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Breastfeeding and Employment: A Systematic Review of Breastfeeding Experiences among Working Women

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Abstract

Background: Maternal employment has been on the rise worldwide, and this rise is linked with breastfeeding (BF) practice. Returning to employment after childbirth reduces BF rates and exclusivity among working women. This dissertation focused on BF experiences among employed mothers. ***Aim:*** The central objective of this systematic review was to explore and investigate BF experiences among women who returned to work after childbirth. ***Method:*** A systematic review of available studies on BF experiences among employed mothers was performed based on inclusion criteria. Three databases, MEDLINE, CINAHL and EMBASE, were searched, as well as Google Scholar for literature greying. The CASP and JBI Critical Appraisal checklists were used to appraise the selected studies. Moreover, the JBI QARI data extraction tool was used to extract the data, which were synthesized using thematic synthesis. ***Results:*** Of the 6,488 studies resulted, five were included in this review as relevant for answering questions regarding BF experiences among employed women. All the selected studies used qualitative descriptive methods.

Appraisal showed that these five studies were of good quality. Four main themes were derived from the review: 1) women's experiences regarding BF support (support for BF in the workplace, and family and social support for BF and working), 2) working women's knowledge and attitudes regarding BF, 3) psychological challenges and 4) a strategic plan to maintain BF and work. ***Conclusion*****:** Based on mothers' experience, there is a perceived lack of support in the workplace; however, mothers also experienced great family and social support regarding BF during work. Provisions and policies for BF, including private rooms, pumping instruments, flexible work schedules and sufficient maternity leave, could help mothers maintain BF while working.

Keywords: Breastfeeding, Experience, working women, systematic review

*** Introduction**

This first chapter offers a brief summary of this dissertation, including the study's background, general aims and specific objectives, and then gives an outline of the dissertation.

1- Introduction and Study Background

Both UNICEF and the American Academy of Paediatrics (AAP) have a policy statement that supports breastfeeding (BF) because of human milk's demonstrated health benefits (APA, 2012; UNICEF, 2015). These policies have emphasised the significance of human milk for optimal development and growth, and they state that infants should be fed exclusively human milk for at least the first six months of their lives (Szucs, 2011). Also, AAP (2012) has recommended that infants should be breastfed through the first year of their life and for as long as it is mutually desired by the children and mothers. Additionally, according to the World Health Organization (WHO, 2017), BF should continue through the second year of child's life and beyond. Therefore, there is an initiative by UNICEF to support national governments to make the world a friendlier place for all women, including employed mothers, who wish to breastfeed their babies (UNICEF, 2015).

BF provides infants the healthiest start in life, and it is one of the smartest, simplest and most cost-effective ways to help ensure that all infants survive and thrive (UNICEF, 2015). Al-Ruzaihan, Al-Ghanim, Bu-Haimed et al. (2017) reported that BF had a significant effect on public health by helping to reduce health inequalities. Also, exclusive

breastfeeding (EBF) plays an essential role in facilitating babies' optimal growth, health and development, while the lack of EBF is associated with enhanced risk factors for many early-life conditions (Al-Ruzaihan et al., 2017). Chapter Two includes more explanations of the benefits of BF for infants and mothers.

According to UNICEF (2015), there are approximately 830 million female employees in the world. Some of these women will become pregnant while employed and subsequently give birth; many of them will return to the workplace soon after childbirth and will thus require supportive national legislation and polices. For instance, to continue to BF, they require BF breaks and paid maternity leave. However, if employed mothers are not provided with support from their employers and fellow employees, they might give up BF when they return to employment. Moreover, many females work in the seasonal, part-time or informal economy, and these women face even more barriers to BF; they require a strong, supportive family and society to manage BF and work (UNICEF, 2015). According to Dinour and Szaro (2017), many employed women experience barriers and challenges to maintaining a BF relationship with their babies upon returning to work, so they may cease BF earlier than recommended.

Employers are in a position to improve BF duration, rates and exclusivity. The workplace environment can play a positive role in promoting BF among mothers returning to employment. Many kinds of workplace support interventions are available, and these should not be ignored, as promoting BF in the workplace may benefit not only women and their babies, but also employers (Abdulwadud and Snow, 2007). For employers, Brown, Poag and Kasprzycki (2001) and Soomro, Shaikh, Bijarani et al (2016) indicated that the advantages of providing a working environment conducive to BF outweigh the costs; for instance, when BF is supported in the workplace, mothers may be more likely to return to work sooner after childbirth. This helps women maintain their occupational skills and decreases staff turnover. BF promotion at work can include provisions for BF, such as facilities for breastmilk expression and storage in the workplace, as well as paid maternity leave, part-time work engagements, national legislation and BF breaks. Such a supportive environment might result in a longer duration and higher prevalence of BF (Soomro et al., 2016). For instance, the

International Labour Organization found that maternity leave for over 13 weeks was positively associated with longer duration of BF (Chen, Wu, and Chie, 2006). Meanwhile, a study conducted in Egypt with 630 working women found that maternity leave for less than three months was associated with lower rates of EBF (14.1%), with higher rates among self-employers than among government employees (Abou-ElWafa and El-Gilany, 2018). In contrast, a study done in India found that although working mothers had received maternity leave for at least six months, 94.4% of them did not practice BF exclusively (Boralingiah, Polineni, Kulkarni et al., 2017). Overall, despite the recommendations by WHO, UNICEF and other organisations regarding BF and promotional strategies to increase the prevalence of BF, returning to work after childbirth has been associated with a reduction in BF duration and exclusivity. A study done in Malaysia found that working had a negative influence on women with respect to BF initiation, duration and exclusivity. Therefore, it has been suggested that further studies should be conducted to collect baseline data on the impacts of work on BF practices and to identify facilitating factors that increase BF and EBF among employed mothers (Tan, 2011).

2- Rationale and Significance of the Study

In recent years, women's participation in employment has risen rapidly, with little recognition of its influence on BF practice (Abou-ElWafa and El-Gilany, 2018). The rise in maternal employment has been attributed to many factors, including finances, benefits for maternal well-being and decreasing gender inequality in employment. However, employed mothers may return to employment while their children are still young (Dotti Sani and Scherer, 2018), which introduces more challenges and barriers for mothers in balancing their duties (employment and BF), especially with unsupportive workplaces. Gatrell (2007) found that women's ability to BF is markedly decreased when they return to work, particularly if there is no support in the workplace, like BF facilities, BF breaks and nearby infant day-care. It can be difficult for women who attempt to combine BF and work because the material activities of BF are 'taboo within the workplace' (Gatrell, 2007.p.393). Clearly, working mothers are less likely to practice BF than those who do not work (Taddele, Abebe and Fentahun,

2014). In this light, the current study analyses and investigates the published studies to explore experiences with BF among mothers who return to work after childbirth.

3- Study Aims and Objectives

A- Overall aim. The overall aim of this dissertation is to explore and describe the BF experiences of working women who return to work after childbirth.

B- Specific objectives. The following objective and questions have been set to achieve the overall aim:-

- Exploring women's experiences with BF in the workplace to discover any factors (barriers and challenges) that impact BF upon returning to work;
- Are working women supported by their employers and co-workers to continue BF upon returning to work after childbirth?
- Do working women experience any support from their family members, partners and society to combine BF and work?

4- Dissertation Outline

The central aim of this dissertation is to explore the experiences of BF among women who return to work after childbirth. This dissertation aims to gather all the studies related to the review question, based on inclusion and exclusion criteria, and to appraise and assess the quality of the selected studies with an appropriate tool (Porritt, Gomersall and Lockwood, 2014). This dissertation contains six chapters. The first chapter introduces the study background, significance and rationale, general aims and specific objectives. The second chapter focuses on reviewing the previous literature to define BF and its benefits and to describe the factors that affect BF and combining BF and work, including BF policy and facilities in the workplace. The third chapter presents the methodology of this dissertation, including evidence-based practice, question justification, inclusion and exclusion criteria, and the approach to synthesising the data from the included studies. Then, the fourth chapter explains the results of the search, examines the methodological quality of the included studies and analyses, investigates and synthesises the data that resulted from the included studies. The fifth chapter discusses the results of the data synthesis. Finally, Chapter Six summarises the entire dissertation and highlights the main results as well as outlines the strengths and limitations of this review and provides recommendations for future research.

* Literature Review

1- Introduction

This chapter reviews the current and latest evidence to describe the meaning of BF, as well its benefits for mothers and their children. It then explains the factors that affect BF and maternal perceptions of BF. Finally, it sheds light on BF policies and facilities in the workplace.

2- Definitions of Breastfeeding

Simply put, BF can be described as feeding infants at their own mother's breasts. Nonetheless, given recent developments, breastmilk may be pumped or stored for a long or short time, so the term 'breastfeeding' has become so ambiguous that it is impossible to describe contemporary breastmilk feeding behaviours with this word (Rasmussen, Felice, O'Sullivan et al., 2017). According to the WHO (2016), BF is a normal way of providing a young baby with the nutrients needed for healthy development and growth; it should be initiated within the first hour after childbirth. Furthermore, EBF is defined as feeding infants with only breastmilk for the first six months of their life (Chan, 2011), while mixed feeding is providing both breastmilk and other food or liquids to babies under six months of age (UNICEF, 2005).

3- Benefits of Breastfeeding

A- Benefits of breastfeeding for mothers. BF plays an important role in reducing the disease burden for women (Dieterich, Felice, O'Sullivan et al, 2013). A mother who breastfeeds her baby is more likely to have improved health in the short term and is at lower risk of developing diseases in the future (Dieterich et al, 2013; Godfrey and Lawrence, 2010). Baker, Gamborg, Heitmann et al (2008) conducted a large prospective cohort study on 26,846 postpartum women to determine whether BF reduced postnatal weight retention. Their findings indicated that although childbearing is associated with long-term weight gain, BF is associated with postnatal weight loss; if women BF as recommended, more of the weight they gained during pregnancy could be eliminated by six months postpartum. Moreover, BF is an important facilitator of mother–infant bonding, and bonding is a great reason for BF (Dieterich et al, 2013). Women who breastfeed their babies have heightened brain responses to their own baby's cry and exhibit more sensitive behaviour than formula-feeding women (Kim, Feldman, Mayes et al, 2011). Regarding lactational amenorrhea, Dieterich et al (2013) indicated that BF can naturally

suppress ovulation, thereby acting as a normal birth control for at least six months or as long as mothers breastfeed their babies.

In addition, there is an association between BF and metabolic changes. According to Stuebe and Rich-Edwards (2009), after weaning children, the favourable metabolic changes associated with BF persist, resulting in long-term reduction in the risk of chronic diseases. Whilst metabolism changes during pregnancy can lead to gestational diabetes and may enhance the risk of type 2 diabetes in later life (Stuebe and Rich-Edwards, 2009), during BF, insulin sensitivity is improved, and this may have a lasting influence: The risk of type 2 diabetes is reduced by 4 to 12% for each year of BF (Dieterich et al, 2013). Also, the risk of type 2 diabetes has been observed to be 50% higher among mothers who never breastfed their infants when compared to those who breastfed for at least three months (Schwarz, Brown, Creasman et al, 2010).

Furthermore, while childbearing can cause a hyperlipidaemic (high cholesterol in blood) state, lactation has long-term positive effects on regulating this concentration (Stuebe and Rich-Edwards, 2009). A cross-sectional population-based study conducted in Norway on 21,368 parous mothers found that BF not only significantly reduced the risk factor for cardiovascular disease, but it also lowered the long-term metabolic risk factor. Therefore, women who nursed their infants were less likely to have chronic diseases, including diabetes, hypertension, hyperlipidaemia and cardiovascular disease (Natland, Nilsen, Midthjell et al, 2012). In contrast, Stuebe, Kleinman, Gillman et al (2010) found that BF was not associated with any reduction of chronic disease risk factors. Nonetheless, lactation seems to play an important role in reducing reproductive and breast cancer, as studies have found that women who breastfed their children had a 4.3% lower risk of breast cancer and 28% lower risk of ovarian cancer than those who did not (Dieterich et al, 2013; Ip, Chung, Raman et al, 2009). Thus, mothers who breastfeed their children seem to be protected from several short- and long-term health problems, and EBF for a longer duration seems to result in the most optimal maternal health (Dieterich et al, 2013).

B- Benefits of breastfeeding for children. Globally, BF saves infants' lives and decreases their disease burden (Dieterich et al, 2013; UNICEF, 2005). BF has profound

effects on a child's nutrition, health, development and survival (UNICEF, 2005). Therefore, it has been established as the 'gold standard' for infant feeding (Kramer, Chalmers, Hodnett et al, 2001). BF provides all the nutrients infants need to grow during the first six months of their life, so no other foods or liquids are needed during this period (UNICEF, 2005). For instance, lactation stimulates the proper growth of infants' organs, such as the jaw and mouth, and hormonal secretion for digestion and satiation (Gridneva, Kugananthan, Hepworth et al, 2017; UNICEF, 2005).

Breastmilk also plays an important role in combating disease by carrying antibodies from the mothers during BF (UNICEF, 2005). Recently, studies have suggested that infants who breastfeed are less likely to acquire an infectious disease (Hanieh, Ha, Simpson et al, 2015; Pandolfi, Gesualdo, Rizzo et al, 2019). BF is also widely known to decrease the risk of infection, including gastrointestinal tract infection, respiratory tract infection and atopic eczema; this protection increases as the duration of BF increases (Kramer et al, 2001). For instance, EBF significantly decreases infant hospital admissions for diarrheal illness and suspected pneumonia (Hanieh et al, 2015). In addition, though studies on the link between BF and the risk of paediatric cancer are rare, there is evidence that the risk of acute 'lymphoblastic leukaemia' may be reduced by BF (Ip et al, 2009). A meta-analysis conducted by Kwan, Buffler, Abrams et al (2004) found that the risk of lymphoblastic leukaemia was reduced by 24% in infants who breastfed for more than six months and by 12% in infants breastfed for less than six months. Additionally, BF is essential for reducing infants' risk of metabolic disorders and cardiovascular diseases (Ip et al, 2009). A qualitative systematic review that included seven studies found that BF lowered the risk of type 2 diabetes, as breastfed children had lower insulin concentration while fasting compared to formula-fed children (Owen, Martin, Whincup et al, 2006). Also, the risk of type 1 diabetes and hypertension among breastfed children may be reduced in later life (Dieterich et al, 2013).

Moreover, according to UNICEF (2005), BF infants are six times more likely to survive than infants who are not breastfed. According to Goldberg, Rodriguez-Prado, Tillery et al (2018), sudden infant death syndrome (SIDS), one of the most common causes of neonatal death, is often attributed to sleeping

position or difficulty arousing from sleep. However, according to AAP (2016), BF decreases the rate of SIDS. One meta-analysis indicated that infants who were breastfed had a 45% reduction in their risk of SIDS when compared to formula-fed infants; this reduction rose to 73% when infants were breastfed exclusively (Hauck, Thompson, Tanabe et al, 2011). This is because infants who breastfed were more easily aroused from sleep than those who were not breastfed (Hauck et al, 2011).

A further benefit of BF is that it prevents childhood obesity. A study done in the US indicated that BF reduced the risk of childhood obesity by 36% at the age of one month; BF for a longer duration was associated with further reduction in the risk of childhood obesity, as BF for six months reduced childhood obesity by 42% (Wang, Collins, Ratliff et al. ,2017). Singhal and Lanigan (2007) suggested that 'breastfed babies control the amount of milk they consume, [so] they may learn to self-regulate their energy intake better than formula-fed babies' (p.52). However, higher protein intake in infancy promotes later obesity among breastfed babies (Singhal and Lanigan, 2007). Appendix 1 provides further explanations regarding obesity and BF.

C- Economic benefits of breastfeeding. In addition to the health benefits for mothers and children, BF may offer significant economic advantages for both families and societies (Claeson,2016), defraying or reducing both direct and indirect costs (Weimer, 2001). For instance, BF might eliminate or reduce direct fees from hospitals and clinics, as well as laboratory and procedural fees; other direct economic advantages for families may include savings from buying less or no formula for babies during the first year (Weimer, 2001). According to WHO (2019), in the UK, the US, Brazil and urban China alone, improved BF practices have reduced healthcare costs by more than US$300 million. A further economic advantage associated with BF is higher future salaries, as higher IQ leads to greater school attainment (Claeson, 2016; Reading, 2007; WHO, 2019). Furthermore, BF may promote a strong work ethic among mothers. BF working women are less likely to miss work, as breastfed babies are less likely to catch infectious diseases than formula-fed babies, and, in turn, their mothers are less likely to miss work to care for them (Weimer, 2001).

4- Factors Influencing Breastfeeding

A- Health and infant factors. Several health conditions, including medical

conditions, obstetric issues and the infant's condition, have been associated with BF. Some conditions may prevent BF, such as human immunodeficiency virus (HIV) and breast cancer. HIV is one of the most common conditions that prevents BF (Centers for Disease Control and Prevention [CDC], 2018). HIV-infected mothers must completely avoid BF their babies to prevent transferring HIV to their babies (CDC, 2018; Umeobieri, Mbachu, Uzochukwu et al, 2018). Also, according to Helewa, Levesque, Provencher et al (2002), mothers who have breast cancer and are undergoing tamoxifen or chemotherapy treatment should not BF their infants.

In addition, BF and its duration could be impacted by obstetrical factors, such method of delivery. A study in Canada found that 7.4% of women who delivered by planned caesarean section and 41% of those who delivered by emergency caesarean section did not initiate BF, as they found it difficult to BF (Hobbs, Mannion, McDonald et al, 2016). Another study conducted on 185 participants indicated that the amount of milk transferred to infants delivered by caesarean section was less than to those born vaginally (Evans, Evans, Royal et al, 2003); after few days, there was no difference in breastmilk volume, yet BF practices and duration were affected. Moreover, parity plays an important role in BF practice. In Mohamed, Ochola and Owino (2018), primiparous mothers practiced BF less than multiparous women, and multiparous women breastfed their babies for a longer duration than their primiparous counterparts. In contrast, another study indicated no advantages conferred by parity in BF practice, as BF behaviours were the same among primiparous and multiparous women (Emmanuel, 2015).

Infants of families in relatively affluent circumstances and with well-educated parents are more likely to be breastfed than low-income, young and less-educated parents' babies (Renfrew, Pokhrel, Quigley et al, 2012). Moreover, babies' gender may impact BF practice. Surprisingly, a study conducted in Singapore found that female infants were more likely to be breastfed at six months than male infants (Foo, Quek, Ng et al, 2005). Finally, low birth weight and preterm delivery are associated with shorter duration of BF, as infants' mothers are less likely to practice BF or breastfeed exclusively (Maastrup, Hansen, Kronborg et al, 2014).

B- Maternal age. The relationship between BF practices and maternal age

varies worldwide (Emmanuel, 2015). Maternal age at the time of childbirth seems to significantly influence the initiation and duration of BF (Colombo,2018; Li, Zhang, Scott et al, 2004). For example, Emmanuel (2015) found that older mothers breastfed their babies exclusively and for longer duration, while younger maternal age was associated with low EBF rates. However, Ogunlesi (2010) showed that the initiation, exclusivity and duration of BF was not affected by maternal age.

C- Educational status. BF may also be affected by level of education. Some have found that less education is associated with a failure to practice BF and EBF (Li et al, 2004; Ogunlesi, 2010). In contrast, Lawoyin, Olawuyi and Onadeko (2001) argued that less-educated women breastfed their children more often. Highly educated mothers understand the advantages of BF better than less-educated mothers, so highly educated mothers tend to initiate BF early and breastfeed their children exclusively, as recommended (Emmanuel, 2015). On the other hand, women with less education who breastfeed exclusively may do so more due to tradition than to awareness of BF's benefits.

D- Economic factors. BF and its duration are clearly affected by socioeconomic status (Flacking, Nyqvist and Ewald, 2007). High economic status significantly reduces the rate and duration of BF (Flacking et al, 2007; Okeh, 2010). According to Emmanuel (2015), this is not related to the employment status of high-income women, which has a negative influence on BF, as women who have high income status tend to breastfeed their babies for a longer duration and exclusively. Furthermore, Heck, Braveman, Cubbin et al. (2006) looked at 10,519 women in California to determine the effect of socioeconomic status on BF. They found that mothers with lower economic status were more likely to never breastfed their children. Also, women whose families or partners had professional or executive occupations or high incomes exclusively breastfed their children more often than their lower-status counterparts.

Moreover, advertising and marketing for alternative infant feeding practices is reported to have an impact on BF. According to UNICEF (2018), formula advertising significantly impacts a family's choice to introduce formula instead of BF. Recently, women have been choosing to use higher-cost formulas, particularly those come in ready-to-use bottles, which are seen as convenient

for bringing into maternity places or for use in the first few weeks of life (Thewliss, Elliott, Knight et al., 2018).

E- Beliefs and cultural factors. Cultural beliefs and taboos can have a negative impact on BF practice. For instance, some BF mothers' practices are influenced by elder family members' belief that breastmilk alone is an incomplete food and does not help babies gain weight (Mogambi, 2011). Others believe that it is necessary to add water to breastmilk to avoid dehydration in infants (Swigart, Bonvecchio, Théodore et al, 2017). Sibeko, Dhansay, Charlton et al's (2005) study of 115 women found that 90% of them believed that their breastmilk was insufficient for their babies, so traditional herbs such as 'Muthi' were given to infants in their first month. Also, some mothers discard their breastmilk before feeding their infants to get rid of any spirit that may come for their milk (Sibeko et al, 2005). Additionally, some women stop BF as soon as they become pregnant again because they are afraid of harming their babies (Mogambi, 2011).

F- Employment. Many studies have indicated that maternal work is in continuous competition with BF and may even be a common challenge and barrier to BF (Chekol, Biks, Gelaw et al, 2017; Emmanuel, 2015; Okeh, 2010). Women's employment negatively influences BF because they have inadequate time for BF while working, and it is difficult to sustain adequate BF practices while working (De Jager, Hartley, Terrazas et al, 2012; Emmanuel, 2015). Compared to unemployed mothers, working mothers were more likely to wean their babies earlier; also, mothers who worked for many hours tended to introduce formula in addition to BF (Chekol et al, 2017). This may be due to non-working mothers staying with their babies for longer than employed mothers (El-Gilany, Shady and Helal, 2011).

Furthermore, the majority of working mothers started to provide food and liquids to their children earlier than unemployed mothers because of unsupportive employers and a lack of BF facilities (Chekol et al, 2017). Given the challenges and barriers associated with BF among employed mothers, and based on WHO recommendations, all working mothers should be supported by employers when returning to work. Emmanuel (2015) believes that working women should be provided with a minimum of one break per day for BF or expressing breastmilk.

5- Breastfeeding and Work

A- Returning to work after childbirth. With rising female participation in employment, returning to employment after giving birth has been reported as the most challenging barrier for employed mothers to continue BF. Many factors could force mothers to return to work early, such as financial reasons, especially among low-income women. Rojjanasrirat and Sousa (2010) found that some women returned to work because they were concerned about their finances, and this negatively affected their ability to continue BF.

The timing of returning to work has been found to be associated with BF cessation. For instance, Sabin, Manzur and Adil (2017) found that early BF cessation or introducing formula has been related to shorter maternity leave and an early return to work. Similarly, a study of 400 working mothers found that returning to work shortly after childbirth was associated with shorter duration of BF, and mothers who were unemployed practiced EBF for at least six months longer than working mothers (Hassan, Yasmeen, Ahmed et al., 2014). Another descriptive cross-sectional study conducted in Ghana with 369 employed mothers offered evidence that EBF was less common among working mothers, and early BF cession was common; low EBF rates were associated with shorter maternity leave duration (Dun-Dery and Laar, 2016).

B- Workplace breastfeeding policy. It is very important to pay attention to BF policy to promote BF and continuity among employed mothers after they return to work. BF support in the workplace, such as lactation facilities, lactation counsellors and support from employers and co-workers, are critical in helping employed mothers continue BF, especially EBF (Basrowi, Sastroasmoro, Sulistomo et al, 2018). A global comparative study by WHO on BF policy that examined how many countries guaranteed employed mothers BF breaks found that, worldwide, 130 countries (71%) provided working mothers paid BF breaks; 7 countries (4%) had policies of providing unpaid breaks; and 45 countries (25%) had no policy regarding BF (Heymann, Raub and Earle, 2013). Heymann et al (2013) found that BF breaks increased the duration of BF among working mothers by at least six months. Similarly, a systematic review study (Steurer, 2017) found that policies of more than 12 weeks of maternity leave were associated with greater continuing BF; such policies are found

in only four countries: Scotland, Iran, Canada and the United States. Furthermore, a policy of providing six weeks prior to childbirth and six weeks after childbirth benefits BF, but most countries do not follow such a policy (Steurer, 2017). In Pakistan, Soomro's (2015) assessment of BF policy at 297 workplace sites indicated that 12% of workplaces provided BF breaks and 86% of women received maternity leave for at least three months. Information about BF and lighter job options for working women were documented at 5% of the worksites. Also, no more than 1% of workplaces provided BF facilities, such as BF rooms, breastmilk pumps, refrigerators and a nursery for childcare (Soomro, 2015). With most employers, the most basic BF facilities were lacking.

C- Workplace facilities. Provision of BF facilities plays a significant role in employed mothers' ability to continue BF. A lack of BF facilities and support in the workplace reduces female employees' willingness and desire to continue BF during work (Desmond and Meaney, 2016). In Malaysia, a cross-sectional study of 290 women found that a lack of adequate BF facilities was the most common reason for BF discontinuation in the workplace (Amin, Said, Sutan et al, 2011). The findings of this study indicated that discontinuation of BF was more likely among women who were not provided with a refrigerator in their workplace. Likewise, Kobala (2016) found that physical facilities and equipment, such as a breastmilk storage facility and a private BF and pumping room enabled 59% of working women to continue BF practices. Therefore, employed women must be provided with the facilities to avail BF breaks, pumping and hygienic storage of breastmilk at work. BF facilities such as pumps to express breastmilk and refrigerators provide a supportive environment for employed mothers (Amin et al, 2011). Other occupational factors, including BF-friendly occupational policies, employer education, flexible work schedules and workplace BF programs, can also improve the ability of working women to pursue BF when returning to work (Jantzer, Anderson and Kuehl, 2018). Noble (2001) found that the provision of appropriate facilities and flexibility in work schedules could enhance BF initiation rates among working mothers. The easiest, cheapest way to support BF is to provide employed mothers with a private room and facilities for BF (Seijts and Yip, 2008). Not only is providing private rooms and time for expressing milk crucial for increasing

BF practice, but it also improves job satisfaction via a partially mediated relationship between work and an enhanced personal life (Jantzer et al, 2018).

6- Summary of Chapter Two

A review of the current evidence offered a definition of BF and detailed its benefits for both mothers and children. This chapter has explained the factors that impact BF, particularly the role of BF policies and facilities in the workplace. The next chapter describes the methods used in this dissertation.

*** Methodology**

1- Introduction

This chapter describes the review process and implementation of the research strategy, as well as the role of evidence-based practice (EBP) in systematic reviews. Finally, it aims to justify the review question, as well as the methods used for data extraction and synthesis.

2- Evidence-based Practice

According to Barker (2013), EBP can enhance the quality of care provided, but it is difficult to achieve. Over the past few decades, EBP has evolved in both definition and scope. It requires that healthcare decisions be based on the best current, available, valid and relevant evidence (Dawes, Summerskill, Glasziou et al., 2005). In recent decades, there has been a call for more reliance on EBP in healthcare, and there has been a shift in that direction (Gordon, 2016). Barker (2013) defined EBP as a theoretical process that includes evaluation, use, application of research, evaluation of care, identification of best evidence, problem solving and decision making that involves clients. EBP has three important elements: evidence synthesis (bringing evidence together), evidence transfer (best practice information) and evidence utilisation (Barker, 2013). Furthermore, Chrisman, Jordan, Davis et al. (2014) explained EBP as 'a process of collecting, processing, and implementing research findings to improve clinical practice, the work environment, or patient outcomes' (p.8). Simply put, EBP can help providers be up-to-date and to ask the right questions (Chrisman et al., 2013). Rowles and McNaughton (2017) indicated that EBP is supported by a clear rationale and the latest and best available research.

Moreover, with qualitative evidence, providers and professionals can focus their creative thoughts on the most messy and complex challenges in their field, which helps them change their perspective to see things, dynamically, holistically and as comprehensively as

possible (Thorne, 2018). Thus, nurses and other healthcare providers shift their orientation to problem solving rather than to reporting the phenomena of concern, allowing a new solution to emerge (Thorne, 2018). Indeed, in an EBP environment, qualitative approaches can shine a powerful new light on the wondrous intellectual perspective that professionals can offer to healthcare.

In EBP, not all studies are equal. Instead, study types are ranked hierarchically based on strength, precision and research methods. However, every question must be answered with a different hierarchy (University of Canberra, 2019). For qualitative approaches, hierarchical evidence for practice provides a useful and appropriate guide for critically appraising the strength of studies for policy generation (Daly, Willis, Small et al., 2007). Figure 1 illustrates the hierarchy of evidence for qualitative research.

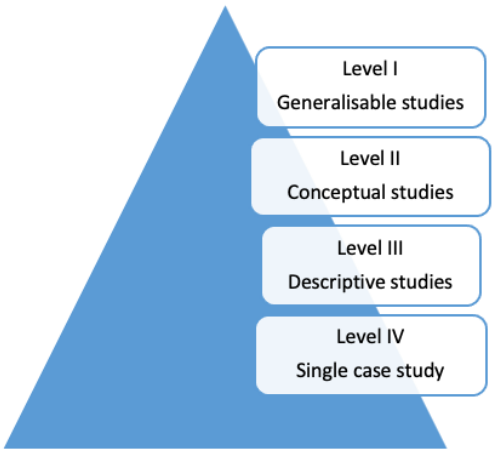

Figure 1. **Hierarchy of evidence for practice in qualitative research (Jackson, Fazal and Giesbrecht, 2010).**

It can be very difficult and time-consuming to identify the appropriate research and resources for relevant evidence without asking a question (Aslam and Emmanuel, 2010; University of Canberra, 2019). Therefore, when there is uncertainty, the preparation of a well-thought-out, answerable and focused question is the first and most significant step in research.

Brownson, Baker and Leet (2003), Boland et al. (2017) and Johnson (2008) reported that EBP involves five steps, illustrated in Figure 2. First, an answerable question is needed. It is important to formulate a detailed and clearly worded question, as these words are typically used in a literature search. Second, the researcher must find evidence that is appropriate for answering the question.

It is important to seek out the best available evidence and avoid limiting the search to studies that support preconceived ideas. Third, the chosen evidence is appraised, which is helpful to determine applicability and relevance. Fourth, the evidence is applied, such that the new information is combined with attention to clients' and patients' values. Fifth and finally, the outcome is evaluated, completing the persistent quality improvement rotation.

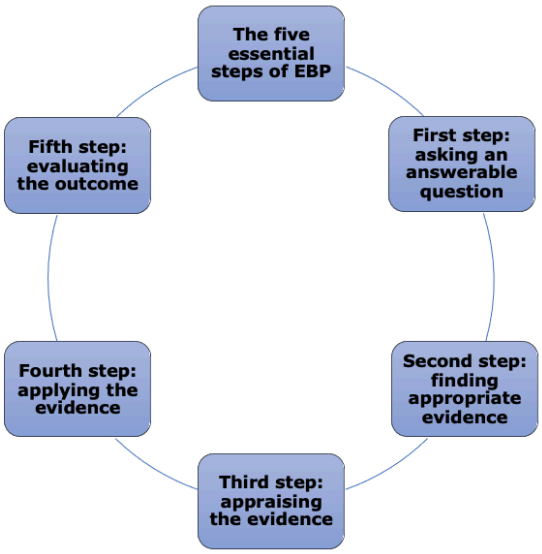

***Figure 2*. The steps of EBP (Brownson, Baker and Leet, 2003).**

3- Systematic Reviews as EBP

The systematic review is a method designed to collect the best available evidence and locate, appraise and synthesise information from this evidence related to a given review question to provide an evidence-based answer (Boland et al., 2017; Hemingway and Brereton, 2009). It is widely considered the best ('gold standard') approach for synthesising the results of many studies that investigate the same question, be it in education, healthcare or another field (Boland et al., 2017). Its use to guide policy decisions and directions for future research is on the rise (Aromataris and Riitan, 2014). Because systematic reviews must be based on replicable, peer-reviewed protocols (Hemingway and Brereton, 2009), their conclusions are more reliable than in other kinds of reviews, as their systematic approach seeks to identify the available published and unpublished evidence on a particular question, assess the quality of each study and synthesise the results from each individual study in an unbiased way (Aromataris and Riitan, 2014; Clarke, 2011). Clarke (2011) noted that the best, most reliable clinical guidance sources use high-quality, systematic methods.

Systematic review is known as secondary research, or research on research, because it uses findings that already exist (Clarke, 2011). All kinds of primary research can be used. For instance, systematic review can be conducted on cross-sectional studies, cohort studies and randomised trials (Clarke, 2011). Systematic review can

be described as a qualitative method, but researchers may be more likely to use terms like 'meta synthesis' (Boland et al., 2017; Clarke, 2011).

The steps for conducting a systematic review with qualitative research are more complex and contested than with quantitative methods (Thomas and Harden, 2008). However, reviewing qualitative studies systematically is generally better to determine whether something works. It can also go beyond questions like, 'Does this intervention work?' by asking, 'Why and how does this intervention work?' (Boland et al., 2017, p. 194). Thomas and Harden (2008) noted that the understanding of an issue addressed by qualitative research is improved through systematic synthesis of evidence, which facilitates the identification of gaps. On the other hand, there are debates about whether it is acceptable or even possible to synthesise qualitative evidence that comes from different analytical methods and theoretical perspectives. Therefore, many authors argue that those who conduct qualitative systematic review should ensure that the methodology and data analysis methods of the original studies are the same (Boland et al., 2017; Campbell, Pound, Pope et al., 2003; Dixon-Woods, Bonas, Booth et al., 2006).

Moreover, following specific principles can help authors to focus on relevant evidence, particularly students who are conducting a systematic review for postgraduate study. Boland et al. (2017) mentions ten key steps that authors must follow to conduct qualitative systematic reviews; these are listed in Appendix 2.

4- Research Paradigm

Johnson and Onwuegbuzie (2004) defined a research paradigm as a framework or model derived from a belief system or worldview about the existence and nature of knowledge; it is shared by scientific societies and guides how a society of researchers behaves toward a question. According to Kivunja and Kuyini (2017), the research paradigm is something many higher degree students and career researchers find difficult to articulate and apply in research protocols. Paradigms consist of four main elements: ontology, epistemology, axiology and methodology. These elements comprise the basic beliefs, assumptions, values and norms held in each paradigm, so it is very important to have a firm grasp of these elements (Kivunja and Kuyini, 2017; Sławecki, 2018). 'Epistemology' simply means 'knowledge', and in research, it is used

to explain how something is known to be real or true. Ontology is the part of philosophy concerned with the assumptions made when something is thought to be real or to make sense, or the essence of a phenomenon being investigated (Scotland, 2012). A positivist paradigm usually validates findings by applying certain criteria, such as internal and external validity, objectivity and reliability (Kivunja and Kuyini, 2017).

The third component of a paradigm is methodology, which refers to the research methods, design, approaches and procedures used (Kivunja and Kuyini, 2017). Increasingly, in systematic review, the methodology is to articulate the logical flow of the processes followed while conducting the research project, including the limitations encountered and the assumptions made, and how these were minimised or mitigated. Therefore, when conducting a systematic review, after the method is defined, synthesising evidence must be selected (Kivunja and Kuyini, 2017). Once a technique for evidence synthesis has been selected, there may be a discordance in the evidence, and this must be embraced (Gordon, 2016). To present a paradigm for systematic review, first, the authors must outline the important steps for conducting systematic review. They may then discuss how each step is to be adapted when identifying and synthesising the primary evidence (Durach, Kembro and Wieland, 2017).

Regarding this review's paradigm, many qualitative studies have discovered that BF is an 'engrossing, personal journey' associated with feelings of being a 'good mother', while the inability to breastfeed or early BF cessation has been seen as a personal failure by women, who often sustain feelings of grief (Spencer, 2013). Consequently, BF appears to be a strong, profoundly human experience and not simply a physical act of transferring important nutrition from mothers to their babies (Spencer, 2013). Despite mothers' knowledge of and passion for BF, the percentage of females who are employed during their childbearing period is growing, which is creating more challenges regarding BF and work (Tsai, 2013). Therefore, it is important to develop a paradigm that recognises that working women are more challenged when they plan to continue BF and that focuses on their experiences of BF in the workplace.

5- Justification of the Review Question

To focus a systematic review, the review purpose and question must

be stated clearly. According to Boland et al. (2017) and Aslam and Emmanuel (2010), to create a systematic process that is acceptable for both qualitative approaches and quantitative evidence, research questions should be modified using the acronym PICO. PICO, a widely known strategy in which P=population, I=intervention or interest, C=control or comparison and O=outcomes, is introduced to break down research questions into searchable keywords (Aslam and Emmanuel, 2010; Davies, 2011). According to Polit and Beck (2013), if there are no comparisons in a given study, the acronym is PIO. Following the PICO strategy is a great way to plan the kinds of study to include in a systematic review, and it also prevents the accidental exclusion of relevant articles (Boland et al., 2017). However, finding the inclusion criteria with PICO is not all always relevant when conducting qualitative systematic review (The Joanna Briggs Institute [JBI], 2014). Therefore, alternative forms have been created to form qualitative review questions. These include ECLIPS: expectation (E), client (C), location (L), impact (I), professional (P), service (S); SPICE: setting (S), perspective (P), intervention (I), comparison (C), evaluation (E); and SPIDER: sample (S), phenomenon of interest (P and I), design (D), evaluation (E), research type (R) (Boland et al., 2017).

For this systematic review, two formats (PICO and SPIDER) were sufficient to build the question. PICO is the most common search strategy tool, while SPIDER was used for advanced thinking beyond PICO, as it is the most appropriate application to the qualitative approach. Cooke, Smith and Booth (2012) noted that SPIDER is appropriate to be used with topics that explain attitude and experience. However, because time was limited, only SPIDER was used to build the research question, while PICO was used for both building the question and searching the evidence.

For this study, the review question is: What are the BF experiences of employed mothers who return to work after childbirth? As recommended by JBI (2014), Table 1 illustrates the research question within the PICO framework.

Table 1: ***Research Question Creation Using the PICO Framework***

Population (P)	Employed Mothers
Phenomenon of interest (I)	BF experience and viewpoints of working women
The context (CO)	Workplace, employer

A review question created using the SPIDER framework is shown in Table 2.

Table 2: ***Research Question Creation Using the SPIDER Framework***

Sample (S)	Working Mother
Phenomenon of interest (P and I)	BF in workplace after labour
Design (D)	Purposive, explorative, questionnaire, semi-structured, unstructured and face-to-face interviews
Evaluation (E)	Experiences with BF
Research type (R)	Qualitative evidence

6- Systematic Review Protocol

A systematic review's protocol is an important part of the review process. A protocol should contain sufficient information to enable independent replication (Pollock and Berge, 2018). Boland et al. (2017) argued that this is essential and should not be skipped. It is key to use a predefined protocol to avoid introducing selection bias and to ensure that all the significant decisions regarding the findings have been made in advance (Boland et al., 2017; Pollock and Berge, 2018). Specifically, a protocol for qualitative evidence should include a title, review purposes and question, preliminary studies, eligibly criteria, search strategy, critical appraisal, data synthesis and data extraction (JBI, 2019). A brief explanation of this systematic review protocol is available in Appendix 3.

7- Search Strategy

A search done for a systematic review should attempt to identify all available evidence, so it should be comprehensive (Aromataris and Riitano, 2014), including multiple databases and a source for grey literature (Relevo, 2012). It should consist of both index terms and free-text words or keywords that are used by a major bibliographic database to describe the contents of published studies by using controlled vocabularies (Aromataris and Riitano, 2014).

The search for this review took place between February and April 2019. The search was for published peer-reviewed articles written in English and published between 2000 and 2019. In addition, keywords were combined with Boolean (OR) or (AND), and to obtain more appropriate articles, some symbols were used. For instance, * was used to include countable or non-countable words, and $ and # were used to include both British and American spelling. During this search, first, keywords and a few key concepts were used (see Appendix 4). Then, once a result was displayed, each article's title, abstract and contents were examined (Aromataris and Riitano, 2014).

8- Electronic Databases

Because time was limited, only three electronic databases (*Cumulative Index to Nursing and Allied Health Literature* (CINAHL, EBSCO Host), the *Excerpta Medica Database* (EMBASE) and *Medical Literature Analysis and Retrieval System Online* (MEDLINE, 1946) were searched. These databases are particularly relevant, as they are the most relevant databases in the health field (Boland et al., 2017). According to Wong, Wilczynski and Haynes (2006), CINAHL and MEDLINE are the largest and most in-depth nursing research databases. Generally, both are highly relevant when searching for qualitative evidence for a systematic review, and they are essential for any nursing-related topic (Wright, Golder and Lewis-Light, 2015). However, MEDLINE is often the first choice because it provides free access to English-language articles and a broad range of biomedical literature, including nursing (Wong et al., 2006). In contrast, EMBASE does not provide free access, although it provides greater coverage of non-English-language and European publications. Increasingly, EMBASE is useful in identifying sources that may meet the inclusion criteria that might not be available through MEDLINE (Sampson, Barrowman, Moher et al., 2003).

Two months were spent searching the CINAHLE database (February and March 2019), while both MEDLINE and EMBASE were searched in one month (April 2019); Google Scholar was also searched for grey literature. The search strategy for each database is detailed in Appendix 5.

9- Study Selection and Eligibility Criteria

Study selection criteria are designed to identify primary research that can provide direct evidence regarding a research question. It is important to decide the selection criteria when defining the study protocol to decrease the likelihood of bias (Kitchenham, 2004). For systematic review, selection of the studies is a complex, multi-layered process. It is defensibly the most significant and perhaps the most debated aspect in the process of integrating systematic review on a particular topic (Meline, 2006). The process of study selection is important, as the exclusion and inclusion criteria determine the validity and scope of the systematic review's findings (Kitchenham, 2004). Furthermore, study selection should be carried out such that the result is useful and

credible in informing clinical practice, healthcare policy and future research (Porritt et al., 2014). In systematic review, the inclusion and exclusion criteria must be based on the focused research question for correct study classification (Kitchenham, 2004).

A- Study selection. Selecting studies is a multistage process (Boland et al., 2017; Kitchenham, 2004). First, eligibility criteria should be interpreted liberally. Unless research can obviously be excluded based on a study's title and abstract, full text should be obtained (Kitchenham, 2004; Meline, 2006). After retrieving full texts, the final decision should be made. During this process, it may be useful to make a list of excluded studies and the reason for each (Kitchenham, 2004). At the beginning of this systematic review, eligibility criteria were applied to ensure that the included studies would be relevant (see Appendix 6), with a major criterion that each must explore women's experiences with BF when they returned to work after childbirth.

10- Data Extraction

According to Boland et al. (2017), data extraction is the first thing to consider when conducting a systematic review. Extracting the standard descriptive information is the most important starting point, as this provides an overview of the studies' characteristics. Generally, data extraction aims to describe each study, extract the results from each in a consistent manner to enable later synthesis, and extract information to enable quality appraisal so that the results can be interpreted (Jones, 2004; Ring, Ritchie, Mandava et al, 2011). The author evaluated the included studies and extracted the findings relevant to the review question (Munn and Aromatases, 2014). Details about the selected studies were extracted and evaluated, including methodology, methods, participants, date of publication and themes. The data were extracted using the JBI QARI data extraction tool (Appendix 7). JBI QARI tool is designed to provide a comprehensive guide for authors to conduct systematic review by synthesising many relevant studies in unbiased way (JBI, 2019).

11- Assessment of Methodological Quality

Appraising the quality of the included studies is another important step in the systematic review (Kmet, Cook and Lee, 2004). For quantitative studies, ordering study designs hierarchically has been suggested to establish the minimum quality threshold for study inclusion; however, because the included studies used

various qualitative research methods, there was no way to do so (Boland et al., 2017). Although the same principles are applied during evaluation of both qualitative and quantitative studies, it is recommended that data extraction be done before assessing qualitative evidence quality. It is possible to develop useful and clear generic guidelines to assess and present qualitative research; indeed, there are various tools and frameworks designed to assess the quality, validity and reliability of studies and to detect any bias in the studies (Boland et al., 2017; JBI, 2019; Kitto, Chesters and Grbich, 2008). For instance, the Critical Appraisal Skills Programme (CASP) and JBI Critical Appraisal Checklist are designed to detect bias in research, and they are also suitable for considering numerous issues that are not relevant when assessing quantitative approaches, such as congruity between the philosophical perspective and the research approach (Boland et al., 2017; JBI, 2019). For this systematic review, as it is JBI policy to critically evaluate the quality of the included studies (JBI, 2019), the selected studies were evaluated with the JBI Critical Appraisal and CASP forms (Appendices 8 and 9).

12- Data Synthesis

'Research synthesis' is a general term used to describe the 'bringing together' of important research content on a particular topic (Ring, Ritchie, Mandava et al, 2011). The aim is usually to analyse, describe and draw conclusions regarding the included research evidence (Ring et al., 2011). Synthesising quantitative research often involves a rigorous process and protocol that aim to ensure systematicity, transparency and reproducibility. While reviewing quantitative data systematically is well established, for qualitative evidence, this is a new field, and the approach is still being developed (Seers, 2012). Recently, a range of different approaches has evolved to synthesise qualitative data. Moreover, interest in synthesising qualitative research to inform health-related practice and policy is also growing (Barnett-Page and Thomas, 2009; Seers, 2012). To synthesise qualitative data, Boland et al. (2017) utilised nine distinct methods, each of which was appropriate for a particular review question (see Appendix 10).

A- Thematic synthesis. The thematic synthesis approach is appropriate to answer the question and fulfil the purpose of this systematic review. Thematic synthesis is a method

designed to synthesise qualitative evidence by borrowing methods used to analyse primary evidence (Boland et al., 2017). It has been appropriately applied to reviewing the acceptability of health interventions. Increasingly, thematic synthesis is adapted and combined with methods from both grounded theory and meta ethnography. Here, it is sufficient for synthesising data from the included qualitative evidence regarding working mothers' experience of BF after childbirth (Barnett-Page and Thomas, 2009).

Thematic synthesis includes three stages that overlap somewhat: 1) free, line-by-line coding of the results of primary studies (each line of text is coded for meaning and content); 2) organisation of these 'free codes' into areas for constructing 'descriptive' themes (Thomas and Harden, 2008) – using the line-by-line coding during synthesis of qualitative findings enables authors to consider what has been explained as one of the key tasks and to translate the concepts from one study to another; and 3) development of 'analytical' themes in which the results of each study are combined via a theme list (Thomas and Harden, 2008).

13- Summary of Chapter Three

Chapter 3 has described EBP and systematic review as EBP. The review question was justified using the PICO and SPIDER acronyms. The research paradigm and protocol have been presented, and the steps for conducting the systematic review, appraising studies, and extracting and synthesising the data have been described. The next chapter of this dissertation explains the results of the reviewed studies.

*** Results**

1- Introduction

This chapter explains the results of the search and systematic review of studies that explore working women's experiences with BF after returning to work. It presents the characteristics of the included studies and describes their participants. Finally, it presents the themes that resulted from this review.

2- Search Results

A search of three databases (MEDLINE, CINAHL and EMBASE) resulted in 6,483 papers; a subsequent search of Google Scholar identified five more. Therefore, 6,488 article titles were screened. After screening, 6,444 unrelated (quantitative or focused on other issues regarding BF) or duplicate articles were excluded, leaving only 44 articles eligible for review of their abstracts. This process

resulted in 19 articles, which were then screened for methodology, and the contents of the whole article were examined. This assessment left 11 articles for further critical assessment. After the critical assessment, five full-text articles were deemed eligible, as they met the inclusion criteria. The five remaining articles were critically appraised again using a suitable appraising tool (JBI, 2019; CASP, 2018). The process and results of this review are illustrated in Figure 3.

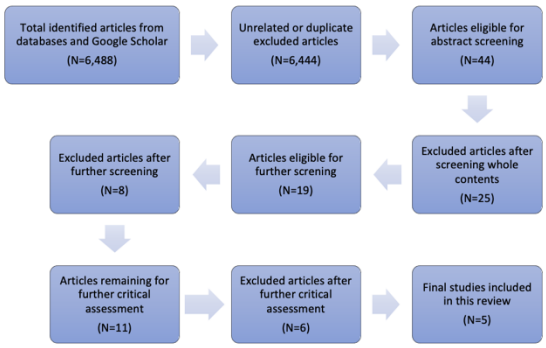

***Figure 3*. Process and results of search strategy.**

3- Methodological Quality Assessment

The five studies included in this systematic review were appraised with the JBI Critical Appraisal Checklist and CASP tool (for qualitative research), which were deemed the most appropriate and suitable for this research (JBI, 2019; CASP, 2018). The JBI tool is divided into ten questions (Appendix 8), and its purpose is to appraise studies by assessing their methodological quality and determining the extent to which they have addressed any possible bias in their design (JBI, 2017). CASP is divided into ten questions (Appendix 9) to address the issues systematically and assess the trustworthiness of the included studies (CASP, 2018). The findings of an appraisal can be used to inform the interpretation and synthesis of the results of the appraised studies (JBI, 2017). The checklist results for methodological quality of the included studies, shown in Appendix 11 a, b (JBI) and Appendix 12 (CASP), were almost good. Following prior studies, some criteria were further explored after the CASP appraisal (Boland et al., 2017; Heydari, Vafaei and Bakhshi, 2017), the results of which are listed below; the mean scores for the included articles based on CASP criteria are available in Appendix 13.

**** Purpose of included studies*: All five included studies showed clear aims and objectives that were relevant to the research questions.**

Rigour of the research: Two studies (Hirani and Karmaliani, 2013; Netshandama, 2002) detailed the context of the study and its potential impact. They examined their work step-by-step to ensure trustworthiness, looking at the study's credibility, transferability, dependability and

confirmability. The remaining three included studies (Riaz and Condon, 2019; Rojjanasrirat, 2004; Xuan and Nhan, 2018) did not describe these criteria as significant points in rich detail, though they did follow appropriate protocols while conducting the studies.

Data collection, analysis and interpretation: The methods by which data were collected for three of the included studies were face-to-face interviews and focus groups. In one study (Rojjanasrirat, 2004), data were collected via open-ended questionnaire, and another (Xuan and Nhan, 2018) collected data with two methods (individual interviews and open-ended questionnaire).

The process of analysing the data in all the included studies was thematic analysis. Three studies (Netshandama, 2002; Rojjanasrirat, 2004; Xuan and Nhan, 2018) used a computer system to analyse the data, while two (Hirani and Karmaliani, 2013; Riaz and Condon, 2019) analysed the data manually, without computer assistance. Overall, all included studies showed congruous data analysis techniques and methodologies.

Ethical considerations: Four of the included studies focused on ethical principles and provided rich details about the committees and participant consent, while one (Rojjanasrirat, 2004) included no ethics information.

4- Characteristics of Included Studies

The five studies included in this review were published between 2002 and 2019, which may attest to the rise in the participation of women in the labour force over the last 20 years (Jensen, 2017). Therefore, focusing on this period is sufficient for examining working women's experiences with BF. Some of the included studies were published in well-known journals. For instance, two (Hirani and Karmaliani, 2013; Riaz and Condon, 2019) were published in *Women and Birth*, an Australian journal on all matters that affect women's and babies' health (Fahy, 2006). The included studies were conducted in the following countries: Pakistan (Hirani and Karmaliani, 2013; Riaz and Condon, 2019), Vietnam (Xuan and Nhan, 2018), the US (Rojjanasrirat, 2004) and South Africa, Soutpansberg region (Netshandama, 2002).

All five studies used a qualitative descriptive approach, and all focused on a similar aim: exploring working women's experiences with BF. A comprehensive description of the studies' characteristics can be seen in Tables 3a and 3b. Moreover, their

publication characteristics are available in Appendix 14, and Appendix 15 compares the duration of maternity leave for the participants in included studies to countries' policies on maternity leave duration.

Table 3a: ***Description of included studies' location, methodology, methods, data analysis and number of participants***

Study	Country	Methodology	Method	Data Analysis	Participants
Riaz and Condon (2019)	Pakistan	Qualitative descriptive	Semi-structured interviews, up to 50 minutes each	Audio recorded interview; manually analysed themes	N=7
Xuan and Nhan (2018)	Vietnam	Qualitative descriptive	Purposive sampling technique: semi-structured open-ended questionnaire and in-depth individual interviews	Interviews audio-recorded, then fully transcribed verbatim; interviews analysed using qualitative content analysis; themes formed after third interviews	N=10
Hirani and Karmaliani (2013)	Pakistan	Qualitative descriptive	Purposive sampling; semi-structured in-depth individual interviews, 40 to 45 minutes each	Data analysed manually; thematic data analysed immediately after each interview	N=9
Rojjanasrirat (2004)	United States	Qualitative descriptive	open-ended questionnaire	Data categorised using content analysis; to analyse data, three methods: coding data, categorising text and refining themes	N=50
Netshandama (2002)	South Africa	Qualitative descriptive	Explorative, semi-structured questionnaire for focus groups; interviews, piggy backed on focus groups	Data transcribed and analysed thematically; resulting topics were clustered	N=26

*<u>*Piggy backing*</u> is effective if focus group interviews are added to other events.

Table 3b: ***Description of included studies' setting, duration, aim, key findings and conclusions***

Study	Study Setting and Duration	Demographic Characteristics of Participants	Study Aim	Key Findings (Emerged Themes)	Conclusions
Riaz and Condon (2019)	Tertiary hospital in Pakistan; six weeks in 2013	Employed full time Age 25 to 35 Had bachelor's degree in nursing	Describe the experiences and attitudes of breastfeeding women who returned to work	The right of children to breastfeed Institutional and family support to continue BF	There are many obstacles and barriers to BF. Stopping BF with maternal employment is a risk for babies
Xuan and Nhan (2018)	Binh Duong province, Vietnam; March and April 2018	Full-time government or private officers Gave birth normally BF while working	Describe the experiences of BF among working mothers	Mothers' attitudes Supporting plans for BF Physical issues Facilities for BF	The results can help healthcare providers provide anticipatory guidance to women who plan to BF after returning to work.
Hirani and Karmaliani (2013)	Private tertiary healthcare setting, Karachi; duration and date not reported	Employed full time as teaching faculty or support staff 26 to 40 years old Held from bachelor's to postgraduate degrees	Describe BF experiences among urban, professional working women	Working women's knowledge about BF Support from society and employers	Combining BF and work is challenging for employed mothers. There is a need for lactation support programmes to maintain BF and work.
Rojjanasrirat (2004)	One teaching university hospital, two urban community-based hospitals	Full-time employee 24 to 41 years old Had partial college to postgraduate degree	Explain BF experiences of women who return to work after giving birth	Support for women to BF at work and home Health issues Plans for BF at work Women's knowledge about BF	The results can help nurses teach pregnant women about BF and to support mothers who combine BF and work.

Netshandama (2002)	Suburban area, Soutpansberg region of northern province; duration and date not reported	Middle class Employed full time (nurses) Mothers 20 to 30 years old	Explore experiences with BF while working	Women's perceptions of BF Support for BF Resources for BF	Not spending enough time with babies affects the mother–baby relationship. Working women need support to continue BF.

5- Participants

As shown in Table 3b, all participants were employed full-time and BF mothers. They were 20 to 41 years old and had an education level from bachelor's to postgraduate degrees. All of them had maternity leave. In two studies (Hirani and Karmaliani, 2013; Riaz and Condon, 2019), participants were bilingual (Urdu and English). However, all interviews in all the included studies were conducted in English, which was preferred by the participants.

6- Results: Synthesising and Extracting Data

Four major themes were derived from the five included studies on the experience of working women with BF after returning to work; these are summarised in Figure 4.

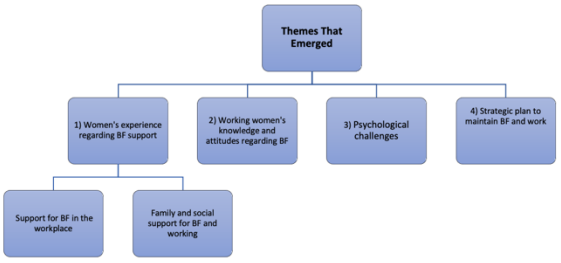

***Figure 4*. Main themes. Four themes emerged from the reviewed studies.**

A- Women's experiences regarding BF support.

- Support for BF in the workplace. The importance of support in the workplace emerged as the greatest facilitator of BF and work in all included studies. Rojjanasrirat (2004) found that such support resulted from significant attention from employers. Importantly, there were three types of support from co-workers and employers in the workplace that enabled women to continue BF during working hours: instrumental, emotional and informational. Instrumental supports were provided for BF women through behaviours that helped them directly when they needed to BF their infants; emotional supports were perceived as behaviours which provided an empathy of understanding, acceptance and the value of BF. Whilst informational support included any informational sources that women might use for coping with their BF experience (Rojjanasrirat, 2004). Furthermore, in Rojjanasrirat (2004), the women who BF during work encountered positive attitudes and support from their colleagues and employers. Women who BF in the workplace did not receive any complaints from their co-workers, as

most employers and colleagues understood that the women had gone to BF or to pump to feed their babies. BF facilities, spaces between work and home, and time allowances were provided, with particular attention to BF women; flexible work schedules allowed them to BF their infant as much and as long as they needed at any time without taking special breaks for BF (Rojjanasrirat, 2004). For instance, BF women were given the freedom to make their own schedules, and there were also privacy rooms and pumping instruments that enabled them to combine BF and work.

In contrast, the four remaining included studies (Hirani and Karmaliani, 2013; Netshandama, 2002; Riaz and Condon, 2019; Xuan and Nhan, 2018) found little BF support in the workplace. The greatest barriers and challenges reported by BF women were criticism and discouragement from their co-workers and employers (Hirani and Karmaliani, 2013; Riaz and Condon, 2019). Most employers and colleagues were not supportive and did not understand women's need to BF their babies or even to pump breastmilk to feed them (Netshandama, 2002; Xuan and Nhan, 2018). For instance, some BF women received a notice from their managers that encouraged them to start formula feeding (Hirani and Karmaliani, 2013). Moreover, the lack of physical facilities at workplaces, such as privacy rooms, breast pumps and facilities to store breast milk, produced other obstacles to continued BF after returning to work. Therefore, the majority of women changed their mind about BF after they returned to work, as they were uncomfortable BF or pumping breastmilk in front of their colleagues and employers, who rejected BF in the workplace, particularly older women and men (Hirani and Karmaliani, 2013; Netshandama, 2002). For instance, some women reported that, as there was nowhere available to pump breastmilk, they used the toilet to express their breastmilk, which led to more negative judgments from employers and co-workers (Xuan and Nhan, 2018).

Inflexible work schedules also affected BF while working (Hirani and Karmaliani, 2013; Riaz and Condon, 2019). Several women had given up their lunch break because of the lack of breaks for BF or expressing breastmilk. Others stopped BF and introduced formula for their babies because of the distance and the absence of day-care in the workplace, as many employers rejected the idea of

bringing babies to work (Riaz and Condon, 2019).

- Family and social support for BF and working. Interestingly, despite the lack of support for BF in the workplace, BF women reported receiving a great deal of support from their partners, families and society. Three of the five included studies (Hirani and Karmaliani, 2013; Riaz and Condon, 2019; Xuan and Nhan, 2018) found support provided by the social environment for women who combined work and BF, including child day-care staff and family members (husbands, mothers, grandparents), which increased women's willingness to BF and enabled them to continue BF while employed. For instance, most of the BF women's husbands shared in the duties involved in continued BF by bringing the baby to their wife's workplace so they could breastfeed and then taking them back home (Riaz and Condon, 2019). However, this could impact both fathers and babies by adding the danger of travelling to the workplace. Some studies highlighted other experiences with social support, such as the role of day-care staff in either hindering or promoting BF practices among working women (Hirani and Karmaliani, 2013; Xuan and Nhan, 2018).

On the other hand, some employed BF women described negative experiences at home or in the social environment. Netshandama (2002) found that there was not enough encouragement and support from partners. Most BF women had other responsibilities at home, such as preparing meals for the family and tidying the house, which led to them not having enough time to BF or cope with the baby. Another example is found among women who used day-care, as some reported negative experiences regarding BF allowances at the centre, where they received rude behaviour from caregivers and were not allowed to BF their infants (Hirani and Karmaliani, 2013). Figure 5 illustrates the subcategories that resulted from women's experiences regarding BF support while working.

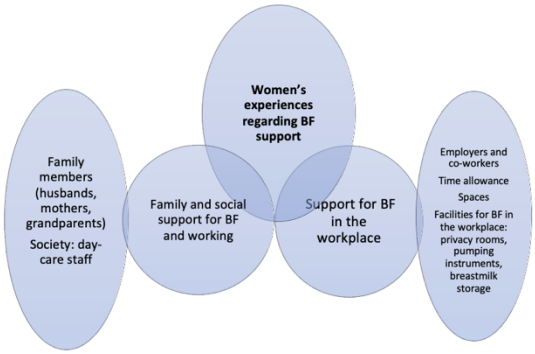

***Figure 5*. Subcategories of support for BF in the workplace and from society and family.**

B- Working women's knowledge and attitudes regarding BF. The included studies demonstrated positive attitudes regarding BF among working women. Most perceived the benefits of BF, as they intended to continue BF while working (Hirani and Karmaliani, 2013; Xuan and Nhan, 2018). They were strongly committed to BF, and most had planned and decided prenatally to breastfeed their babies exclusively. For instance, most participants in the included studies had a demonstrated ability to communicate openly and to manage their work schedule with their employers to continue BF for as long as they could (Hirani and Karmaliani, 2013; Riaz and Condon, 2019; Xuan and Nhan, 2018). Furthermore, employed mothers saw breastmilk as health protection for their babies, as well as a way to build a strong relationship with them, unlike formula, which is a known risk factor for infection (Riaz and Condon, 2019). They were found to have positive beliefs and values regarding BF, which they deemed 'the best', as it was seen as beneficial not only for babies but also for mothers (Rojjanasrirat, 2004). It was also seen as an important way for working women to bond with their baby, as it gave them feelings of closeness through togetherness and skin-to-skin contact (Netshandama, 2002). Therefore, employed mothers were predominantly positive about BF.

However, there were also some negative attitudes toward BF among working women. A number of them had made a prenatal decision to not breastfeed their baby while working because they either thought that the stress from work would prevent them from producing enough milk for their infant or they were unaware of the benefits of BF (Netshandama, 2002; Riaz and Condon, 2019). Thus, they planned to give up BF as soon as they returned to work. Other reasons for giving up BF after returning to work included feelings of shyness and embarrassment and a lack of boldness, especially in front of male co-workers (Hirani and Karmaliani, 2013).

C- Psychological challenges. Two of the five reviewed studies (Rojjanasrirat, 2004; Xuan and Nhan, 2018) found that the major obstacle in the workplace environment that affected the continuity of BF among working mothers was psychological distress**.** This manifested as guilt, feeling overwhelmed, feeling stressed and having to make sacrifices. Many working mothers found that they were

unable to BF their babies at the desired time because they were working (Xuan and Nhan, 2018). Unpredictable workloads and constraints of the working environment were the most common reasons for not BF in the workplace, which further enhanced the stress levels among the working women who wanted to breastfeed their babies (Rojjanasrirat, 2004). Furthermore, several working mothers experienced emotional discomfort in their working environment because a difficult work situation had forced them to stop BF much sooner than they had planned (Rojjanasrirat, 2004; Xuan and Nhan, 2018). These women felt pressured to make 'sacrifices' because they had no breaks to go home to BF their babies or even to pump (Rojjanasrirat, 2004). Therefore, several working mothers preferred to introduce formula. In other cases, worrying about insufficient breast milk production while working created more stress among employed mothers. Indeed, some working mothers provided formula for their babies because they thought that the excessive pressure at work would cause insufficient lactation for the infants (Xuan and Nhan, 2018).

D- Strategic plan to maintain BF and work. The importance of an organised plan for maintaining BF in the workplace was highlighted in the literature included in this review. Four included studies (Hirani and Karmaliani, 2013; Netshandama, 2002; Rojjanasrirat, 2004; Xuan and Nhan, 2018) described a strategic plan for combining BF and work in terms of maintaining milk supply, maintaining physical health, time management, planning ahead and organisation. First, employed mothers need to have a plan to become more organised, as well as a flexible work schedule, to pump breastmilk or BF successfully (Rojjanasrirat, 2004). Therefore, it is suggested that women schedule time on their calendar for BF or pumping so they will not skip it. This could help working women balance their duties as employees and as BF mothers. It is also important for working women to maintain their physical health and milk supply by resting and eating a balanced diet with plenty of fluid intake, which helps women produce enough breastmilk for their children (Rojjanasrirat, 2004; Xuan and Nhan, 2018). Moreover, some studies showed concerns about a lack of facilities for BF mothers in the workplace, so providing the required facilities in the working environment is an important strategy to help women maintain BF while working (Netshandama, 2002). Some facilities

that could improve the maintenance of BF during work spontaneously, if available at the workplace, include: 1) a kitchenette in each corridor/hallway or block, 2) breast pumps and 3) a freezer or refrigerator in the kitchenette to store expressed breastmilk (Hirani and Karmaliani, 2013; Rojjanasrirat, 2004). Significantly, intervention is needed to maintain BF in the workplace. For instance, all employers must provide women with a long enough maternity leave, as stipulated by the country's policy, and organise a programme to promote BF (Riaz and Condon, 2019; Xuan and Nhan, 2018).

7- Summary of Chapter Four

This chapter has presented the results of the search, described the characteristics of the selected studies and explained the four resultant themes. A discussion of these results is offered in the next chapter of this dissertation.

*** Discussion**

1- Introduction

The main aim of this chapter is to discuss the results of this systematic review. Of the 6,488 studies examined, five were included in this review as relevant for answering questions regarding BF experiences among employed women. All the included studies used qualitative descriptive approaches and met the inclusion criteria; appraisal also revealed these studies to be of good quality. Reviewing these five studies resulted in four main themes: 1) women's experiences regarding BF support, 2) Working women's knowledge and attitudes regarding BF**,** 3) psychological challenges and 4) strategic plan to maintain BF and work; each of these is discussed separately in this chapter.

2- Discussion

A- Women's experiences regarding BF support.

- Support for BF in the workplace.

The results of the included studies showed that the experiences of working women with combining BF and work were both positive and negative, but they had more negative than positive experiences. An analysis of the included studies found that employed women decided to continue BF when they returned to work before actually returning (Riaz and Condon, 2019; Xuan and Nhan, 2018). This result is supported by a qualitative study of 46 working women that found that 80% of the women planned to continue BF after returning to work, though 90% of them were unaware of the BF policy at their places of employment (Kosmala-Anderson and Wallace, 2006).

Regarding positive BF experiences in the workplace, only one of the five included studies found that the participants were satisfied with the support they received in their workplace and felt that they had a chance to BF on demand; those participants received emotional, informational and instrumental support at work, which enabled them to have great experiences with BF at work (Rojjanasrirat, 2004). The BF working women were supported by their colleagues and employers, and they were provided with flexible work schedules so they could breastfeed or pump breastmilk (Rojjanasrirat, 2004). This result is consistent with findings in another qualitative study, conducted with 18 women who were BF while working in Australia. These women felt supported by their employers, who allowed them to breastfeed their children as long as they planned ahead, giving them flexible work schedules during the BF period that accommodated their children's need for BF (Gilmour, Monk and Hall, 2013). Consistently, a cross-sectional study done in Australia found that BF employed women were supported with access to a private room, lactation breaks and flexible work options to facilitate BF at work (Weber, Janson, Nolan et al., 2011). Another study found that employed mothers were satisfied with their BF at work when a day-care centre was provided for them at their workplace (Suan, Ayob and Rodzali, 2016).

On the other hand, negative experiences with BF in the workplace resulted from a lack of support in the workplace. Four of the reviewed studies (Hirani and Karmaliani, 2013; Netshandama, 2002; Riaz and Condon, 2019; Xuan and Nhan, 2018) noted barriers to BF in the workplace. For instance, BF mothers were not supported by their employers, and they could not trust their co-workers and the management to create a friendly environment for BF women. Therefore, working women need more support in the workplace from employers and colleagues if they are to continue BF. Furthermore, unsupported working mothers at work tend to cease BF and initiate bottle feeding soon after returning to work because they cannot balance BF and work (Hirani and Karmaliani, 2013; Netshandama, 2002). Indeed, Sulaiman, Liamputtong and Amir (2016) and Zafar and Bustamante-Gavino (2008) reported that employed women experienced an unsupportive workplace environment regarding BF, such as inadequate facilities for BF. Similarly, in Iran, Valizadeh,

Hosseinzadeh, Mohammadi et al. (2017) found no support from co-workers and employers in relation to BF or women's need to express breastmilk to feed their babies, leading some women to suffer psychological setbacks and stress. Walls, Helms and Grzywacz (2016) and Rojjanasrirat (2004) found that working mothers who had a supportive workplace could better balance work and spontaneous BF.

- Family and social support for BF and working. The analysis of the included studies indicated that support from family members and society for BF during work was very helpful in facilitating continued BF among employed mothers (Hirani and Karmaliani, 2013; Xuan and Nhan, 2018). Husbands play an important role in BF achievement, as working women who received support from their partners breastfed their infant exclusively more than those who did not (Riaz and Condon, 2019). Husbands supported continued BF in several practical ways, such as swaddling babies, changing diapers and burping and holding babies (Rempel and Rempel, 2011; Riaz and Condon, 2019). Similarly, a qualitative and quantitative systematic review conducted by Johnston and Esposito (2007) found that supportive husbands and encouraging families and friends enabled working women to continue BF while they worked; moreover, family members and friends who previously breastfed their babies had a positive influence on employed mothers.

Furthermore, support from people in the social environment, such as nursery staff, was a significant factor in employed mothers' decision to continue BF during work (Hirani and Karmaliani, 2013). Likewise, Gilmour et al. (2013) found that child day-care centres that considered working women's need to easily access centres for BF during their breaks played a positive role. In contrast, a negative attitude toward BF from partners or day-care staff could negatively influence BF while working and could even physically interfere with BF (Johnston and Esposito, 2007; Valizadeh et al., 2017). For instance, care providers at day-care centres sometimes tended to feed the babies a bottle with formula while women were away at work, not allowing the women to breastfeed at the centre (Hirani and Karmaliani, 2013; Witters-Green, 2003). This can lead to a negative emotional response among women, as interactions between them and their babies at the nursery are inhibited, leaving mothers feeling

inconsequential to their babies' welfare (Fenwick, Barclay and Schmied, 2001). One qualitative systematic review found that employed women considered support for BF from their mothers, husbands or friends to be more significant than employers' support; however, social support from partners, mothers or day-care staff may impact them negatively if the social group members lack experience or knowledge regarding BF (McInnes and Chambers, 2008).

B- Working women's knowledge and attitudes regarding BF. The findings of the reviewed studies indicated that most of the working women knew enough about the benefits of BF; they chose to breastfeed because they believed in the superiority of breastmilk (Netshandama, 2002; Riaz and Condon, 2019). Their prior knowledge and ability to communicate their BF needs to their employers helped them to initiate and continue BF when they returned to work (Hirani and Karmaliani, 2013). Similarly, Zafar and Bustamante-Gavino (2008) indicated that if the employed women had a positive attitude and self-concept, this positively impacted the initiation of BF while working because they knew that it was best for their children and it enhanced their bond with their babies. Likewise, Sulaiman et al. (2016) reported that women's intentions were influenced by their perceptions of BF and work, as well as by various views regarding BF or breastmilk as the best choice for infants; this passion impacted women's choice. Furthermore, mothers' characteristics play a significant role in their BF outcomes; regardless of work environment, women's inner strength helped them to continue BF more often (Hirani and Karmaliani, 2013; Sulaiman et al., 2016). Positive attitudes regarding BF among working women promote BF in the workplace even if there is no support (Hirani and Karmaliani, 2013). Sulaiman et al (2016) reported that most working mothers managed to steadfastly provide breastmilk to their babies without any support from colleagues or families. Normative beliefs play an important role in make working women's BF journey easier, as demonstrated by the women's ability to maintain pumping regardless of the availability of facilities at the workplace for milk expression (Sulaiman et al., 2016).

On the other hand, negative attitudes and beliefs among several working women had huge implications for BF while working (Rojjanasrirat, 2004; Netshandama, 2002). One of the

most common beliefs was that they had insufficient breastmilk production, as they believed that working long hours could reduce their breast milk supply (Xuan and Nhan, 2018). However, these perceptions and opinions may be changed over time and affected by mothers' BF experiences (Schafer, Campo, Colaizy et al., 2017). In Phillips (2011), such beliefs were attributed to a lack of knowledge about the normal process of lactation. Such concerns could be addressed by antenatal education for employed mothers, which could emphasise the process of breastmilk production and recognising the cause of babies' hunger (Imdad, Yakoob and Bhutta, 2011; Xuan and Nhan, 2018), as well as helping women maintain physiological experiences that support BF (Schafer et al., 2017).

C- **Psychological challenges.** The included studies found that combining spontaneous BF and working enhanced women's stress and guilt. Insufficient break time, lack of BF facilities and unsupportive employers were identified as the main reasons for conflict in the workplace, increasing stress among working women (Rojjanasrirat, 2004; Xuan and Nhan, 2018). Specifically, employed mothers felt stress in the workplace due to inflexible work schedules and increased workloads, which inhibited them not only from BF their babies but also from expressing their breastmilk (Xuan and Nhan, 2018).

These findings were consistent with Valizadeh et al. (2017), who reported pressure and stress among working women as the biggest barriers to continuing BF in the workplace. Furthermore, some employed women experienced extreme stress and guilt related to concerns and conflicts about their workload and their desire to meet the BF needs of their babies and their own health needs in the postpartum period (Ahmadifaraz, Abedi and Azarbarzin, 2014; Valizadeh et al., 2017). Several employed mothers experienced *baysakoon* (discomfort) and feeling disturbed by the BF process and policies in the workplace, as well as by having to leave their hearts (infants) crying at home (Zafar and Bustamante-Gavino, 2008). Also, in this study, most working women felt guilty and uncomfortable because, to work comfortably, their breastmilk had to be wasted to relieve the pain of engorgement (Zafar and Bustamante-Gavino, 2008).

D- Strategic plan to maintain BF and work. The findings of the included studies indicated that in the workplace, it is very important to find a plan that can successfully satisfy

working women's rights and needs regarding BF. Managing time and providing employed mothers with a flexible work schedule are important for maintaining BF (Rojjanasrirat, 2004; Xuan and Nhan, 2018). Employers and companies should be flexible, such as providing employed women enough reasonable breaks for lactation and a clean and private physical space for BF or breastmilk expression (Xuan and Nhan, 2018). This suggestion is also supported by a systematic review that focused on the barriers to EBF among working women (Balogun, Dagvadorj, Anigo et al., 2015). BF facilities at every workplace, including private rooms, refrigerators and BF pumps, are crucial for maintaining BF (Balogun et al., 2015). In addition, employers should consider the physical and psychological health of working women who BF during work. Providing them with rest periods during work could help them maintain their health and allow them to have adequate meals (Rojjanasrirat, 2004; Xuan and Nhan, 2018). Valizadeh et al (2017) also saw maintaining the health of working mothers as an important strategy to facilitate continued BF while working. The psychological health of working women should be considered prenatally by both employers and health professionals, as women in the postpartum period are more easily affected emotionally, and this can be exacerbated with work (Balogun et al., 2015). Therefore, the results of this review offer guidance for employers, healthcare professionals, policy makers and other stakeholders when they are considering the challenges and barriers faced by BF working women when returning to work (Hirani and Karmaliani, 2013; Netshandama, 2002; Rojjanasrirat, 2004; Xuan and Nhan, 2018). Also, governments should provide other strategies. For instance, the Vietnamese government provides paid maternity leave of at least six months and organises an annual BF week (Xuan and Nhan, 2018). Additionally, a day-care centre should be built at each institution to provide women more opportunities to continue BF while working (Hirani and Karmaliani, 2013). Zafar and Bustamante-Gavino (2008) noted that women who had the opportunity to leave their babies in their institution's day-care centre practiced BF more and might not suffer emotionally because they felt that their babies were nearby and secure.

3- Summary of Chapter Five

This chapter has discussed the results of this dissertation. It discussed

each theme separately. The next chapter presents an overall summary of this dissertation.

*** Conclusion**

Because of its benefits for mothers and children, several organisations have recommended that mothers breastfeed their babies for at least the first six months. The rise of maternal employment worldwide has been documented as one challenge to BF. Therefore, this systematic review attempted to critically review the available qualitative evidence on BF experiences among women who return to employment after childbirth.

EBP is important, as healthcare decisions should be based on the best available evidence. Systematic review is an EBP that summarises the available primary research comprehensively. Both qualitative and quantitative research can be summarised; here, however, because the main objective of this dissertation was BF working women's experiences, only qualitative evidences were included.

In this dissertation, regarding working women's experiences regarding BF – both negative and positive – four major themes emerged: support for BF by employers, reported as a negative experience in most of the included studies; family member and social support, reported as positive support; psychological distress; and planning a strategy to maintain BF and work. Those wishing to facilitate BF and work could provide facilities such as private rooms, pumping instruments, flexible schedules and sufficient maternity leave. Furthermore, emotional distress was highlighted as a barrier to BF continuation upon returning to work. Fear of insufficient breast milk production with long working hours and unpredictable workload were highlighted as another reason for BF discontinuation.

1- Limitations of this Review

First, time was the biggest limitation for this review; this resulted in a limited database search. Also, the fact that this systematic review was conducted by only one author created a further limitation, as systematic review is usually done by more than one person; however, this review was done for a Master's degree, so single authorship was appropriate. Inexperience with conducting systematic review added further challenges and limitations, especially because this review focused on experiences. Fourth, the search was limited to English-language articles, leading to a language bias (Neimann, Rasmussen and Montgomery, 2018).

Also, the participants in all the included studies had a high level of education; well-educated employed mothers tend to breastfeed their babies longer than those who are not educated (Thulier and Mercer, 2009).

2- Strengths of This Review

Generally, reliability and potential bias were maintained while reviewing the included studies. All included articles had high-quality methodology and shared the key element of describing BF experiences among working mothers. Furthermore, this systematic review included only five studies that met the inclusion criteria, which might have provided the author more opportunity to investigate those studies thoroughly to describe and analyse women's experiences with BF more deeply. A further strength is that each included study focused on a different occupational type, including teaching and nursing, and the studies were conducted in various countries, thereby reflecting different policies and regulations regarding BF at work. All these differences may have resulted in different beliefs, attitudes and experiences among the participants.

3- Recommendations and Opportunities for Future Research

Prenatally, it is important to support women who plan to return to work and continue BF by preparing a well-designed strategic plan (Rojjanasrirat, 2004). For instance, antenatal educational sessions should be provided for working mothers that address the physical and psychological changes during the lactation period; this could significantly improve their ability to manage their stress and fears of insufficient milk production (Imdad et al, 2011). Therefore, women should be informed of the challenges and barriers to BF in the workplace by health care professionals, who can provide practical anticipatory guidance to overcoming these challenge (Balogun et al, 2015). Interventions in the workplace to create a 'mother-friendly environment' could help most working mothers to continue BF (Sulaiman et al, 2016).

Because individual beliefs and circumstances vary, creating or implementing changes in the workplace using various strategies might reach a wider range of mothers regarding BF and encourage them to continue BF (Sulaiman et al, 2016). Furthermore, the long-term benefits of allowing working women to BF during work (enhanced employee morale and

reduced healthcare costs related to sick babies) need to be understood by all employers; this can be achieved by offering a baby-friendly benefit package in all workplaces (Rojjanasrirat, 2004). Xuan and Nhan (2018) suggested that governments should put in place more policies regarding BF to provide employed mothers a chance to continue BF. For instance, they could extend maternity leave to more than six months with full pay to provide mothers the opportunity to breastfeed exclusively. Globally, more BF-friendly initiatives are needed in all workplaces to encourage employed mothers to continue BF upon returning to work after childbirth (Ong, Yap, Li et al, 2005). Employers should think about how to improve employed mothers' ability to BF or express and store milk. Therefore, each company and employer must be responsible for providing the basic requirements for BF, such as BF equipment, suitable breaks to express breastmilk and private places to allow for continued BF (Murtagh and Moulton, 2011).

Further studies are needed on working women's experiences with and perceptions of BF. Moreover, a sample of working women from various socioeconomic and sociocultural groups should be used in further qualitative research to evaluate their BF experiences at work (Rojjanasrirat, 2004). Additionally, the relationship between work productivity, psychological distress, family functioning and BF activities of employed mothers who breastfeed should be investigated in future studies (Rojjanasrirat, 2004; Valizadeh et al, 2017). Finally, further studies are needed to ensure that BF is supported in all sectors in society so that BF facilities are readily accessible to all BF women (Fox, McMullen and Newburn, 2015).

4- Dissemination

The overall findings were derived from primary qualitative research. The findings will be published after secondary peer review and acceptance for publication to disseminate the results to a wider audience.

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