CHAPTER II

REVIEW OF LITERATURE

This chapter deals with systematic scrutinization of information, which is relevant to the present study. The review of literature has been divided into 2 parts.

Part - A : Literature related to the antenatal breast care and postnatal breastfeeding

Part – B : Literature related to conceptual framework based on Imogene. I. King’s goal attainment model.

Part - A : This part includes 12 sections

Section 1 Studies related to pregnancy and breast health

Section 2 Studies related to pregnancy and breast support

Section 3 Studies related to antenatal breast preparation

Section 4 Studies related to paternal and grandmothers’ involvement during antenatal Period

Section 5 Studies related to breastfeeding decision during antenatal period

Section 6 Studies related to postnatal feeding of breastfeeding

Section 7 Studies related to postnatal feeding problems

Section 8 Studies related to educational interventions

Section 9 Studies related to self-confidence

Section 10 Studies related to promotion of breastfeeding

Section 11 Studies related to social support

Section 12 Studies related to psychology and breastfeeding
The human body goes through many remarkable changes during pregnancy. The uterus grows several times its normal size, gain weight, the skin changes and the breasts often change during pregnancy. Of all these changes women are often most intrigued by the changes that occur in their breasts during pregnancy.

Special care of the breasts during pregnancy is an important preparation for breastfeeding. During antenatal period, the breasts often have a feeling of fullness and become larger, heavier, and more pendulous because of the stretching of the cooper’s ligament that supports the breast. A well fitting supporting brassiere that holds the breasts up and it relieves back ache and promotes good posture. It may also help to prevent the subsequent tissue sagging, so often noticeable after delivery owing to the increased weight of the breasts during pregnancy and lactation.

Helen Graham (2007) revealed that the changes commonly seen include tenderness / pain, lumpiness / lump and nipple changes. Unlike the many other normal changes that occur to the breasts, pregnancy offers many visible signs that the breasts are changing. Initial changes experienced by many women include tenderness of the breast and nipple and an increase in the size of the breasts. Early in pregnancy, the breasts begin to secret colostrum. The breasts are to be bathed daily.
Bosnjak, A.P., (2009) analyzed the influence of socio demographic and psychosocial characteristics on breastfeeding duration of mothers attending breastfeeding support groups. All mothers were cared for according to the Baby Friendly Hospital Initiative (BFHI) of the World Health Organization (WHO) and UNICEF. The investigated group of mothers attended a breastfeeding support group (BSG) led by a community nurse and women experienced in breastfeeding without additional training. Data on breastfeeding duration were collected retrospectively by self-reported questionnaire. Of 980 eligible, 393 mothers were included to the study: 210 attended BSG, while 183 did not. The following differences between the two groups were found: time when the decision to breastfeed was made, smoking during lactation and social support while breastfeeding. More mothers in the investigated group continued breastfeeding at least six months postnatal (83.8% vs. 48.1%, P<0.001), with exclusive breastfeeding until the age of three months (56% vs. 23.5%, P<0.001). On conclusion characteristics which positively influenced the duration of breastfeeding are the time when the decision to breastfeed was made, intended duration of breastfeeding, household income, and smoking during pregnancy. Mothers who attended BSG more often continued breastfeeding for at least six months if they decided to breastfeed after birth, intended to breastfeed for longer than six months, had higher monthly household income and did not smoke during pregnancy.

Semenic, S.(2008) in this prospective study aimed to determine the influence of socio-demographic, psychosocial, and perinatal factors on the length of exclusive breastfeeding among 189 Canadian primiparous mothers. A majority of the participants did not meet their exclusive breastfeeding goals, and only 5% breastfed exclusively for a full 6 months. Breastfeeding self-efficacy, in-hospital formula supplementation, prenatal class attendance, and type of delivery independently predicted exclusive breastfeeding duration. Findings underscore the complex interplay of factors influencing breastfeeding, highlight the early postpartum weeks as a critical period for the establishment of exclusive breastfeeding, and suggest the need for a continuum of pre- and postnatal strategies for prolonging the exclusive breastfeeding period with a clean washcloth and warm water. Some studies have demonstrated that the use of soap, alcohol, and other such materials during the antenatal period tends to be detrimental to the integrity of the nipple tissue because...
they remove the protective skin oils and leave the nipple more prone to damage. Rubbing the nipples with a rough towel during the last trimester of pregnancy may be helpful in attempting to toughen them. Cleanliness of the breasts is important, especially as the woman begins producing colostrum. Colostrum that crusts on the nipples should be removed with warm water. The woman planning to breastfeed should not use soap on her nipples because of its drying effect.

RCN (1999) midwives, health visitors and general practitioners are considered to be the first point of contact for women with breast changes. Midwives should take every opportunity to educate women about the importance of being breast aware and encourage women to take an active role in their own breast health and helps to reduce anxiety in these women empowering them to take control of their own breast health.

Stoppard (1996) identified that the pregnant women commonly experience the sensations such as tingling and soreness. As the pregnancy progresses other visible signs such as darkened color of the nipple, areola and prominent veins on the surface of the breast are seen. For many women, changes such as breast lumps and nipple discharge developed during pregnancy can cause uncertainty with many women fearing they have breast cancer. During the second and third trimester, growth of the mammary glands accounts for the progressive breast enlargement. The high levels of luteal and placental hormones in pregnancy promote proliferation of the lactiferous ducts and lobule –alveolar tissue, so that palpation of the breasts reveals a generalized coarse nodularity.

Lawrence (1982) changes in breast begin during pregnancy with development of the ducts, lobules, and alveoli ion response to the hormones estrogen, progesterone, placental lactogen, prolactin, and chorionic gonadotrophin. The breasts begin to secret colostrum by the second trimester, and women whom give birth after the 16th week of gestation produce colostrum.

Section 2 Studies related to pregnancy and breast support
Reeder and Martin (1998) have given the tips that every pregnant woman wears a well-fitted brassiere to support the breasts in a normal uplifted position. Proper support of the breasts is conducive to good posture and thus helps to prevent backache. The selection of brassiere is determined by the size of the breasts and the need for support. Brassiere cup is large enough and that the underarm is built high enough to cover all the breast tissue. Wide shoulder straps afford more comfort for the woman who has large and pendulous breasts and brassiere size is approximately two sizes larger than that usually worn.

Section 3  Studies related to antenatal breast preparation

Craig, H.J., (2010) aimed to uncover the perceived usefulness of a contemporary antenatal education strategy for mother's experience of breastfeeding initiation. This was a simple descriptive pilot study with ten first time mothers as participants; all of who were booked into an Australian private maternity unit for antenatal breastfeeding education, labour, birth and postpartum care. Semi-structured interviews were transcribed verbatim and thematically analyzed. The findings of the study were antenatal education was beneficial for informing first time mothers of the practical skills required to positively initiate breastfeeding.

Rosen, I.M., (2009) examined the impact of various breastfeeding outcomes of three cohorts receiving different methods of prenatal breastfeeding education. Retrospective cohort was designed for patients attending a breastfeeding education class at an Army medical center. Controls were matched for sponsor rank, marital status, and smoking status. 194 mothers who expressed intent to breastfeed received breastfeeding education as follows: (a) a class that used video demonstration and group teaching by a lactation consultant, (b) a new mothers' support group with one-on-one teaching prenatally and weekly meetings on postpartum, taught by a lactation consultant and a pediatrician, and (c) a control group educated at prenatal visits only. Results revealed that women who attended prenatal breastfeeding classes had significantly increased breastfeeding at 6 months when compared to controls (p = .01). There was no significant difference in rates between types of classes offered (p = .45). The investigator recommended that prenatal breastfeeding education can
influence the amount of time women breastfeed. All providers of prenatal care should consider offering such classes in order to improve breastfeeding rates.

Dhandapani G (2008) carried out antenatal counseling on breastfeeding and postnatal lactation support at Mahatma Gandhi Medical College and Research Institute, Pondicherry, India. This descriptive study was undertaken to assess whether antenatal visits were utilized for promotion of exclusive breastfeeding in addition to the routine obstetric services among 144 primigravidae mothers, 108 who had a minimum of three antenatal visits ("booked") were included in the study. Results: Of the booked mothers, 21% (n = 23) had received some antenatal counseling about breastfeeding while 79% (n = 85) had not received any such counseling. 4% had undergone breast examination during antenatal visits. Awareness related to breastfeeding among mothers in the "counseled" group was better than those in the "not counseled" group. Even in the "counseled" group, awareness among mothers with regard to correct breastfeeding technique and concept of continuing breastfeeding during illness in the baby was no different from those in the "not counseled" group. On conclusion existing antenatal counseling on breastfeeding is inadequate in the population studied and needs to be strengthened. Informing all pregnant women about the benefits and management of breastfeeding should be a priority during antenatal visits.

Lin, S.S., (2008) assessed the effectiveness of structured prenatal education programme on breastfeeding and to evaluate the effectiveness of the programme through quasi experimental study. The experimental group had higher scores in breastfeeding knowledge and breastfeeding attitude at three days postpartum. The experimental group showed higher breastfeeding satisfaction at three days and one month postpartum. There were no significant differences in experiencing breastfeeding problems. The rate of exclusive breastfeeding was higher for the experimental group at three days and one month postpartum, but the differences were not statistically significant. On conclusion this study demonstrated the effectiveness of a prenatal education programme on maternal knowledge, attitude and satisfaction toward breastfeeding.
Melo, R.F., (2008) evaluated a prospective study on quality of breastfeeding preparation in the antenatal courses and to identify the other sources of breastfeeding information at Thomayer's Hospital Prague. Data collected from questionnaires presented on web pages of the Lactation League from 2005 to 2006 from 351 mothers were statistically analyzed. Results revealed that only 52.8% of mothers were satisfied with the course content. Women who attended the antenatal preparation were more informed about the correct breastfeeding technique, the harmfulness of bottle and pacifier usage, the disadvantages of the mother and newborn separation and alternative feeding methods than those who did not. The other sources of breastfeeding information were literature, magazines and internet. The health professional participation was only 9%. During pregnancy 82.9% of women did not pass the breast examination. Finally the author concluded that it’s necessary to improve the quality of antenatal courses on breastfeeding preparation and to increase the participation of the health professional in breastfeeding information distribution.

Mydlilova, A. (2008) evaluated a prospective study on quality of breastfeeding preparation in the antenatal courses and to identify the other sources of breastfeeding information. Only 52.8% of mothers were satisfied with the course content. Women who attended the antenatal preparation were more informed about the correct breastfeeding technique, the harmfulness of bottle and pacifier usage, the disadvantages of the mother and newborn separation and alternative feeding methods than those who did not. The other sources of breastfeeding information were literature, magazines and Internet. The health professional participation was only 9%. During pregnancy 82.9% of women did not pass the breast examination. The study concluded that it is necessary to improve the quality of antenatal courses on breastfeeding preparation and to increase the participation of health professional in breastfeeding information distribution.

Citra Nurfarah Mattar (2007) conducted a randomized trial at a tertiary referral center, recruited a random sample of 401 eligible low – risk antenatal mothers from clinics in the National University Hospital, Singapore. Women in group A received
breast-feeding educational material and individual coaching from a lactation counselor; women in group B received only breast-feeding educational material with no counseling; and women in group C received only routine antenatal care. Compared with mothers receiving routine care alone, mothers receiving individual counseling and educational material practiced exclusive and predominant breast-feeding more often at 3 months (odds ratio [OR], 2.6; 95% confidence interval [CI] 1.2 - 5.4) and at 6 months (OR, 2.4; 95% CI, 1.0 - 5.7) postpartum. Compared with women given educational material alone, more mothers who received individual counseling practiced exclusive and predominant breast-feeding at 6 months (OR, 2.5; 95% CI, 1.0 - 6.3). The author concluded where breastfeeding practices are sub optimal, simple face-to-face encounter antenatal education and counseling significantly improved breastfeeding practice up to 3 months after delivery. Provision of printed or audiovisual educational material is not enough. Health care workers should make every effort to have one face-to-face encounter to discuss breastfeeding with expectant mothers before they deliver.

Ickovics, J.R., (2007) determined whether group prenatal care improved pregnancy outcomes, psychosocial function, and patient satisfaction and to examine potential cost differences. A multisite randomized controlled trial was conducted at two university affiliated hospital prenatal clinics. Pregnant women aged 14-25 years (n=1,047) were randomly assigned to either standard or group care. Group participants received care in a group setting with women expected to deliver on the same month. Every 2-hour prenatal care session included physical assessment, education and skills building, and support was facilitated through group discussion. Results revealed that mean age of participants was 20.4 years; 80% were African Americans. Using intent-to-treat analyses, women assigned to group care were significantly less likely to have preterm births compared to those in standard care: 9.8% compared to 13.8%, with no differences in age, parity, education, or income between study conditions. This is equivalent to a risk reduction of 33% (odds ratio 0.67, 95% confidence interval 0.44-0.99, P=.045), or 40 per 1,000 births. Effects were strengthened for African-American women: 10.0% compared with 15.8% (odds ratio 0.59, 95% confidence interval 0.38-0.92, P=.02). Women in group sessions were less likely to have sub optimal prenatal care (P< .01), had significantly better prenatal knowledge (P<.001), felt more ready for labor and delivery (P<.001), and had greater
satisfaction with care (P<.001). Breastfeeding initiation was higher in group care: 66.5% compared to 54.6%, P<0.001. There were no differences in birth weight or in costs associated with prenatal care or delivery. The author concluded that group prenatal care resulted in equal or improved perinatal outcomes at no added cost.

Lin-Lin Su (2007) investigated whether antenatal breastfeeding education alone or postnatal lactation support alone improved the rates of exclusive breastfeeding compared with routine hospital care. A randomized controlled trial was followed at tertiary hospital in Singapore among 450 women with uncomplicated pregnancies. Primary outcomes were the rates of exclusive breastfeeding at discharge from hospital and two weeks, six weeks, three months, and six months after delivery. Secondary outcomes were rates of any breastfeeding. The study results were compared with women who received routine care, women in the postnatal support group were more likely to breastfeed exclusively at two weeks (relative risk 1.82, 95% confidence interval 1.14 to 2.90), six weeks (1.85, 1.11 to 3.09), three months (1.87, 1.03 to 3.41), and six months (2.12, 1.03 to 4.37) postnatally. Women receiving antenatal education were more likely to breastfeed exclusively at six weeks (1.73, 1.04 to 2.90), three months (1.92, 1.07 to 3.48), and six months (2.16, 1.05 to 4.43) postnatally. The numbers needed to treat to achieve one woman exclusively breastfeeding at six months were 11 (6 to 80) for postnatal support and 10 (6 to 60) for antenatal education. Women who received postnatal support were more likely to exclusively or predominantly breastfeed two weeks after delivery compared with women who received antenatal education (1.53, 1.01 to 2.31). The rate of any breastfeeding six weeks after delivery was also higher in the postnatal support group compared with women who received routine care (1.16, 1.02 to 1.31). The study concluded that antenatal breastfeeding education and postnatal lactation support, as single interventions based in hospital significantly improved the rates of exclusive breastfeeding up to six months after delivery.

Su, L.L., and Chong, Y.S., (2007) carried out a randomized controlled whether antenatal breastfeeding education alone or postnatal lactation support alone improved the rates of exclusive breastfeeding compared with routine hospital care in
a tertiary hospital at Singapore among 450 women with uncomplicated pregnancies. Primary outcomes were rates of exclusive breastfeeding at discharge from hospital and two weeks, six weeks, three months, and six months after delivery. Secondary outcomes were rates of any breastfeeding. Results: compared with women who received routine care, women in the postnatal support group were more likely to breastfeed exclusively at two weeks (relative risk 1.82, 95% confidence interval 1.14 to 2.90), six weeks (1.85, 1.11 to 3.09), three months (1.87, 1.03 to 3.41), and six months (2.12, 1.03 to 4.37) postnatally. Women receiving antenatal education were more likely to breastfeed exclusively at six weeks (1.73, 1.04 to 2.90), three months (1.92, 1.07 to 3.48), and six months (2.16, 1.05 to 4.43) postnatally. The numbers needed to treat to achieve one woman exclusively breastfeeding at six months were 11 (6 to 80) for postnatal support and 10 (6 to 60) for antenatal education. Women who received postnatal support were more likely to exclusively or predominantly breastfeed two weeks after delivery compared with women who received antenatal education (1.53, 1.01 to 2.31). The rate of any breastfeeding six weeks after delivery was also higher in the postnatal support group compared with women who received routine care (1.16, 1.02 to 1.31). Investigator concluded that antenatal breastfeeding education and postnatal lactation support, as single interventions based in hospital significantly improved the rates of exclusive breastfeeding up to six months after delivery. Postnatal support was marginally more effective than antenatal education.

Ekström. A, Widström, A.M., (2006) investigated if mothers who were attended by midwives and nurses specially trained in breastfeeding counseling perceived better continuity of care and emotional and informative breastfeeding support than mothers who received only routine care. Ten Municipalities, each with an antenatal center and child health center, in southwest Sweden was randomized either to intervention or control municipalities. The intervention included a process-oriented training in breastfeeding counseling and continuity of care at the antenatal and child health centers. Primiparous were asked to evaluate the care given, and those living in the control municipalities were divided into control groups A and B. Data collection took place at different points in time for the two control groups. The 540 mothers responded to 3 questionnaires at 3 days and at 3 and 9 months postpartum. The perception of support provided by the health professionals and from the family
classes was rated on Likert scales. Intervention group mothers rated the breastfeeding information given during the family class as significantly better during pregnancy than both control groups, and better that control group B mothers at 3 months postpartum; compared with both control groups, intervention group mothers perceived that they received significantly better overall support and that postnatal nurses provided better information about breastfeeding and the baby's needs. At 9 months, intervention group mothers were more satisfied with knowledge about social rights, information about the baby's needs, and their social network than control group B mothers. Both intervention group and control group B mothers perceived better overall support than control group A during pregnancy. At 3 and 9 months, intervention group mothers perceived that postnatal nurses were more sensitive and understanding compared with both control groups. The study concluded that after implementation of a process-oriented breastfeeding training program for antenatal midwives and postnatal nurses that included an intervention guaranteeing continuity of care, the mothers were more satisfied with emotional and informative support during the first 9 months postpartum. The results lend support to family classes incorporating continuity of care.

Hoddinott, P. (2006) assessed whether group-based and one-to-one peer breastfeeding coaching improved breastfeeding initiation and duration. Action research methodology was used to conduct an intervention study in 4 geographical postcode areas in rural northeast Scotland. Infant feeding outcomes at birth and hospital discharge at 1, 2, and 6 weeks and at 4 and 8 months were collected for 598 of the 626 women with live births during a 9-month baseline period and for 557 of the 592 women with live births during a 9-month intervention period. Groups met in 5 locations, with 266 group meetings in the period when intervention women were eligible to attend. Data on place of birth and length of postnatal hospital stay were also collected. Control data from 10 other Health Board areas in Scotland were compared. An intention-to-participate in survey about coaching participation was completed by 206 of 345 women initiating breastfeeding. Results revealed that there was a significant increase in breastfeeding of 6.8% from 34.3 to 41.1 % (95% CI 1.2, 12.4) in the study population at 2 weeks after birth compared with a decline in breastfeeding in the rest of Scotland of 0.4% from 44 to 43.6 % (95% CI -1.2, 0.4).
Breastfeeding rates increased compared with baseline rates at all time points until 8 months. However, the effect was not uniform across the 4 postcode areas and was not related to level of deprivation. All breastfeeding groups were well attended, popular, and considered helpful by participants. A minority of women (n = 14/206) participated in formal one-to-one coaching. Women who received antenatal, birth, and postnatal care from community midwife-led units were more likely to breastfeeding at 2 weeks (p = 0.007) than women who received some or all care in district maternity units. To conclude Group-based and one-to-one peer coaching for pregnant women and breastfeeding mothers increased breastfeeding initiation and duration in an area with below average breastfeeding rates.

Rohini’s Sehgal (2006) conducted a hospital-based study to assess the breastfeeding and weaning practices. 200 women of reproductive age group attending Gynae OPD were randomly interviewed by a pretest questionnaire about their breastfeeding weaning practices. Result showed early 81.5% women started breastfeeding. Rejection of colostrum was by 7 %. The exclusive and total duration of breastfeeding was 48% and 15.53 months respectively. 52%, 30.5% and 8.5% mothers gave the prelacteal, bottle feed and pacifiers respectively. The mean age of introducing water, top milk and solid feed was 3.9, 5.7 and 8.3 months respectively. Breastfeeding was considered healthy and a contraceptive by 75.05% and 28% of mothers. In conclusion the breast feeding practices noticed are encouraging, however there is a need to include patient education program on breastfeeding parameters during antenatal care. The coverage has to increase to actively promote breastfeeding during postnatal period.

Judy Kerpear (2004) conducted a qualitative in-depth interview study with the objective to explore how women experience breastfeeding difficulties with the sample of 39 postnatal mothers, who had breast feeding problems. The study concluded that lack of prenatal preparation is the cause for breastfeeding difficulties.

Nandhini Subbiah (2003) did a study to assess the knowledge, attitude, practice and problems of postnatal mothers regarding breastfeeding. The study
findings among 100 mothers depicted that only 14 of them were antenatally prepared for breastfeeding and nearly 75% knew about necessity to feed from both the breast. She concludes that the time is ripe enough to awaken the health care providers who have great influence on the family, especially on the mothers on breastfeeding.

Spinelli, A. (2003) examined the characteristics of women attending antenatal classes and evaluated the effects of these classes on mothers' and babies' health among 9004 women resident in 13 regions of Italy who delivered in a 4-month period and they were interviewed. The outcomes studied were attendance at antenatal classes, Cesarean section, bottle feeding, satisfaction with the experience of childbirth, knowledge of contraception, breast feeding and baby care. A total of 2065 (23.0%) women attended antenatal classes. Women without previous children, those with a higher level of education and office workers were more likely to attend classes. Women who attended antenatal classes had a much lower risk of cesarean section and were about half as likely to bottle feed while in hospital compared with non-attendee’s. They received better information on contraception, breast feeding and baby care. Women who attended classes and applied the techniques were more satisfied with the experience of childbirth. The study concluded antenatal classes seem to improve women's knowledge and competence on breastfeeding.

Sarah Earle (2003) conducted a study to explore women’s experience and perceptions of baby feeding and to explore the explanations offered by women who chose to either breast (or) bottle feed. The study concluded that to increase the incidence of breast feeding, health care professionals should consider the need for preconceptual health promotion. The role of paternal involvement in baby feeding decisions also needs to be acknowledged and men need to be included in breastfeeding promotion campaigns.

Li L, Thi Phuong Lan, D. (2002) stated that the health benefits of breastfeeding are widely acknowledged and breast-feeding is crucial for the survival of the infants in developing countries. A cross-sectional study was conducted to elucidate
the prevalence of breast-feeding and the possible risk factors affecting the breast-
feeding of infants at the age of 3 after the World Health Organization and the United
Two hundred and sixty mother-infant pairs were conveniently recruited in three child
health centers in Ho Chi Minh City. Mothers of infants aged 6-12 months were
interviewed and completed a well-structured questionnaire regarding the feeding
types of the infant, the maternal knowledge, attitudes and behaviors related to breast-
feeding. The results indicated that although about 86.4% newborns in the maternity
wards and 88.5% infants at 3 months were at least partially fed with breast milk, the
prevalence of breast-feeding were 57.4 and 53.1%, respectively. About 47.5%
newborns were fed with breast milk in the first feeding. The multivariate logistic
regression analysis showed that the risk factors for the introduction of breast milk
substitutes at 3 months of age were maternal antenatal plan of mixed or artificial
feeding (odds ratio (OR) = 6.59, 95% confidence interval (CI): 3.18-13.64, P < 0.001)
and the supplement of breast milk substitutes in the maternity ward (OR = 4.30, 95%
CI: 2.10-8.77, P < 0.001). Higher maternal education levels were beneficial to the
continuation of breastfeeding. About 18.5% mothers had attended antenatal
breastfeeding education. Most of the mothers (94.1%) and families (95.4%) indicated
supportive attitudes to breast-feeding. Study concluded the prevalence of breast-
feeding was relatively low in Ho Chi Minh City, Vietnam. The antenatal education in
breast-feeding needs to be improved and the implementation of the "Baby-Friendly
Hospital" policy needs to be strengthened.

Greenwood, K. (2002) Studied adolescent mothers breastfeeding pattern. This
author explored the breastfeeding intentions and outcomes of adolescents attending
the Starting Out program of Uniting Care Connections. Starting Out was a
community-based program for pregnant and parenting young women up to the age of
25 years. The program offered young women counseling, antenatal support and
education, supported accommodation, outreach support, and information. Antenatal
support and education were an important part of the service offered to pregnant young
women at Starting Out. Of the pregnant young women in the study 97.6% said they
wanted to breastfeed, with 82.8% breastfeeding on discharge from hospital. However,
the number of young women still breastfeeding at three and six months fell to levels
lower than these rates for older women. Furthermore, 48.5% of the young women breastfed for a shorter period than they intended to breastfeed. The factors influencing these results were discussed. Although young women are less likely to breastfeed than older women, this study has shown that the Starting Out program had positive breastfeeding outcomes for young women who were involved in the antenatal classes.

Athena Sheehan (2002) compared a women-centered antenatal breastfeeding programme based on concepts of peer and husband/partner support with a control group, who received antenatal breast-feeding education led by a midwife childbirth educator. The findings revealed maternal perceptions of success using the Maternal Breastfeeding Evaluation Scale (MBFES) and breastfeeding duration upto 25 weeks after birth. No differences were found between groups in relation to maternal perceptions of success or duration rates. Overall, breastfeeding duration rates were high when compared to previously reported breastfeeding duration rates in Australia. There were no differences in breastfeeding duration rates or in maternal perceptions of success between those with babies who were given supplementary feeds in hospital and those were not, although early supplementation at home appeared to reduce breast-feeding duration.

Chan, S.K., Asirvatham, C.V., (2001) conducted a study on infant feeding practices during the implementation of the Baby Friendly Hospital Initiative (BFHI) in a district hospital. The aim was to identify which population subgroups had lower breastfeeding rates at 4 months and the effect of attendance of antenatal breastfeeding education on breastfeeding practices. All infants delivered in May 1996 were followed-up. 204 respondents were analyzed. This study demonstrated a higher exclusive and any breastfeeding rates at 4 months than some other studies (48% and 76% respectively). It was found that the Malays were more likely to breastfeeding exclusively at 4 months (72%) than the Indians (32%) and the Chinese (4%). (P <0.01). There were more non-working mothers breastfeeding exclusively at 4 months than working mothers. (60% versus 26%) P < 0.01. Antenatal breastfeeding education that was given appeared to improve breastfeeding rates at 4 months.
Jay Moveland (2000) suggested that breastfeeding should be discussed at the first and subsequent prenatal visits. Most women would have made a decision about breastfeeding early in pregnancy. Breastfeeding education that’s given repeatedly in person could have a significant influence on breastfeeding outcomes and appears to be superior to only postnatal support (or) only telephone support.

Jennifer Coomb (2000) concluded that prenatal encouragement increases breastfeeding rates and identifies potential problem areas. Encouragement by health care professionals could have a significant influence on breastfeeding outcomes.

Dunkley (2000) stated that by preparing partners with antenatal education they too progress through the birth and postnatal experience feeling empowered, able to offer support which is important for the transitions into parenthood.

Alasfoor. , et al (1999) reported that only 16.2% of the mothers prepare the breast prior to the delivery. It was observed that 20% of the mothers had the problems that are related to breast.

Lowdermilk (1999) stated that the key to encourage the mothers to breastfeed is through education beginning as early as possible during pregnancy and even before pregnancy. Prenatal breastfeeding classes are an excellent vehicle to relay important information to expectant mothers.

Barnes, J. (1997) in his article explored that demographic characteristics independently related to intentions to breastfeed included older maternal age, more maternal education, primi parity and not smoking; in the previous work all these had been associated with actual feeding behavior. Social relationship variables had a small influence. Of the psychological variables, a notable finding was that women who were preoccupied with their body shape and those who expressed
concern were, less child-centered, and their responses to manage an infant in the postnatal months were less likely to have intentions to breastfeed. Depression did not predict breastfeeding intentions once the other factors had been taken into account. Health care professionals may be able to intervene to increase breastfeeding by making routine enquiries during antenatal care and targeting appropriate subgroups.

Piper and Parker (1996) stated that women who attend prenatal classes that include breastfeeding information (physiology of lactation, feeding techniques, establishing a milk supply and dealing with common problems) are likely to breastfeed for more than 6 months compared with women who do not attend classes.

Nolan and Qureshi, et al (1996) stated that in the light of much research into the appropriateness and effectiveness of parenthood education it would appear that the current provision is inadequate, and there’s paucity of evidence to support claims that it significantly affected labor and breastfeeding outcome.

Section 4 Studies related to paternal and grandparents' involvement during antenatal period

Susin, L.R., (2008) assessed the impact of paternal inclusion in a breastfeeding education program carried out in a maternity hospital. Rates of breastfeeding in the first 6 months of babies' lives were measured in 586 families: 201 in the control group, 192 in the group with only mothers exposed to the intervention, and 193 in the group with mothers and fathers exposed to the intervention. Paternal inclusion significantly increased the rates of exclusive breastfeeding but not the rates of any breastfeeding. Intervention with fathers with less than 8 years of schooling resulted in a decrease in the rate of breastfeeding when compared with the intervention with mothers only. The likelihood of success might have been greater if the cultural and behavioral complexities associated with this practice had received more attention.
Jenny Ingram and Debbie Johnson (2004) explored the effect of antenatal intervention for grandmothers or partners to support breastfeeding, which combine the benefits and mechanics of breastfeeding with ways of providing support for breast feeding. The findings where using an antenatal session based around leaflet, specifically for grandmothers and parents and including a demonstration of good breastfeeding positioning and attachment in addition to the discussion of specific issues around the health benefits and mechanics of breast feeding was found to be acceptable, useful and enjoyable by all participants, particularly for first time parents.

Sarah Earle (2000) explored women’s experiences and perceptions of baby feeding and to explore the explanations offered by women who chose to either breast or bottle feeding. The study concluded that to increase the incidence of breastfeeding, health care professionals should consider the need for preconceptional health promotion. In the role of paternal involvement in baby feeding decisions also needs to be acknowledged and men need to be included in breastfeeding promotion campaigns.

Section 5  Studies related to baby feeding decision during antenatal period

Mydlilov (2008) conducted a prospective study to identify the quality of breastfeeding preparation in the antenatal courses and to identify the other sources of breastfeeding information at Prague among 351 mothers. Results showed that only 52.8% of mothers were satisfied with the course content. Women who attended the antenatal preparation were more informed about the correct breast feeding technique, the harmfulness bottle and pacifier usage, the disadvantages of the mother and newborn separation and alternative feeding methods than those who did not. The other sources of breastfeeding information were literature, magazines and internet and health professionals participation was only 9%. During pregnancy 82.9% of women did not pass the breast examination. The study concluded that it is necessary to improve the quality of the antenatal courses on breastfeeding preparation and to increase the participation of health professional in breastfeeding information distribution.
Rachel Hale (2007) stated that breastfeeding is a skill that needs practice & perseverance. Therefore great teaching skills & plenty of encouragement are needed to persuade women to breastfeed and to continue to breastfeed, although it may prove a testing time for all involved. Midwives are in the best position to encourage mothers’ to breastfeed for the benefit of baby’s health and for the mother’s too. Many women are aware that “breast is best” for the baby but may be completely unaware of the health benefits for themselves. When mothers make a decision regarding infant feeding, it should be a fully informed decision.

Athena Sheehan, Virginia Schmied and Margaret Cooke. (2003) described the baby feeding decisions of a group of Australian women prior to birth. A qualitative study using face to face in depth interviews was undertaken with 29 women. These baby-feeding decisions grouped into 4 thematic groups,” assuming I will breast feed; definitely going to give breast feed; ‘playing it by ear’ and ‘definitely going to bottle feed”. The research highlighted the need for antenatal educators and midwives who provide care in pregnancy to acknowledge the range of experience and expectations of women and to provide diverse educational opportunities to meet a range of needs.

Houghton. M. D. (1999) examined influences on the decision to initiate breastfeeding among low-income Native American mothers. 50 Native American mothers answered questionnaires about infant feeding practices, breastfeeding attitudes and social support. Findings indicate a breastfeeding initiation rate of 62%. Support of breastfeeding from the baby’s father was the most important predictor of breastfeeding initiation (p<0.0005). Support from the mother’s mother and mother’s grandmother were also significant (p<0.05). Other factors included confidence in one’s ability to breastfeed, availability of maternity leave, and overall support and encouragement. The reason most often cited as a factor in the decision to breastfeed was the belief that it was healthier for the baby. The participants identified breast pain and returning to work or school as reasons not to breastfeed. Breastfeeding duration was 29.5 +33.8 weeks. The number of prenatal hours worked (r=.60, p<0.005) were significantly correlated with breastfeeding duration. Other factors affecting the duration of breastfeeding were a mother’s overall feelings of support and success (p<0.05). Mothers with less than a high school education breastfed longer than those
with a high diploma (P<0.05). These results pointed out that need for inclusion of the fathers, maternal mothers and grandmothers whenever possible in breastfeeding education programs.

Duffy, E. P., (1997) explored the positive effects of an antenatal group teaching session on postnatal nipple pain, nipple trauma and breastfeeding rates in western Australia. Women were randomly assigned to either the experimental group teaching session or the control group. Study participants were 70 primiparous, who intended to breastfeed their baby were recruited from the antenatal clinic of the study hospital at 36 weeks of gestation. Intervention was given to the study group as antenatal group sessions on position and attachment of the baby on the breast were conducted by a lactation consultant. The study findings were, during the first 4 postnatal days position and attachment was measured. The analysis of variance results indicated that the women in the experimental group were better able to attach the baby on the breast and had significantly less nipple pain and trauma than the control group. Study concluded that that the midwives can make the best use of decreasing resources by using practical ‘hands on’ antenatal group teaching as an effective strategy to increase breastfeeding rates.

Esamai, F., et al (1994) conducted a study on health education on breastfeeding in antenatal clinics in Eldoret district hospital, Kenya among 163 mothers who delivered in the hospital. They were interviewed using a structured questionnaire with the aim of establishing knowledge attained from antenatal visits on breast feeding and lactation. 53.06% had antenatal education on breastfeeding during the visits while 46.94% did not. 69.44% attended antenatal clinic at a hospital, 24.3% attended at health center and 6.25% attended a dispensary. Most mothers had 3 and 5 antenatal clinic visits with a range of one to eleven visits and with a parity of between one and three. 79% of the mothers commenced antenatal clinic attendance by 24 weeks gestation with 19% starting at 12 weeks. The hospital antenatal clinic attendants had slightly higher proportion of mother’s health educated on breastfeeding than the health center and dispensary groups. Only 76 mothers had received satisfactory health education on breastfeeding. One third of the mothers had breastfed
their children for 2 years and similarly, one-third stopped breastfeeding by 12 months postnatally. 90% of the mothers started weaning their children by age of one month.

Datta, T., (1981) assessed the trends in breastfeeding and impressions from an urban educated community. The study group was 100 primiparous aged 20-25, living in an urban area and college educated were surveyed to observe breastfeeding practices. Although 97 mothers had stated their desire to breastfeed, only 12 completely breastfed for at least 4 weeks, while 73 started mixed feeding from the beginning. None of the mothers had read any literature on the subject of breastfeeding, and only 5 had been given advice prior to delivery. Only 20 babies were roomed in immediately after birth. None of the mothers had been advised to put the baby on the breast immediately after delivery. Indeed, breastfeeding did not start until after discharge from the hospital, while in the hospital the babies were fed with dextrose solution and with lactodex. The media on the subject of breastfeeding reached none of the mothers. Reasons given for discontinuation of breastfeeding were insufficiency of breast milk. Finally the author declared that the doctors, nurses and paramedical personnel must endeavor to encourage women to breastfeed, and to support and properly educate them in the antenatal and postnatal periods.

Section 6   Studies related to initiation and postnatal breastfeeding

Tarrant, R.C., (2010) conducted a prospective cross-sectional study involved the recruitment of women during the antenatal period, with subsequent follow-up of mothers who delivered healthy, term singleton infants, at 6 weeks and 6 months postpartum. Results revealed that breastfeeding initiation rates of the Irish-national and non-Irish-nationals were 47% and 79.6%, respectively. Factors that were significantly (P = 0.000) associated with both breastfeeding initiation and 'any' breastfeeding at 6 weeks included mothers who were >or =35 years, educated to third level, reported positive postnatal encouragement to breastfeed from their partners and had a positive antenatal intention to breastfeed. The maternal negative perception that breastfeeding is an embarrassing way to feed an infant was demonstrated as a major barrier to initiation. The author concluded that breastfeeding initiation and prevalence rates of the Irish-national population remained low and lag considerably behind
national and international targets. Inclusion of the partner in breastfeeding promotional initiatives during the antenatal period may be crucial to increase breastfeeding rates in Ireland. Public health campaigns that focus on increasing the social acceptability of breastfeeding may prove effective in addressing this cultural barrier.

Agampodi, S.B., (2009) conducted a longitudinal study in a public health field practice area-Sri Lanka in 2006-2007 and assessed the effectiveness and feasibility of on the job staff training and supportive supervision to improve six months of exclusive Breastfeeding (EBF). Three breastfeeding counseling sessions were conducted for public health midwives. Supportive supervision and on the job training were done by two public health physicians. Pre and post intervention independent cross sectional studies were conducted to assess the effectiveness of the programme. The study sample consisted of mother-infant pairs where infants were aging 6 to 12 months, attending child welfare clinics. Results revealed 336 mother-infant pairs (pre 139, post 197). Proportion of mothers whom breastfed their infants exclusively for six months improved from 19% to 70% after the intervention. The median duration of EBF increased from 4 months to 6 months (inter-quartile range 2-6 and 5-6 months respectively). Uncompounded effect of intervention on 6 months EBF in logistic regression model was highly significant (OR=13.67. p<0.001). Intervention significantly reduced the bottle feeding rate (OR=0.212, p<0.001) but not formula feeding (OR=1.146. p=0.642) of potential predictors assessed, employed mothers compared to housewives (OR=4.45. p=0.014) were more likely to breastfeed their infants up to six months. Parity, maternal education and maternal age were not significantly associated with six months EBF. To conclude the existing public health infrastructure can be used effectively to improve six months EBF in places where the care is given primarily by public health system.

January 2008 series on Infant Mortality and Malnutrition that was published in medical journal Lancet said nearly 77% (1.06 million) child deaths were attributable to suboptimal breastfeeding or due to non-exclusive breastfeeding during 0-6 months of life.
Huang, M.Z., (2007) evaluated a web-based breastfeeding education programme provided to primigravidae in the third trimester of pregnancy with the aim of deepening breastfeeding knowledge and enhancing skills at Taiwan with the target population of primigravidae at 29-36 weeks of gestation using the Internet on regular basis. Women who received web-based breastfeeding education had a higher mean breastfeeding knowledge score and more positive attitude about breastfeeding. Results suggest that web-based breastfeeding education may contribute to breastfeeding knowledge and attitude and improved breastfeeding rate. Web-based breastfeeding education programme can achieve success in promoting breastfeeding and provide health professionals with an evidence-based intervention.

Ystrom, E., (2007) conducted a prospective cohort study to assess the degree to which mothers' antepartum personality traits predict breastfeeding status at 6 months postpartum, at the Norwegian Institute of Public Health. A total of 27,753 mothers completed assessment of negative affectivity (NA) and general self-efficacy (GSE) at gestation weeks 17 and 30 and completed a questionnaire about infant feeding at 6 months postpartum. Feeding status was classified with a cutoff at 6 months in the categories of predominant breastfeeding, mixed breastfeeding, and bottle-feeding. RESULTS: After adjusting for maternal smoking, age, education, cesarean section, preterm birth, primiparity, and external daycare, NA increased the odds of mixed breastfeeding (odds ratio [OR], 1.16; 95% confidence interval [CI], 1.03 to 1.32) and bottlefeeding (OR, 1.32; 95% CI, 1.14 to 1.53) compared with predominant breastfeeding. GSE decreased the odds of bottlefeeding (OR, 0.90; 95% CI, 0.84 to 0.97) but not of mixed breastfeeding (OR, 0.98; 95% CI, 0.92 to 1.04) compared with predominant breastfeeding. The adjusting variables were also predictors of breastfeeding behavior in their own right. Researcher concluded that NA and GSE are important antenatal predictors of breastfeeding status at 6 months postpartum.

Chryssa Bakoua, (2007) examined the prevalence and determinants of breastfeeding and to identify prenatal, Socio demographic, psychosocial and environmental factors associated with maternal infants feeding intention. A sample of 3734 greek mothers that delivered their infants in 2000 were recruited in a longitudinal cohort
study. Data on duration of breastfeeding was based on a questionnaire answered by 76.6% of the participants at 8 to 12 months proportion. Results showed that any breastfeeding at 3 to 6 months were 52% and 24% respectively. The corresponding rate of exclusive breastfeeding was 37% and 17%. The author concluded that the rates of any breastfeeding exclusive during the first year of life were fairly satisfactory. Programme to support breastfeeding are necessary and should encourage women to feel positive to breast feed. Focusing particularly on non working mothers, mothers with a maternity entitlement less than 6 months and mothers who lack previous breastfeeding experience.

National Neonatology Forum (NNF) (2007) quotes the correct position of the baby as baby’s whole body is close to the mother, his/her chin and mouth are close to the mother’s breast, mouth wide open, most of the areola not visible while feeding, baby takes slow and deep sucks. Breastfeeding technique ensures comfort to both mother & baby. It also facilitates free flow of breast milk.

Rondo, P.H., (2007) evaluated the associations between maternal psychological status and intended breastfeeding duration among 852 pregnant women who attended antenatal care between September 1997 and August 2000 in 12 health units and five hospitals in Jundiaí city, Brazil. Psychological measures (stress and distress) were obtained at a gestational age from 30 to 36 weeks, using standardized scales, questionnaires and inventories. Psychological factors specifically related to breastfeeding assessed their worries, concerns, and support when breastfeeding. Multiple linear regression analysis identified the associations between the outcome "intended duration of breastfeeding" and psychological status of the mothers, controlling for toxic exposure, socioeconomic, demographic, obstetric and nutritional factors. The results were negative associations between the outcome and distress, "concerned about body's changes", and work outside home, and a positive association between the outcome and marital status (p < or = 0.03). On conclusion early identification of distress in pregnant women and a more attentive encouragement to breastfeed is probably one of the steps to improve intended breastfeeding duration.

Anette Ekstrom (2006) breastfeeding itself is likely to strengthen the ties between mother & child as a result of physiologic mechanisms such as oxytocin
release and stimulating the parasympathetic nervous system, making the mother less anxious and more relaxed.

Karen M. Edmond (2006) sought to assess the contribution of the timing of initiation of breastfeeding to impact 10947 breastfed singleton babies and who survived to day 2 and whose mother’s visited during the neonatal period. Breastfeeding was initiated within the first day of birth in 71% of infants and by the end of day 3 in all but 1.3% of them, 70% were exclusively breastfed during the neonatal period. The risk of neonatal death was fourfold higher in children who were given milk-based fluids or solids in addition to breast milk. There was a marked dose response of increasing risk of neonatal mortality with increasing delay in initiation of breastfeeding from 1 hour to 7 days, overall late initiation (after day 1) was associated with a 2.4 fold increase in risk. 16% of neonatal deaths could be saved if all infant’s were breastfed from day 1 and 22% if breastfeeding started within the first hour.

Awi, D.D., (2006) a prospective, hospital-based study was conducted 500 consecutive healthy mother-infant pairs delivered at UPTH (both vaginally and by Caesarian section) to explore the barriers to timely initiation of breastfeeding in mothers at hospital and to determine if there is any statistical association between the time of initiation of breastfeeding and certain socio-demographic, obstetric, psychosocial and environmental factors among mother-baby pairs. The association between time of breastfeeding initiation and factors under consideration were determined using the chi-squared test. RESULTS: Approximately 34% of the VD mother initiated breastfeeding early while no mother with Caesarean section had early initiation of breastfeeding. The mean time of breastfeeding initiation was 3.35 +/- 2.6 hours in mothers who had vaginal delivery, 6.50 +/- 3.4 hours and 5.9 +/- 1.9 hours in those who had Caesarean section with general or spinal anesthesia respectively. Among those with vaginal delivery, mothers younger than 25 years and of high socioeconomic class were found to practice early breastfeeding initiation. Delay in the time of repair of episiotomy and labour duration less than 12 hours were associated with early breastfeeding initiation. Early contact between baby and mother, help received on the delivery table and the presence of more than one delivery assistant also positively influenced breastfeeding initiation. Similarly, the presence of a
breastfeeding-trained delivery assistant enhanced the mother's practice of early initiation of breastfeeding. Observation of routine labour ward practices such as cleaning of the newborn and weight/length measurement had negative impact on the practice of early initiation of breastfeeding. Early contact between the mother and her newborn on the delivery table with assistance to initiate breastfeeding was the most important predictor of early breastfeeding initiation. Parity, attendance at the antenatal clinic, receipt of breastfeeding information and use of analgesics during labour did not show any statistical association with time of initiation of breastfeeding. On conclusion there was a low prevalence of early initiation of breastfeeding in mothers delivered at the University of Port Harcourt Teaching Hospital. Low prevalence was due to delay in helping the newly delivered mother, especially those with Caesarean delivery. Routine labour ward practices interfered with the time of breastfeeding initiation. Routine labour ward and delivery table, specific assignment to the staff in the delivery/labour rooms help newly delivered mothers initiate breastfeeding early, and empowering them to request for babies are recommended.

National Family Health Survey – 3(2006) published in late 2006 said only 24.5% of new mothers initiated breastfeeding in the hour after birth, 46.4 % breastfed exclusively for the first six months and a slightly more encouraging 56.7 % were nursed beyond six months with the introduction of complementary food. And nearly half of fewer than 5 children were underweight due to early discontinuation of breastfeeding.

Louise, M. Wallace., (2005) conducted a randomized controlled trial in England of a postnatal midwifery intervention on breastfeeding duration. Objective was to determine whether postnatal “hands off” are by midwives on positioning and attachment of the newborn baby improves breastfeeding duration. Findings revealed that experimental group mothers more often held the baby across their lap and received hand of advice but fewer babies in the experimental than control groups were attached and fed : 59% (106/180)Vs 67% (118/175), p = 0.1. No significant differences were found in the number of mothers, breastfeeding at 6 or 17 weeks in experimental group and control group stopped exclusive breastfeeding 76% (130/172).
Vs 77% (126/123). At 6 weeks 96% (167/174) Vs 96% (161/168), at 17 weeks the odds ratio was 1.02, 95%CI 0.77 to 1.22, p=0.8; stopped breast Feeding : 35% (61/172) vs. 32% (53/167) at 6 weeks 63% (109/173) vs. 60% (101/167) at 17 weeks, the odds ratio being 1.10, .84 to 1.45 with p=0.5. There were no significant difference in the incidence of problems with breastfeeding and care experienced by mothers before or during hospitalization nor after discharge to home. The study concluded that no significant beneficial effect was found on breastfeeding duration and on the verbal advice on positioning and attachment. The study suggested midwives can be trained in a 4 hours workshop to achieve to improve the knowledge of hands of positioning and attachment care and these can be translated into clinical practice.

The medical research council & Institute of child health (2004) reported that rapid growing infants proved to have certain health conditions which increase the risk for heart disease & stroke like obesity, high blood pressure, high cholesterol & diabetes. The study concluded that slower growth reduces the risk of heart disease and stroke in adult life and the best way to achieve this is to breastfeed.

Inch (2003) advocated that midwives should provide verbal or “hands off” care to achieve effective positioning of the mother and baby and observation of cues that the baby is correctly attached. This is because mothers need to be able to attach their babies to achieve pain free nipple and effective milk transfer.

Jenny Ingram (2002) conducted a non-randomized prospective cohort phased intervention study to determine whether a specific ‘hands – off” breastfeeding technique, based on the physiology of suckling and clinical experience, if taught to mothers in the immediate postnatal period, improves their chances of breastfeeding successfully and reduces the incidence of problems among 1400 mothers were breastfeeding on discharge from hospital. 395 of these mothers were scored for efficiency of using the breastfeeding technique. Significant increases were observed in the proportion of mothers exclusively breastfeeding at two weeks (p<0.001 and 6 weeks (p=0.02) and in ‘any breastfeeding’ rates (p=0.005) at two weeks after the
technique intervention. The incidence of mothers feeling that they did ‘not have enough milk (perceived milk insufficiency) decreased significantly after the breastfeeding technique had been taught (p=0.02). Logistic regression analysis produced a model which showed that mothers with high scores for the ‘hands – off’ technique were significantly more likely to be breastfeeding at six weeks compared with those who did not use all the elements of the technique (OR 2.4; CI 1.3, 4.3). Successful breastfeeding in the early weeks associated both with the practices and support in hospital and with factors at home including not using dummies and having a supportive partner, family and health professionals whom are encouraging breastfeeding.

National institute of child health & human development (NICHD) (2002) gathered data on the continuing effects of breastfeeding. The study included infants that were full term, but small for gestational age & those that are approximate for gestational age. The study supports previous reports that full term infants of normal size score higher on IQ test at five years of age when breastfed exclusively for the first 6 months of life. In addition the results demonstrate that full term infants that were born small score 11 points higher on an IQ test if they are breastfeeding.

Hamlyn et. al (2002) insisted that “Breast is best” is rightly embedded in Indian Health policy. It is endorsed by “baby friendly” a joint WHO / UNICEF initiative to promote breast-feeding over artificial feeding. Although the number of woman initiating breastfeeding has increased significantly, its continuation has not improved much over the last 25 years.

Mahgoub (2002) conducted a cross-sectional descriptive study in four randomly selected districts of Botswana 400 households with children less than 3 years old were enrolled into the study. A structured questionnaire was administered to mothers of eligible children in 50 households in each of the eight sites. A total of 76.4% of the mothers were single and a high proportion of them had primary or secondary education and 59.3%, of the mothers had a high level of information about
breastfeeding mainly obtained before conception, 94.4% of the mothers believed that breastfeeding was better than bottle feeding. 95% of the mothers had breastfed their children, and they started breastfeeding immediately or a few hours after delivery. More than 85% of the mothers were planning to continue breastfeeding for 18 months or more. The majority obtained advice about breastfeeding from health workers. The main reason for stopping breastfeeding was that the mother was at work or school. 58.2% of mothers had little or no support for breastfeeding from the community; it had a positive effect on their decision to breastfeed. The majority of mothers indicated their confidence about breastfeeding when they were pregnant. Over three-quarters (79.6%) of the mothers delivered in government hospitals, and nearly all were roomed with their babies after delivery.

Gunasekaran, S., et al (2000) published results of a study conducted on a sample of 912 children born during 1990-94 in Tamil Nadu, which revealed that only 28% of mothers had practiced ideal infant feeding practice. It was more among urban women (32%) as compared to their rural counterparts (26%). Place of residence, age at marriage, sex of the child, education on breastfeeding, number of antenatal visits by ANM during pregnancy and place of delivery had a significant relationship with infant feeding practice. The study suggests bring about an improvement in the delivery of maternal and child care services by strengthening of health education programme on improving breastfeeding knowledge with special emphasis on interpersonal communication with women to improve the ideal infant feeding practices.

Jay Moveland (2000) in his article wrote that the new mother should initiate breastfeeding as soon as possible after giving birth. When mothers initiate breastfeeding within ½ hour of birth, the baby’s suckling reflex is the strongest and the baby is more alert. Early breastfeeding is associated with fewer nighttime feeding problems and better mother-infant communication. Baby’s who are put to breast earlier have been shown to have higher core temperature and less temperature instability.

Volpe, E.M., (2000) determined if specific breastfeeding education, provided by a lactation consultant in group classes for pregnant adolescents, would increase
breastfeeding initiation among students enrolled in a high school adolescent pregnancy program. Ninety-one pregnant adolescents participated in the study and were divided into two groups: those who did not receive specific breastfeeding education and those who did, through the Breastfeeding Educated Supported Teen (BEST) Club. There were no significant differences in breastfeeding initiation with regard to age or ethnicity. Of the 48 adolescents who received no specific education, 7 (14.6%) initiated breastfeeding. Of the 43 adolescents in the education group, 28 (65.1%) initiated breastfeeding, which indicates a significant difference between groups with regard to infant feeding choice (P < .001). To conclude educational programs designed for the adolescent learner may be successful in improving breastfeeding initiation in this population.

McInnes, R.J., (2000) examined whether peer counseling in the antenatal and postnatal period would increase the prevalence and duration of breastfeeding among low-income women in Glasgow. Of the 995 women enrolled in the study, data were available for analysis on 919 (92%) to 6 weeks postnatally. At booking, 18 per cent of the intervention group and 21 per cent of the control group stated an intention to breastfeed. At delivery, the proportions initiating breastfeeding were 23 percent of the intervention subjects and 20 per cent of the controls, and by 6 weeks postnatally, the proportion providing any breast milk had declined to 10 percent of the intervention group and 8 per cent of the control group. By 6 weeks postnatally the difference between the two groups was not statistically significant (OR 1.8; 95 per cent CI 1.0-3.4, p=0.07). On conclusion as the impact of the intervention was not sustained even for the modest duration of 6 weeks postnatally, it would be premature to justify widespread use of peer support programmes to increase the prevalence of breastfeeding in socially disadvantaged communities.

Papinczak TA(2000) explored the degree to which certain personal and social maternal factors, measured in the immediate postpartum period and during the next six months, were associated with the length of the breastfeeding experience. Qualitative and quantitative data were obtained from three questionnaires administered to 159 mothers, who delivered their infants within a three-month birth cohort at Royal Women's Hospital Brisbane. Interviews took place prior to hospital
discharge, at three months postpartum and at six months postpartum. The study found that, while 91.1% of new mothers had breastfed their infants at least once, only 49.6% were breastfeeding at all by the time their infants were six months of age. Longer breastfeeding duration was most significantly associated with increased breastfeeding self-confidence, lower levels of anxiety and depression, increased self-esteem and coping capacity, and stronger social health. These findings have relevance to the content and process of antenatal and postnatal education programs undertaken with pregnant and postpartum women in all health care settings.

Musaiger, A.O., (2000) his rapid assessment survey was undertaken to find out the current practices of infant feeding in Bahrain and the impact of educational level of the mothers on these practices among 200 Bahraini mothers of children less than 2 years who were interviewed in the health centers. About one third of mothers (39.8%) initiated breastfeeding at the first hour of delivery, and there was no significant association between education of mothers and initiation of breastfeeding. Most infants were placed in the same bed as their mothers (71%), however the proportion was lower among infants with mothers with high education (61.8%) compared to low (73.7%) and middle (72.5%) educated mothers. The introduction of foods during the first 3 days of the infant's life as well as the practicing of breastfeeding on schedule increased with the increased educational level of mothers. Highly educated mothers tend to introduce rice, wheat, infant formula and fruit at an earlier age of the infant's life than other educational groups. However, the practice of sound infant feeding was less among highly educated mothers when compared to low and middle education mothers. This is mainly due to socio-economic factors rather than lack of awareness.

Okolo, S.N., (1999) studied the knowledge, attitude, and practices regarding breastfeeding of 310 mothers in five rural communities in Toto Local Government in Nassarawa State, Nigeria. 62 (52.3%) mothers were illiterates while 148 (47.7 %) had either primary or secondary school education. Apart from giving babies colostrum, which was seen more amongst mothers with higher levels of education (p < 0.001), other practices investigated such as exclusive breastfeeding, demand feeding,
'rooming-in', and time of first breastfeed were not influenced by the mother's level of education. 54% of mothers did not give their babies colostrum. All mothers attended the antenatal clinic but only 103 (33.3%) received instructions from the health worker on breastfeeding and 46.8% delivered at home. Only 28.6% of the babies were breastfed within 24 hours of birth. The mean time after birth for the first breastfeed was 47.7 hours. Although breastfeeding is widely practiced, none of the babies was exclusively breastfed, and all the mothers gave prelacteal feeds ranging from water, formula, or herbal tea. The practice of discarding colostrum and replacing it with a wide range of prelacteal feeds and late initiation of breastfeeding has implications for health education programmes and neonatal feeding strategies.

Thomas (1997) conducted a survey on breastfeeding in South Asian families in 1994 found that 90% of Bangladeshi mothers at all birth orders breastfed initially compared with 82% of Indian, 76% of Pakistani and 62% of white mothers.

UNICEF (1995-2000) statistics showed exclusive breastfeeding in developed countries was 37%, in developing countries 46% and globally it was 45%.

The National UK infant feeding survey showed that between 1995 and 2000 there was an overall increase in breastfeeding incidence in the UK (Infant feeding 2000). It also showed that mothers from Asian and other ethnic minority groups were more likely to breastfeed at birth compared with white women.

Murray Enkin (1995) stressed that the correct positioning of the baby at the breast plays a crucial role in both the prevention of sore nipples and the successful establishment of breastfeeding. A woman’s ability to position her baby correctly at her breast is a learned and predominantly physical skill, which the mother must acquire from observation and practice.

Campbell. H., (1995) assessed the level of support given to breastfeeding mothers during their stay in maternity hospitals. The audit was carried out in
maternity hospitals in Fife with the co-ordination of the Fife Joint Breastfeeding initiative. The subjects consisted of ten maternity hospital staff (medical and midwifery), and 12 antenatal and 21 postnatal women. The design of the study consisted of an audit of hospital policies and practices in comparison with ten internationally recognized standards. This was carried out by adapting the external evaluation instruments from the WHO-UNICEF "Baby Friendly Hospital" materials. RESULTS: Action was taken to address areas of practice which fell below the WHO-UNICEF standards: supplementary feeding of breastfed babies, particularly overnight, was reduced; discharge” bounty packs” advertising baby milk manufacturer products were discontinued; a hospital breastfeeding support group was established; the hypoglycemia policy was revised; and the need for an orientation session on breastfeeding policies for medical staff was recognized. CONCLUSION: This audit approach using "Baby Friendly Hospital' materials has helped to define policy, measure performance against recognized standards, identify quality specifications for maternity service agreements and has improved hospital support for breastfeeding mothers. This approach is suitable for maternity hospitals whose breastfeeding rates make them ineligible for "Baby Friendly Hospital" accreditation, and has the potential to be extended to encompass wider "health-promoting hospital" issues such as promotion of infant car seats.

Gupta A (1992) A survey of obstetric and infant feeding practices in 100 mothers showed that only 17% infants were exclusively breastfed. Antenatal advice regarding breastfeeding was given to only 13%. 68% of infants were put to breast 24 hours after delivery. Campaign against bottle-feeding was then launched. Fifteen months later, a survey on another 100 mothers showed that 44% infants were exclusively breastfed, antenatal advice was given to 11% mothers and 60% mothers got active postnatal advice regarding disadvantages of bottle feeds. Incidence of exclusive breastfeeding was more in infants who were roomed-in with the mother early, started on breastfeeding earlier and whose mothers received antenatal advice. It was concluded that even if the percentage of antenatal advice did not improve, active postnatal campaign directed towards dangers of bottle-feeding could increase the prevalence of exclusive breastfeeding.
Khan, M.E., et al (1990) stated that research has shown that when mothers do not start breast feeding early, the basics don’t develop thereby normal feeding pattern sucking reflex may be interrupted and the use of reflex may be interrupted And the use of bottle (or) pacifiers to a baby produced “nipple confusion”. Babies should be exclusively breastfeed for the first 4-6 months.

Birenbaum, E., (1989) studied the influence of demographic and prenatal factors on the initiation of breast-feeding in an urban Israeli population, which was evaluated by interviewing 1,000 parturient prior to discharge from the hospital. 72% were breast-feeding, 6% stated an intent to breast-feed, and 22% were formula-feeding their infants. A significantly increased rate of breast-feeding was found among mothers with the following characteristics of orthodox religious belief, high educational level, in the academic and Para academic professions, nonsmokers, those who worked outside of the home during the pregnancy, those who had previous breast-feeding success, and mothers whose husbands' attitude toward breast-feeding was positive. The decision to breastfeed was made prior to delivery in 85% of mothers. Participation of the mother and / or father in antenatal preparation courses significantly influenced the initiation of breast-feeding: Positive spousal attitude toward breastfeeding, orthodox religious belief, nonsmoking, and work outside of the home during the pregnancy. The expected probability for initiating breastfeeding was computed for the various combinations of these four categories and ranged from .94 with all factors present to .33 in the absence of these characteristics.

UNICEF, UK, Baby Friendly Hospital Initiative, WHO (1989) includes a program to encourage best practice in breast feeding in the form of the ten steps to successful breastfeeding.

Lois .B. Dusdeiker (1985) demonstrated how multivariate analysis can be applied to the infant-feeding decision and how it can lend a theoretical interpretation to social issue such as initiation of breastfeeding. 100 completely breastfeeding and 57 bottle feeding primigravidae women enrolled in the study and completed a pretest Likert-type questionnaire. Three primary predictors for the initiation of breastfeeding
were identified. 1. positive maternal beliefs about breastfeeding 2. the absence of maternal worries about breastfeeding 3. Higher levels of maternal education. Secondary psychological predictors significantly associated with maternal breastfeeding beliefs included maternal worries about lack of psychosocial support and maternal anxiety about breastfeeding before breastfeeding began. Thus the main contribution of research has shown a shift from the emphasis of past research away from differences between groups of bottle feeders and breast feeders to more precisely on the decision-making process involved in the breastfeeding choice.

Section 7 Studies related to postnatal feeding problems.

National Alliance For Breastfeeding Advocacy (2008) announced that meeting mothers’ personal breast feeding goals depend on a number of factors, including the timely resolution of any problem she encounters. Nurses are often the first providers who interact with the mother during the perinatal period and are positioned to guide mothers through the prevention and solving of breastfeeding problems. Although many problems may be “common”, failure to remedy conditions like pain, frustration, and anxiety can lead to premature weaning and avoidance of breast feeding to subsequent children. This article describes strategies and interventions to alleviate common problems that breastfeeding mothers frequently encounter.

Amir, L.H., (2007) compared the rates of mastitis in primiparous women receiving public hospital care (standard or birth centre) and care in a co-located private hospital. A randomized controlled trial [RCT] and a survey have been combined. 1193 women completed the 6 months telephone interview. Breastfeeding rates at 6 months were 77% in Family Birth Center, 63% in France Perry House and 53% in ABFAB. 17% (n = 206) of women experienced mastitis. Family Birth Centre and Frances Perry House women were more likely to develop mastitis (23% and 24%) than women in ABFAB (15%); adjusted odds ratio (Adj OR) ~1.9. Most episodes occurred in the first 4 weeks postpartum: 53% (194/365). Nipple damage was also associated with mastitis (Ad OR 1.7, 95% CI, 1.14, 2.56). No association was found between breastfeeding duration and mastitis. The author concluded that the prevention and improved management of nipple damage could potentially reduce the risk of lactating women developing mastitis.
Archana, B. Patel., (2006) assessed the prevalence of top fed babies attending the hospital outpatient department as 12% (36/300) mothers. Through interview technique the mothers were questioned about the reasons for top feeding. The majority (89%) said that they were giving top feed because they felt that their breastfeeding were inadequate. On inquiry 59% told that it was inadequate on expressing milk by squeezing the breast. 33% felt baby cried even after nursing and 8% were told of their inadequacy by family members. All mothers practiced squeezing the breast and checking milk expression. The study concluded that the commonest reason for starting top feed was “inadequate milk expressed when breasts were squeezed” and they are also unaware that milk secretion is unrelated to the milk on expressing, makes them doubt their ability to feed leading to lactation failure.

Dixon (2006) explored engorgement and blockage continues infection can occur. The breast will feel hot and tender and look red and swollen. Flu – like symptoms such as headache, nausea and raised temperature are common.

Valerie Pald, A. (2004) identified that 22% of mothers 15 to 49 years breastfeed for less than 3 months and 35% did so far at least 3 months. This premature discontinuation is more due to difficulty with breastfeeding including lack of information and support than of women's choice.

Amarsena and Madasinghe (2003) conducted a study to find the breast and nipple abnormalities among the primigravidae mothers and their effects on lactation. A total of 976 primigravidae mothers were recruited and 725 (74.3%) completed the end point of study, 788 (80.8%) had normal breast and 188(19.2%) had detectable abnormality. Breast surgery (10), flat nipple / retracted nipple (92), asymmetry / hypo plastic breast (86), correctable abnormality took a mean of 4 weeks to get corrected with standard treatment.

Taylor, J.S., (2003) 1995 National Survey of Family Growth (NSFG) to analyze the breastfeeding behaviors of a national probability sample of 6733 first-time US mothers, aged 15 to 44 years and primary reason for not breastfeeding. Most commonly, women did not breastfeed because they "preferred to bottle feed" (66.3%). The most common reason for stopping breastfeeding was that the child was "old
enough to wean" (35.7%), although 15%, 34%, 54%, and 78% of those women had stopped breastfeeding by 3, 6, 9, and 12 months, respectively. "Physical or medical problem" was reported by 14.9% of women who did not breastfeed and 26.9% of women who had stopped breastfeeding, make it the second most common reason for not breastfeeding in each group. There were significant differences across racial and ethnic groups. Conclusion: Additional studies are needed to better understand why women "prefer to bottle feed", especially black women. Increasingly effective programs and policies to promote breastfeeding will logically follow. Since physical and medical problems are such common reasons both for never breastfeeding and for stopping breastfeeding, individual healthcare providers can have a significant impact on breastfeeding rates and duration.

Judy Shakespeare, Fiona Blake and Joe Garcia. (2003) explored how women experience breastfeeding difficulties among 39 postnatal mothers. Through a qualitative thematic analysis 15 women had breastfeeding difficulties 5 themes emerged which explore the difficulties. 1. Commitment to breastfeeding and high expectations of success. 2. Unexpected difficulties, 3. Seeking professional support for difficulties, 4. Finding a way to cope, 5. Guilt. Study concluded breastfeeding difficulties where common caused emotional distress and interactions with professionals could be difficult. Current breastfeeding policy such as the Baby Friendly initiative may be a contributing factor.

Hamlyn et al (2002) reported that many mothers ceased breastfeeding earlier than intended, due to problems such as nipple pain and insufficient milk.

Snowden (2001) explained that breast engorgement is commonly seen when the breast is not fully emptied at each feed or if there are long intervals between, feeds often help in fully emptying the breast and reducing the discomfort.

McCarter-Spaulding, D.E., (2001) explored the relationship between parenting self-efficacy (PES) and perception of insufficient breast milk. 60 breastfeeding mothers of infants aged 1 to 11 week. Mothers were recruited during well-baby pediatric visits. They returned completed questionnaires by mail. There was a
significant correlation \( (r = .487, \ p < .01) \) between the self-efficacy and perceived insufficient milk scores. 23% of the variance in PIM was explained by PES, after maternal age, education, and parity had been taken into account. Author concluded that further research is needed to refine the measurement of perceived insufficient milk and differentiate breastfeeding self-efficacy from general parenting self-efficacy, nursing interventions to enhance self-efficacy may improve mothers' confidence in the adequacy of their milk supply.

Parmar, V.R., et al (2000) conducted a study regarding breastfeeding practices among Primi mothers. Total 250 mothers were interviewed 61.6% mothers started early breastfeeding & among them 23.2% of mothers developed nipple pain and trauma.

Huges (2000) noted mastitis is a common condition occurring up to 90% of lactating women. If mastitis is not treated a breast abscess may develop. This is simply a pus filled hollow space that may appear on the surface of the skin or inside the breast. Visibly the breast looks red and swollen and feels hot to the touch.

J.K. Chye, C.T. Lim (1998) conducted a study among 234 mothers, only 31(13%) mothers were practicing exclusive breastfeeding (EBF) and 133 (57%) mothers were using Exclusive Infant formula Feeding (EIF). As for the 133 mothers who had stopped breast – feeding, the reasons listed out were maternal paid employment 52 (39%), having little or no breast milk 51(38%), mothers with breast problems 13(10%), maternal and infant illness 12(9%) and infants being cared for by their grandparents who were living apart from the parents.

Murray Enkin (1995) breastfeeding is recognized to be important for both mother and baby. It is best for babies, satisfying and enjoyable. However, many women encounter problems and stop breastfeeding before they wish to do so, particularly in the early days and weeks as well as depriving the baby of the benefits of breastfeeding, cause distress for the mother and her family.
Malon (1994) noted that factors, which contributed to unsuccessful breastfeeding, were breast problems like soreness of nipple, breast engorgement, cracked nipples especially in early weeks in primi mothers. Women need more accurate information about the process of initiating breastfeeding. Mothers have a need for education regarding breast feeding technique and skilled help as they initiate breast feeding.

Anand (1993) conducted a study to assess the crucial period of success or failure of breastfeeding and the study recommended that the first two weeks after delivery are crucial for success or failure for lactation. During this period mothers were likely to develop engorgement, sore nipples due to poor positioning of the baby, due to their lack of skill and knowledge.

Marandi A, Afazli HM, Hossaini AF. (1993) conducted a study to detect the reasons for early weaning among mothers in Teheran. In 3.1% of cases the mother had not breastfed her newborn at all. Of the mothers who breastfed, only 38% exclusively breast fed while the remaining 62% supplemented their breast milk with formula due to some breast problems.

Section 8 Studies related to educational interventions

Ashwin Borade (2009) conducted a study among 250 mothers at Pondicherry. Findings were 73(48.6%) babies were exclusively breastfed (EBF), 57 (38%) were top fed, 15 (13.3%) were both breast and top fed. Illiteracy, primigravidae, younger age and mothers living in nuclear family were found at significant higher risk of not following EBF. Undesirable socio cultural beliefs and misconceptions in the society affect BF practices. Exclusive breastfeeding for 6 months is still not routinely practiced by most of mothers. Promotion of optimal BF practices improves maternal knowledge about BF; aggressive campaigning and heath personnel involvement are crucial to make Exclusive breastfeeding successful.

Shamoly Ahmed (2006) conducted a study to assess the impact of bilingual breastfeeding support to women’s uptake and duration of breastfeeding. A majority of women found the support worker to be the most helpful breastfeeding advisor and felt
she influenced them to breastfeed. On top of this women wanted videos of breastfeeding education in their own languages and copies for them to borrow to watch at home in privacy. Despite this, a minority of women exclusively breastfed and most reported having problems feeding during hospital stay due to lack of support by hospital staff.

Ogbeide, D.O., (2004) a randomized cross-sectional study conducted in Al Kharj Health Centre, Kingdom of Saudi Arabia. Trained interviewers interviewed mothers of childbearing age with at least one child. The sample was divided into 3 groups according to the mode of feeding: exclusive breastfeeding, partial breastfeeding, which included some breastfeeding and some bottle-feeding and exclusive bottle-feeding. 704 mothers were interviewed. The mean age of mothers, fathers, and most recently born child was 30 years, 37 years, and 15.7 months. Partial breastfeeding was the most common mode of infant feeding in this sample, with 66.1% of mothers engaging in this mode (p<0.00001). Exclusive breastfeeding was the next most common, with 27.3% of mothers engaging in this mode. Finally, exclusive bottle-feeding was the least common (6.7%). Four main demographic factors significantly related to the exclusive mode of breastfeeding were husbands' educational level, advice received regarding breastfeeding, whether or not a milk sample was given at discharge from hospital, and whether or not contraception was used. A positive significant correlation was found between breastfeeding and mother's age, father's age, age of most recently born child, parity, number of children previously breastfed, and duration of previous breast feeding. The study concluded that partial breastfeeding is the dominant mode of feeding in our community, although the influencing factors and behavioral factors are similar in breastfeeding and partial breast feeding groups. The most significant factors affecting the outcome of breastfeeding are modifiable by health education.

Valine & Apaldia (2004) suggested that the interventions consisting of antepartum-structured breastfeeding education are effective at improving both in initiation and continuation of breastfeeding during the first 2 months of postpartum period compared to usual care. The interventions consisting of individual group instruction about breastfeeding knowledge, practical skills and problem solving
technique were effective when provided by midwives with single sessions and multiple sessions were effective

Ryan (2002) reported that Nationwide approximately 70% of all mothers initiate breastfeeding but only 32.5% continue to breastfeed their infants for the first 4-6 months of life, due to lack of knowledge, non supportive behaviors and attitudes, inconsistent advice and minimal prenatal encouragement to breastfeed by nurses and other health care providers.

Ted Gricher (2000) pointed out that the duration of breastfeeding especially exclusive breast feeding have decreased in some areas in recent decades due to inappropriate message from health workers.

RCN (1999) reported that Midwives, health visitors and GPs are considered to be the first point of contact for women with breast changes. Midwives are adequately placed to offer support and reassurance to women and to discuss breast health. In addition midwives should take every opportunity to educate women about the importance of being breast aware and encourage women to take an active role in their own breast health. This education and support should help to reduce anxiety in women and improve their ability to recognize changes.

While Ewes and Simnett (1999) recognized that the facilitator aids the learning process, and encourages a culture where self discovery, self-action, self administration are the focus for learning, it’s purported that when clients learn in this way, the information is learned more deeply and permanently that they are taught through formal methods.

Janson et.al (1998) Professional guidance and support particularly from nursing staff is very important in establishing successful breastfeeding. Especially for the first time mothers, the first few feedings may be critical for education and encouragements.
Sweet (1997) stated that most women are very receptive to teaching during pregnancy. Because they are keen to learn about how to maintain their health, and that of their baby.

Hartley, B.M., (1996) compared the frequency of breastfeeding before and after the "Best Start" breastfeeding educational program was implemented in a women's health center and children's hospital serving a low-income population. Best Start, a breastfeeding education program, was presented to health professionals and clerical staff of the Women's Health Center. At the first prenatal visit, a woman is asked, "What do you know about breast-feeding?" instead of "Are you going to breastfeed or bottle-feed this baby?" The program elicits and acknowledges the mother's concerns and then educates her about the benefits of breast-feeding. Socio demographic data and breastfeeding rates of pre intervention groups were compared with those of post intervention groups. Both hospital and outpatient records were reviewed. 13 (15%) of 86 mothers breastfed at hospital discharge compared with 25 (31%) of 81 in 1994 (P < .03). At the 2-week clinic visit, 11(13%) of 86 were still breastfeeding in 1993 compared with 17 (21%) of 81 in 1994 (P > .20). The impact on mothers aged 19 years or less was particularly marked, with a tripling of the breastfeeding rate at hospital discharge from 11% (2/18) in 1993 to 37% (10/27) in 1994. This simple, low-cost educational intervention with a change in the manner of presentation significantly improved the breast-feeding rates of this low-income population.

Murray (1995) stated that giving women well designed, well written, well illustrated information about breastfeeding increased their knowledge of the subject, but had little effect on either their choice of feeding method or the duration of breastfeeding. Attitudes and experience of her family and friends will have an important role in their decision.

Chalmers, B. (1994) studied the effect of health education on breastfeeding in antenatal clinics in Eldoret District Hospital, Kenya.163 mothers who delivered at Eldoret District Hospital (EDH) with the aim of establishing knowledge attained from antenatal visits on breastfeeding and lactation. The interview was on various aspects
of breastfeeding but with the main goal of establishing whether they received health education on breastfeeding during the visits to ANC. 53.06% had antenatal education on breastfeeding during these visits while 46.94% did not. 69.44% attended ANC at a hospital, 24.3% attended at health center and 6.25% attended a dispensary. Most mothers had between 3 and 5 ANC visits with a range of one to eleven visits and with a parity of between one and three. 79% of the mothers commenced ANC attendance by 24 weeks gestation with 19% starting at 12 weeks. The hospital ANC attendants had slightly higher proportion of mothers health educated on breastfeeding than the health center and dispensary groups. Only 76 mothers had received satisfactory health education on breast feeding. One third of the mothers had breastfed their children for 2 years and similarly, one third stopped breast feeding by 12 months postnatally. 90% of the mothers started weaning their children by one month of age.

Nolan (1993) suggested that antenatal education is not the same as giving advice, since the educator is there to bring the learner into contact with the primary material and leave them free to use it for themselves.

Section 9   Studies related to self-confidence

Bassett V (2006) a prenatal breastfeeding workshop developed for primiparous women was specifically designed to increase a woman's breastfeeding self-efficacy in the early postpartum period. Research has shown that breastfeeding self-efficacy, defined as a woman's confidence in her ability to breastfeed, is positively related to breastfeeding success. Teaching strategies, based on Bandura's Self-Efficacy Theory and adult learning principles, were incorporated in the workshop design.

Noel-Weiss, J. (2006) conducted a randomized controlled trial was carried out to determine the effects of a prenatal breastfeeding workshop on maternal breastfeeding self-efficacy and breastfeeding duration in tertiary hospital in Ontario, Canada among 110 primiparous women expecting a single child, an uncomplicated birth, and planning to breastfeed. 2.5-hour prenatal breastfeeding workshop based on adult learning principles and self-efficacy theory was conducted. Maternal breastfeeding self-efficacy and the numbers of days and amount of breastfeeding were
measured at four and eight weeks postpartum. Over time, maternal breastfeeding self-efficacy score increased in both groups. Women who attended the workshop had higher self-efficacy scores and a higher proportion were exclusively breastfeeding compared to women who did not attend the workshop. There was little difference in the average number of days of breastfeeding, but the intervention group had less weaning. The workshop increased maternal breastfeeding self-efficacy and exclusive breastfeeding.

TM. (2003) carried out a phenomenological study using audio taped interviews were conducted with 20 primiparous breastfeeding mothers within the first month after giving birth vaginally to healthy term infants. Results revealed that nurses provided emotional, informational, and tangible support. Non-supportive behaviors were also identified, including a sense that the nurse was in a hurry, failed to offer breastfeeding assistance, and was inflexible while working with the mother and infant. The study concluded that nurses can contribute significantly to the successful initiation of and continuation of breastfeeding, and provide new mothers with the confidence and reassurance, critical for breastfeeding success.

Blyth Rosemary, et al. (2002) carried out a prospective survey was conducted to assess the effect of maternal confidence (breastfeeding self-efficacy) on breastfeeding duration among 300 women in the last trimester of pregnancy recruited from the antenatal clinic of a large metropolitan hospital in Brisbane, Australia. Telephone interviews were conducted at 1st week and 4 months postpartum to assess infant feeding methods and breastfeeding confidence using the Breastfeeding Self-Efficacy Scale. Results showed although 92 % of participants initiated breastfeeding, by 4 months postpartum almost 40 %of mothers discontinued and only 28.6% were breastfeeding exclusively. The most common reason for discontinuation was insufficient milk supply. Antenatal and 1-week Breastfeeding Self-Efficacy Scale scores were significantly related to breastfeeding outcomes at 1st week and 4 months. Mothers with high breastfeeding self-efficacy were significantly more likely to be breastfeeding, and doing so exclusively, at 1 week and 4 months postpartum than mothers with low breastfeeding self-efficacy. The author concluded that maternal
breastfeeding self-efficacy is a significant predictor of breastfeeding duration and level. Integrating self-efficacy enhancing strategies may improve the quality of care that health care professionals deliver and may increase a new mother's confidence in her ability to breastfeed, and to persevere if she does encounter difficulties.

Section 10. Studies related to promotion of breastfeeding

The World Alliance for Breastfeeding Action (WABA) (2010) announced world breast feeding week celebration Aug 1-7, 2010 coined the theme “Breastfeeding just ten steps, the baby friendly way”. Following these minimum 10 steps is not enough to challenge the breast complications during the postpartum period. The best way is to prepare the mother from prenatal period to overcome the problems that may arise during postnatal period.

Madhu, K., (2009) described the breastfeeding and newborn care practices in rural areas and the factors affecting the initiation and duration of breastfeeding in primary health care center (PHC) that is attached to a medical college in Kengeri, rural Bangalore, Karnataka, India among mothers with children who were 9 months old who came to the PHC for measles vaccination were included in the study and data was collected using the pre-tested questionnaire on breastfeeding and newborn practices. Results shows 97% of the mothers initiated breastfeeding, 19% used prelacteal feeds, 90% had hospital deliveries and 10% had home deliveries, and 50% used a house knife to cut the umbilical cord among home deliveries. The author conclude that the need for breastfeeding intervention programs especially for the mother during antenatal and postnatal check-ups and practices like discarding the colostrum and early / late weaning are still widely prevalent and need to be addressed.
Kishore, M.S., (2009) A community-based study was conducted on breastfeeding knowledge and practices amongst mothers in a rural population of North India. The barriers to breastfeeding in this population are not clearly known. Therefore, a study was conducted in a rural population of the state to study their breastfeeding practices, knowledge regarding usefulness of breastfeeding and factors influencing the breastfeeding practices. With the help of semi-structured questionnaire, time at initiation of breastfeeding, duration of EBF and their understanding about the usefulness of breastfeeding were assessed. Position of the baby during breastfeeding and attachment of the baby's mouth to the breast were assessed by direct observation while feeding. Breastfeeding knowledge of the mother was evaluated. Out of the 77 mothers, 30% and 10% exclusively breastfed their infants till 4 and 6 months of age, respectively. There was 'good attachment' in 42% mother-infant pairs and 60% mothers held infants in 'correct position'. 39% of the mothers had 'satisfactory' breastfeeding knowledge. On multivariate logistic regression analysis, lack of breastfeeding counseling was significantly associated with decreased rates of EBF at 4 months and 6 months (p-value 0.01 and 0.002, respectively) and 'full' breastfeeding (FBF) at 6 months of age (p-value 0.002). On conclusion EBF/FBF practices and breastfeeding knowledge are suboptimal among the rural North Indian mothers. Breastfeeding counseling with emphasis on correct technique can improve the EBF/FBF rates.

Tiwari, R. (2009) A community-based cross sectional study was done in urban slums of Gwalior, India which was planned to understand the determinants of EBF in the infants in urban slums. The data were collected by interviewing the caregivers of 279 infants aged between 6 and 11 months from November 2005 to July 2006. Only 11 (3.8%) mothers knew that EBF should be done till six months and 22 (7.8%) actually practiced EBF. A total of 178 (63.8%) and 212 (76.0%) newborns were given pre- and post-lacteal feeds with 26.2% discarding colostrum. Only 22 (7.8%) practiced EBF. The early breastfeeding (BF) initiation, antenatal Clinic (ANC) visits, mothers' education and immunization visits were significantly associated with higher probability of EBF. The correct information about BF was more common amongst the women who had frequent contacts with health facilities due to any reason or during ANC or immunization visit. Similarly, it is the continuum of good health and feeding
practices and the mothers who start early BF or get their child immunized regularly are more likely to EBF their children. Considering the widely prevalent myths and low rate of utilization of health services along with high potential benefits of EBF, every opportunity of mothers' interaction with the health facility should be utilized for promoting correct and EBF practices.

Lee, S.J., (2008) determined the effect of antenatal breast examination(s) on the initiation of breastfeeding; all randomized controlled trials on the effects of antenatal breast examination, with a concurrent comparison group. Two review authors independently assessed trial quality and extracted data. The author concluded that ideally, policies that govern the care of pregnant women should be evidence based. There is no doubt that breastfeeding is beneficial for both mother and infant. However, there is no evidence to support the notion that antenatal breast examinations are effective in promoting breastfeeding, nor any evidence on other potential effects of antenatal breast examination, such as the detection of breast anomalies or satisfaction with care.

Lakhwinder kaur (2008) carried out an observational study on promotion of breastfeeding practices in Neonatal Surgical Intensive Care Unit (NSICU). Age of the neonates ranged from 0-26 days (mean 5.92+ 6.55. Nearly 70% of the neonates were hospitalized for less than five days (68%) and the rest (32%) for 6 to 10 days. Regarding their gestational age, 57 % were less than 37 weeks and 43% had completed more than 37 weeks. Most of the neonate had undergone surgery within 24-48 hours of admission hence there was cessation of breastfeeding during the first week of life. Provision of physical facilities for the mothers and teaching them with the techniques of breastfeeding is quite useful for the mothers to promote breastfeeding practices.

workers made antenatal and postpartum home visits promoting newborn care practices including breastfeeding. CHWs assessed neonates for adequacy of breastfeeding and provided hands-on support to mothers to establish breastfeeding. History and observation data of 3495 neonates were analyzed to assess effects of CHW visitation on feeding problems. Inappropriate breastfeeding position and attachment were the predominant problems (12 to 15%). Only 6% of newborns that received home visit by CHWs within 3 days had feeding difficulties, compared to 34% of those who did not (odds ratio: 7.66, 95% confidence interval (CI): 6.03 to 9.71, P=0.00). Latter group was 11.4 times (95% CI: 6.7 to 19.3, P=0.00) more likely to have feeding problems as late as days 6 to 7, than the former. To conclude counseling and hands-on support on breastfeeding techniques by trained workers within first 3 days of birth should be part of community-based postpartum interventions.

Gill, S.L., (2007) this researcher attempted to increase the initiation of breastfeeding and its duration to 6 months among a group of low-income, Hispanic women through an intervention program which included prenatal education and home based postpartum support. All participants were telephoned after delivery to determine infant feeding method. Duration of breastfeeding was determined by counting the number of days from initiation to the last day the baby was put to the breast. The Bayesian approach was used for the statistical analyses. In the intervention group, the propensity to initiate breastfeeding exceeded that of the control group. Results indicate the intervention group had twice (2.31) the odds of starting breastfeeding, twice (1.84-3.15) the odds of continuing to breastfeed for 6 months, and only half (.50-.54) the tendency to quit at any one time than did the control group.

Chryssa Bakoula (2007) examined the prevalence and determinants of breastfeeding and to identify perinatal, socio demographic, psychosocial and environmental factors associated with maternal infant feeding intention among 3734 Greek mothers who delivered their infants in 2000 were recruited in a longitudinal
cohort study. The rates of any breastfeeding at 3 and 6 months were 52% and 24% respectively. The corresponding rates of exclusive breastfeeding were 37% and 17%. A positive intention to breastfeed was influenced by maternal entitlement more than 6 months, delivery in autumn, or winter, mother’s upbringing abroad and previous breastfeeding experience. The author concluded that the rates of any breastfeeding and exclusive breastfeeding during the first year of life were fairly satisfactory. Programmes to support breastfeeding are necessary and should encourage women to feel positive to breastfeed, focusing particularly on non-working mothers, mothers who lack previous breastfeeding experience.

Britton, C. (2007) carried out a randomized controlled trial to assess the effectiveness of extra support for breastfeeding mothers was conducted. It included 34 trials (29,385 mother-infant pairs) from 14 countries. All forms of extra support analyzed together showed an increase in duration of ‘any breastfeeding’ (includes partial and exclusive breastfeeding) (relative risk (RR) for stopping any breastfeeding before six months 0.91, 95% confidence interval (CI) 0.86 to 0.96). All forms of extra support together had a larger effect on duration of exclusive breastfeeding than on any breastfeeding (RR 0.81, 95% CI 0.74 to 0.89). Lay and professional support together extended duration of any breastfeeding significantly (RR before 4-6 weeks 0.65, 95% 0.51 to 0.82; RR before 2 months 0.74, 95% CI 0.66 to 0.83). Exclusive breastfeeding was significantly prolonged with use of WHO/UNICEF training (RR 0.69, 95% CI 0.52 to 0.91). Maternal satisfaction was poorly reported. Author concluded that additional professional support was effective in prolonging any breastfeeding, but its effects on exclusive breastfeeding were less clear. WHO/UNICEF training courses appeared to be effective for professional training. Additional lay support was effective in prolonging exclusive breastfeeding, while its effects on duration of any breastfeeding were uncertain. Effective support offered by professionals and lay people together was specific to breastfeeding and was offered to women who had decided to breastfeed.

Chien, L.Y., (2007) examined the association between number of Baby Friendly hospital practices (based on World Health Organization/United Nations
Children's Fund Ten Steps to successful breastfeeding) experienced by mothers and breastfeeding initiation during hospital stay, breastfeeding at 1 month and breastfeeding at 3 months after delivery. The study population consisted of mothers who gave birth to infants without congenital anomalies at hospitals in Taiwan from June to October of 2003, inclusively. A total of 2079 mothers participated in the postal questionnaire survey. Only 1% of women reported experiencing all 10-step practices, while 5.7% of women did not report experiencing any Baby Friendly practices. Mothers who delivered at certified Baby Friendly hospitals experienced more 10-step practices. The level of breastfeeding increased as the number of 10-step practices experienced increased at all three time points when confounders were controlled in the model. This study found a dose-response relationship between number of 10-step practices experienced and breastfeeding. However, very few women in Taiwan reported experiencing all 10 steps. Our findings highlight the need for greater attention to implement the 10 steps.

Kutlu R(2007) assessed the effects of pre- and post-training programe for healthcare professionals about breastfeeding. The study included 3,114 mothers who had children aged 1-72 month(s). Their knowledge and behaviors relating to breastfeeding were evaluated. The mothers were randomly divided into two groups: the 'before' group included 2,000 women who were not informed about breastfeeding, and the 'after' group comprised 1,114 women who had been informed about breastfeeding. 56.2% and 66.1% of the mothers started breastfeeding within 30 minutes after delivery, respectively, in the before and the after group (chi2 = 29.31, p < 0.001). 16.7% and 36.5% gave exclusive breastfeeding for six months (chi2 = 72.85, p < 0.001), and 28.5% and 23.7% stopped breastfeeding within the first five months (chi2 = 17.20, p = 0.002). 94% delivered in a hospital or in a primary healthcare centre. Therefore, prenatal and postnatal breastfeeding education and support courses may improve a woman's chance of starting and continuing to breastfeed her baby. In terms of the number of antenatal check-ups, since the differences between the two groups were significant (chi2 = 390.67, p = 0.000), the importance of the training programme about breastfeeding was highlighted. Follow-up interventions after training were suggested.
Wallace, L.M., (2006) determined whether postnatal 'hands off' care by midwives on positioning and attachment of the newborn baby improved breastfeeding duration. Mothers were randomized at the first postnatal feed to receive either care by a midwife trained in the experimental protocol or by a control midwife undertaking routine care in hospitals. 370 primiparous mothers with term babies who intended to breastfeed, and could sit out of bed to do so. A qualified midwife compared experimental protocol of verbal-only advice on positioning and attachment, delivered at the first postnatal ward feed with routine care. Diaries and interviews assessed duration of breastfeeding up to 17 weeks with mothers and protocol adherence from self-completed checklist by the midwife. The mothers' self-reported experience of care and support before, during and after delivery were assessed at 6 weeks, and feeding outcomes and employment status at 17 weeks. FINDINGS: Experimental group mothers more often held the baby across their lap and received 'hands off' advice, but fewer babies in the experimental than control groups were attached and fed: 59% (106/180) vs. 67% (118/175), p=0.1. No significant differences were found in the numbers of mothers breast feeding at 6 or 17 weeks in the experimental and control groups (stopped exclusive breast feeding: 76% (130/172) vs. 77% (126/163) at 6 weeks; 96% (167/174) vs. 96% (161/168) at 17 weeks; odds ratio 1.02, 95% CI 0.77 to 1.22; p=0.8; stopped any breast feeding: 35% (61/172) vs. 32% (53/167) at 6 weeks; 63% (109/173) vs. 60% (101/167) at 17 weeks; odds ratio 1.10, 0.84 to 1.45; p=0.5). There were no significant differences in the incidence of problems with breastfeeding and care experienced by mothers before or during hospitalization (other than at the first postnatal ward feed), nor after discharge home. On conclusion no significant beneficial effect was found on breast-feeding duration of the verbal-only advice on positioning and attachment, perhaps because aspects of the intervention are already within routine UK practice. Other care practices at subsequent feeds may negate benefits of care at earlier feeds. 'Hands off' care at the first feed may be less important to subsequent feeding than achieving a first feed under supervision in the postnatal ward.: Midwives can be trained in a 4-hr workshop to achieve improved knowledge of 'hands off' positioning and attachment care, and these can be translated into clinical practice.
Rinda John (2005) Healthy people 2010 goal for breastfeeding is to increase 
atleast 75% of the proportion of mothers whom breastfeed their babies in the early 
postpartum period and increase to atleast 50% of the proportion of mothers who 
continue breastfeeding until their babies are 5 to 6 months old.

Lexington (2002) examined infant feeding practices at 1 to 2 months of age 
and at 4 to 6 months in a rural population of infants at risk for failure to thrive among 
52 mothers who were interviewed twice during the infant's first 6 months of life. 
Mothers were recruited from health care facilities in rural southeastern Kentucky. At 
birth 52% of mothers chose to use formula, 41.2% chose breastfeeding, and 8% were 
both breastfeeding and formula feeding. By 1 month, 71% of mothers were formula 
feeding and only 29% were breastfeeding. At 4 to 6 months postpartum 80% of 
mothers were formula feeding and 20% were breastfeeding. Mothers with more 
children, higher family income, and more education were more likely to breastfeed. 
Almost all mothers began solid foods before the infant was 4 months old. Infants were 
fed table foods including mashed potatoes and gravy, and beverages such as apple 
juice, fruit juices, and soda. Mothers relied on health professionals for support for 
feeding decisions at the first interview; however, they relied more on the grandmother 
for support at the time of the second interview. On conclusion breastfeeding mothers 
need additional support to continue breastfeeding beyond the first month. Mothers and 
grandmothers need education to discourage the practice of early introduction of 
inappropriate solid foods, including the practice of thickening bottles of formula with 
cereal. Nutrition teaching should be provided to mothers and grandmothers including 
how to select high nutrient, lower fat-weaning foods, and limiting infant intake of 
high-calorie drinks.

Haque, M.F., (2002) had undertaken a prospective intervention study to 
assess the impact of repeated breast-feeding counseling on the rate of exclusive 
breast-feeding up to five months. 84 pregnant mothers who attended the maternity 
facilities for delivery of babies were randomly selected and repeatedly counseled 
regarding breastfeeding once just before delivery and subsequently at the completion 
of 1, 2, 3, 4, 5, 6, 9, and 12 month(s) of age of the child. Mothers in comparison
group received a single session of breastfeeding counseling just before delivery of babies. 59 and 55 child-mother pairs in the intervention and the comparison groups respectively completed the one-year follow-up. In the intervention group, 54.2% and in the comparison group 36.4% of the babies were exclusively breastfed up to five months of age. 42 (88%) children in the intervention group and 29 (53%) in the comparison group were given complementary foods at the optimum time, e.g. after completion of five months, and 81% of the children in the intervention group and 100% of the children in the comparison group were given complementary foods in the first year of life. It was observed that repeated organized breastfeeding counseling significantly improved the prevalence of exclusive breast-feeding to 54% which is much above the existing national prevalence (12.7%) in Bangladesh.

Issler, H. (2001) studied pregnant women's knowledge about general health care of newborns, including breastfeeding aspects at Brazil. The results showed that only a little over half of the pregnant women had received any information on newborn health care. In relation to breast feeding, even though almost all the pregnant women declared their intention to breast feeding, less than half had a concrete response regarding how long to do it for. The low rates obtained in the topics dealing with the duration, nursing intervals and the attitude to be taken towards hypogalactia show unfamiliarity with the breastfeeding technique. The "weak milk" belief, the misinformation about contraceptive methods during breastfeeding and the cost of artificial formulas also has a negative impact on this practice. To conclude pregnant women's knowledge of newborn health care is low, as much in the aspects of general care as in relation to the practice of breastfeeding. These findings must be taken into consideration in educative programs promoting breastfeeding.

Hoyer S(2000) aimed to prove an improvement in breast-feeding practices in mothers who received written instructions for successful breast-feeding and had individual counseling at the time of taking this questionnaire. The current study comprised 203 pregnant women who were first visited during their 8th month of pregnancy. All mothers in the study started breast-feeding. By the end of the first month 84.7% of them were still breast-feeding, while by the end of the third month it
dropped to 74.9%, and by the end of the sixth month to 45.8%. Among these, breastfeeding alone was practiced in the first week by 25.7%, by the end of the first month by 16.4%, and by the end of the third month by 9.5%. All the observed parameters were better than in the basic study. The mean duration of breastfeeding was 217 days, while the longest duration was 852 days. The survival analysis showed a statistically significant difference in the duration of breastfeeding. It has been found that the written instructions as well as personal encouragement by the field nurse exerted a favorable influence on breast-feeding practices, which was taken as a guideline for our further professional work and change of standards in the field of breastfeeding promotion.

Chaturvedi, P.(2000) assessed knowledge and attitude regarding Breastfeeding among mothers who were attending antenatal clinics of a Baby Friendly Hospital (BFH). The obstetric staff was trained regarding the practices following, which mothers admitted to the hospital were and attitude interviewed within 24 hours of the delivery. A single interviewer regarding knowledge of breastfeeding within 24 hours of delivery by using a pretested semistructured open and close-ended questionnaire interrogated mothers. 303 mothers (50.5%) had attended antenatal clinics of KHS (booked), whereas 276 (46%) had antenatal check-ups at other health centers and 21 (3.5%) did not have any check-ups. Only 54.5% booked mothers and 30.3% unbooked mothers were informed regarding benefits of breastfeeding during antenatal visits. This difference was statistically significant. The booked mothers wanted to initiate breastfeeding early and did not want to give water supplementation, and were also significantly more knowledgeable as compared to unbooked mothers regarding benefits of breastfeeding, feeding of colostrum, avoiding prelacteal feeds, additional nutritional requirements during lactation and continuation of breastfeeding during maternal illnesses, child illness, pregnancy and maternal drug intake. Breast examination during antenatal check-ups was lacking in both the groups. Only 21 (6.9%) booked and 9 (3%) unbooked mothers had breast examination done during antenatal visits. However, it was disheartening that despite including the obstetricians in the training of BFHI approach, nearly half the booked cases did not get information regarding benefits of breastfeeding and breast examination was not done in most during the antenatal visits. Systematic efforts must be made to ensure
that all mothers attending antenatal clinics be managed as per WHO/UNICEF guidelines pertaining to promotion of breastfeeding.

WHO and UNICEF (1999) launched the Baby-Friendly Hospital Initiative (BFHI) in 1992, to strengthen maternity practices to support breastfeeding. The BFHI contributes to improving the establishment of exclusive breastfeeding worldwide and, coupled with support throughout the health system, can help mothers sustain exclusive breastfeeding.
Neyzi, O. (1991) documented the effect of continued support for mothers on frequency of exclusive breastfeeding, which was carried out by inclusion of breastfeeding counseling in the context of well-baby care. 146 mothers who had been exposed to two educational sessions on breastfeeding after delivery were given appointments to bring their baby to the pediatric hospital for well-baby care. The same two residents followed the mother-infant pairs for 4 months. Mean number of visits was six. It was observed that in a large proportion of the infants, breast milk was being supplemented with water at the time of the first visit and no further effort was made to change this traditional behavior. Comparison of the results with a group of mothers who had been exposed to similar educational sessions after delivery but without further support showed a striking increase in frequency of exclusive breastfeeding (breast milk and water) in the supported group. Researchers enrolled at least 96 primiparous women infant pairs in Instanbul, Turkey into a study intended to examine the effect of continued support of mothers on an educational model to promote exclusive breastfeeding. Both the study group and the control group were exposed to the same educational sessions on breastfeeding. The deeply rooted tradition of supplementing breast milk with water manifested itself in 47.9% of the cases at 1 week. Since this was so deeply rooted, the researchers considered breast milk and water as exclusive breastfeeding. 85.4% of the study group practiced exclusive breastfeeding at 1 month compared to 60.9% for the control group. Even though the percentage of those in the study group who exclusively breast-fed was lower at 4 months (60.9%), it was well above the comparable percentage for the control group (5%). Moreover by 4 months only 4.2% of case infants were completely weaned compared to 34.8% of the control infants. These results indicate that continuing support for mothers who breastfeed plays a key role in promotion of breastfeeding. Further it is preferable if the continuing support comes from the same health worker.

According to National Family Health Survey-2 (NFHS –2) 1989-1999, reported that only 16% of children began breastfeeding within an hour after birth and 37% were put on to breastfeeding within one day in India. Nearly 2/3 rd of women 63% squeezed the first milk (colostrum) from the breast before they began breastfeeding. In Delhi, 24% of children were put on breast within one hour of birth.
and in 51% of children breastfeeding was started within one day of birth. This survey showed that only 55.5% of children fewer than 4 months of age were exclusively breastfeed, 23% received breast milk plus water and 20% received supplements along with breast milk. The percentage of exclusively breastfed infants dropped from 61% at one-month age to 20% at 6 months of age. There’s a global concern to protect, promote and support breastfeeding guidelines of infant and young child feeding have set National targets to: 1. Enhance early initiation of breastfeeding (colostrum feeding) from the current level of 15.8% to 50%. 2. Enhance exclusive breastfeeding rate, for first 6 months, from the current rate of 55.2% (from 0-8 months) to 80%.

Data. (1981) 100 primiparous aged 20-25, living in an urban area and college educated was surveyed to observe breastfeeding practices; all mothers had had regular prenatal care. Although 97 mothers had stated their desire to breastfeed, only 12 completely breastfed for at least 4 weeks, while 73 started mixed feeding from the beginning. None of the mothers had read any literature on the subject of breastfeeding and only 5 had been given advice prior to delivery. Only 20 babies were roomed in immediately after birth, and all were placed with the mother within 24 hours after birth. None of the mothers had been advised to put the baby on the breast immediately after delivery; indeed, breastfeeding did not start until after discharge from the hospital, while in the hospital the babies were fed with dextrose solution and with Lactodex. The media on the subject of breastfeeding reached none of the mothers. Reasons given for discontinuation of feeding were insufficiency of breast milk. These results are in keeping with the findings of other workers, and show that lack of proper guidance and assistance for breastfeeding were the main causes in starting artificial feeding. Doctors, nurses and paramedical personnel must endeavor to encourage women to breastfeed, and to support and properly educate them in the antenatal and postnatal periods.

Section 11 Studies related to social report

Agboado, G. (2010) examined the effects of maternal socio-demographic factors, maternal obstetric factors, and in-hospital infant feeding practices on breastfeeding cessation in a peer support setting. Data on mothers from Blackburn
with Darwen (BwD) and Hyndburn in Eastern Lancashire who gave birth at the Royal Blackburn Hospital and initiated breastfeeding while in hospital were linked to the Index of Multiple Deprivation (IMD). The data were analyzed to describe infant feeding methods up to 6 months and the association between breastfeeding cessation, and maternal factors and in-hospital infant feeding practices. Results were the mean breastfeeding duration was 21.6 weeks (95% CI 20.86 to 22.37 weeks) and the median duration was 27 weeks (95% CI 25.6 to 28.30 weeks). White mothers were 69% more likely to stop breastfeeding compared with non-White mothers (HR: 0.59; 95% CI, 0.52 to 0.67 [White mothers were the reference group]). Breastfeeding cessation was also independently associated with parity and in-hospital infant feeding practices in hospital. There were no significant associations between breastfeeding cessation and marital status, mode of delivery, timing of breastfeeding initiation and socio-economic deprivation. On conclusion study ethnicity, parity and in-hospital infant feeding practices remained independent predictors of breastfeeding cessation in this peer support setting. However other recognized predictors such as marital status, mode of delivery, timing of breastfeeding initiation and socio-economic deprivation were not found to be associated with breastfeeding cessation.

Mac Arthur, C. (2009) assessed the effectiveness of an antenatal service using community based breastfeeding peer support workers on initiation of breastfeeding in a randomized control trial randomized controlled trial. 66 antenatal clinics with 2511 pregnant women: 33 clinics including 1140 women were randomized to receive the peer support worker service and 33 clinics including 1371 women were randomized to receive standard care. An antenatal peer support worker service planned to comprise a minimum of two contacts with women to provide advice, information, and support from approximately 24 weeks' gestation within the antenatal clinic or at home. The trained peer support workers were of similar ethnic and socio demographic backgrounds to their clinic population. Initiation of breastfeeding obtained from computerized maternity records of the hospitals where women from the primary care trust delivered. The sample was multiethnic, with only 9.4% of women being white British, and 70% were in the lowest 10th for deprivation. Most of the contacts with peer support workers took place in the antenatal clinics. Data on initiation of breastfeeding were obtained for 2398 of 2511 (95.5%) women (1083/1140 intervention and 1315/1371 controls). The groups did not differ for
initiation of breastfeeding: 69.0% (747/1083) in the intervention group and 68.1% (896/1315) in the control groups; cluster adjusted odds ratio 1.11 (95% confidence interval 0.87 to 1.43). Ethnicity, parity, and mode of delivery independently predicted initiation of breastfeeding, but randomization to the peer support worker service did not. A universal service for initiation of breast feeding using peer support workers provided within antenatal clinics serving a multiethnic, deprived population was ineffective in increasing initiation rates.

Barona Vilar (2009) explored pregnant women’s perceptions and personal experiences of the influence of formal & informal social support on breast feeding decision making among 31 pregnant women who were in their III trimester with different socio demographic backgrounds, socio cultural and socio economic backgrounds. A qualitative focus group and interview method was carried out. The study concluded that women from higher socio-cultural backgrounds took their partner’s opinion and supports more into account when choosing breastfeeding. They also conceded great importance to formal health support, and employed mothers who wished to have more institutional support. Among women from lower socio – cultural backgrounds, friends were the closest social network had the greatest influence on feeding decisions. Younger women, without previous experience of breastfeeding or possibility of receiving tangible support from their mothers, wanted more health care support. Finally the author concluded that health professionals should consider offering breastfeeding support right from prenatal period and it can be strengthened, sustained and continued till postpartum period.

Razurel C (2009) identified problems and events perceived as stressful by primiparous mothers during the postpartum period, and to explore the social support and coping strategies they used to face these situations. 60 women interviewed six weeks after the birth at term of their first child. During the early postpartum period, interaction with caregivers was an important source of perceived stress. Upon returning home, the partner was considered as the primary source of social support. The new mothers perceived Breastfeeding negatively, and this may be due to the difference between the actual problems encountered and the idealized expectations conveyed by prenatal information. Educational information dispensed by medical
staff during the prenatal period was not put into practice during the postpartum period. Mothers expressed the need to be accompanied and counseled when problems arose and regretted the lack of long-term postpartum support. The author concluded that both the prenatal education and postpartum social support seem to mismatch women's needs and expectations. Concerted efforts are required by health professionals at the maternity unit and in the community to provide mothers with more adequate postpartum assistance.

Lavender, T. (2006) carried out a purposive sample of 24 women and their families, from a hospital in the northwest of England were invited to participate. Questionnaire data were analyzed descriptively. Diaries and interviews were analyzed using an open coding mechanism to identify emergent theme. 23 women and 27 of their family members participated. Questionnaire data showed that the majority of women (n = 17) expected to breastfeed for more than 3 months; 12 actually did this. Women anticipated that family members would provide the main source of breastfeeding support. Three main themes emerged from the interviews and diaries: "moving with the times", "marketable commodity" and "disparate communications". The author concluded that multi-layered approach to breastfeeding promotion and support should be considered. Society needs to proactively encourage a positive breastfeeding culture, family members need direction on how to support a woman to breastfeed and women need to be able to articulate their individual requirements. Midwives could be instrumental in supporting such needs and facilitating change.

Patricia, A., Cairney. (2006) elicited how first time mothers felt about the amount and type of support they received from health professionals about breastfeeding. The study took place in Eastern Scotland. 297 women, of 23 years and over, expecting their first baby and experiencing pregnancy free complications, were included in this report. Six statements about perceived behavior and the attitudes of different health professionals were scored on a Likert scale. In this sample new mothers perceived midwives as giving more support than doctors or health visitors, and they were seen as more likely to favor breastfeeding women.
Ekstrom, A.(2003) described breastfeeding support and feelings of confidence of primiparous and multiparous in relation to duration of breastfeeding among mothers who delivered vaginally. After receiving a questionnaire when their children were 9 to 12 months of age, 194 primiparous and 294 multiparous responded to questions on breastfeeding history and on perceived and overall breastfeeding support and feelings of confidence. Feelings of overall breastfeeding support were correlated with duration of exclusive breastfeeding in both primiparous ($p < 0.001$) and multiparous ($p < 0.001$). Multiparous who knew how long they were breastfed as a child showed a longer duration of exclusive ($p = 0.006$) and total ($p = 0.007$) breastfeeding than multiparous who did not know. The time during which the partner was present after labor was correlated with the duration of exclusive ($p < 0.001$) and total breastfeeding ($p = 0.002$) in primiparous. Feelings of confidence when the baby was 6 to 12 months old, as retrospectively rated on a visual analog scale, was correlated with feelings of confidence in the partner during childbirth in both primiparous ($p < 0.001$) and multiparous ($p < 0.001$) and the experience of overall breastfeeding support (primiparous, $p = 0.002$; multiparous, $p < 0.001$). Both groups were more content with breastfeeding information they received from midwives in the maternity wards, compared with that from antenatal midwives and postnatal nurses ($p < 0.001$). On conclusion a helpful support strategy for mothers with respect to breastfeeding outcome is for health professionals to discuss the grandmother's perception of breastfeeding with the mother. It is important for perinatal caregivers to provide an environment that enables the family to stay together after delivery. A helpful support strategy for health professionals might be to mobilize grandmothers with positive breastfeeding perception to provide support for their daughters' breastfeeding.

Dennis CL(2002) a systematic review by the author showed that breastfeeding support programs by healthcare professionals did not substantially improve breastfeeding outcomes beyond 2 months postpartum. We conducted a randomized controlled trial to evaluate the effect of peer (mother-to-mother) support on breastfeeding duration among first time breastfeeding mothers. 256 breastfeeding mothers from 2 semi-urban community hospitals near Toronto and randomly assigned them to a control group (conventional care) or a peer support group (conventional care plus
telephone-based support, initiated within 48 hours after hospital discharge, from a woman experienced with breast-feeding who attended a 2.5-hour orientation session. Follow-up of breastfeeding duration, maternal satisfaction with infant feeding method and perceptions of peer support received was conducted at 4, 8 and 12 weeks postpartum. Results revealed that significantly more mothers in the peer support group than in the control group continued to breastfeed at 3 months postpartum (81.1% v. 66.9%, p = 0.01) and did so exclusively (56.8% v. 40.3%, p =0.01). Breast-feeding rates at 4, 8 and 12 weeks postpartum were 92.4%, 84.8% and 81.1% respectively among the mothers in the peer support group, as compared with 83.9%, 75.0% and 66.9% among those in the control group (p < or = 0.05 for all time periods). The corresponding relative risks were 1.10 (95% confidence interval [CI] 1.01-2.72) at 4 weeks, 1.13 (95% CI 1.00-1.28) at 8 weeks and 1.21 (95% CI 1.04-1.41) at 12 weeks postpartum. In addition, when asked for an overall rating of their feeding experience, significantly fewer mothers in the peer support group than in the control group were dissatisfied (1.5% v. 10.5%) (p = 0.02). Of the 130 mothers who evaluated the peer support intervention, 81.6% were satisfied with their peer volunteer experience and 100% felt that all new breastfeeding mothers should be offered this peer support intervention. To conclude the telephone-based peer support intervention was effective in maintaining breastfeeding to 3 months postpartum and improving satisfaction with the infant feeding experience. The high satisfaction with and acceptance of the intervention indicates that breastfeeding peer support programs, in conjunction with professional health services, are effective.

Li Y(1999) examined the current status of infant feeding and the influences of suspected family socio demographic characteristics and social support as well as maternal knowledge, attitudes and behaviors in infant feeding since the Baby-Friendly Hospital Initiative was launched in Thailand. A total of 221 mother-infant pairs were randomly drawn from six health care centers in Bangkok from 20 April to 1 May 1998. Health care staff, using a structured questionnaire, interviewed the mothers in the health care centers.

RESULTS: Most sampled mothers believed that breast milk was the best food for their infants and knew that breast milk had many advantages for infants, mothers and families. 95% of mothers breast-fed their infants up to 3 months postpartum, but the
prevalence of exclusive breast-feeding was relatively low (62.4%). Multiple logistic regression analyses revealed that the following factors independently increased the risk of mixed or formula feeding during the first 3 months of life: (i) mothers with a full-time job; (ii) grandmothers and other people as the main child caretakers; (iii) mothers who did not have an antenatal plan of exclusive breast-feeding; and (iv) newborns' non-exclusive breast-feeding in hospitals after birth. However, the mother being a housewife, mother as the main child caretaker, an antenatal plan of exclusive breastfeeding and exclusive breast-feeding in hospital were more likely to improve exclusive breastfeeding. On conclusion the prevalence of exclusive breastfeeding was relatively low. Antenatal plans for exclusive breastfeeding and newborn feeding type in hospital after birth may play key roles in the duration of exclusive breastfeeding. These findings suggest the importance of strengthening the implementation of the Baby Friendly Hospital policy and prenatal health education regarding breast-feeding.

Section 12 Studies related to Psychology and breastfeeding

Cooke M (2007) conducted a longitudinal cohort study to explore the relationship between maternal distress, breastfeeding cessation, breastfeeding problems and breastfeeding maternal role attainment in three urban hospitals within Sydney, Australia. 449 women were invited to participate in the study, with an 81% response rate. Self-report questionnaires were used to collect the data in pregnancy (28-36 weeks) and 2 weeks and 3 months after birth. The Edinburgh Postnatal Depression Scale (EPDS) was used to measure postnatal distress, and the Maternal Role Attainment subscale (MRA) of the Maternal Breast Feeding Evaluation Scale (MBFES) was used to measure breastfeeding maternal role attainment. Women with high MRA were less likely to stop breastfeeding (even when they had breastfeeding problems) than women with low MRA. Antenatal EPDS and anxiety scores were not related to breastfeeding cessation or breastfeeding problems when analyzed alone. Women who were categorized as high MRA and no longer breastfeeding had higher EPDS scores and were more likely to be categorized as distressed (36%) than women who had low MRA (<12%) or women who had high MRA and continued to breastfeed (7%). There is a complex relationship between maternal identity, stopping
breastfeeding earlier than desired, and psychological distress. Women with strong beliefs about the importance of breastfeeding to their maternal role may benefit from psychological assessment and support should they decide to stop breastfeeding earlier.

Section 13 Studies related to mass media and breastfeeding

Marandi, A., Afzali, H.M., Hossaini, A.F., (1993) analyzed the impact of a mass media breastfeeding campaign in Jordan within the context of other activities occurring during and after the child's birth. The campaign had a positive impact on all mothers' knowledge, and on timely initiation of breastfeeding for home and public hospital deliveries, but not for those in private hospitals. The findings indicate that a communication campaign can bring about change in breastfeeding initiation behavior, but that providing mothers with information should be but one part of an integrated program to ensure that hospital and midwife policies and practices support timely initiation.

Section 14 Studies related to factors associated with breastfeeding

Thulier, D. (2009) identified the variables associated with breastfeeding duration. Data included all variables, both positive and negative, that were found to influence the outcome of breastfeeding duration. Demographic factors that influence breastfeeding duration are race, age, marital status, education, socioeconomic, and Special Supplemental Nutrition Program for Women, Infants, and Children status. Biological variables consisted of insufficient milk supply, infant health problems, maternal obesity, and the physical challenges of breastfeeding, maternal smoking, parity, and method of delivery. Social variables included paid work, family support, and professional support. Maternal intention, interest, and confidence in breastfeeding were psychological variables. The author concluded that human lactation is a complex phenomena and the duration of breastfeeding is influenced by many demographic, physical, social, and psychological variables.

Van Rossem, L. (2009) assessed the effect of a woman's educational level on starting and continuing breastfeeding and to assess the role of sociodemographic,
lifestyle-related, psychosocial, and birth characteristics in this association. The data of 2914 participants in a population-based prospective cohort study. Information on educational level, breastfeeding, sociodemographic (maternal age, single parenthood, parity, job status), lifestyle-related (BMI, smoking, alcohol use), psychosocial (whether the pregnancy was planned, stress), and birth (gestational age, birth weight, cesarean delivery, place and type of delivery) characteristics were obtained between pregnancy and 12 months postpartum. Odds ratios and 95% confidence intervals of starting and continuing breastfeeding for educational level were obtained by logistic regression, adjusted for each group of covariates and for all covariates simultaneously. Of 1031 highest-educated mothers, 985 (95.5%) started breastfeeding; the percentage was 73.1% (255 of 349) in the lowest-educated mothers. At 6 months, 39.3% (405 of 1031) of highest-educated mothers and 15.2% (53 of 349) of lowest-educated mothers were still breastfeeding. Educationally related differences were present in starting breastfeeding and the continuation of breastfeeding until 2 months but not in breastfeeding continuation between 2 and 6 months. Lifestyle-related and birth characteristics attenuated the association between educational level and breastfeeding, but the association was hardly affected by sociodemographic and psychosocial characteristics. The author concluded that decisions to breastfeed were underlain by differences in educational background. The underlying pathways require further research. For the time being, interventions on promoting breastfeeding should start early in pregnancy and should increase their focus on low-educated women.

Bosnjak, A.P., (2009) analyzed the influence of socio demographic and psychosocial characteristics on breastfeeding duration of mothers attending breastfeeding support groups All mothers were cared for according to the Baby Friendly Hospital Initiative (BFHI) of the World Health Organization (WHO) and UNICEF. The investigated group of mothers attended a breastfeeding support group (BSG) led by a community nurse and women experienced in breastfeeding without additional training. Data on breastfeeding duration were collected retrospectively by self-reported questionnaire. Of 980 eligible, 393 mothers were included to the study: 210 attended BSG, while 183 did not. The following differences between the two groups were found: time when the decision to breastfeed was made, smoking during
lactation and social support while breastfeeding. More mothers in the investigated group continued breastfeeding at least six months postnatal (83.8% vs. 48.1%, \(P<0.001\)), with exclusive breastfeeding until the age of three months (56% vs. 23.5%, \(P<0.001\)). On conclusion characteristics which positively influenced the duration of breastfeeding are the time when the decision to breastfeed was made, intended duration of breastfeeding, household income, and smoking during pregnancy. Mothers who attended BSG more often continued breastfeeding for at least six months if they decided to breastfeed after birth, intended to breastfeed for longer than six months, had higher monthly household income and did not smoke during pregnancy.

Semenic, S. (2008) in this prospective study aimed to determine the influence of socio-demographic, psychosocial, and perinatal factors on the length of exclusive breastfeeding among 189 Canadian primiparous mothers. A majority of the participants did not meet their exclusive breastfeeding goals, and only 5% breastfed exclusively for a full 6 months. Breastfeeding self-efficacy, in-hospital formula supplementation, prenatal class attendance, and type of delivery independently predicted exclusive breastfeeding duration. Findings underscore the complex interplay of factors influencing breastfeeding, highlight the early postpartum weeks as a critical period for the establishment of exclusive breastfeeding, and suggest the need for a continuum of pre- and postnatal strategies for prolonging the exclusive breastfeeding period.

Giovannini, M. (2007) the relationship of low prepregnant body mass index with breastfeeding was investigated in 1272 women who delivered a term infant with birth weight \(\geq 2500\) g at the San Paolo Hospital in Milan, Northern Italy. Underweight was defined using the Institute of Medicine's cutoff of 19.8 kg/m\(^2\). Women were interviewed via telephone through 12 months post delivery about breastfeeding practices. Education level (high versus low, odds ratio [OR], 1.41), primiparity (OR, 1.35), vaginal delivery (OR, 0.74), and birth weight of the infant (normal versus high, OR, 1.89) were associated with low, as opposed to normal, prepregnant body mass index. After adjustment for these confounders, no difference was found between underweight and normal weight women for initiation or duration of
breastfeeding (mean adjusted difference, 0.4; 95% confidence interval [95% CI], -0.1 to 0.9 months) or exclusive breastfeeding (0.1 [95% CI, -0.1 to 0.3] months). Underweight mothers of healthy term infants may not be at increased risk for not initiating or shorter breastfeeding.

Kumar, D. (2006) explored whether socio-demographic factors are associated with initiation of breastfeeding in urban slums of Chandigarh with the objective to study the prevailing breast-feeding practices adopted by mothers and to study the socio-demographic factors associated with initiation of breast-feeding among 270 respondents. Social and demographic characteristics like age, socioeconomic status, educational level, birth interval, parity, gender preference, natal care practices, etc.; and variables related to various aspects of breast-feeding practices like prelacteal feed, initiation of feeding, colostrum feeding, reasons of discarding colostrum, etc. Out of all 270 respondents, 159 (58.9%) initiated breast-feeding within 6 h of birth, only 43 (15.9%) discarded colostrum and 108 (40.0%) mothers gave prelacteal feed. Illiterate/just literate mothers who delivered at home were found at significantly higher risk of delay in initiation of breastfeeding on the basis of multiple logistic regression analysis. The author suggested promotion of institutional deliveries and imparting health education to mothers for protecting and promoting optimal breast-feeding practices.

Kronborg, H., (2004) had undertaken a study to examine to what extent psychosocial factors are related to the length of breastfeeding. Information on mother and baby including psychosocial variables was obtained from a self-report questionnaire. A health visitor subsequently monitored Breastfeeding status. A total of 471 (88%) mothers participated, 98.7 % initiated breastfeeding and after four months 277 (59%) were still exclusively breastfeeding. 99 mothers, 51% of those who stopped, within the first five weeks. The duration of breastfeeding showed a positive association with mother's schooling (p=0.002), her intention to breastfeed (p=0.001), previous experience with breastfeeding (p<0.001), self-efficacy with respect to breastfeeding (p<0.001), her confidence in breastfeeding (p=0.012) and knowledge about breastfeeding (p=0.001). The effect of the mother's knowledge depended on the
parity of the child. Among primiparous mothers high knowledge was associated with long duration of breastfeeding, but this association was not found among the multiparous. To conclude, help the mothers who would like to breastfeed their baby, we must improve our ability to identify mothers at risk of early cessation. Mother's schooling, her intention, self-efficacy and earlier breastfeeding experience can be used as early predictors. An intervention should aim at improving the self-efficacy and resources of these mothers, with a focus on practical knowledge. The first five weeks, when the largest proportion of the cessations occurred, require special attention.

Lawson, K. (1995) examined the role of prenatal intent and postnatal experiences in breastfeeding duration among 78 primiparous those fully breastfeeding 3 months after the birth of the baby had a higher level of education, timed their decision to breastfeed earlier, intended to breastfeed longer and had a more negative attitude to formula feeding. Commitment and confidence scores were not related to breastfeeding duration in first-time mothers. Breastfeeding duration was also related to the timing of the first breastfeed and extent of mother-infant contact in the 72 hours after birth but not to the number of feeding problems.

O'Campo, P. (1992) studied 198 urban breastfeeding women examined the psychosocial, demographic, and medical factors identified prenatally that may be associated with longer breastfeeding duration and may serve as suitable areas for prenatal breastfeeding promotion interventions. Of 11 psychosocial and demographic factors examined, 5 had important influences on breastfeeding duration, anticipated length of breastfeeding, normative beliefs, maternal confidence, social learning, and behavioral beliefs about breastfeeding. Methods of multivariate linear regression were used to identify prenatal factors that influenced anticipated length. Of the 10 factors entered into the regression model, parity, plans to return to work or school by six months postpartum, and maternal confidence were the most significant factors affecting anticipated length of breastfeeding. Author suggested several factors amenable to intervention during the prenatal period that appears to influence breastfeeding duration. Prenatal promotion efforts could easily incorporate strategies
that influence factors such as normative and behavioral beliefs and maternal confidence.

Part – B Literature related to conceptual framework based on modified Imogene King’s goal attainment model (1981)

MODIFIED IMOGENE. I. KING’S GOAL ATTAINMENT MODEL

Introduction

Imogene. I. King’s bases her theory on general systems theory, the behavioral sciences, deductive and inductive reasoning. Based on her assumption, humans are open systems in constant interaction with their environment. This model has three interacting systems namely (i) Personal (ii) Interpersonal (iii) Social.

Personal system, which includes perception, self, growth and development, body image, space and time. Interpersonal system includes interaction, communication, transaction, role, stress and coping. Social system includes families, religious groups, schools, workplaces and peer groups. The other factors identified by the author were human values, behavior patterns, needs, goals and expectations.

Concepts of the theory:

King’s stated that the framework served several purposes, as it’s a way of thinking about the real world of nursing. An approach for selecting concepts perceived to be fundamental for the practice of professional nursing and shows a process for developing concepts that symbolize experiences within the physical, psychological and social environment in nursing. The human process of interactions
formed the basis for designing a model of transactions and theoretical knowledge used by nurses to help individuals and groups attain goals. Mutual goal setting between a nurse and a client is based on (i) nurse’s assessment of a client’s concerns, problems and disturbances in health (ii) nurses and client’s perceptions of the interference; (and) (iii) their sharing information whereby each functions to help the client attain the goals identified. In addition, nurses interact with family members when clients cannot verbally participate in the goal setting.

Imogene. I. King’s views nursing as an observable behavior found in the health care system in the society. The goal of nursing is to help individuals maintain their health so they can function their roles. Nursing is viewed as an interpersonal process of action, reaction, interaction and transaction. Perceptions of a nurse and client also influence the interpersonal process.

Nursing uses a goal oriented approach in which individuals within a social system interact, the nurse brings special knowledge and skills to the nursing process and the client brings self knowledge and perceptions.

Application of concepts in a study

In this particular study, the concepts which includes system, reaction, interaction, transaction and outcome.

System

Which comprises of personal system (primigravidae’s age, education, occupation, income, religion, domicile, gestational age, weight and decision to feed during antenatal period), social system (presence of social support during pregnancy and delivery, social support from family members, religious groups, workplaces, neighbors and from the peer groups) and interpersonal system (primigravidae may receive the information through health camps, newspaper, radio and neighbors).
Interaction

When the primigravidae’s system comes into contact with the nurse the next step of interaction takes place. The nurse and the primigravidae orienting each other through interaction.

Reaction

The nurse and primigravidae reacting each other and recognizing the perception of needs and learning needs through verbal and non-verbal communication. Results of this reaction the nurse and primigravidae mutually set a goal as enhancing the knowledge on antenatal breast care, postnatal breastfeeding and prevention of postnatal breastfeeding complications.

Transactions

It refers to implementation of breastfeeding empowerment programme (BEP) through laptop assisted teaching at 32 weeks of gestation on antenatal breast care and 36 weeks of gestation on postnatal breastfeeding and the booklet was issued for reinforcement for the study group along with routine care. The control group received only routine care.

Outcome

It refers to validation of the transaction intervention and the net result of positive outcome of primigravidae increased level of knowledge, skill, self confidence, signs of good breastfeeding pattern and less breastfeeding complications. The negative outcome may be decreased level of knowledge, skill, self-confidence, poor signs of breastfeeding and poor breastfeeding complications. For the negative outcome the feedback is given in a dotted line.
Assumption of this present study is that, if the mother undergoes BEP, it results in increased knowledge, skill, self-confidence and best breastfeeding outcome in terms of less breastfeeding complications during postnatal period. The conceptual framework is made based on the formulated hypothesis.