Chapter - VI

SUMMARY AND CONCLUSION

Breastfeeding is a magic that a mother only is capable of. It is a known fact that breastfeeding can prevent millions of infants and children from disease and death, to a great extent. In India though breastfeeding is a universal phenomena, practice of exclusive breastfeeding (EBF) is not to the extent desirable. Among the states in India, Tamilnadu has a low compliance to exclusive breastfeeding (48.3%) from birth to 3 months of age (NFHS II).

WHO and UNICEF recommends that infants be fed exclusively on breastmilk for the first 6 months of life and breastfeeding should be continued along with appropriate weaning foods upto 2 years and beyond. In India, BPNI is making untiring efforts to promote breastfeeding. Many studies revealed that breastfeeding rates can be improved significantly with cost effective interventional strategies, like education, guidance and counseling about breastfeeding by health care professionals and peer groups.
As education plays the key role in the promotion of breastfeeding and the advantages of early initiation are proven beyond doubts, the researcher selected the topic entitled “A Study to Assess the Efficacy of Education on Breastfeeding and Early Initiation of Breastfeeding among mothers admitted in a Rural Hospital in Tamilnadu”.

**OBJECTIVES OF THE STUDY**

1. To compare the bio-physiological parameters between postnatal mothers in the control group and intervention group.

2. To compare the bio-physiological parameters between babies in the control and intervention group.

3. To evaluate the effectiveness of early initiation of breastfeeding.

4. To evaluate the effectiveness of education on breastfeeding.

5. To correlate the personal, family, obstetrical parameters of mothers in the control group, with their knowledge on selected aspects of breastfeeding.

The study was conducted in the labour ward, RMMCH, for 3 months from March 2005 to May 2005. Research design adopted for the study was Concurrent Parallel Study Design, which is one of the
design of Randomized Control Trial. Days were assigned randomly and on designated days 75 mothers were selected for the control group 75 for intervention group based on the inclusion criteria. Mothers in the intervention group were given education about breastfeeding using education module and assistance offered for early initiation of breastfeeding. Immediate post-partum, bio-psycho-physiological parameters of mothers and new born babies were assessed. Knowledge and practice on breastfeeding were assessed for all mothers on the third post-partum day. The collected data was analysed, organized using descriptive and inferential statistics.

MAJOR FINDINGS OF THE STUDY
Findings related to personal, family Characteristics of Mothers in Control and Intervention groups

Fifty-two percentage of mothers in control group and 66.6% in intervention group belonged to the age group of 20-25 years. Regarding education, the number of illiterate mothers were 20% in control and 16% in intervention group. The educational status of husbands revealed that 10.7% in control group and 12% in intervention group were illiterates (Table. 1).
It is interesting to note that 94.7% of the mothers in the control group and 88% in the intervention group were housewives. The occupational status of husbands was 60% in control group and 61.3% in intervention group were labourers. The income per month of the family showed that 57.33% in control group and 50.7% in intervention group had income less than 1000 rupees per month. As far as religion is concerned majority were Hindus, in both the groups. Regarding social support, available during delivery, the table shows that 41% samples in control group and 45% in intervention group had their mother’s support (Table. 1).

**Findings related to selected Obstetric variables of mothers in control and Interventional groups**

44% mothers were primigravida women and 76.9% and 66.7% were primiparous women in the control and intervention groups respectively (Table. 2).

About the duration of marriage, 58.7% in control and 53.3% mothers in intervention group were married for 1-5 years. Mothers with one kid were 50% and 40%, in the control and intervention groups respectively. The obstetrical history showed that majority of the mothers in control and intervention group had normal obstetrical history (Table. 2).
Findings related to the selected variables of mothers regarding breastfeeding

Mothers who breastfed their babies exclusively upto 5-6 months were 22.5% in the control and 21.6% in the intervention group. The data regarding mothers, whether they themselves were breastfed by their mothers, revealed that 10.14% and 14.28% mothers were breastfed upto 4 - 6 months in the control and intervention groups respectively (Table. 3).

Regarding the exposure to breastfeeding education 20% and 22.7% of mothers in control and intervention group respectively had no exposure to any sort. Exposure through health professionals was only 28% and 14.7% for mothers in control and intervention group respectively. Mass media gave information about breastfeeding to 37.3% and 28% of mothers in the control and intervention groups respectively (Table. 3).

Findings related to health status of mothers during their antenatal period

Twenty eight and 18.7% from intervention and control groups, respectively were registered in RMMCH. Regarding the number of antenatal visits 25.3% in control and 32% mothers in intervention
group had ≥8 visits. Doctors were cited as the care giver by majority of the mothers (72% and 76%) and nurses gave antenatal care to 24% and 22.7% of mothers in control and intervention groups respectively (Table. 4).

Data regarding supplementation during pregnancy revealed that 62.7% mothers from each group reported that they had iron and folic acid (IFA) supplementation. With regard to duration of supplementation, only 22.7% in control group and 24% from intervention group had taken supplementation for more than 60 days. 49.3% mothers in the control group and 45.3% in the intervention group had haemoglobin levels between 8 - 9gms/dl. (Table. 4).

Of the total number of mothers, analysis of weight gain known during pregnancy (n = 135) the data showed that 61.19% in control group and 39.7% intervention group gained 9-10kg. (Table. 4)

**Findings related to selected variables of mother’s labour and delivery**

The duration of I stage of labour was between 7-12 hours in 53.3% mothers in the control group and 42.7% in the intervention group. The duration of second stage of labour was between 20-30
minutes in 45.3% of mothers in the control group and 41.3% in the intervention group. 48% of mothers in the control group and 58.7% of mothers in the intervention group had delivered male babies and the remaining delivered female babies (Table 5).

**Findings related to Initiation of Breastfeeding**

There was a significant difference between mothers in the control and intervention groups with regard to initiation of first breastfeed as 97.3% of the mothers in the intervention group had initiated within ½ hour but 68% mothers in control group initiated between 31-60 minutes with ‘P’ value <0.001 (Table 6).

**Findings related to bio-physiological parameters of mothers in the Puerperium**

- The mean amount of lochial discharge was significantly higher for mothers in the intervention group on day 2 than mothers in the control group with ‘P’ value 0.021 (Table 7).

- The mean fundal height difference of the uterus between day 2 and day 3 was significantly higher for mothers in the intervention group with ‘P’ value <.001 (Table 7).

- Though the mean After pain intensity score was higher for mothers in intervention group than for mothers in the control group it was not statistically significant. (Table 7)
The mean amount of milk secretion was significantly higher ($P = <.001$) for mothers in the intervention group on day 2 than the mothers in the control group (Table 8).

**Findings related to Attachment of Mothers with their Babies**

- The mean attachment score of mothers in the intervention group was significantly higher than the mothers in the control group ($P = 0.046$) (Table 9).

**Findings related to the Bio-physiological parameters of the newborns**

- The mean duration of a single feed was significantly higher for babies of mothers in the intervention group than the control group (Table 10).

- The mean frequency of breastfeeds per day was significantly higher ($P = 0.007$) for mothers in the intervention group on day 2 (Table 10).

- There was no significant difference in the weight loss among babies on day 2 (Table 11).

- There was no difference in the parameter, frequency of urination of babies between groups, on day 1 and on day 2 (Table 12).

- There was a significant difference in the number of times (frequency) babies passed meconium and it was
significantly higher for babies of mothers in the intervention group on day 1 (P = 0.03) and also on day 2 (P = 0.01) (Table 12).

- The total duration of sleep per day was 19 hours on day 2 for 20% of babies in the control and 28% of babies in the intervention group and there was no significant difference in the duration of sleep (Table 12).

Findings related to knowledge and practice of mothers on breastfeeding

- The mean knowledge score on initiation of breastfeeding was significantly higher (P = <0.001) for mothers in the intervention group (Table - 13).

- The mean knowledge score on pre-lacteal feeds was significantly higher for mothers in the intervention group and the difference was statistically significantly (Table - 14).

- Analysis of pre-lacteal feeding practices indicated that 20% of mothers in the control group had given pre-lacteal feeds. Further analysis revealed that 10.7% of mothers had given sugar water and 9.3% had given honey to their babies (Table 15).

- The mean knowledge score on exclusive breastfeeding was significantly higher (P. 0.001) for mothers in the
intervention group and the difference was statistically significant (Table 16).

- The mean knowledge score about feeding of colostrum was significantly higher \((P = <0.001)\) for mothers in the intervention group (Table 17).

- The mean knowledge score on types of milk revealed that mothers in the intervention group had knowledge with the mean score 0.413, 0.508, 0.493, 0.560 for questions on fore milk and its constituents, hind milk and its constituents respectively. Mothers in the control group had no knowledge on these questions. (T. 18)

- The mothers in the intervention group scored statistically higher knowledge score on the technique of breastfeeding.

- Analysis on type of feeding revealed that 80% of mothers in the intervention group and 46.7% in control group fed their babies on demand \((P\ value \ 0.001)\) (Table – 20).

- Regarding feeding adequacy, the mothers in the intervention group had significantly higher mean scores \((P = 0.001)\) than mothers in the control group (Table 21)

- Analysis on feeding behaviour of mothers revealed that the mean knowledge score and the mean practice score was significantly higher for mothers in the intervention
group and the difference was statistically significant. (Table – 22).

- 60% of mothers in the intervention group practiced breaking suction for ending feed by introducing a finger at the corner of the mouth. But, none of the mothers in the control group followed this practice. (Table - 23).

- Regarding feeding behaviour of the newborns the mean knowledge score, reason for feeding more than 5 minutes on one breast was significantly higher for mother in the intervention group with (P <0.001,) there was no difference in the mean practice score of mothers in both the groups on other items (Table 24).

- The mean knowledge score on duration of continued breastfeeding, advantages of breastfeeding for the mother, baby, best galactogogue, diet to be taken by nursing mothers, breastfeeding when mother has common illnesses were significantly higher, (P <0.001) for mothers in the intervention group. It was not significant for knowledge item, breastfeeding during illnessess of the baby (Table 25).

- The overall knowledge scores showed that 41 mothers had above average (>75%) knowledge in the intervention group when compared to only one in the control group (Table 26).
• The overall mean knowledge score showed that mothers in the intervention group had significantly higher mean knowledge score (49.01) than the mothers in the control group (28.27) with the p value <0.001. (Table. 26a)

• The overall practice scores showed that 29 mothers had above average (>75%) practice in the intervention group when compared to only two in the control group (Table. 27).

• The overall mean practice score showed that mothers in the intervention group had higher practice scores (14.85) than the mothers in the control group (11.52) and the difference was statistically significant with (P < 0.001) (Table 27a).

Correlation of selected personal, family and obstetrical variables of mothers in the control group with mean knowledge score on selected aspects of breastfeeding

Findings related to correlation of age with mean knowledge score on selected aspects of breastfeeding

• There was positive correlation between age and mean knowledge score on no need for pre-lacteal feeds up to the age group 26-30 years and the association was statistically significant. (Table. 28)

• The mean knowledge score on meaning of exclusive breastfeeding was higher for mothers in the age group of
26-30 years but the association was statistically non-significant. (Table. 29)

- There was no association found between age and the mean knowledge score on duration of exclusive breastfeeding, meaning of colostrum, advantages of feeding colostrum. (Table. 30, 31 & 32)

**Findings related to correlation of Education with mean knowledge score on selected aspects of breastfeeding**

- There was a positive, and statistically significant association found between education and knowledge score on no need for pre-lacteal feeds, meaning of exclusive breastfeeding, duration of exclusive breastfeeding, meaning of colostrum and advantages of feeding colostrum. (Table. 33, 34, 35, 36 & 37)

**Findings related to correlation of income with mean knowledge score on selected aspects of breastfeeding**

- As the income of the family increased the mean knowledge score on no need for pre-lacteal feed also increased up to income Rs. 3001-5000, but the association was not statistically significant. (Table. 38)

- As the income of the family increased the mean knowledge score on meaning of exclusive breastfeeding (Table. 39), meaning of colostrum (Table. 41) and advantages of colostrum (Table. 42) also increased but the association was not statistically significant.
There was a positive association between income and mean knowledge score on duration of exclusive breastfeeding and it was statistically significant. (Table. 40)

Findings related to correlation of gravid status with mean knowledge score on selected aspects of breastfeeding

- As the gravid status increased the mean knowledge score on no need for pre-lacteal feeds (Table. 43), meaning of colostrum, (Table, 46) also increased but the association was statistically not significant.

- There was a positive correlation between gravid status and mean knowledge on meaning of exclusive breastfeeding up to III gravida level but the association was statistically not significant. (Table. 44)

- There was no association found between gravid status and mean knowledge score on duration of exclusive breastfeeding. (Table. 45) and advantages of feeding colostrum. (Table. 47)

Findings related to correlation of number of antenatal visits with mean knowledge score on selected aspects of breastfeeding

- There was no association found between number of antenatal visits and the mean knowledge score on no need for pre-lacteal feeds. (Table. 48) meaning of colostrums (Table. 51) an advantage of colostrum (Table. 52).
CONCLUSION

Early initiation was found to be associated with higher attachment scores

Education had tremendous impact as the knowledge and desirable practices on breastfeeding, was significantly better for mothers in the intervention group who had breastfeeding education.

All mothers have initiated feeding colostrum within half to one hour of delivery.

The practice of pre-lacteal feeds was nil for mothers in the intervention group which underscores the efficacy of breastfeeding education.

Education resulted in higher percentage of mothers to feed on demand.

The bio-physiological parameters of mothers and newborns in the intervention group were significantly better than control group which revealed that early initiation and breastfeeding education was very effective.
The knowledge on breastfeeding results in better breastfeeding practices which caused enhancement of uterine involution.

Breastfeeding education has increased the duration, frequency of breastfeeding and the amount breastmilk secretion.

Better breastfeeding practices enhanced the elimination of meconium,

General education levels were positively associated with knowledge levels on selected aspects of breastfeeding of mothers in the control group. This highlight need for improving the general education levels especially for female children.

NURSING IMPLICATIONS

Implications for Nursing Practice

1. Breastfeeding should be promoted by general examination of the mothers, correction of any breast and nipple problems and routine breastfeeding counseling sessions in the Antenatal OPD.

2. Breastfeeding education to mothers who are at term, in labour ward and to those who are in early postpartum should become part of daily nursing care.
3. Breastfeeding should be initiated early within half to one hour of delivery for mothers who have normal deliveries in the labour room.

4. Routine care at birth that hinder with delaying of the first feed should be modified and breastfeeding should be prioritized.

5. Care is to be taken to avoid pre, post-lacteal feeds by educating on advantages of exclusive breastfeeding, adverse effects of pre-lacteal feeds and disadvantages of bottle feeding.

6. Special efforts need to be taken to support mothers with special problems like AIDS, and mothers of high risk babies, to have successful breastfeeding.

**Implications for Nursing Administration**

1. Nurse Administrators should ensure that the hospital is Baby Friendly and the 10 steps recommended by UNICEF/WHO are followed in the hospital.

2. Nursing Administration must ensure that no financial inducements or materials be accepted from baby food industries.

3. Nursing Administration must ensure that appropriate and current information is provided to the nurses so that they are capable of educating mothers on breastfeeding.

4. Nurse Administrators should ensure that periodical conduction of refresher courses for, Health Workers,
AWW, ANMs and nurses to update their knowledge on recent trends in breastfeeding.

5. Nursing Administration must make sure that the educational and informational materials should have consistent information and these are to be displayed in Antenatal OPD. Mass media like television, radio can be used in post operative wards, postnatal wards with emphasis on various aspects of breastfeeding.

6. As majority of nursing staff are females, nursing administration should ensure that the implementation of laws related to the protection and promotion of breastfeeding for their own staff by providing maternity benefits, creches nearby, (if >30 females are women employees) breastfeeding breaks, place to pump or express and refrigerate breastmilk in working place, thus make it Mother Friendly.

7. Nursing Administration must provide facilities for mothers to feed babies with high risk conditions.

8. Nursing Administration must make sure to organize routine counseling for mothers with AIDS with regard to breastfeeding.
Implications for Nursing Education

1. The curriculum of nursing students, should emphasis on latest trends and concepts on breastfeeding and about the protection of the IMS Act.

2. Special courses on breastfeeding can be started for nurses, so as to enable them to function as lactation consultants.

3. Organise periodical short sessions to educate and train TBAs, who are the influential persons at grass root level in the promotion of breastfeeding.

4. Community Health Nursing students must organize breastfeeding education classes for adolescent girls at schools and colleges.

5. Community Health Nursing should focus on educating the peer group on breastfeeding to enable them to serve as peer counselors.

6. Mass education programs should lay emphasis on the avoidance of adverse cultural factors, role of husband and family members in the promotion of breastfeeding and their role to protect the IMS Act.

Implications for Nursing research

1. An intervention study can be done in labour ward to assess the efficacy of initiation of breastfeeding during the III stage of labour.
2. An explorative study can be done to identify the biological and social constraints to exclusive breastfeeding in different geographical, cultural settings.

3. An in depth study can be done on assessment of role of antenatal care in relation to adequacy of lactation in the first 6 months.

4. A similar study can be done on large scale with pre-test.

5. A qualitative study can be carried out to asses personal factors which lead mothers to breastfeed and not to breastfeed.

6. A survey can be carried out to find out the incidence of exclusive breastfeeding among working mothers and an educational module can be prepared on strategies to promote exclusive breastfeeding among working mothers.

7. A comparative study can be done to compare the benefits of breastfeeding Vs potential morbidity and mortality to newborns born to mothers with AIDS in the developing nations.

8. A longitudinal study can be done to asses the long term effects of breastfeeding on pre-term and LBW babies.

9. Comparative study can be done on the efficacy of individual education and education by mass media on breastfeeding.
10. A retrospective study can be done to evaluate the imprints of breastfeeding in the first year of life with psychophysiological parameters at adult life.

LIMITATIONS

1. The study is limited only to mothers admitted in labour ward RMMCH
2. The study is limited only to mothers and babies with normal bio-physiological parameters.
3. The study is limited only to mothers at term (38-42 weeks of gestation)
4. Assessment of mothers and babies was done only up to 3 days postpartum.

RECOMMENDATIONS

Breastfeeding promotion should become part of routine antenatal, postnatal and infant health care and nurses and other health personnel should take time and effort, to educate for promotion of breast feeding and provide support to breastfeeding.

Information to general public must include short and long term advantages of breastfeeding, to the children who are well and sick and disadvantages of bottle feeding and also the difficulty of reversing the decision, not to breast feed.
Breastfeeding practices need to be strengthened through education, peer training, also by providing emotional, financial and legal support, to breastfeeding mothers.

Usually women make decision about feeding choice early in pregnancy. So make sure that breastfeeding education become part of antenatal care package, Just like getting TT Immunization which is known to every mothers education on the first immunization. (Breastmilk)

Qualitative research is to be done to know how the mother’s self care capacity could be developed and how to build mother’s confidence with regard to exclusive breastfeeding upto 6months and susteinence of breast feeding for 2 years or beyond.

Newer approaches are to be invented for supporting and teaching mothers in breastfeeding their fragile infants in NICU.

Education, training and periodical updating on breastfeeding for ASHAs and TBAs on promotion of breastfeeding should be periodical
for achieving goals of the Tenth National Plan as they are the providers of support and information at grass root level.

Lactation consultant clinics can be organised to counsel mothers who are having problems with breastfeeding.

Education about breastfeeding should be part of curriculum at high school level so that the future mothers will be equipped with knowledge on various aspects of breastfeeding.

Providing mother-friendly work place, crèches if >30 employees are women and extending maternity leave for 6 months and paternity leave for atleast 20-30 days, by the employers will enhance exclusive breastfeeding rates upto the prescribed period of 6 months.

Broadcasting through mass media of information pertaining to breastfeeding promotion, should emphasize on overcoming the problems faced by mothers, working mothers in particular, in exclusively breastfeeding their babies.

So let us all take active participation in the prevention of breastfeeding for the prosperity of the world.