

## **Chapter 2**

### **Review of Literature**

Literature review means a “re” view or “look again” at what has already been written about the topic. Literature review compiles various researches published by recognized scholars and investigators.<sup>72</sup> Thorough review of literature has been done pertaining to the study to comprehend and have a better foundation of the study. The researcher has used many online relevant researches to access the information pertinent to the present study.

The following headings serve as the foundation for the literature review:

1. Prevalence and outcomes of breastfeeding.
2. Theories of breastfeeding.
3. Breastfeeding problems.
4. Breastfeeding self-efficacy
5. Breastfeeding practices.
6. Breastfeeding interventions
7. Breastfeeding outcomes
8. Barriers of breastfeeding.
9. Mothers’ experience regarding breastfeeding.
10. Mother-infant bonding/interactions.
11. Factors affecting breastfeeding.

## **Prevalence and outcomes of breastfeeding**

A systematic review and meta-analysis was carried out in Iran to assess the prevalence of exclusive breastfeeding and its determinants. Many online databases were searched and 725 studies were found. Only 32 studies which assessed the status of exclusive breastfeeding and its practice were taken into consideration. The studies that were included have samples ranging from 50 to 63071. The prevalence of exclusive breastfeeding in Iran was found to be only 53%. Therefore it was concluded that health policy and decision makers should work to implement initiatives that motivate mothers to breastfeed their children.<sup>73</sup>

A study was conducted in 57 low and middle-income countries (LMIC) to evaluate the prevalence of breastfeeding globally in 2010 to 2018 and time trends for 44 chosen nations since 2000. 57 LMICs were selected from demographic health surveys that assessed breastfeeding status from 2010 to 2018. Furthermore 44 LMICs were also selected to assess the time trends of breastfeeding status. It was shown that the prevalence of early breastfeeding initiation was just 51.9% worldwide, for exclusive breastfeeding it was only 45.7%. Exclusive breastfeeding for 32.0% of infants at 4-5 months, continued breastfeeding for 83.1% of infants at 1 year, continued breastfeeding for 56.2% of infants at 2 years, introduction of solid, semi-solid, or soft foods for 14.9% of children who were under six months, 63.1% at six to eight months. In the South-East Asia/Western Pacific region, the prevalence of introducing solid, semi-solid, or soft foods at 6–8 months declined by 15.2%, while in middle income nations, it decreased by 24%. The study concluded that worldwide, breastfeeding practices in LMICs have improved over the past ten years, although they still fall short of WHO feeding recommendations. Because breastfeeding practices differed

greatly throughout WHO regions, the Eastern Mediterranean and European regions, as well as higher middle-income countries, faced the biggest challenges in meeting their goals. To meet the worldwide breastfeeding objective of 2025, ongoing efforts are required.<sup>74</sup>

In Burao, Somaliland, a cross-sectional study was conducted to assess the status of exclusive breastfeeding and the factors influencing it. The study was done among 464 mothers having children aged between 6 to 24 months. A structured questionnaire was prepared and face to face interview was conducted. Mothers were questioned utilizing their recall response regarding their lifetime (6 month course) EBF practice. If a mother exclusively breastfeeds her child for six months or more, she is considered to be practicing exclusive breastfeeding; however, if she exclusively breastfeeds for less than six months, she is considered to not be practicing EBF. The study revealed that exclusive breastfeeding was common in 20.47% of cases. Exclusive breastfeeding was linked to having a girl child, not having any education, having a monthly household income of 100-200\$, not having a supportive husband, and not receiving antenatal breastfeeding advice.<sup>75</sup>

### **Breastfeeding Theories**

Several reviews have been done related to theories of breastfeeding. Various steps to promote and improve breastfeeding have revealed improvements in the breastfeeding initiation as well as duration.

A systematic review was conducted to examine the breastfeeding theory, its application and assessment to provide potential guidance and implications for breastfeeding interventions. The research analyzed current breastfeeding intervention

studies using self-efficacy theories, expected behavioral theory and social cognitive theory that have been published. The studies that used the three assumptions to the intervention system were those in which researchers did so specifically. Studies were objectively evaluated for adherence to the theory of intervention, research design, implementation and assessment. Therefore total 18 studies were reviewed – 9 self-efficacy studies, 5 theory of planned behavior and 4 social-cognitive theory. Most of the strategies were centered on enhancing breastfeeding mothers' self-efficacy to enhance exclusivity and length of breastfeeding. Self-efficacy studies were more focused on using theoretically based instruments, but expected behavioral theory based and social cognitive theory based studies showed less clear measurement choices. The study concluded that in order to create effective breastfeeding interventions and assess the genuine effects on beneficial breastfeeding outcomes, practitioners and researchers can greatly benefit from sound applications of one or more theories.<sup>76</sup>

Numerous other studies have shown that the Reasoned Action Theory (TRA), Theory Expected Actions Theory (TPB) and Breastfeeding Self-Efficacy (BSE) discuss the relationship among psychosocial influences and breastfeeding. The study's goal was to determine how these theoretical constructs affected how long infants were breastfed. Online databases were searched related to the topic and non-randomized or observational studies were selected. Only reports documenting length of breastfeeding were included. The study concluded that maternal intention and breastfeeding self-efficacy were significant predictors of the duration of breastfeeding. No association was found between maternal behaviors, subjective standards, perceived behavioral regulation and length of breastfeeding.<sup>77</sup>

A study done in Australia introduced a new program called the Milky Way program that had been proved to be successful in helping women to achieve long-term breastfeeding. In the Milky Way program, breastfeeding was the main focus which combines body, mind and spirit. The theory of self-efficacy addressed women as being embodied a central principle for breastfeeding success. Later Birth Territory Theory was introduced which determines the holistic effect of the environment on the mothers health. This effect helps in determining the breastfeeding success among the mothers. However, the study concluded that though theories are helpful but other factors also influences the breastfeeding success such as support from health care professionals. The mother must understand her body, needs to relax and feed the baby to achieve prolonged breastfeeding.<sup>78</sup>

Further research in Taiwan aimed at evaluating breastfeeding self-efficacy or expected behavior theory correlation with better breastfeeding outcomes and the identification of key factors for successful breastfeeding education programs. Researchers classified recorded randomized controlled trials (RCTs) of educational programs that utilized either the theory of anticipated behavior or the theory of breastfeeding self-efficacy using computerized databases and lists of papers. As a result, 24 RCTs were picked up and 5,678 mothers got included with 4,178 mothers being in the breastfeeding self-efficacy group and 1,500 in the planned behavioral group theory. Mothers who obtained theoretical therapies had improved breastfeeding results. According to the study's findings, theoretically grounded instructional strategies can increase breastfeeding self-efficacy and exclusive breastfeeding by the time a baby is six months old. In future, breastfeeding education

initiatives that integrate breastfeeding self-efficacy theories and expected behavior will help to encourage sustained breastfeeding practices among mothers.<sup>79</sup>

All the theories conceptualize breastfeeding in different aspects. It advances the field's scientific understanding in some way. By understanding the concept of theories, we can improve the understanding of infant feeding pattern and thereby help in supporting breastfeeding effectively.

### **Breastfeeding Problems**

Breastfeeding the newborn can be a challenging procedure for many new mothers. It takes a lot of time and practice to establish good breastfeeding. However, mothers sometimes need support and motivation to do so. Lack of assistance from family members and medical personnel in the immediate postpartum period may lead to breastfeeding problems. Many studies have highlighted the issues of breastfeeding in the postpartum periods which are discussed below.

In order to study the breastfeeding strategy and the use of pacifier in relation to breastfeeding issues and their effects on the length of breastfeeding, a study involving 570 postnatal mothers was performed in a randomized controlled trial. Observations concerning breastfeeding strategies were made on the seventh day postpartum and repeated observations were made as to whether any correction was required. Samples were followed up to 6 months of baby age. The observation method for the breastfeeding technique included breastfeeding positions, latching, sucking and breastfeeding. The mothers were asked to self-report questionnaires concerning issues of breastfeeding and pacifier use. The study found that nearly 50 percent of mothers had improper lactating methods at first sight (breastfeeding 61 percent and latching

technique 52 percent). The breastfeeding period only referred to the sucking and transfer of breast milk. Mother recorded early breastfeeding problems and as a consequence, lactation period was closely linked to the improper breastfeeding process. The use of pacifiers during the breastfeeding period was also negative. It is also suggested that breastfeeding strategies be studied and taught at an early stage in the battle against breastfeeding issues.<sup>80</sup>

To evaluate the difficulties with breastfeeding experienced during the postpartum phase and the impact of breastfeeding problem related interventions, a systematic analysis was conducted. Total 27 researches and 7 theses were included with a total of 6736 parents and 592 children. The studies showed the most commonly identified issues were breastfeeding problems such as [24.5%] mother's had milk inadequacy, lack of gaining weight [15.7%], lack of awareness and breastfeeding experience [17.8%]. Again these findings found that women had issues with nipples [7.7%], breast pain [3.9%], breast engorgement [10.8%], reddened breasts [28.8%], cracked nipples [26.1%] and inflammation of breasts [5.6%]. All these problems can be tackled by providing good education regarding breastfeeding to women, birth preparation from antenatal period, good family support, increased confidence of mothers in breastfeeding, warm applications to breasts etc. This study found that women had a lot of breastfeeding problems but all such problems can be handled very easily through proper education and counseling of mothers.<sup>81</sup>

A cross-sectional study with mixed method was carried out in Southern and Central Denmark to evaluate 1437 mothers having single live babies regarding breastfeeding issues. A structured questionnaire was filled up by the participants describing the early breastfeeding problems. The study showed that 40% of mothers showed early

life breastfeeding problems. The most common issues were the failure of babies to latch [40.0%] and problems of sore and cracked nipples [38.0%]. Pain during breastfeeding issues occurred. Low educational background of the mothers showed decreased problems of breastfeeding. The problems of breastfeeding arose often in the immediate postpartum, sometimes causing discomfort in breastfeeding. Hospital staff should train mothers to tackle with potential issues with breastfeeding.<sup>82</sup>

A prospective research was performed in Melbourne, Australia. The samples were recruited from the maternity hospitals. Antenatal mothers [n=229] who were more than 18 years of age, who were more than 36 weeks of gestation, with singleton pregnancy were included in the study. Self-report questionnaires and telephone interviews were used to gather the data. If the mothers complaints of more than three problems, it was graded as high physical problems. If the mothers complaints of more than two problems, it was graded as high breastfeeding problems. The results showed that [46(20.1%)] had physical problems, [44(19.2%)] had high breastfeeding issues and [25(11.0%)] mothers had both. High breastfeeding problems were significantly correlated with poor maternal mood.<sup>83</sup>

A study that focuses on breastfeeding problems among postnatal mothers was carried out using electronic databases. 6 studies were included – 3 RCTs and 3 quasi-experimental studies. The treatment given to mothers for breastfeeding problems included breast massage. All the studies reported reduced levels of pain irrespective of the breast massage technique being used. However it was not evident how the breast massage procedure was carried out. These outcomes can be helpful for health practitioners who are look after for mothers having breastfeeding issues. Further studies needs to be carried out focusing on the breastfeeding problems of the mothers.



Follow-ups are also recommended to assess the breast massage reaction on the period of breastfeeding.<sup>84</sup>

A study was conducted to evaluate the maternal factors responsible for not being able to breastfeed for longer durations. 1177 mothers whose child was more than one year of age were included in the study. The mothers were asked why they could not breastfeed for long durations. The results showed that 60% mothers wished to continue breastfeeding but could not do so due to many reasons such as lactation problems, baby's willingness, physical illness of mothers and busy schedule. Health professionals support are needed to address such challenges and help mothers in achieving longer durations of breastfeeding.<sup>85</sup>

Majority of the studies discussed above have shown that maternal viewpoint of breast milk inadequacy remains the commonest cause for breastfeeding cessation. There are other reasons too for discontinuation of breastfeeding but health professionals must address such issues as early as possible so as to support continuation of breastfeeding for longer duration.

### **Breastfeeding self-efficacy**

Mothers' confidence level regarding breastfeeding her baby could be achieved by good support from the antenatal period. This is necessary for better breastfeeding outcomes. But a gap can be found in the practices of breastfeeding as mothers especially primigravidas lack self-confidence and poor knowledge regarding breastfeeding. Following studies highlights the breastfeeding self-efficacy of mothers globally.

A survey of breastfeeding incidence, breastfeeding factors and maternal self-efficacy in rural health clinics in Selangor, Malaysia, was conducted. The study included 84 postnatal mothers with healthy children aged 3 months to 24 months. Samples were recruited using a simple random sampling technique. A written questionnaire was prepared and distributed among the samples. Research has shown that working mothers have a good breastfeeding self-efficacy [97.6%]. Work support and breastfeeding self-efficacy were closely related ( $p < 0.01$ ). The latter was also very closely related. Sustainable breastfeeding has not been associated with socio-demographic details such as age, educational status, religion, etc.<sup>86</sup>

262 breastfeeding women were chosen for a study in Japan to examine the association between mothers' perceptions of inadequate breast milk and breastfeeding confidence. The sense of insufficient milk was assessed four weeks after delivery, and breastfeeding self-efficacy was assessed in the postnatal ward. Mothers wished to breastfeed exclusively but failed to do so. Only 40% mothers could offer breastfeeds at four weeks post partum. 73% stated inadequate milk supply as the main reason to discontinue breastfeeding. Self-efficacy in breastfeeding and the mother's assessment of insufficient breast milk in the hospital were strongly correlated. According to the investigation, 21% of mothers' perceptions of inadequate breast milk were due to breastfeeding self-efficacy. The study concluded that improving mothers' postpartum self-efficacy with regard to breastfeeding could reduce their perception of inadequate breast milk and thereby prevent early termination of breastfeeding.<sup>87</sup>

Another research indicated that mothers with gestational diabetes were facing significant breastfeeding challenges. In order to enhance breastfeeding self-efficacy and breastfeeding, the researchers proposed individualized approaches and performed

a randomized controlled trial to validate efficacy. The control group received lactation guidance daily during pregnancy and after the birth of the child. Data were collected at the time of admission, during the discharge from the hospital, at six weeks, at four months and at six months postpartum. A total of 226 GDM women were registered, 113 mothers were recruited in the experimental group and 113 mothers were recruited in the control group respectively. The intervention group's breastfeeding self-efficacies were significantly higher than those of the control group. The study found higher rates of exclusive breastfeeding. The study revealed that individualized breastfeeding education had beneficial effects on breastfeeding self-efficacy among diabetic mothers.<sup>88</sup>

A study was conducted to look at the relationship between breastfeeding outcomes and self-efficacy. For this purpose, ten online databases were included that studied the effect of some interventions for mothers on breastfeeding and breastfeeding self-efficacy. It was seen that the mothers in intervention group had higher breastfeeding self-efficacy rates and were more likely to breastfeed as compared to mothers in control groups. Postpartum interventions had significant impact on the breastfeeding outcomes.<sup>89</sup>

An exploratory study was conducted in Fortaleza-Ceara to determine the breastfeeding self-efficacy among ten mothers who could not see. Snow ball technique was used and interview method was adopted to collect the data with the help of "Breastfeeding Self-Efficacy Scale - Short Form". The interview was held at the participant's place physically. According to the study's findings, the majority of blind mothers reported good breastfeeding self-efficacy, although some mothers had

low self-efficacy. The study concluded that there is need to support mothers for breastfeeding during their entire breastfeeding period.<sup>90</sup>

In a study, breastfeeding duration and self-efficacy were determined at the postpartum intervals of 30 days, 60 days, and 180 days. Total 224 mothers meeting the inclusion criteria i.e., who were above 18 years of age, had 24 hours postpartum, had full term delivery, in good health and accompanied with the baby, were selected for the study. Written questionnaires were used to collect both the demographic data as well as their breastfeeding self-efficacy. The participants were followed up telephonically at 30, 60 and 180 days postpartum. The results showed that there was no association between breastfeeding self-efficacy and the continuity of breastfeeding at different intervals of time. It has been reasoned that the delivery type, problems in the postnatal period, denomination, and child care aid are corroborating to increase maternal confidence in breastfeeding.<sup>91</sup>

All the above discussed studies have highlighted many factors that can boost maternal self-efficacy such as direct support from health professionals and family from the antenatal period, educational interventions, continuous guidance and support throughout the breastfeeding period.

### **Breastfeeding practices**

The healthiest nutrition for infants is breast milk yet the practice is found to be too low in the country. The recommendations regarding mother and child having skin-to-skin contact, starting breastfeeding within 1 hour of life, exclusive breastfeeding and continuation of breastfeeding for at least two years of life are rarely followed. Some

of the studies related to breastfeeding practices are discussed below for better understanding of the practices globally.

A study on primigravid mothers understanding, attitude and practice of breastfeeding was performed in Elite Mission Hospital in Thrissur, Kerala. A practical sampling strategy was used to choose 50 breastfeeding primigravid mothers. Using questionnaire on breastfeeding knowledge, the IOWA scale and the checklist for breastfeeding practices, the instrument used to evaluate understanding, attitude and exercise of breastfeeding has been evaluated. The research found that primigravid mothers do not have sufficient understanding of breastfeeding, which affects their breastfeeding practice. The assessment showed that the attitude towards breastfeeding was very favorable. Therefore, it is recommended that the primary health care givers need to lay emphasis on educating primigravid mothers regarding breastfeeding to improve breastfeeding rate.<sup>92</sup>

A qualitative study was done in Bhutan to discuss the perceptions, plans and experiences of mothers regarding exclusive breastfeeding. Semi-structure interview method was adopted for data collection at two different time intervals, one at the end of the third trimester and the other at six weeks postpartum. Breastfeeding and the realisation that exclusive breastfeeding is challenging were established as the two main subject areas at term. After six weeks postpartum, the mothers reported lack of help and information regarding breastfeeding from the hospital workers, myths about breastfeeding, lack of confidence, limited knowledge regarding feeding choices, lack of family support and adopting cultural practices. Elders in the household supported breastfeeding, but they also pushed for the adoption of some ancient customs that influenced exclusive breastfeeding.<sup>93</sup>

A study was done in Hawaii and Pacific Island where rate of obesity is quite high. Online databases were searched and 9 studies were selected. Meta-analysis findings showed that the rate of breastfeeding was only 46.5% among Hawaii mothers and 40.8% among Pacific Island obese mothers respectively; indicating that the breastfeeding practices were below the defined standards. Breastfeeding activities among NHPs are heterogeneous and there are important differences between some Hawaii and Pacific Island mothers were also quite different and the reasons need to be traced for disparity.<sup>94</sup>

In Tamale, Ghana, a cross-sectional study was carried out to evaluate the exclusive breastfeeding knowledge and practice among mothers who visited the child welfare clinics from three hospitals. Total 393 mothers were selected for the study. The breastfeeding knowledge and exclusive breastfeeding practices were assessed using structured questionnaire. The results showed that only 39.4% mothers started to breastfeed early “within one hour”. Exclusive breastfeeding was followed by [277(70.5%)] mothers. [344(87.5%)] mothers agreed that exclusive breastfeeding should be followed for at least five months. The study recommended that for better education of mothers, media should be used as a medium to provide appropriate education for women on the value of exclusive breastfeeding.<sup>95</sup>

A cross-sectional study was done in Ghana to assess the breastfeeding practices and to analyze the demographic factors that affects the exclusive breastfeeding among the mothers. Samples included 355 mothers having children who are between zero to two years. The results showed that [263(74.0%)] mothers were breastfeeding their babies at that time. [225(63.4%)] mothers began breastfeeding within an hour of birth. Mothers who offered colostrum to newborns were [289(81.0%)]. 17[77.3%] out of 22

mothers still breastfed their infants at one year. Young mothers (age=20 to 24 years) were more into breastfeeding their babies. It was also found that mothers with higher education were not able to breastfeed for longer duration versus mothers without a formal education. The study concluded that exclusive breastfeeding and complementary feeding activities is sub-optimal. The age, education and ethnicity of mothers are some of the determinants that influence the rate of exclusive breastfeeding.<sup>96</sup>

From the above discussed studies, it can be concluded that mothers' specific requirements regarding breastfeeding support in the immediate and late post partum period is a deficit factor. Lack of support from health professionals is one of the reasons for decline in breastfeeding practices. Follow-up support and continuous motivation is necessary to maintain exclusive breastfeeding.

### **Breastfeeding interventions**

Numerous strategies have been devised to increase the nation's breastfeeding rates. Unfortunately, implementation and follow-up of such interventions remain questionable. Many researchers have highlighted different breastfeeding interventions that are discussed below.

A study was done in 5 countries – India, Afghanistan, Nepal, Bangladesh, and Pakistan to identify and collect proof of the efficacy of measures to promote optimal breastfeeding. A peer reviewed survey and literature review was carried out. 31 studies qualified the inclusion criteria. Majority of the studies showed positive effects on breastfeeding outcomes. The majority of research revealed a beneficial effect on breastfeeding outcomes. Most studies reported a positive impact on breastfeeding

outcomes. 21 out of 25 studies examined early initiation of breastfeeding, 15 out of 19 studies examined exclusive breastfeeding, and all 10 studies examined avoidance of pre-lacteal feeds. One study solely looked at continuous breastfeeding and found no difference. Education, therapy and health related interventions helps a lot in improving breastfeeding outcomes. Health services, neighborhoods, and home or family settings all saw interventions.<sup>97</sup>

Despite increasing evidence of breastfeeding benefits, breastfeeding rates among teenage mothers remain disproportionately low relative to older mothers in the United States. Current approaches are predominantly aimed at adult mothers, and there is no evidence available to support breastfeeding among young women. Therefore a study was carried out to review strategies designed to increase rates of breastfeeding among adolescents. Online databases were searched for studies aimed at improving breastfeeding initiation rates, period or exclusivity among adolescents. Inclusion criteria were mothers who were less than 22 years old. Hospital staff worked together to execute interventions that included school-based programs, home visits, and telephone support. Breastfeeding education and counseling alone significantly improved the initiation and duration of breastfeeding. Other findings were conflicting, and studies had a number of methodological flaws. It is recommended that further interventions be created and tested.<sup>98</sup>

A study that included systematic review and meta-analysis was conducted to establish the effect of interventions and vocational education on breastfeeding rates at 6 months and to 2 years postpartum. Studies involving primary women who were more than 18 years of age and whose intention was to breastfeed her baby and studies that explored the impact of educational and care services offered by health



practitioners during the entire pregnancy and after the birth of the child or both ages were selected. The online databases were searched. The studies that met the inclusion criteria were taken into consideration. The results revealed that interventions having just one session failed to increase the breastfeeding rates at six months. It was also observed that intervention involving both the education and support drastically improved the breastfeeding rate at six month after delivery.<sup>99</sup>

A study was done to assess the effectiveness of internet-based breastfeeding interventions on breastfeeding outcomes. Online databases were searched and it included 16 studies with 4018 mothers from 8 countries. The interventions' were categorized according to their (a) delivery mode (by making use of mobiles and internet), (b) goal (support and education), (c) strategies (monitoring the continuity of breastfeeding). The most successful strategy for enhancing breastfeeding results and exclusive breastfeeding rates found to be the combination of instructional activities and web-based personalized assistance via discussion forums. The least successful methods were monitoring and breastfeeding trackers.<sup>100</sup>

A lot of variation in the rates can be seen from initiation of breastfeeding to its exclusivity. The above discussed studies highlighted that many intervention strategies supporting and encouraging breastfeeding also improves the breastfeeding outcomes.

### **Breastfeeding outcomes**

Breastfed babies are more likely to have better outcomes in terms of health. Many initiatives have been taken up the government to revise the breastfeeding outcomes in the country. Different interventions focusing on one single goal to improve the breastfeeding initiation, duration and exclusivity are discussed below.

A study was done out to assess the effect of ten steps of BFHI on breastfeeding outcomes at 2 days and 2 weeks in Oregon. 57 birthing hospitals were taken into account using the cross-sectional survey. Modified Crivelli-Kovach tool was used to evaluate the implementation of the steps of BFHI that influence the breastfeeding outcomes among mothers. Conformity to individual BFHI hospital steps ranged from “(5.3%) for step 2 to (93%) for step 4 and step 8”. The research revealed that general hospital breastfeeding support ratings have increased significantly. However, it was only noticed that the existence of a written hospital policy is separate from the lactating percentage ( $p=0.028$ ). It is therefore suggested that all the 10 phases of BFHI be implemented in hospitals to enhance maternal breastfeeding.<sup>101</sup>

A study was done among primigravida to establish the connection between breastfeeding self-efficacy and breastfeeding outcomes. The study also focused on mood swings of the mothers in the postnatal period and the challenges faced during the transition phase. Data were collected on second day, at six weeks and at six months postpartum. Those mothers who were found to be emotionally depressed were given open-ended options to describe more about their stress. The results showed that mothers without any mood disorders had high breastfeeding self-efficacy on second day with positive emotional status at six weeks and longer durations of breastfeeding at six months postpartum. The mothers who were suffering from any kind of emotional stress stated breastfeeding related problems as the primary cause of stress along with sleeplessness, lack of family support and more expectations from family to do a lot for the baby. Breastfeeding expectations are related to mental well-being and breastfeeding results. Strengthening early breastfeeding self-efficacy in women can be a significant target for multiple aspects of postpartum health.<sup>102</sup>

A study examined the maternal factors associated with breastfeeding self-efficacy in the antenatal period and infant feeding at six weeks postpartum among mothers in Ireland. The samples were recruited from out-patient department hospital at 32 gestational weeks. The participants along with their husbands attended child birth and later in the postnatal period had an interaction with a lactation consultant, with access to breastfeeding clinic and telephonic guidance. The results showed that young mothers and non-Irish mothers had good breastfeeding self-efficacy. It was also found that mothers residing in the rural areas with higher education were breastfeeding exclusively as compared to those having less level of education.<sup>103</sup>

After c-section delivery, the common breastfeeding position attained by the mother is the side-lying position. A study was done to compare two positions - laid-back and side-lying breast-feeding positions in the c-section performed mothers of the mother. RCT was performed. The postpartum c-section mothers were taught about the lateral breastfeeding position. LATCH scores were used to assess the breastfeeding on the second day and at 6 weeks postpartum. The mother's breastfeeding satisfaction was also assessed prior to discharge. The study concluded that there was no statistical difference in the breastfeeding results among the groups. But it was noted that the mothers were more satisfied with side-lying position for breastfeeding. Alternative breastfeeding positions can be advised to mothers having c-section delivery.<sup>104</sup>

Preterm babies are likely to develop breastfeeding difficulties as compared to term babies. A research was carried out to determine the correlation between preterm birth and breastfeeding period and exclusivity among healthy-term infants. Participants were followed for 1 year. More than half of all samples had quit breastfeeding for at least three months postpartum, and it was discovered that 32.8% of infants were

born at or before the term. Half of the infants had not received breast milk in the two weeks following delivery. At one month after delivery, there was no distinction between term and premature babies in terms of their breastfeeding status. Also there was no significant difference in the duration of breastfeeding between the two groups. This signifies that early birth does not lead to a shorter or longer durations of breastfeeding.<sup>105</sup>

A study was done in Los Angeles to explore improvements in “Baby-Friendly Hospital” Practices over time and disparities in breastfeeding outcomes from specific “Baby-Friendly Hospital” Practices. Total 6449 WIC enrolled children were taken as sample. It was found that exclusive breastfeeding at one and three months have improved dramatically and the mothers who were engaged in “Baby-Friendly Hospital” Procedures had higher breastfeeding. However, there is still a lot to do in the use of “Baby-Friendly Hospital” Procedures in “Baby-Friendly Hospitals”. Efforts are required to make sure that “Baby-Friendly Hospitals” follow and comply all the steps of “BFHI” to retain Baby-Friendly status.<sup>106</sup>

Different interventions have improved breastfeeding efficacy of mothers, knowledge regarding breastfeeding and practices with continuous support from health professionals. All these factors have contributed in achieving better breastfeeding outcomes.

### **Breastfeeding barriers**

Even though there are many known facts about breastfeeding benefits, there are still several obstacles that make it challenging for mothers to initiate or continue

breastfeeding for longer duration. Following studies highlights the different barriers to breastfeeding as perceived by the mothers.

A study was done in Myanmar to explore factors that reduces exclusive breastfeeding and the way family members support the breastfeeding. Semi-structured interviews were carried out with mothers having infants 6 to 12 months (24), their spouse (10) and their parents or in-laws (10). The study found that the samples knew about breastfeeding but could not adhere to it. The primary barrier was the perception about sole breastfeeding is not enough for the baby, water and solid foods are necessary too. Return to job work also remained another barrier to breastfeeding. The study concluded that though the mothers were aware know about breastfeeding, they need more encouragement to practice it. The family also needs to be supportive. Expression of breast milk needs to be advised to mothers which may help them during their working hours.<sup>107</sup>

A study was carried out in South Asian countries to assess the factors that cause reduction in breastfeeding rates. For this purpose, online databases were searched and 25 studies done from 1990 to 2013 were included. The study concluded that factors such as place of residence, educational background, working status, family income, maternal age, health status at the time of delivery, all these factors affect breastfeeding status. There were some common factors among different countries however, some countries showed totally different factors that could affect breastfeeding rates. Therefore, individual approach was necessary to figure out the barriers and obstacles to breastfeeding.<sup>108</sup>

A study was done to assess and compare the factors that can diminish the rate of breastfeeding among female doctors at different phases of training. The doctors were sent the survey forms via e-mail. The survey assessed for the performance, breastfeeding experience and obstacles to successful breastfeeding. Total participants were 1301 women. The study revealed that 57% female doctors never breastfed their infants, however, out of them 87% agreed to breastfeed in future. 97% doctors who were breastfeeding felt at least one factor that could hinder their breastfeeding. Lack of time, busy work schedule, appropriate place for expressing the breast milk and few days maternity leave were the common barriers stated by the female doctors. All these factors led them to discontinue breastfeeding at an early phase. Continuous help and support from the institution can help improve breastfeeding practices among female doctors.<sup>109</sup>

A study was conducted to assess breastfeeding barriers among breastfeeding physicians through social media group – “Physician Moms Group.” There were 14518 members in the group. Out of 14518, 2363 mothers took part in the survey. Mothers who were breastfeeding at present were excluded (94.1%). Only [1606(68.0%)] physicians were included in the study. [670(41.7%)] physicians continued breastfeeding for one year and [450 (28.0%)] could not do so. [788(49.1%)] physicians stated that they would have breastfeed for long if they would have got some support from their work place. The participants reported use of a breast pump in their office [1045(99.2%)], in breastfeeding rooms [207(19.7%)], in calling rooms [146(12.8%)] and in cars [143(13.9%)]. However, [331(20.6%)] participants used vacant patients' rooms, locker rooms and bathrooms for expression of breast milk.<sup>110</sup>

A study was conducted in Armenia to explore the obstacles to breastfeeding practices. The method of approach was qualitative in nature. With a total of 99 participants, eight in-depth interviews and 13 focus group discussions were held. The study came to the conclusion that the two primary obstacles to the best breastfeeding practices were a lack of awareness about breastfeeding and a weak support network from the medical community. Lack of knowledge included inadequate counseling regarding breastfeeding, lack of information on breastfeeding and lack of understanding between the mothers and health care providers.<sup>111</sup>

A study was done to investigate the views of midwives' regarding barriers to breastfeeding in Bhutan. An exploratory-descriptive research design was adopted. Total 26 semi-structured, audio-recorded interviews were carried out. The study concluded into themes such as traditional practices, return to work, midwives support with regard to breastfeeding problems, staff deficiency in maternity hospitals and lack of efficiency in breastfeeding. The midwives also reported that the traditional practices of mothers also affect the practice of exclusive breastfeeding. Short stay in hospital after delivery was another factor that causes lack of support to be given to immediate mothers. On the other hand, shortage of midwives and poor education regarding breastfeeding were additional barriers to breastfeeding.<sup>112</sup>

The above discussed researches highlights that lack of knowledge regarding breastfeeding, poor family and social support, embarrassment in public, busy work schedule are some of the common barriers faced by the mothers to discontinue breastfeeding.

## **Mothers' experience regarding breastfeeding**

Breastfeeding can be a challenging procedure for many mothers. Experience regarding breastfeeding either promotes breastfeeding rates or shows a negative contribution to the breastfeeding rates. Several emotions shape the breastfeeding experiences of mothers in the long term post partum period.

A study was done in China to assess the breastfeeding experiences of the mothers and to study the breastfeeding difficulties faced by them. Qualitative research was adopted. In-depth interviews were conducted with mothers. Five levels were categorized as per the breastfeeding activities of the mothers. The first level was the preparatory phase wherein mothers were aware about breastfeeding but lack knowledge and skills. The second level was the initial phase wherein lack of support from the hospital personnel was provided to the mothers because of short stay in the hospital. The third level was self-exploration phase wherein the mothers searched for family support after discharge from the hospital. The fourth level was transitional phase following 4-6 months postpartum, wherein majority of the mothers failed to continue breastfeeding due to lack of support. The last level included complementary feeding phase wherein majority of the mothers stopped breastfeeding and cling over to formula feeding. The study concluded that mothers suffers from various breastfeeding difficulties and have different support needs at different intervals of time.<sup>113</sup>

A study was done in Norway to explore the breastfeeding difficulties faced by the mothers. Samples included were 12 mothers with whom semi-structured interviews were carried out. Qualitative approach was adopted for the study. The study could



trace three themes - (a) Mothers were ready to adapt the culture of Norway, (b) no desire to follow the law, and (c) lack of knowledge. The mothers were aware about breastfeeding benefits. Health professionals should take each mother as entity and must consider their needs appropriately. The advantages of breastfeeding must be taught to the mothers in detailed manner and for this the health professionals must have thorough knowledge regarding the same. They must also be aware about formula preparation and must be able to guide and help those mothers in need.<sup>114</sup>

A study was done to analyze the articles on employers' role in promoting and maintaining breastfeeding initiatives, policies and strategies to promote breastfeeding among employed mothers. Online databases were searched related to the study. Total 22 papers were included for the study from ten different countries. The employers were expected to give breastfeeding breaks, room facility for breastfeeding and support services. The research found at least one factors significant in each study. The analysis concluded that breastfeeding is possible in work place provided that the activity is well supported by the employers.<sup>115</sup>

A study was done to investigate the breastfeeding experiences of mothers while breastfeeding outside their homes. On-line databases were searched. Studies after 2005 focusing on breastfeeding experiences were included. Total 27 studies from 12 different countries were included for the study. Two themes were drawn out from the study (1) enhancing (2) challenging. Therefore, four sub-themes were categorized under challenging theme – (a) attention seeking (b) breasts sexuality (c) knowing about other's discomfort and (d) not seen effort. The enhancing theme included (a) support from the people and (b) confidence of mothers. The theme challenges highlights the difficulties faced by the mothers in public while breastfeeding.<sup>116</sup>

A study was conducted to determine the breastfeeding self-efficacy and experience among primigravid mothers. 1091 primigravid mothers in the gestational age of 32 weeks were assessed for their maternal self-efficacy. They were also assessed for the breastfeeding self-efficacy, maternal self-efficacy and experience related to breastfeeding after three months of delivery. Out of 1091 mothers, only 817 could start and maintain breastfeeding and thus were found to be eligible for the study. The mothers with high breastfeeding self-efficacy also had high maternal self-efficacy. It was also observed that mothers having good breastfeeding experiences also had good breastfeeding self-efficacy. The study concluded that preparation for breastfeeding should begin from antenatal period that would help in enhancing maternal self-efficacy.<sup>117</sup>

Many mothers have reported pain during breastfeeding in the postnatal period. The pain experienced by the mothers often leads to early cessation of breastfeeding. Therefore, a study was undertaken in Canada to know in-depth about the breastfeeding pain and the experience of mothers related to it. 14 mothers were selected for the study. Semi-structured interviews were conducted. Three themes were derived from the data collected – (1) factors between pain related to breastfeeding and the process, (2) the influencing factors or inhibiting factors for breastfeeding and (3) breastfeeding outcomes. The study concluded that support and anticipatory guidance from health care professionals in the prenatal period can reduce and alleviate anxiety and cope up more effectively with breastfeeding related pain among primigravid mothers.<sup>118</sup>

The above studies have shown that mothers having good breastfeeding efficacy also have good breastfeeding experience. Alleviation of anxiety and fear especially among primigravid mothers helps in experiencing breastfeeding in a better way.

### **Mother-infant bonding/interactions**

Breastfeeding promotes good bonding between mother and her newborn through skin-to-skin touch, holding and cuddling. Affectionate bonding between the two helps in reducing social and behavioral problems in later stages of life.

A study was done to investigate the breastfeeding relationship with responsiveness of mothers. Total 675 mothers were involved in the study. Data were collected at 2 months and 6 months in the postnatal period. The maternal responsiveness was assessed at 14 months using the oxytocin genotype of mothers. The study found that the duration of breastfeeding was connected with high responsiveness of mothers, more attachment, and less disorganization.<sup>119</sup>

Postpartum depression is very common phenomenon found in the postnatal period among many women. It may hamper the relationship between mother and child as it causes changes in the mood and behavior of mother. For this reason a study was assessed to study the factors that enhance the relationship between mothers and infants with postpartum mood problems. Online databases were searched. 19 studies were taken up for analysis. It was found that infant massage enhances the relationship between mother and baby. Psychotherapy and education showed mixed results. Another enhancing factor was family support. No medicines were found to increase the bond between the two. The study suggested that health care professionals must

provide time and involve family in the care of infants for bringing out better outcomes among depressive mothers.<sup>120</sup>

A study was done in Israel to assess the relationship between breastfeeding and bonding between mother and child. 271 mothers from one to nine months postpartum were chosen via convenience sampling method. The study adopted a cross-sectional survey approach. The study results showed that (65.7%) mother breastfed their infants, (22.1%) reported cessation of breastfeeding in the past, (12.2%) reported no breastfeeding at all. It was found that there was correlation between breastfeeding and tiredness during day hours, mother and child bonding and mood disorders among mothers.<sup>121</sup>

A study was done to investigate the degree of mother and infant bonding, maternal mental status and use of alcohol at 8 weeks postpartum predicted mother and infant bonding and maternal emotional status at 12 months. Total 308 mothers were included. Data collection was done in the antenatal period, at birth and at 8 weeks and 12 months postpartum. The study showed good bonding between mother and infant at 8 weeks and 12 months. It was noted that postpartum depression and stress were associated with mother-child bonding at 12 months. The study concluded that mother and child bonding continues to grow in the first year of life making the relationship stronger if good bonding is established between the two in the immediate postnatal phase.<sup>122</sup>

To understand the mother-child bonding in the antenatal and postnatal period, numerous researches have been carried out. Online databases were searched in different languages. Total 131 were included. The studies revealed (a) gestation

period was associated with antenatal bonding (b) mood disorders were negatively associated with postpartum mother-child bonding (c) mother-child bonding was associated with postnatal bonding. The study recommended mother-child bonding should be established from antenatal period to improve the relationship between mother and newborn.<sup>123</sup>

The above studies have shown that good bonding between mother and child promotes good behavior in both children and adults.

### **Factors affecting breastfeeding**

Many maternal and infant factors can affect the rates of breastfeeding in the country. Certain factors such as stress, separation, medical or surgical conditions, poor suck, congenital anomalies etc greatly influence the breastfeeding rates. Many studies have been carried out to trace and tackle such issues.

A research was conducted in Beijing, China, which focuses on preterm babies who face many challenges for breastfeeding. The study was done to assess the breastfeeding prevalence at six months postpartum among premature children and to explore the events that affects breastfeeding practices. 270 mothers with their 280 premature babies were selected for the study. Maternal perceptions about breastfeeding, knowledge regarding self-efficacy, features of the mothers and their views regarding breastfeeding, support from the family and mood disorders were assessed when the baby was in intensive care. At six months, breastfeeding related data was collected via telephone. The research concluded that majority of the mothers had very low breastfeeding self-efficacy with high mood disorders. Only 22.5% preterm babies were found to be breastfeeding exclusively at six months. The

factors that influenced breastfeeding practices included less age of the mother, breastfeeding experience in the past, more bonding between mother and preterm baby during NICU stay and high breastfeeding self-efficacy. Strategies are needed to prolong the duration of breastfeeding for preterm babies such as professional support and counseling regarding breastfeeding for mothers.<sup>124</sup>

A cross-sectional study was done in Turkey including 303 postnatal mothers to assess the factors affecting breastfeeding. Data was collected and analyzed systematically. The study revealed poor relationship between LATCH scores and breastfeeding self-efficacy after the birth of the baby. Multipara women had very good breastfeeding self-efficacy. Mothers who were married for long (>11 years) and who initiated breastfeeding early had higher LATCH scores. The study concluded that breastfeeding self-efficacy must be assessed on continuous basis by the health care professionals for ruling out breastfeeding problems and to resolve such problems.<sup>125</sup>

A study was conducted among female physicians to investigate breastfeeding behavior and breastfeeding continuity, and to explore the events affecting the breastfeeding practices. The data was collected via online social group with 11632 females. The questionnaires were sent to those female physicians who had babies between 1-3 years. Total 615 mothers responded to the questionnaire. The study results revealed that exclusive breastfeeding could not be continued for longer than four months. The entire breastfeeding duration was only 15.8 months. Busy schedule at work place was the most common reason stated by mothers for cessation of breastfeeding. Night shifts were reported to be resumed at 8.6 months. 43.6% mothers were unable to avail their breastfeeding rights. Laws regarding breastfeeding breaks

have been made but not applied into practice. The female physicians must be supported at work in order to promote breastfeeding.<sup>126</sup>

A study was conducted to investigate the barriers regarding breastfeeding decisions and to explore the complementary feeding practices in children aged 2 to 4 years. 100 parents of the mentioned age children were included. The data collection was done from the out-patient department. The study showed that the mothers' decision to not to breastfeed her baby was the most common cause of breastfeeding cessation. It was also noted that c-section delivery mothers, bottle-feeders or making use of pacifiers had shorter breastfeeding duration. Formula was more frequently used by the non-working mothers. The results showed that early weaning was supported by elder members of the family (42%). The study recommended the need to educate mother as well as her family about the benefits of breastfeeding and ill-effects of using bottles for feeding.<sup>127</sup>

A study was done in Iran to examine the factors that affects the exclusive breastfeeding duration among infants. Total 2640 mothers with healthy babies were categorized into two groups – exclusive breastfeeding group and non-exclusive breastfeeding group. The study showed that the average duration of exclusive breastfeeding was (4.63±1.99) months. An inverse relationship was found between the maternal education and the duration of exclusive breastfeeding. Non-working mothers showed longer breastfeeding durations. The study identified many factors that influenced exclusive breastfeeding rates such as weight gain of babies during exclusive breastfeeding, primi or multi-parity, mothers' perception about breast milk, infections in the postpartum period, pacifier use, irritability, busy schedule at work

and place of birth. Counseling and education of mothers are very important to improve exclusive breastfeeding rates.<sup>128</sup>

A study was done in Amazon to determine the factors affecting the exclusive breastfeeding among the one month infants. Total 1523 mothers were chosen for the study. The data collection was done in the immediate postnatal period and by telephone at 30 to 45 days. The study found out that at 30 days, 36.7% mothers were breastfeeding their infants. Multigravid mothers were able to breastfeed for longer (28.0%). Pacifier use (33.0%) and upper respiratory infections (19.0%) were related with lower exclusive breastfeeding rates. The study recommended actions to be taken to raise the rate of exclusive breastfeeding in Amazon.<sup>129</sup>

Several factors affecting breastfeeding have been discussed through various researches above. It is very important to trace such issues at its earliest. Necessary information regarding breastfeeding must be imparted among mothers with continuous guidance and support from health professionals.

### **Summary**

The present chapter highlights the foundation of the study. Many breastfeeding related factors had been discussed in this chapter which gives a clear understanding of all the methodologies that have been carried out previously.