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The State of the Art of Barriers to Exclusive Breastfeeding among Working Mothers in Developing Countries

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Abstract

According to the WHO, the global standard for infant nutrition is exclusive breastfeeding (EBF). However, the level of EBF has been identified to remain low in developing countries. This is quite ironical as one could expect that breastfeeding mothers in developing countries will find EBF attractive as a better alternative to infant food considering the high level of food insecurity in the region. Adopting a qualitative approach, this paper dived into the literature and identified key factors which act as impediments to EBF among working mothers in this region - insufficient breastfeeding breaks in the workplace, lack of breastfeeding spaces and short maternity leaves, birth by caesarean section, poor lactation, poor maternal health, and poor spousal and societal support.

Keywords: Exclusive Breastfeeding, Infant Nutrition, Working Mothers, Public Policy, Workplace, Developing Countries

Introduction

Globally, exclusive breastfeeding has been endorsed as the recommended feeding practice for the first six months of a human's life (Danso, 2014). It is the process of feeding an infant with breast milk only except for vitamins, minerals, medicine and oral rehydration solution (WHO, 2020). Arguably, this is attributable to the numerous benefits associated with breast milk (Dhakal, et al., 2017). According to Dhakal, et. al (2017) breast milk is perfect for infant because it contains carbohydrates, proteins, essential fats, minerals, and immunological factors for nourishment. As a result, it is beneficial in building strong immunity and improved cognitive ability for the breastfed child (WHO, 2011). Additionally, it protects the child against childhood diseases such as diarrhoea and pneumonia. Aside from this, it promotes mother-to-child bonding, reduces the risk of cancer in nursing mothers – such that it provides psychological, economic and even environmental benefits to the family and the nation at large (Office of the Surgeon General, 2011).

Despite these numerous benefits, exclusive breastfeeding rate has remained low in developing countries especially among working mothers (Gebrekidan et al., 2020). Previous studies have shown that as more mothers in developing countries participate in the labour market, it becomes increasingly difficult to improve the exclusive breastfeeding rate within the region (Olufunlayo, et al., 2019). This has been attributable to the demanding nature of exclusive breastfeeding (Ogbo et al., 2015) combined with short maternity leaves, lack of breastfeeding spaces, insufficient breastfeeding breaks (Ahmadi & Moosavi, 2013; Sulaiman et al., 2016; Riaz & Condon, 2019). However, it is imperative to ascertain if working mothers are deterred by common factors such as their poor knowledge and attitude towards EBF (Mohamed et al., 2018) or spousal and societal influence (Ohaeri & Bello, 2016). Furthermore, identifying how returning to work, or their workplace has become a major barrier to their EBF practice will be beneficial in policy formulation. Through the aforementioned, policymakers in developing countries can provide targeted interventions to improve EBF among working mothers without undermining their decision to work.

Exclusive Breastfeeding in Developing Countries: The State of the Literature

The review of the literature has become increasingly relevant because it allows researchers to build on and make reference to existing evidence (Snyder, 2019). By integrating findings from other empirical data, this method can explore research questions or objectives more critically than a single study (Snyder, 2019). Before the commencement of the formal literature search, a scoping review was done on Google and Google Scholar to determine the type of literature available within the subject area.

The academic literature review for this paper utilized a two-step search strategy using electronic journal databases. MEDLINE, PUBMED, SCOPUS and Web of Science were identified based on similar research conducted by Gebrekidan et.al (2020) and their relevance to the scope of the topic. The initial search string was undertaken in May 2020 using the search term, date and language which resulted in 29,349 hits (see Table I). Articles were later screened based on the relevance of their abstract and study location which resulted in 215 articles.

Table I: Table showing the initial scoping of the literature

Databases	Returned by search terms, publication date and language	Filtered by country of study and abstract
MEDLINE	358	41
PUBMED	28,009	132
SCOPUS	72	21
Web of Science	910	21
Total	29,349	215

This was followed by the removal of 112 duplicates leaving 103 articles. Of the 103 articles, 56 unrelated articles which acknowledged the barriers to EBF among working mothers in their abstract without fully exploring them were removed – leaving a total of 47 articles. After conducting a full-text reading on the 47 articles, 32 articles with either unclear design or poor reporting were then removed leaving only 15 eligible articles with a clear design and unambiguous reporting. Snowballing technique was further used to search the 533 reference lists of these 15 eligible articles and 7 more articles were found for the qualitative synthesis of this research. These search strategies, screening process and snowballing resulted in a total of 22 peer-reviewed journals as shown in Figure 1 below.

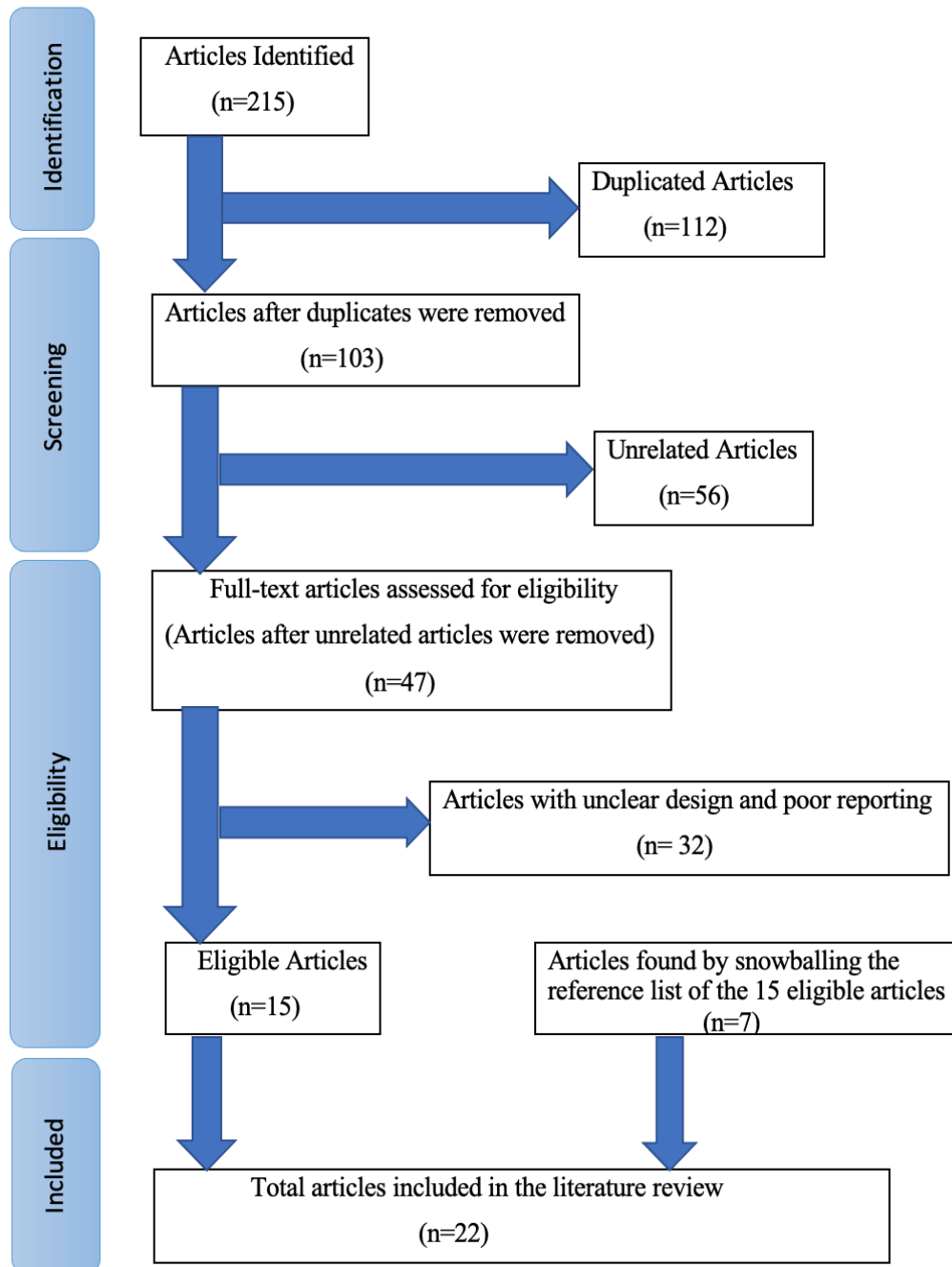


Figure 1: PRISMA flow chart

Due to the potential benefits of breastfeeding to health, it has remained a widely researched topic (Cassidy & Tom, 2020:11). Therefore, it was imperative to use appropriate search terms to ensure that only relevant literature was included. The specific search string used for this study is “*exclusive breastfeeding OR breastfeeding OR breastfeeding AND barriers OR obstacles OR factors OR challenges OR limitations AND working mothers OR employed mothers OR maternal work*” for all 4 databases. Despite the first objective’s focus on the barriers to EBF among working mothers, literature that assessed the barriers to breastfeeding among working mothers were also considered – because factors that affect breastfeeding were most likely to deter EBF practise adversely. In other words, factors that hinder a mother from breastfeeding her child were likely to have prevented her from practising EBF within the first 6 months. Also, the word ‘barriers’ has several synonyms which were considered. The word “factors” was also included because factors that influence EBF practices may be positive or negative (in terms of barriers). During the scoping, it was also observed that ‘working mothers’, ‘maternal work’ and ‘employed mothers’ were often used interchangeably to refer to working mothers in both formal and informal occupation.

Inclusion and Exclusion Criteria

Given the objective addressed by the literature review, only studies that explored in detail the barriers to EBF among working mothers were included. The Global Strategy for Infant and Young Child Feeding which promotes EBF was first developed in 2003 (WHO & UNICEF, 2003). Therefore, it is expected that only publication from 2003 onwards will be included in this study like the recent study by Gebrekidan et al. (2020). However, publications between 2000 and 2020 were included due to limited evidence available. Also, the broad publication date allowed comparison between the difference in barrier to EBF faced by working mothers before and after the introduction of the Global Strategy for Infant and Young Child Feeding.

This study used a secondary method of data collection – a literature review. Hence, only studies that utilize primary qualitative and quantitative methods (such as interviews, observation, focus group discussions and questionnaires) and were included in the study – to gain first-hand insight into the evidence. Due to the limited evidence on the topic, studies that reported working mothers’ and employers’ perspectives on the topic were included. The employer’s perspective is important because they are also knowledgeable of workplace activities and work-life balance of working mothers (Soomro et al., 2016). Although, Lakati, et al. (2002) reported that only maternal recall of EBF collected within 18 months postpartum is accurate. However, studies that recruited mothers with children up to 24 months were included. This is due to the limited evidence available and Danso (2014) confirmation that maternal recall of EBF was valid and reliable if the child is within 24 months old. Only studies published in English and evidence from developing countries – using gross national income per capita as defined by the United Nations (UN) (United Nations, 2018) were included in this study.

Studies that neither meet the above inclusion criteria nor account explicitly for barriers to EBF affecting working mothers in developing countries were excluded from the study.

Data Synthesis

Due to the heterogeneity of the methodology and outcome of the included studies, thematic analysis was considered the most appropriate method of reporting the data. Hence, the findings from the literature review were analysed in a narrative manner using themes – because themes are flexible and useful for handling large data sets (Nowell et al., 2017: 2). Also, it allows for a well-structured approach which produces a clear and easily understood report. Therefore, readers can easily see the result at a glance. Information such as the study type, the study limitation, the number of participants, inclusion and exclusion criteria, main findings (that is the barriers), maternity leave duration and maternity leave pay were extracted from each study and used when relevant in the thematic analysis. Based on previous evidence, the result was categorized into three major themes namely maternal, social and work-related factors (Gebrekidan et al., 2020). Each major theme was further categorised into 2 sub-themes based on available evidence. The maternal factors were categorised into physiological and psychological factors while the social factors were categorised into family and societal factors. Similarly, the work-

related factors were categorised into structural and attitudinal factors. Effectively, these sub-themes further simplified the literature review evidence.

Result

This section discusses the findings of included studies obtained from the literature search – that is the many barriers to EBF faced by working mothers in developing countries. It presents an overview of the included studies, followed by a thematic analysis of the evidence – using themes such as maternal factors, social factors and work-related factors. It also discusses the limitations of the evidence and concluded with a case for the evidence.

Overview of the Included Studies

A total of 22 peer-reviewed journals conducted in developing countries were included due to limited evidence available. Only 3 of them were conducted in a low-income country (Ethiopia) and 14 were conducted in a lower middle-income-countries.

Two of the twenty-two articles were published before 2010 while the rest were published between 2010 and 2020. This implies that before 2010 very few studies were conducted to identify the barriers to EBF among working mothers in developing countries. However, as more women in developing countries opt for paid work, researchers and policymakers have seen an increasing need to explore this topic – to formulate policies aimed at supporting EBF among these working mothers (Danso, 2014).

The majority of the studies used a cross-sectional design and 16 of them used a quantitative approach (Boralingiah et al., 2016, Sabin et al., 2017, Chhetri, et al., 2018). Only one study reported employers' perspective of the barriers to EBF among working mothers (Soomro, et al., 2016) while others had working mothers with children aged 1-24 months as participants. All the articles reported work-related factor as a major barrier to EBF among working mothers, with the most common being short maternity leave. Despite these, 9 studies did not report the maternal leave duration in their country of investigation. Also, when compared there was no significant difference in the barriers to EBF among working mothers before and after the development of the Global Strategy for Infant and Young Child Feeding in 2003 (WHO & UNICEF, 2003).

The included studies offer some valuable insights for researchers and policymakers in planning complex public health interventions to promote EBF. However, both the evidence and study methodology have limitations which will be discussed later. The factors that act as barriers to EBF among working mothers are discussed below in themes and sub-themes.

The Evidence

Maternal Factors

Several studies reported that maternal factor is a barrier to EBF among working mothers (Hirani & Karmaliani, 2013; Sulaiman, et al., 2016; Tadesse et al., 2019). Therefore, aside from work, these women have other barriers that have hindered them from practising EBF. These maternal factors are categorized into physiological and psychological factors.

Physiological Factors

Insufficient breast milk resulting from poor lactation (Lakati et al., 2002), birth by caesarean section (CS) (Dun-Dery & Laar, 2016, Abou-ElWafa & El-Gilany, 2019), and poor maternal health (Okwy-Nweke et al., 2014) were reported as physiological factors that negatively affect EBF practice among working mothers. In 2002, insufficient breast milk was the most common barrier to EBF reported by 54.53% of working mothers attending public and private clinics in Nairobi, Kenya (Lakati, et al., 2002). Although Okwy-Nweke et al. (2014) reported that this poor lactation in Nigeria was caused by the effect of drugs taken by the mothers during EBF, most mothers argued that

this condition which caused their infant to detest feeding was work-induced. Due to poor lactation, nursing mothers in a qualitative study in Karachi, Pakistan reported that they ate food they disliked such as goat's lungs, "*punjari*", high protein diet, and herbal medicine to increase the milk flow (Zafar & Bustamante-Gavino., 2008).

In recent times, working mothers aged 24 years and above in Wa, the capital of the Upper West Region, in the north-west of Ghana women admitted that birth by caesarean section (CS) hindered them from practising EBF (Dun-Dery & Laar, 2016). Such that working mothers who had a vaginal delivery (popularly referred to as normal delivery) were almost ten times likely to exclusively breastfeed than those who had CS – due to the delayed lactation associated with CS. In Ghana where the maternity leave is three months, the government proactively ensures that the leave is extended by two weeks for working mothers who had CS to promote EBF.

Some studies also outlined poor maternal health as a barrier to EBF among working mothers (Danso, 2014; Okwy-Nweke et al., 2014; Tadesse et al., 2019). Although, it appears this was not a common barrier to EBF among working mothers for two reasons. First, only 3 out of the 22 studies reported this as a barrier to EBF among workers mothers. Second, when the number of ill working mothers in Ethiopia who stopped EBF was compared to their unemployed counterpart, it was observed that working mothers were less likely to experience poor health (Tadesse et al., 2019). This is attributable to the formal education and quality healthcare received by most working mothers in Ethiopia (Chekol, et al., 2017). Although, Ethiopia is an exceptional case as opposed to many developing countries because female workers are entitled to 3 months fully paid maternity (1 month during antenatal and 2 months during postnatal) on the recommendation of a medical doctor. Therefore, poor maternal health may be considered as a barrier to EBF among working mothers. Further studies to investigate specific illnesses that deter these mothers from practising EBF will be useful to the field of global health.

Psychological Factors

This section discusses how an unhealthy perception of EBF and emotions by working mothers' have hindered them from practising EBF. Particularly, it emphasizes that working mothers require all the necessary support to enable them to practice EBF like their non-working counterparts.

Although insufficient breast milk is a barrier to EBF among working mothers (Okwy-Nweke et al., 2014), a quantitative comparative study in Ethiopia by Tadesse et al (2019) posited that sometimes these are mere perceptions by the working mothers. In the study conducted in Ethiopia, 9.6% of working mothers with infants aged 3–5 months, living in five districts had the perception that their breast milk was inadequate. A result which turned out to be statistically significant. Similarly, qualitative research conducted by Sulaiman, et al (2016) which involved 40 working mothers aged 18 years and above who had at least one child aged 6-24 months reported that some working mothers perceived infant formula as more beneficial than breast milk due to their poor knowledge of EBF (Okwy-Nweke et al., 2014). Hence, these mothers had to quit EBF to commence complementary feeding. It unlikely that the evidence is false because working mothers attending the Infant Welfare Clinic of the Institute of Child Health at the University of Nigeria Teaching Hospital, Nigeria admitted that they also disliked EBF. Therefore, despite the age-long belief in breastfeeding in developing countries, some working mothers still find it difficult to embrace EBF – due to their perception that breast milk is insufficient or not beneficial as infant formula. In a country like Iran, working mothers reported that emotional trauma and feeling of guilty due to work-related stress have hindered them from practising EBF (Valizadeh et al., 2017). According to Hirani & Karmaliani (2013) when working mothers are confronted with lack of breastfeeding space and criticism from their employers and colleagues – like in the case of the respondents at the urban healthcare facility in Karachi Pakistan – they often feel shy to breastfeed their babies especially in the presence of their male colleagues. By depriving their infants of the best care, these working mothers become affected psychologically resulting in depression and dissatisfaction. Unfortunately, this emotional stress forces them to quit and give up on EBF. Hence, limiting the number of working mothers who are willing to adhere to EBF practices.

Social Factors

Despite a mother's major role in EBF, it has remained a social issue that involves the support of others – particularly the family, health workers and caregivers. Sabin et al (2017) revealed that even when a mother is healthy, willing and receives workplace support, she may still be confronted with other social factors capable of discouraging her from practising EBF. This section discusses all factors, other than maternal and work-related factors that negatively affect EBF practice among working. In simple terms, these social factors are barriers caused by either the family or the society at large that has hindered working mothers from practising EBF.

Family Factors

In developing countries, families put so much domestic responsibility on women (Omer-Salim et al., 2015). This culture to a large extent overburdens nursing mothers with the care of the husband and in-laws even after childbirth coupled with the demanding nature of EBF. Mothers especially working mothers require adequate family support to adhere to the WHO's guidelines on EBF within the first six months of birth (Sabin et al., 2017). For example, some mothers were able to breastfeed for over eight times daily because of their husband support and bed-sharing practice in Efutu Municipal in the Central Region of Ghana (Nkrumah, 2016). However, some working mothers in countries like Ethiopia and Iran respectively reported that they lacked this support especially from their spouse (Taddele et al., 2014; Valizadeh et al., 2017) – which negatively influenced their EBF practice. Chhetri, et al. (2018) posits that this poor spousal support is attributable to the husband's poor educational background and demanding nature of his occupation – and these results were statistically significant.

Aside from poor spousal support, working mothers also reported that they witnessed poor support from the extended family particularly the grandmothers (Nkrumah, 2016; Sabin et al., 2017). It is alarming that working mothers are confronted with challenges to EBF in their own homes which ought to be their safe space. These working mothers are even discouraged from practising EBF by their mothers-in-law (Danso., 2014). A study in Nigeria reported that 38.3% of mothers-in-law did not believe in EBF (Okwy-Nweke et al., 2014). Hence, they showed no support to their daughters-in-law decision to practice it. This lack of physical and emotional support from family members poses a threat to the woman's decision to practice EBF and in most cases, they had to quit to save their families.

Societal Factors

Working mothers are integral parts of the larger society, therefore the society largely influences their decision and practices (Dun-Dery & Laar, 2016). Unfortunately, societies in developing countries have not proactively promoted EBF practice among working mothers. When healthcare workers lack adequate Infant and Young Child Feeding (IYCF) training, they transfer little or no knowledge to the working mothers resulting in poor EBF practise. A study conducted in Wa in Northwest Ghana revealed that inadequate IYCF training by the healthcare workers negatively affected the EBF practice of employed mothers.

Similarly, in Nairobi, Kenya, 16% of working mothers reported that advice of health professionals affected their EBF practice (Lakati, et al., 2002). Such that mothers using government health facilities for their ante-natal care had better knowledge and subsequently better EBF practice than those using private health facilities. Inadequate training of the mothers often leads to late initiation of breastfeeding which in turn leads to the introduction of pre-lacteal (Taddele et al., 2014). Two studies conducted in Mumbai, India showed that pre-lacteal feeding rates were 33.5% and 31.6% – due to poor knowledge by healthcare personnel which negatively influence the mothers' EBF practice (Boralingiah et al., 2016). Some working mothers are also poorly trained at hospitals that they lack the skills to express their milk at the workplace when necessary (Ahmadi & Moosavi, 2013). Effectively, this limited knowledge of expressing breast milk hinders EBF practice among working mothers who choose to strictly adhere to the WHO's EBF guidelines.

Working women are inclined to seek advice from other members of society regarding their children's health and act on them. For example, working mothers advised by their well-wishers to introduce infant formula to their babies were less likely to practice EBF (Dun-Dery & Laar, 2016). Conversely, working mothers who were encouraged by their religious heads to exclusively breastfeed were 2.7 times more likely to breastfeed exclusively than those who were not encouraged (Ahmadi & Moosavi, 2013). This suggests working mothers were likely to either practice or refrain from EBF based on societal influence.

Day-care facilities are major caregivers for children below 5 years (Hirani & Karmaliani, 2013). However, working mothers in Pakistan reported that day-care facilities prohibited them from breastfeeding within the centre. This was a major barrier to EBF for these working mothers couple with the lack of breastfeeding spaces at their workplace. Effectively, this lack of alternative forced them to introduce complementary feeding to their infants within the first six months.

Work-related Factors

This is a known barrier to EBF and the most common among working mothers, such that it was outlined by all included studies. If all mothers have positive knowledge and attitude towards EBF, those employed were 32% times less likely to exclusively breastfeed than their unemployed counterparts – attributable to work-related pressure (Taddele et al., 2014). Also, a study conducted in Ghana showed that 90.5% of the mothers stated that the major factor preventing them from practising EBF is their working status (Danso, 2014). These barriers were either structural or attitudinal factors, with the structural barrier being the most reported.

Structural Factors

This refers to all factors inherent within the workplace due to poor government policies, work cultures or environment which prevents working mothers from exclusively breastfeeding. Structural factors that negatively affect EBF practice among working mothers include short maternity leave, inflexible work hours, lack of breastfeeding space and facilities and increased workload were reported by several studies (Chekol, et al., 2017; Tadesse et al., 2019; Sulaiman, et al., 2016).

In 2016, a study conducted among 369 mothers (aged 24 years and above) employed in Ghana's formal sector showed that 99% of the mothers knew that a child should be fed with breast milk only for the first six months of life. Additionally, 94% were aware of EBF benefits to the breastfed child and the mother. Despite these, EBF practice was still low attributable to their working status – such that only 10.3 % had exclusively breastfed their infants for six months (Dun-Dery & Laar, 2016).

According to the International Labour Organization (ILO), working mothers should be entitled to 14 weeks of maternity leave with pay (Aikawa, et al., 2015). However, most countries are yet to adopt this recommendation. Furthermore, those that have attempted to adopt it have consistently failed in its implementation (Riaz & Condon, 2019) – due to regulatory obstacles such as leave refusal, complex bureaucracy and sudden maternity leave termination attributable to poor social policies (Omer-Salim, et al., 2015). Working mothers are often denied their maternity leave (Riaz & Condon, 2019) or forced to return to work before their maternity leave ends (Ahmadi & Moosavi, 2013). Due to the lack of job security, these women are left to choose between their jobs and the breastfed child – and in most cases, they chose their jobs for the instant economic gratification (Zafar & Bustamante-Gavino, 2008). For example, in a study conducted by Dun-Dery & Laar (2016) among 369 working mothers in Ghana's informal sector, 91% of working mothers who initiated breastfeeding within the first hour of delivery as recommended had to quit EBF due to the need to return to work. Invariably, the lack or limited maternity leave forces these working mothers to introduce complementary feeding (Tadesse et al., 2019). Additionally, increased workload upon returning to work often discourages working mothers from taking their infant to the workplace (Danso, 2014).

The sector of employment and nature of the job also acts as a barrier to EBF among working mothers (Nkrumah, 2016). This is because the majority of mothers working in the informal sector of employment practised EBF compared to their counterparts in the formal sector. Similarly, there is a disparity in maternal leave duration depending on the type of organization (Aikawa, et al., 2015). For example, in Thailand, private workers are entitled to a maternity leave of fewer than 3 months while government workers had up to 3 months of maternity leave. Hence, EBF was practised mostly by government and semi-government workers (88%) followed by the private workers (79.5%) and self-employed mothers (70%) in Thailand – due to the inequality in maternity leave. Thus, necessitating working mothers to seek breastfeeding breaks to enable them to meet up with the huge demand of EBF (Chhetri, et al., 2018).

In a quantitative community-based study, it was observed that working mothers who got breastfeeding breaks practised EBF (53.3%) as opposed to those who did not (Chhetri, et al., 2018). A result that was found to be statistically significant (P -value <0.001). This suggests that in the absence of optimal maternal leave, adequate breastfeeding breaks can serve as facilitators to EBF practice among working mothers. For instance, breastfeeding breaks allow mothers in Ghana to go to work with their infants which potentially improved EBF practice (Nkrumah, 2016). Unfortunately, several pieces of evidence reported that breastfeeding breaks were either unavailable or inadequate to meet the demand of the breastfed child (Chhetri, et al., 2018; Danso, 2014; Aikawa, et al., 2015). Even when the breaks exist, these mothers had inflexible work hours (Danso, 2014) and limited or no breastfeeding spaces and facilities such as refrigerator to enable them to breastfeed (Chhetri, et al., 2018).

Inflexible working hours is often characterized by long working hours (Boralingiah et al., 2016) and the nature of the job (Boralingiah et al., 2016). Sabin et al. (2017) reported that 64.45% of mothers who worked above 6 hours did not practice EBF and this result was statistically significant (p -value <0.001). Similarly, shift work prevented mothers from planning their time (Lakati, et al., 2002) and night work was also considered a barrier to EBF among working mothers (Riaz & Condon, 2019). Additionally, most mothers who were sedentary workers admitted that they did not practice EBF due to the nature of their jobs (Boralingiah et al., 2016).

It is evident that working mothers in Developing countries are confronted with numerous work-related pressures, despite their constant efforts to practice EBF (Chhetri, et al., 2018). For example, in a community-based quantitative study conducted in India, 11% of the mothers who reported to receiving breastfeeding breaks during working hours stated that there was no provision for workplace crèches for them which ultimately undermined their efforts to exclusively breastfeeding. Besides from the lack of workplace spaces such as crèches, it has also been reported that available crèches were either unkempt (Okwy-Nweke et al., 2014) or void of facilities to promote EBF such as breastfeeding pumps and refrigerators (Amin et al., 2011; Soomro, et al., 2016) – which would have encouraged these mothers to express their milk. Furthermore, these facilities were only available in public workplaces such as the government-owned organizations. These structural inequalities between public and private organizations lead to health inequality because the nutritional status of a breastfed child whose mother works in a private organization is compromised. Additionally, mothers who found themselves in informal employment such as agriculture complained that occupational risk on the baby prevented them from taking the baby to their workplace (Nkrumah, 2016). This is coupled with the lack of breastfeeding spaces in such places. From the report above, it is obvious that short maternity leaves, inflexible working hours and lack of breastfeeding breaks and spaces are major barriers to EBF among working mothers. Therefore, it is imperative to ensure that policies and enabling environment are provided for working mothers to promote EBF.

Attitudinal Factors

Unfortunately, working mothers are confronted with attitudinal barriers within the workplace which hinder them from practising EBF. Often, mothers face political tension and poor workplace relation due to gender bias – which discourages them from seeking their maternity leave (Omer-Salim, A. et al., 2015). Sadly, working mothers reported that this lack of empathy is often promoted by their female colleagues who never had the opportunity to receive maternity leave.

Employers have also admitted to overestimating non-structural breastfeeding support system within the workplace which often discourages working mothers from practising EBF (Soomro, et al., 2016). According to Valizadeh et al (2017), this poor attitude of employers and co-workers affects the working mothers causing them to question the efficacy and importance of EBF. One would argue that this may be due to lack of knowledge by their employers and co-workers. However, 7 full-time Pakistani nurses reported that not only did they witness lack of empathy from their colleagues, they also faced criticism from the senior nurses at their workplace – a tertiary healthcare institution whose role is pivotal to promoting EBF (Riaz & Condon, 2019). One of the nurses reported that a matron told her that nurses do not breastfeed. Effectively, the poor attitude of workers towards EBF often discourages working mothers from exclusively breastfeeding their babies (Dun-Dery & Laar., 2016) – even when structural facilities are made available.

Therefore, to promote EBF among working mothers, it is important to provide an enabling environment that encompasses structural measures but also includes the positive attitude of employers and fellow employees.

Table II: Table showing the maternal leave duration and pay, and the main thematic findings

Author(s)/ Year/ Country	Duration of Maternal Leave (in months)							Pay during maternity leave (in percentage)						Main Thematic Findings (Barriers)						
	0		< 3		3		6		0		50		100		Maternal Factors		Social Factors		Work-related Factors	
	0	< 3	3	6	0	50	100	Psy	Pch	F	S	St	At							
Lakati, et al., 2002 Kenya	-	-	-	-	-	-	-	X			X	X								
Zafar & Bustamante-Gavino, 2008 Pakistan	-	-	-	-	-	-	-	X				X								
Amin et al., 2011 Malaysia			X		-	-	-	N/A	N/A	N/A	N/A	X	N/A							
Ahmadi & Moosavi, 2013 Iran				X	-	-	-				X	X								
Hirani & Karmaliani, 2013 Pakistan			X		-	-	-	X	X		X	X	X							

Danso, 2014 Ghana	-	-	-	-	-	-	-	X		X		X	
Okwy-Nweke et al., 2014 Nigeria	-	-	-	-	-	-	-	X	X	X	X	X	
Taddele et al., 2014 Ethiopia	-	-	-	-	-	-	-			X	X	X	
Aikawa, et al., 2015 Thailand		X ^P	X ^G		-	-	-					X	
Omer-Salim, et al., 2015 India				X			X			X		X	X
Boralingiah et al., 2016 India	-	-	-	-	-	-	-					X	
Dun-Dery & Laar, 2016 Ghana			X ^C				X	X			X	X	X
Nkrumah, 2016 Ghana			X				X					X	
Soomro, et al., 2016 Pakistan			X			X						X	X
Sulaiman, et al., 2016 Malaysia		X			-	-	-	X	X			X	
Chekol, et al., 2017 Ethiopia		X			-	-	-	X	X		X	X	
Sabin et al., 2017 Pakistan	-	-	-	-	-	-	-			X		X	
Valizadeh et al., 2017 Iran	-	-	-	-	-	-	-	X	X			X	X
Chhetri, et al., 2018 India	-	-	-	-	-	-	-			X		X	

Abou-ElWafa & El-Gilany, 2019 Egypt			X ^A				X	X				X	
Riaz & Condon, 2019 Pakistan		X			-	-	-					X	X
Tadesse et al., 2019 Ethiopia			X ^B				X	X	X			X	

X^A – Maternity leave is 90 days and it is granted after at least 10 months of service. The paid leave is not deductible from the basic annual leave. Mothers are also entitled to unpaid maternal leave for up to 2 years

X^B – working mothers are entitled to fully paid maternity leave of 90 days (30 days antenatal and 60 days postnatal) on the recommendation of a medical doctor

X^C – can be extended by two additional weeks in case of a caesarean or abnormal delivery

X^G – Maternity leave for government officials

fX^P – Maternity leave for private-sector workers

The Limitation of the Evidence

Like many studies, some included studies had notable limitations that may have affected the study validity. The bias which refers to any systematic error in study design, conduct, or analysis was a major limitation to the evidence (Althubaiti, 2016). Although this occurs in all research, it is particularly common in qualitative research (Smith & Nobel, 2014). Due to its potential to affect the study validity (Althubaiti, 2016), every research must minimize any form of bias (Smith & Nobel, 2014). To minimize response bias, Zafar & Bustamante-Gavino (2008) ensured that the study setting was chosen by the participants. They also used a combination of unstructured interview and observational study. However, Zafar & Bustamante-Gavino (2008)'s use of purposive sampling is prone to researcher bias (Sharma, 2017). Hence, the representativeness of their sample is questionable.

Misclassification bias – which occurs when data or respondents are misclassified – may have also affected these evidence especially for included comparative studies that compared barriers to EBF among employed mothers and unemployed mothers (Taddele et al., 2014; Chekol, et al., 2017). Studies originally conducted in other languages before being published in the English language are generally confronted with researcher bias (Sharma, 2017). Hence, studies conducted in Ghana, Pakistan and Malaysia that had part or all their data collected in *Fante*, *Urdu* and *Malay* respectively (Nkrumah, 2016; Riaz & Condon, 2019; Amin et al., 2011) were prone to this bias during reporting and data transcribing. Also, four of the included studies had less than 20 respondents (Hirani & Karmaliani, 2013; Zafar & Bustamante-Gavino, 2008; Valizadeh et al., 2017) – which is relatively low when considering the reliability of their evidence (Kaplan, et al., 2014).

Conclusion

Despite these limitations, evidence from the included studies is as strong they can be because the researcher(s) made reasonable efforts to minimize potential sources of error. For example, a considerable number of the study conducted pilot studies by pre-testing their questionnaires before the formal data collection (Okwy-Nweke et al., 2014, Boralingiah et al., 2016; Soomro, et al., 2016). Also, Danso (2014) recruited a large sample size (1,000 professional working mothers) to increase the study accuracy and reliability (Kaplan, et al., 2014). He also ensured

that questionnaires were completed confidentially to minimize interviewer bias. Interviewer bias occurs when an interviewer influences participants response (Smith & Nobel, 2014). Due to an interviewer's preconceptions and expectations, the interviewer may approve or disapprove a participant's response through verbal and non-verbal communication thereby affecting the study outcome.

Effectively, the overall outcome of the evidence was not influenced by interviewer bias because very limited qualitative studies (prone to such bias) were included in the study. Of all the 22 included studies, only 6 used qualitative design – such as in-depth interviews and FGDs (Zafar & Bustamante-Gavino, 2008; Hirani & Karmaliani, 2013; Omer-Salim, A. et al., 2015; Riaz & Condon, 2019; Sulaiman, et al., 2016; Valizadeh et al., 2017). Hence, it is unlikely that the study outcome was altered due to interviewer bias. Furthermore, Chekol, et al (2017) used multistage sampling technique which ultimately reduced selection bias.

Although there may have been researcher bias while eliminating unrelated articles with poor design and reporting, efforts were taken to minimize other forms of bias in the methodology. During the search, several databases were explored and attention to detail was observed such that the date and hits from all the databases were recorded. Through the eligibility process, recall bias common to the included studies – given that mothers were expected to recount their experiences – was greatly minimized. This was done by ensuring that only studies whose respondents are mothers with infants less than 24 months were included. This is because maternal recall on IYCF is only valid within the first 2 years of child's delivery (Lakati, et al., 2002).

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