCUS Humanitarian Assistance, Pakistan) was the collaborator and primary knowledge user of my study, I will present the findings of this study to the key stakeholders of this humanitarian agency and submit a written report sharing participants' voices about recommendations to support breastfeeding practices of internally displaced mothers in disaster

relief camps. I will also approach governmental and non-governmental humanitarian relief agencies working in Pakistan and internationally to disseminate the findings of my study. Moreover, I will use mass media to disseminate my findings to the public and other stakeholders through a newspaper article, personal appearance in media on world breastfeeding day, and online forums like Twitter, Facebook, and LinkedIn.

To disseminate the findings to the scientific community and promote further research in this area, I have published one of the articles from this thesis on an analysis drawn from literature and gaps in knowledge. I have presented this study at the “Breastfeeding and Feminism International Conference” to multidisciplinary and interdisciplinary professionals involved in breastfeeding advocacy. As a next step, I intend to publish the papers pertinent to critical methodology, findings, recommendations, and policy briefs in journals that hold readership of multidisciplinary and interdisciplinary scholars. I will also disseminate the findings of my study by presenting at nursing and non-nursing conferences within and outside Pakistan.

Being an International Board-Certified Lactation Consultant (IBCLC) and member of various international non-governmental organizations—i.e. Council of International Neonatal Nurses (COINN), Sigma Theta Tau International (STTI), International Lactation Consultant Association (ILCA), Breastfeeding Action Committee of Edmonton (BACE), and Alberta Breastfeeding Committee (ABC)—I will disseminate knowledge through short talks, presentations, workshops, and training sessions. I will also conduct a webinar on “Breastfeeding in disaster relief camps: facilitators, barriers, and recommendations” for a wide range of audiences, including multidisciplinary healthcare professionals, lactation consultants, and advocates of breastfeeding.

## Conclusion

Pakistan is a country where the repercussions of disasters in the lives of internally displaced mothers residing in the disaster relief camps cannot be ignored. As the breastfeeding experiences, behaviors, and practices of internally displaced mothers are grounded in a wide range of contextual factors within their social structures, critical ethnography was chosen as a research design to explore the facilitators and constraints in the social structures of these mothers. In view of the decline in prevalence of breastfeeding and the rising child mortality rates in Pakistan during disaster, mainly due to diarrhea, malnutrition, and infectious diseases, this critical ethnographic inquiry was undertaken to develop new knowledge in nursing related to disaster management, to guide future health research in this area, and to facilitate mobilization of knowledge to support the breastfeeding practices of internally displaced mothers and reduce the deaths of young children in the disaster relief camps in Pakistan. Considering the scope of this study, this inquiry is strongly associated with the Sustainable Development Goals 2015-2030 (United Nations, 2015), with a special focus on goal three that aims at reducing preventable deaths in children under five years of age.

This study explored facilitators and barriers to breastfeeding practices of internally displaced mothers residing in the disaster relief camps in Pakistan, as well as identified maternal, socio-cultural, economic, and geopolitical factors affecting breastfeeding practices of internally displaced mothers residing in the disaster relief camps in Pakistan.

The utilized philosophical underpinning and the theoretical perspectives of this critical ethnographic research facilitated in uncovering hidden realities surrounding the breastfeeding experiences of the internally displaced mothers and gave voice to their experiences. Multiple methods were utilized to collect data through field observation, document analysis, and in-depth



interviews with 18 displaced mothers residing in disaster relief camps in northern Pakistan who had young children aged one day to 36 months. Mothers were eligible to participate in the study regardless of their breastfeeding practices.

To access the disaster-affected families, the support of Aga Khan Agency for Habitat, Pakistan (humanitarian relief agency) was sought to identify villages that had families who were residing in the disaster relief camps and who had diverse cultural and religious backgrounds. Data was collected in four different disaster-affected villages of Lower Chitral, Shali, Bombrate (Kalash valley), Zhitoor (Garam Chashma valley), and Beshqair (Garam Chashma valley) where participants were living in a wide range of temporary housing, including tents, katcha houses, and transitional angle iron shelters.

Findings from data gathered through multiple sources revealed that in the setting of disaster relief camps, a wide range of maternal (micro level), socio-cultural (meso level), economic (exo level), and geopolitical (macro level) factors directly and indirectly affect the breastfeeding practices of displaced mothers. Participants shared recommendations on possible solutions to the encountered challenges surrounding their breastfeeding practices in the setting of disaster relief camps. The findings indicated the need for multilayered, context specific, and interdisciplinary interventions at the micro, meso, exo, and macro levels to promote, protect, and support the breastfeeding practices of mothers residing in the disaster relief camps of Chitral, Pakistan. This study highlighted the need for breastfeeding-friendly initiatives led by displaced mothers, their family members, the community at large, and country-based and international organizations to protect, promote, and support breastfeeding during disaster, displacement, and settlement of displaced mothers in disaster relief camps.

This inquiry addressed a knowledge gap and set recommendations for practice, education, future research, and policy to improve the well-being of internally displaced mothers in the setting of disaster relief camps in Pakistan. The findings of this critical ethnographic research will facilitate national and international humanitarian relief agencies to recognize gaps in the offered services to the internally displaced mothers of young children and to strive for protecting the breastfeeding practices of internally displaced mothers who wish to sustain their breastfeeding practices in the disaster relief camps in Pakistan. Health care professionals, policy makers, relief agencies (national and international), and other stakeholders can utilize the findings of this study to identify the nature of breastfeeding support required for the internally displaced mothers who wish to sustain their breastfeeding practices. Moreover, the findings of this study will serve as a guide to facilitate the development of comprehensive and context-specific breastfeeding support interventions for this population.

This inquiry provides preliminary data that will be useful in informing breastfeeding practices of displaced mothers worldwide, especially those who have experienced internal displacement and have lived in a similar context. Countries that engage in global health initiatives on disaster relief can utilize the findings of this research to guide future research, as well as design programs, policies, and guidelines for promoting, protecting, and supporting the breastfeeding practices of internally displaced mothers and reducing infant mortality and morbidity rates in the setting of disaster relief camps.

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# Appendices

## Appendix A

### Ethics Approval Letter



Sheila Hirani <shela@ualberta.ca>

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#### HERO: Ethics Application has been Approved Pro00070613

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hero@ualberta.ca <hero@ualberta.ca>  
Reply-To: hero@ualberta.ca  
To: shela@ualberta.ca

Tue, Jul 18, 2017 at 4:51 PM



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#### Ethics Application has been Approved

ID: Pro00070613  
Title: Facilitators and Barriers to Breastfeeding Practices of Internally Displaced Mothers  
Study Investigator: Sheila Hirani

Description: This is to inform you that the above study has been approved.  
Click on the link(s) above to navigate to the HERO workspace.  
Please do not reply to this message, This is a system-generated email that cannot receive replies.

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## Appendix B

### Letter of Support from the Humanitarian Agency based in Pakistan



FOCUS HUMANITARIAN ASSISTANCE PAKISTAN

April 7, 2017

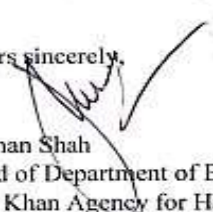
To Whom It May Concern

As per the received request from Ms. Shela Hirani (PhD student at the University of Alberta) and her supervisor, Dr. Solina Richter (Professor at the University of Alberta), this letter endorse that The Department of Emergency Management formally Focus Humanitarian Assistance, Pakistan supports Ms. Shela Hirani's doctoral research entitled: "*Facilitators and barriers to breastfeeding practices of internally displaced mothers residing in the disaster relief camp of Pakistan*".

The Department of Emergency Management, Aga Khan Agency for Habitat (AKAH) strongly believes that this research will contribute to the work of humanitarian relief agencies. We agree to assist Ms. Hirani in identifying and gaining access to the available disaster relief camp in Pakistan, as well as facilitate Ms. Hirani in recruiting research participants i.e. internally displaced mothers having young children (newborn to 12 months of age). During the period of Ms. Hirani's fieldwork, a support personnel from Department of Emergency Management will accompany Ms. Hirani to the disaster relief camp for a designated time during the days she is planning to collect data. Moreover, the department will facilitate Ms. Hirani to find safe ground transport and accommodation during 3-4 months of her fieldwork in the disaster relief camp of Pakistan.

Ms. Hirani can commence this research in Pakistan after seeking ethics approval of this research from the Ethics Review Board of the University of Alberta, Canada. We are appreciative that Ms. Hirani will be responsible for all the expenses of her fieldwork (including the cost of her travel and living expenses during her fieldwork), will share the findings of her research upon its completion, and acknowledge the support of Department of Emergency Management, Aga Khan Agency of Habitat (AKAH) in her dissertation and thesis publications.

Yours sincerely,

  
Salman Shah  
Head of Department of Emergency Management  
Aga Khan Agency for Habitat-AKAH

Islamabad: Level 9, Serena Business Complex, Opposite Convention Centre, Khayaban-e-Suhrawardy, Islamabad. UAN: 051-111-253-254 Fax: 051-2072551-2  
Karachi: 310-311, 3<sup>rd</sup> Floor, Qasim Court, Block-5, Clifton, Karachi. 75600. Tel: 021-35864662, 021-35868076, Fax: 021-35864490  
Gilgit: Near City Gate Hotel, Opposite GPO, Shahrah-e-Quaid-e-Azam Jutial, Gilgit. Tel: 05811- 455490, 455259 Fax: 05811- 455259  
Chitral: Near Govt High School, Garamchashma Road, Balach, District Chitral. Tel: 0943 - 413801, 0943 - 413802 Fax: 0943 - 413801

A Company set up under section 42 of the Companies Ordinance, 1984.  
Registered Office: 310-311, 3<sup>rd</sup> Floor, Qasim Court, Block-5, Clifton, Karachi. 75600.

## Appendix C

### Consent to Contact Form

**Study Title: Facilitators and Barriers to Breastfeeding Practices of Internally Displaced Mothers Residing in Disaster Relief Camps in Pakistan: A Critical Ethnography**

**Principal Investigator:** Ms. Shela Akbar Ali Hirani, PhD student, RN, BScN, MScN

**Institute:** University of Alberta, Faculty of Nursing, Edmonton, Canada

**Phone:** +92-03352897968; Email: [shela@ualberta.ca](mailto:shela@ualberta.ca)

**Thesis Committee:** Dr. Solina Richter, PhD (Professor), Dr. Bukola Salami (Assistant Professor), Dr. Helen Vallianatos (Associate Professor)

**Institute:** University of Alberta, Edmonton, Canada

Ms. Shela Akbar Ali Hirani, PhD student at the University of Alberta is conducting a study on “Facilitators and Barriers to Breastfeeding Practices of Internally Displaced Mothers Residing in Disaster Relief Camps in Pakistan”. The purpose of this study is to examine the factors that affect the breastfeeding practices of internally displaced mothers residing in the disaster relief camps in Pakistan. The University of Alberta Ethics board has given permission for this study to be conducted. You are cordially invited to be part of this study.

We are approaching you because you are an internally displaced breastfeeding mother residing in a disaster relief camp and have a child aged less than twelve months. You are invited for a conversation of approximately 40-60 minutes. The conversation will focus on your breastfeeding experiences at the setting of disaster relief camp. You are free to choose the time that will be the most convenient for you. If you are interested in the study, you can verbally share your acceptance to participate in this study. It will be forwarded to the researcher and she will contact you to set up an appropriate time to talk to you.

**Consent to be contacted by the researcher:**

I .....[name of potential participant] hereby give my consent to be contacted by the principal investigator undertaking the research project entitled: **Facilitators and Barriers to Breastfeeding Practices of Internally Displaced Mothers Residing in Disaster Relief Camps in Pakistan: A Critical Ethnography**. I would like to know more about this study. However, this is not my consent to participate in the study.

Consent to contact received from the potential participant: Yes \_\_\_\_\_, No \_\_\_\_\_

Location of the tent \_\_\_\_\_

Form completed by: \_\_\_\_\_

Date: \_\_\_\_\_

## **Appendix D**

### **Information Letter for the Study participants**

**Title of study:** Facilitators and Barriers to Breastfeeding Practices of Internally Displaced Mothers Residing in Disaster Relief Camps in Pakistan: A Critical Ethnography

**Principal Investigator:** Ms. Shela Akbar Ali Hirani, PhD student, RN, BScN, MScN

**Institute:** University of Alberta, Faculty of Nursing, Edmonton, Canada

Phone: +92-03352897968

Email: shela@ualberta.ca

**Thesis Committee:** Dr. Solina Richter, PhD (Professor), Dr. Bukola Salami (Assistant Professor), Dr. Helen Vallianatos (Associate Professor)

**Institute:** University of Alberta, Edmonton, Canada

#### **Introduction**

I am Shela Akbar Ali Hirani, from the University of Alberta, Faculty of Nursing doing research on “Facilitators and barriers to breastfeeding practices of internally displaced mothers residing in disaster relief camps in Pakistan: A critical ethnography”. This study would be my research for the PhD in Nursing. I have chosen you because you are a mother of a young child aged 1 day to 12 months and living in the setting of disaster relief camp.

#### **Background information**

Pakistan often faces natural disasters such as earthquakes, drought, and floods. Many young children end up in disaster relief camps and are at a higher risk to die due to migration and the discontinuation of breastfeeding. My research will focus on breastfeeding practices of mothers in the disaster relief camps in Pakistan. I am here to learn from the mothers of young children that what leads them to continue or stop breastfeeding. This study is a first step to improving breastfeeding practices of internally displaced mothers and reducing deaths of young children in the disaster relief camps in Pakistan.

#### **Purpose of this research study**

To study the factors that affect the breastfeeding practices of internally displaced mothers residing in disaster relief camps in Pakistan.

#### **Procedures**

I will meet and talk with you about your experiences of breastfeeding your young child in the setting of disaster relief camp. This process will take around 40-60 minutes of your time. If required, I may interview you more than once. The interview will be undertaken in Urdu and will be audio-recorded.



**Possible benefits**

You will get a chance to talk about your breastfeeding experiences while living in the disaster relief camp. You can share why you choose a particular method of feeding your young child and what kind of support is available to you. You can also share your suggestions that how mothers can be supported in disaster relief camps so they can continue breastfeeding. Your views will help many other mothers who have young children and want to continue breastfeeding in disaster relief camps.

**Possible risks**

There are no risks or discomforts in this study other than your valuable time. During the interview, sometimes you may feel sad or recall difficult time. In case this happens, I will stop that interview and give you a time to relax. If require, with your permission I will connect you with a trained person who can help you feel better. Any point in time during the interview if you do not want to answer any question then you can tell me and I will not ask you that question. There will be no payment or another direct benefit to you for participating in this study.

**Right of refusal to participate and withdrawal**

Participation in this study is entirely voluntary. You may consent to participate in this study; you may leave this study before the disaster relief camps are dissolved. Participating or not participating in the study will not affect you or your family in any way. During this study, in case you decide not to continue as a study participant, you can contact me and share your decision. In that case, I will delete all the information that I collected from you. There is no penalty for leaving this study.

**Confidentiality**

Nobody will know that I have interviewed you unless you want to share with anyone. The information provided by you will remain confidential and nobody except me and my teachers (thesis supervisory committee) will have access to it. Your name and identity will not be shared with anyone. Your name and identify will not be shared at any time by me. I will assign a fake name to you while sharing your stories and suggestions. I will store your interview in a password protected folder for at least 5 years, and if required the data may be seen by the Ethical Review Committee and may be published in journals and elsewhere without sharing your name or identity. In that case, I will just report that I have collected information from women who were living in disaster relief camps.

**Available Sources of Information**

If you have any question you may contact the Principal Investigator Ms. Shela Akbar Ali Hirani, PhD student at the University of Alberta, Faculty of Nursing. Phone # 03352897968.

**Appendix E**  
**Verbal Consent Form**

**Part 1 (to be completed by the researcher):**

**Title:** Facilitators and Barriers to Breastfeeding Practices of Internally Displaced Mothers Residing in Disaster Relief Camps in Pakistan: A Critical Ethnography

**Researcher:** Shela Akbar Ali Hirani      Phone Number(s): +92-3352897968

**Supervisory Committee:** Dr. Solina Richter, Dr. Bukola Salami, Dr. Helen Vallianatos

**Part 2 (to be completed by the Principal investigator after reading out questions to the participants):**

Yes      No

Do you understand that you have been asked to be in a research study?	<input type="checkbox"/>	<input type="checkbox"/>
Have you read and received a copy of the attached Information Sheet?	<input type="checkbox"/>	<input type="checkbox"/>
Do you understand the benefits and risks involved in taking part in this research study?	<input type="checkbox"/>	<input type="checkbox"/>
Have you had an opportunity to ask questions and discuss this study?	<input type="checkbox"/>	<input type="checkbox"/>
Do you understand that you are free to withdraw from the study at any time, without having to give a reason and without penalty?	<input type="checkbox"/>	<input type="checkbox"/>
Has the issue of confidentiality and anonymity been explained to you?	<input type="checkbox"/>	<input type="checkbox"/>
Do you understand that the conversations will be recorded?	<input type="checkbox"/>	<input type="checkbox"/>
Do you understand that portions of the final research may be published in professional journals or presented at conferences?	<input type="checkbox"/>	<input type="checkbox"/>
Do you understand the researcher is obligated to report any breach of professional conduct that is unethical and not legal, and that is not currently in a process of resolution?	<input type="checkbox"/>	<input type="checkbox"/>
Did the researcher explain this study to you? _____	<input type="checkbox"/>	<input type="checkbox"/>

I agree to take part in this study:                      YES                          NO   

I believe that the person signing this form understands what is involved in the study and voluntarily agrees to participate.

Signature of Investigator or Designee \_\_\_\_\_ Date \_\_\_\_\_

## Appendix F

### Confidentiality Agreement Form

Project title - Facilitators and Barriers to Breastfeeding Practices of Internally Displaced Mothers Residing in Disaster Relief Camps in Pakistan: A Critical Ethnography

I, \_\_\_\_\_, the \_\_\_\_\_ (specific job description, e.g., interpreter/translator) have been hired to \_\_\_\_\_

I agree to -

1. keep all the research information shared with me confidential by not discussing or sharing the research information in any form or format (e.g., disks, tapes, transcripts) with anyone other than the *Researcher(s)*.
2. keep all research information in any form or format (e.g., disks, tapes, transcripts) secure while it is in my possession.
3. return all research information in any form or format (e.g., disks, tapes, transcripts) to the *Researcher(s)* when I have completed the research tasks.
4. after consulting with the *Researcher(s)*, erase or destroy all research information in any form or format regarding this research project that is not returnable to the *Researcher(s)* (e.g., information stored on computer hard drive).
5. other (specify).

(Print Name)	(Signature)	(Date)
--------------	-------------	--------

*Researcher(s)*

(Print Name)	(Signature)	(Date)
--------------	-------------	--------

The plan for this study has been reviewed for its adherence to ethical guidelines and approved by Research Ethics Board (*specify which board*) at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

**Appendix G**  
**Observation Tool**

<b>Event</b> <b>(Describe the situation in which mothers of young children are involved)</b>	
<b>Time</b> <b>(Day, Date and Time of the event)</b>	
<b>Physical Space</b> <b>(Location where a particular event is taking place)</b>	
<b>Actor</b> <b>(People involved in the event. Describe all the details such as their roles, social status, socioeconomic class, and ethnicity)</b>	
<b>Act, object, and activity</b> <b>Actions, behaviour or practices directly or indirectly affecting breastfeeding</b> What was happening, what was unique about it?	
<b>Feelings</b> Include nonverbal behavior such as how people involved in the event use their bodies and voices to communicate emotions and key message)	
<b>Goals people are trying to accomplish in the observed event</b>	
<b>Duration of Observation</b>	

Adapted from Spradley, J. P. (2016). *Participant observation*. Illinois: Waveland Press.

## Appendix H

## Tool for Gathering Information from the Documents

Coder #: \_\_\_\_\_

Document # \_\_\_\_\_

1.	<b>Name of document:</b>
2.	<b>Type of document:</b> 2.1 Policy document <input type="checkbox"/> 2.2 Health record <input type="checkbox"/> 2.3 Newspaper article <input type="checkbox"/> 2.4 Flyer or poster <input type="checkbox"/> 2.5 Other <input type="checkbox"/> Please name _____
3.	<b>Date when document was developed: (if available)</b>
4.	<b>Medium of the documents:</b> 4.1 Printed (hard copy) <input type="checkbox"/> 4.2 Web based <input type="checkbox"/> 4.3 Other <input type="checkbox"/> Please name _____ _____
5.	<b>Author/creator(s) of document: (if applicable)</b>
6.	<b>Language of document</b> 6.1 English 6.2 Urdu
7.	<b>Purpose/objective/focus of document (Lactating mothers, relief camps, donation of formula milk etc.):</b>

8.	<b>A general overview of the content of the document:</b>
9.	<b>For which audience was the document written?</b>  9.1 General public <input type="checkbox"/> 9.2 Healthcare professional <input type="checkbox"/> 9.3 Administrators/Relief agencies 9.4 Researchers <input type="checkbox"/> 9.5 Other <input type="checkbox"/> please name:

## Appendix I

### Demographic Profile Information Gathering Tool

S.No.	Variables	Response
1.	Age (in years)	
2.	Educational level	
3.	Ethnic background	
4.	Religious background	
5.	Mother tongue	
6.	Total number of people in household	
7.	Type of family (nuclear/extended/single parent)	
8.	Total number of children	
9.	Age of young child	
10.	<b>Child feeding practices (before disaster and displacement)</b> <ul style="list-style-type: none"> <li>- Exclusive breastfeeding</li> <li>- Breastfeeding with formula feeding</li> <li>- Only formula feeding</li> <li>- Others</li> </ul>	
11.	<b>Child feeding practices (current)</b> <ul style="list-style-type: none"> <li>- Exclusive breastfeeding</li> <li>- Breastfeeding with formula feeding</li> <li>- Only formula feeding</li> </ul> <b>Others</b>	
12.	Total days of stay in disaster relief camp	

## **Appendix J**

### **Interview Guide**

#### **Tell me about your breastfeeding practices in the setting of disaster relief camp**

- Are you feeding practice different or the same before and after the natural disaster? Why or why not?
- How do you breastfeed your child? Frequency, location, position, crying/early cues, etc.
- What support do you receive or not related to breastfeeding your child in the setting of disaster relief camp?
- What makes it easier for you to breastfeed your child in the setting of disaster relief camp?  
(Probes: Support from family, healthcare professionals, privacy, past experiences, breastfeeding counseling)
- What makes it difficult for you to breastfeed your child in the setting of disaster relief camp? (Probes: Privacy, support, cultural practices, myths, beliefs, expectations from family or restrictions)
- If using formula, what makes it easier for you to formula feed your child rather than breastfeeding in the setting of disaster relief camp? (Probes: donation of formula milk, received advise from someone, mother's choice, family's preference, privacy issues)
- If currently not breastfeeding, would you breastfeed if you had a choice? Why or why not?

#### **What recommendations do you have for supporting breastfeeding practices of mothers in the setting of disaster relief camps?**



## Appendix K

### Data Analysis Document

<b>Theme # 1: Facilitators</b>		
<b>Sub-Theme</b>	<b>Categories</b>	<b>Subcategories (Codes)</b>
Facilitators at the micro level	Maternal factors	<p><b>Nutrition</b> (sufficiency of diet, adequate breastmilk)</p> <p><b>Knowledge</b> (benefits of breast feeding, prior experience, techniques, protectives factors, no substitute use, hygiene, professional training, awareness, judgement)</p> <p><b>Planning</b> (contraceptive purpose, breastfeeding during evacuation),</p> <p><b>Strategies</b> (relocation, veil, multi-tasking, emergency evacuation, corner, comfort level, health seeking behavior, use of temporary substitute,)</p> <p><b>Responsive caregiving</b> (respond to feeding cues, primary caregiver, child as a priority, vigilance, concern for a child)</p> <p><b>Decision making</b> (maternal choice, efforts, intent, breastfeeding continuation, relactation, willingness, maternal judgement, preference to exclusive breastfeeding, receptiveness)</p> <p><b>Spirituality</b> (Trust in God, gratitude, use of amulets, acceptance)</p> <p><b>Contentment</b> (peace of mind, coping, Survival, well- being and recovery)</p>
Facilitators at the meso level	Social cultural factors	<p><b>Informal Support</b> (extended family [parental, husband, in-laws], relatives, neighbors, villages, older children; type of support [financial, accommodation, daily necessities and food and milk, shared child care and household chores, nutritional guidance, provision of special diet [milk and goat's meat broth], encouragement to BF, women to women [chats], land for placing the shelter</p> <p><b>Formal support</b> (health care units; type of support: medical treatment, guidance (nutrition, breastfeeding, prenatal, health promotive activities [malaria &amp; flu prevention], information booklets, health checkups and visits, health, and hygienic training)</p>

		<p><b>Culture</b> (Breastfeeding norm [up to the age of 3 years], no gender disparities, women as housewives, equal distribution of food/aid at the household level, use of swing cradle,</p> <p><b>Spiritual practices</b> (use of prayer, spiritual healing)</p>
Facilitators at the exo level	Economic factors	<p><b>Cost effectiveness of breastfeeding</b> (no option, no cost, no supplies, no sickness)</p> <p><b>Resources</b> (cattle survival, damaged house, availability of substitutes, quality of temporary housing [tent versus shelter versus relatives' house], availability of clean drinking water, rebuilding own house, own land)</p>
Facilitators at the macro level	Geopolitical factors	<p><b>Humanitarian aid</b> (aid by government, relief agency, neighboring villages, volunteers; shelter[tent], food items, financial assistance, milk donation for family, no donation of formula milk)</p> <p><b>Relief agency's efforts</b> (evacuation, water, and sanitation extension program, environmental warnings by relief agencies)</p>

<b>Theme # 2: Barriers</b>		
<b>Sub-Theme</b>	<b>Categories</b>	<b>Subcategories (Codes)</b>
Barriers at the micro level	Maternal factors	<p><b>Compromised nutritional status</b> (hunger, starving, inadequate nutrition, no food, compromised maternal nutrition, skip meals, no food for mother, no proper diet, weakness)</p> <p><b>Insufficient breastmilk</b> (low breast milk supply, milk dried up)</p> <p><b>Psychological aftermaths</b> (Fear [environmental issues/ wild animals], anxiety, state of shock, stress/following disasters, senseless, maladjustment, being unfenced, chaos, suicidal risk, depression, embarrassment, painful memories, disturbed sleep, helplessness, painful experience)</p> <p><b>Myths, beliefs, and attributes</b> (shyness, hesitation, [Breastfeeding in the presence of others and men], maternal age, subsequent pregnancy, inadequate BF knowledge [feeding cues and frequency, maternal</p>

		<p>beliefs that stress transfer through breastmilk, lack of empowerment, increase workload during pregnancy, the influence of witchcraft, maternal employment)</p> <p><b>Compromised health and hygiene</b> (maternal sickness/health issues, unhygienic practices/inconveniences during menstruation, worsen health after the disaster, maternal morbidities, injuries, tiredness, headache and pain, backache, cholera)</p> <p><b>Challenging transition</b> (live in damaged house, jeopardize safety, no intimacy with husband [inadequate space], struggles in unstable house, multiple responsibilities/fulfill role of men, struggles to get tent, no choice and dependency, tiresome experience, breastfeeding in open/cold, relocation and distressful journey to a safer place, troubles and increased workload after flood, affected childcare, displacement, challenges during labor and pregnancy, displacement, no option, temporary refuge in mountain, unmet basic needs)</p>
Barriers at the meso level	Social cultural factors	<p><b>Cultural beliefs, practices and expectations</b> (food restrictions during breastfeeding, use of undergarments, work during pregnancy, norm of food distribution, beliefs of supernatural and possessions, mothers must calm the crying baby, norm of using breastmilk substitute (mainly cow's milk) and 6 months of age, myths, and beliefs about food (cheese, beef and sweet food), women work harder than men)</p> <p><b>Covert Oppression</b> (domestic violence, control in the life of women, ridicule by relatives, dependency)</p> <p><b>Lack of health care support</b> – no or occasional health care team visits, no lactation counselling, no guidance on the preparation of formula milk, no BF advice, home deliveries, no guidance)</p> <p><b>No privacy</b> (presence of guests or males, stay at relatives' place, no private space to breastfeed, no women-friendly spaces, no veil (bay-pardagi), no space to breastfeed in a tent)</p> <p><b>Family circumstances</b> (Husband away from home, separation from family, no support from family)</p> <p><b>Encouragement of breastmilk substitutes</b> (bottle feeding culture among rich, mother recommended cow's milk, donated cow's milk for the relative, lack of community awareness about breastfeeding)</p>
Barriers at exo level	Economic factors	<p><b>Unmet basic needs</b> (no food, homelessness, one set of clothes and a pair of slippers, living in an open field, no place to sleep, inadequate supplies)</p>

		<p><b>Inadequate housing</b> (no stove, no cooking facilities, no bathroom facilities [no washroom], inadequate space, overcrowding, type of housing [tent versus shelter], no water supply and ventilation, limited space [single room in shelter], uncomfortable living, no land to place tent or shelter, no land to rebuild house in safe location, living in damaged house [2 months], life in tent [rain, dirt and debris, limited space, not insulated, overcrowding, defecation in field, cooking outside, male and females living separately], no space to clean menstruation clothes, extreme temperatures and suffocation in shelter)</p> <p><b>Economical loss</b> (lost personal belongings (cattle, household items, stored cheese, crops), nothing is left)</p> <p><b>Availability of breastmilk substitutes</b> (formula, cow and buffalo milk [diluted and boiled], mild curry, tea, use of feeding bottles [cleaning once a day])</p> <p><b>Unaffordability</b> (child's treatment, healthcare, household expenses [food and school fees for older children], no money, unstable financial situation, limited assets, no money to build a house, expensive spiritual treatment, no monetary support)</p>
Barriers at the macro level	Geopolitical factors	<p><b>Climate changes</b> (recurrent and subsequent disasters, cold and windy weather, temperature extremes, recurring floods, destruction during floods, cold and harsh weather, heavy wind and rain, contaminated water after the flood)</p> <p><b>Insufficient aid</b> (no enough aid, no allocation of shelter, not timely allocation, delay getting shelter/tent, no need-based donations, no instruction with donated milk powder [formula feeding in the village], aid for a limited time, inadequate assistance)</p> <p><b>Inadequate and inaccessible facilities</b> (affected water supply (no tap per house), no electricity, health care, hospital, destroyed roads, no transportation, no waste disposal)</p> <p><b>Systemic Injustices</b> (favoritism, no consultation, inequitable distribution of aid, inadequate needs assessment for shelter and aid distribution, lack of Governmental support, the government does not listen or consult, corruption by influential people in the village, non-supportive relief authorities)</p>

<b>Theme # 3: Recommendations</b>		
<b>Sub-Theme</b>	<b>Categories</b>	<b>Subcategories (Codes)</b>
Recommendations at micro level	Maternal	<p><b>Nutrition</b> (adequate maternal nutrition)</p> <p><b>Mental health</b> (peaceful life, not stressed out)</p> <p><b>Breastfeeding continuation</b> (maternal efforts for breastfeeding)</p>
Recommendations at the meso level	Social cultural	<p><b>Training:</b> breastfeeding training [frequent, regular, every 3 months], safety measures, training local girls to conduct pre- and postnatal assessments</p> <p><b>Health visits</b> (monthly health visits)</p> <p><b>Breastfeeding counselling</b> (guidance about breastfeeding and nutrition)</p> <p><b>Religious rituals</b> (arrangements of prayers for nursing mothers)</p> <p><b>Privacy</b> (peaceful environment, separate room for guests)</p>
Recommendations at exo level	Economical	<p><b>Women/Breastfeeding friendly housing</b> (ventilation, kitchen, and stove in the shelter, separate bathroom/washroom for women with warm water and other facilities, privacy to BF (separate room for breastfeeding mothers for rest and sleep and breastfeed the child), heating system during the winter, comfortable place to live, adequate space)</p> <p><b>Liquid asset</b> (money to buy food, fulfil basis needs)</p>
Recommendations at the macro level	Geopolitical	<p><b>Accessible facilities</b> (Hospitals, schools, water supply, health centers, and dispensaries)</p> <p><b>Shelter design</b> (spacious with water supply and other facilities, floor carpets, properly build a shelter like a house)</p>

		<p><b>Aid for nursing mothers</b> (mattress, foam, chairs, warm clothes, blankets and toys for children, separate shelter/tent for breastfeeding mothers, a proper understanding of challenges faced by the affected people, the allocation for both shelter and tent)</p> <p><b>Health and Nutritional programs</b> (families that cannot afford food, measures to improve the health of mothers and children, prevention of efforts to prevent childhood illness)</p> <p><b>The process of aid distribution</b> (need assessment, thorough screening of affected, equitable distribution of aid, the proper process of monitoring of aid distribution, timely, need-based, honest distributors of aid, rights of affected people, no injustices)</p> <p><b>Safety</b> (house at the safe place, relocation to a safer place, accessible BF tent, a place to stay the following evacuation)</p> <p><b>Need-based support</b> (basic needs [for meals and clothing], proper food to consume, monetary support, needed governmental support to cater to the basic needs, funds from the government)</p>
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## Appendix L

## Demographic Characteristics of Each Participant

ID #	Age (in years)	Education	Ethnic background	Religion	Mother tongue	Number of people in household	Type of Family	Total number of Children	Age of youngest child	Child feeding practices	Length of stay in relief housing	Type of disaster-relief housing
1	20	Non-educated	Bazaki	Sunni, Muslim	Khowar	14	Extended	2	12 months	Breastfeeding and solids	2.5 years	Shelter and mud brick house
2	18	Non-educated	Jalendari	Sunni, Muslim	Nuristani	12	Extended	1	3 months	Breastfeeding	1 year	Shelter and mud brick house
3	20	Non-educated	Jalendari	Sunni, Muslim	Nuristani	12	Extended	3	1-2 years	Cow's milk (child was sick)	1 year	Shelter and mud brick house
4	25	Non-educated	Kalash	Kalashi	Kalashi	9	Nuclear	7	2 years	Formula milk	2.5 years	Shelter and tent
5	20	Grade 8	Katoray	Ismaili, Muslim	Khowar	9	Extended	1	7 months	Breastfeeding and cow's milk	1 year	Shelter
6	25	BSc	Musingay	Ismaili, Muslim	Khowar	14	Extended	2	2 years	Breastfeeding, cow's milk and solids	2.5 years	Shelter
7	18	Grade 10	Gajani	Ismaili, Muslim	Khowar	11	Extended	1	7 months	Breastfeeding and cow's milk	2.5 years	Shelter
8	28	BSc	Musingay	Ismaili, Muslim	Khowar	14	Extended	3	2 years	Breastfeeding and solids	2.5 years	Shelter
9	30	BSc	Darwaish	Ismaili, Muslim	Khowar	7	Extended	2	2 years	Breastfeeding and cow's milk	2.5 years	Shelter

ID #	Age (in years)	Education	Ethnic background	Religion	Mother tongue	Number of people in household	Type of family	Total number of children	Age of youngest child	Child feeding practices	Length of stay in relief housing	Type of disaster-relief housing
10	30	Non-educated	Jhatak	Ismaili, Muslim	Ludhvi	7	Nuclear	5	2 years	Breastfeeding	1.5 years	Shelter
11	35	Grade 10	Darwaish	Ismaili, Muslim	Khowar	10	Extended	6	15 months	Breastfeeding + cow's milk + Solids	2.5 years	Shelter
12	24	Grade 10	Gajani	Ismaili, Muslim	Khowar	7	Extended	1	15 months	Cow's milk and solids	2.5 years	Shelter
13	27	Grade 5	Darwaish	Ismaili, Muslim	Khowar	9	Extended	4	3 years	Breastfeeding	2.5 years	Shelter (Previously lived in tent)
14	40	Non-educated	Darwaish	Ismaili, Muslim	Khowar	7	Nuclear	5	3 years	Breastfeeding + solids	2.5 years	Shelter (Previously lived in tent)
15	28	Non-educated	Jhatak	Sunni, Muslim	Pushto	4	Nuclear	2	2 years	Formula milk	2.5 years	Lives with Relatives who are in shelter (Not allotted tent or shelter)
16	20	Grade 6	Turkali	Ismaili, Muslim	Khowar	5	Extended	2	7 months	Breastfeeding + cow's milk	2.5 years	Tent
17	28	BSc	Jhatak	Ismaili, Muslim	Khowar	15	Extended	2	2-3 years	Breastfeeding + solids + cow's milk	2.5 years	Tent and damaged house
18	30	Non-educated	Dhudaray	Ismaili, Muslim	Khowar	12	Extended	5	8 months	Breastfeeding + formula	2.5 years	Tent and relative house