Chapter - V

DISCUSSION

Any action which helps mothers to save and improve their children lives should be supported. Everyday around 3000-4000 infants die from diarrhoea and acute respiratory infections and 1000 more succumb to morbidity of some kind, because the ability to feed them adequately, is being taken away from their mothers. As per WHO every year 2.42 millions deaths could be prevented in India if only mothers and others knew the value of breastfeeding (BPNI WBW, 2005).

NFHS II (1998-99) findings revealed that breastfeeding rates are low in Tamilnadu (48.3% at 0-3 month). Keeping this in mind and the unparalleled benefits of breastfeeding to babies, mothers, family, nation and ultimately to global peace and also the feasibility and practicability of breastfeeding education which was found to be highly effective and cost effective intervention by many studies, the researcher selected the present study. The present study was aimed to evaluate the efficacy of early initiation of breastfeeding and education on breastfeeding with the following objectives.
OBJECTIVES OF THE STUDY

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

2. To compare the bio-physiological parameters of babies in the control and intervention groups.

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 the mothers in control group, with their knowledge on selected aspects of breastfeeding.

The study was conducted in labour ward, RMMCH, Annamalai University, for 3 months from March 2005 to May 2005. Samples were selected from randomly assigned designated days. 75 mothers for control and 75 for intervention group were selected based on inclusion criteria. The collected data were analysed and arranged.

Comparison of Personal and Family characteristics of mothers in control and intervention groups

Eighty four percentage of mothers in control group and 87.9% in intervention group belonged to the age group of 20-30 years.
Similarly, a study done by Devadass et al (1999) at Coimbatore, comprised 95% mothers who were between 20-30 years.42

The number of illiterates were 20% in control and 16% in intervention group. The study findings are consistent with study findings of Devadass et al (1999) which revealed that 24% of mothers were illiterates.42 The educational status of husbands revealed that 26.7% in control group and 18.7% in intervention group had middle school education. The study finding are consistent with study finding by Gowri J (2003) at Cuddalore District, Tamilnadu, where 16% of fathers in control and 23% in intervention group had middle school education.210

The occupational status of the mothers, showed that 94.7% of the mothers in control group and 88% in intervention group were housewives. In contrast the study findings by Gowri J 2003 in revealed that 30-40% of mothers were employed mothers.210 The occupational status of husbands showed that 60% in control group and 61.3% in intervention group were labourers which is a common feature in most of the villages of Tamilnadu. These finding are supported by Devadas (1999) at Coimbatore where majority of husbands (79%) 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. The findings are supported by Devadas et al (1995) were majority of the mothers (69%) hailed from families with a lower income.

As far as religion is concerned majority were Hindus, in both the groups. The findings are supported by a study by Gowri J (2003), where 95% of mothers were Hindus. Regarding social support available during delivery table 1 shows that 36% samples in control group and 44% in intervention group had their mother’s support. Comparison of selected obstetrical variables of mothers between control and intervention groups.

Forty percentage and 44% mothers were primigravida women and 40% and 33.3% were primiparous women in the control and intervention groups respectively. The findings are supported by Gowri J (2003) which revealed that 32% in intervention group and 35% in control group were primiparous mothers.

All mothers were married and about the duration of marriage, 58.7% in control and 53.3% mothers in intervention group were
married for 1-5 years. Breastfeeding rates are higher in married mothers as revealed by a study by Rose VA et al (2004). Mothers with two kids were 27.5% and 31.4%, in the control and intervention groups respectively. In contrast study by Devadas P (1999) revealed that out of 71% of mothers who had kids 51% had two kids.

The obstetrical history showed that majority of the mothers in control and intervention group had normal obstetrical history. In contrast study by Gowri J (2003) revealed that 41% in intervention and 48% in control group had no obstetrical complications (Table 2). In the present study mothers with normal parameters only were selected.\textsuperscript{210}

Comparison of selected variables of mothers related to breastfeeding between control and intervention groups

The prevalence of exclusive breastfeeding upto the prescribed period (6 months) is not common, in the study samples. Mothers who breastfed their babies exclusively upto 0-3 months were 40% in the control and 37.8% in the intervention group (Table 3). The findings are in accordance with findings by NHHS-II.\textsuperscript{188}

The data regarding mothers, whether they themselves were breastfed by their mothers, revealed that 10.14% and 14.28% mothers
were breastfed for up to 4 - 6 months in the control and intervention groups respectively. Having breastfed is a positive factor associated with breastfeeding as revealed by Giovanini et al (2004).104

Regarding exposure to breastfeeding education 20% and 22.7% of mothers in control and intervention group respectively had no exposure of any sort. These finding are not consistent with findings where only 4% of mothers reported no exposure. Exposure through health professionals was only 28% and 14.7% for mothers in control and intervention group respectively. In contrast to the present study, Yeo A et al (2005)196 study revealed that health professionals have given education to 58% of mothers and it was only 4% in study findings by Marrandi (1993).61 Mass media gave information about breastfeeding to 37.3% and 28% of mothers in the control and intervention groups respectively. In contrast, exposure through mass media was only 16% mothers in a study by Yeo et al (2005).196 The exposure to breastfeeding through ‘others’ which comprised of husband, mother, mother-in-law, sister, sister-in-law, aunt, neighbour, grandmother and friends was for 14.7% of mothers in the control and 34.7% of mothers in intervention group. 47% of mothers in contrast had exposure from friends and relatives. A study conducted by Marrandi
(1993).\textsuperscript{61} revealed that 45\% of mother had exposure through friends relatives. But Yeo et al (2005)\textsuperscript{196} found that only 5\% of mothers had breastfeeding exposure from friends and relatives. Many studies except a few to quote that husbands play positive role in the promotion of exclusive breastfeeding Binn SC (2004).\textsuperscript{125} Support from other family members and friends also influence breastfeeding positively Fein, SB (1998) or negatively. \textsuperscript{211}

**Comparison of selected variables related to health status of mothers during their antenatal period**

The variables related to the health status of study samples during antenatal period revealed that 25.3\% and 26.7\% mothers from control and intervention groups respectively registered in government hospitals. In contrast Baldo et al’s (1995)\textsuperscript{212} study revealed that 84\% mother had antenatal care from government hospitals.

Regarding the number of antenatal visits 25.3\% in control and 32\% mothers in intervention group had $\geq 8$ visits. The findings are consistent with findings by Nielson et al (1998)\textsuperscript{43} Tamilnadu, where the median number of antenatal visits were 4 and further a study by Sinha et al (2001) which revealed that the number of antenatal visits were $>3$ for 54-82\% of mothers.\textsuperscript{39} 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.

Data regarding supplementation during pregnancy revealed that 62.7% mothers from each group reported that they had IFA supplementation. The findings are supported by Ray et al study (2000) at Calcutta which revealed that 72% of the mother were taking IFA supplementation partially. 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. The findings are not in agreement with the study by Ray et al (2000) where only 13-24% of mothers consumed IFA tablets for $>100$ days.

Mothers in the control group 49.3% and 45.3% in the intervention group had haemoglobin levels between 8 - 9gms/dl. The findings are not supported by study findings of Ray et al (2000) where 86% of mothers were anemic.

Out of the total number of mothers whose weight was known during pregnancy ($n=135$), 5.97% and 4.41% of mothers gained weight less than 6kg and this findings are not supported by Saxena et al
(2001)\textsuperscript{214} at Lucknow where mean weight gain in pregnancy was recorded to be 6.6kg (Table 4).

**Comparison of selected variables of mothers related to labour and delivery**

The duration of I stage of labour showed that 53.3\% mothers in the control group and 42.7\% in the intervention group had duration between 7 to 12 hrs. The duration of second stage of labour showed that 45.3\% mothers in the control group and 41.3\% in the intervention group had duration of 20 - 30 minutes. Prolonged labour and delivery had negative association with breastfeeding as quoted by Anand RK (2002) Time of birth showed that majority of babies were born between 6-18 hours. 48\% mothers in the control group and 58.7\% mothers in the intervention group had delivered male babies and the remaining delivered female babies.\textsuperscript{9}

**Comparison of time of initiation of first feed between mothers in Control and Intervention groups**

All mothers in the intervention group have initiated breastfeeding early within 1 hour of delivery. But in the control group, 68\% mothers initiated breastfeeding between 31 – 60 minutes after delivery, 22.7\% mothers in the control group have initiated breastfeeding between 61 minutes – 4 hours.
The findings were not supported by a study by Valder et al (1993) where efforts to early initiation resulted in mean initiation in the intervention group to 2.8 hours and in the controls it was 7.7 hours. Maybe because, the selected hospital where study is done, is a baby friendly hospital, the initiation was not much delayed.

**Comparison of Bio-physiological parameters, between mothers control and intervention groups**

The selected Bio-physiological parameters were assessed for both groups and analysed to see if there was any impact of breastfeeding education and early initiation on these parameters. The results revealed that many parameters with few exceptions, were associated positively with the intervention and education.

Between 25-48 hours after delivery, the mean number of pads used by mothers in the intervention group was higher 3.96, compared to controls 3.35 on day 2 and the difference was statistically significant with P value 0.021.

The present study findings are supported by many studies as oxytocin released in response to suckling, strengthens the uterine
contraction and causes excessive lochial discharge. The findings are supported by Beischer NA et al (1987).^215

The mean fundal height difference between day 2 and day 3, was 1.48 cms in the control and 2.13 cms in the intervention group mothers and the difference was statistically significant with the P value 0.001 (Table 7).

Numerous studies support the above findings as oxytocin produced in response to suckling, not only increases the duration of contraction also the strength of contraction thus contributing to hastened involution of the uterus. The findings are consistent with study by Kaur S 2005.^216

Oxytocin in response to suckling is secreted which strengthens the uterine contraction. Many women expressed painful cramping of the abdomen while feeding. In the present study the mean intensity of After pains on the NPS was 2.47 for intervention group mothers and 2.39 for mothers in the control group but the difference was not statistically significant (Table 7). The finding are supported by Burton J (1999).^218
Comparison of Mean amount of breastmilk secretion of mothers between mothers in control and intervention groups

The amount of breastmilk secretion of mothers, on day 2, was 5-6ml per feed for 73.3% mothers in the control and 68% in intervention group. But only 8% mothers in the control 28.3% of mothers in intervention group had milk secretion 7-12ml, and the difference was statistically significant with P value < 0.001. These findings are consistent with BPNI information sheet (2001), which revealed that if, mothers breastfeed more, more breastmilk will be produced.⁵ (Table 8)

Comparison of attachment score of mothers between control and intervention groups

Attachment score of mothers with their babies revealed that the mean attachment score was 4.48 for mothers in intervention group compared 4.24 for mothers in control group with P value 0.046 (Table 9). Many studies revealed that the attachment (bonding) the mother has with the baby is more if early initiation of breastfeeding is done. The findings are consistent with study by Edelman (1994), further supported by many studies.²¹⁹
Comparison of parameters related to feeding behaviour of the newborns in control and intervention groups

Duration of breastfeeding revealed that on day 1, 45.3% and 44% of babies were breastfed for 6-10 minutes and 13.3% but 29.3 were breastfed for >10 minutes in the control and intervention groups respectively and P value was significant (.032)

On day 2, 32% and 28% babies were breastfed for 6-10 minutes and 17.3% but 37.3% babies in control and intervention group were breastfed for >10 minutes respectively. The P value (.019) showed that the difference was significantly higher for babies in intervention group. The findings are supported by Niffert (1998) that the duration of a feed can be as per the likes of the baby and it should be 10-15 minutes.220

The frequency of breastfed revealed that on day 2, babies who were breastfeed for 9-10 times were more in both groups than on day one. 62.7% and 45.3% babies were breastfed for 9-10 times and 22.7% and 46.7% babies were breastfed for >10 times in control and intervention groups respectively with P value 0.007 (Table 10). The findings were supported by Bouguerra et al (2004) where more frequent nursings (>6 times/day) are advised to have successful lactation221 (Devadas et al., 1999).42
Comparison of parameters related to weight of the newborns in control and intervention groups

The birth weight of the newborns in both groups was almost similar and there was no significant difference (Table 11).

The weight loss of the babies on day 2 revealed that there was no significant difference as the mean weight loss was 62.29 grams 59.59 grams in the control and intervention group respectively. Newborns lose 10% of the weight by 3rd day after birth (AAP 2004). Weight loss will be more in babies who start breastfeeding late and in babies who were not fed colostrum.82

Comparison of Bio-physiological parameters of newborns in control and intervention group

There was no difference found in newborns of experimental and control groups with regard to parameter, frequency of urination on day 1 and on day 2.

Babies who are fed early and fed only colostrum tend to have frequent bowel movements and elimination of meconium as it has laxative properties (Anand RK. 2002). 9
On day 1 there was a significant difference between newborns, as 41.3% and 62.7% passed meconium for 3-5 times and 5.3% and 4% passed meconium for >6 times in control and intervention groups respectively with P value 0.03.

On day 2, 36% as 58.7% newborns passed meconium for 3-5 times in the control and intervention groups respectively. And the difference was statistically significant with P value 0.01.

The findings are congruent with study findings by Burton J, (1999) also AAP (2004) which recommends passage of 3-4 stools/day is normal. The findings are not in agreement with study by Singh SP (2001).³

With regard to sleep on day 2, table 12 shows that 20% of newborns in the control and 28% in intervention group slept for 19-20 hours and the difference was not significant.

Comparison of mean knowledge score of mothers in control and intervention groups about initiation of breastfeeding

The mean knowledge score of mothers was significantly higher for mothers in the intervention group with ‘P’ value <0.001 on early initiation. This was supported by Das D et al (1995)⁴² study that the
knowledge and attitude of Bangladeshi women revealed that 60% of mothers answered it should be stated in \(<\frac{1}{2}\) hours and 20% the next day and 19% said after 3 days. Findings on early initiation was not supported by study by Sharma S (1997), which revealed that majority of mothers answered that breastfeeding should be initiated within 24 hours of birth.

The mean knowledge scores of mothers on advantages of early initiation were significantly higher for mothers in the intervention group than controls and the difference was statistically significant. The findings by Sharma D (2005) revealed that mothers had less knowledge about advantages of early initiation.

The mean knowledge score on starting of actual milk secretion, was higher for mothers in the intervention group than control group with ‘P’ value <0.001. The knowledge regarding time of starting actual milk secretion was less as reported by Adikary D et al (1996) as majority of mothers believed that breastmilk is not secreted upto 2 days after delivery.
Findings by Gupta A (2001) revealed that the practice of early initiation immediately after birth was 19%. 21% of mothers fed on 3rd day and 54% on the 4th day due to lack of knowledge on initiation of breastfeeding.

**Comparison of mean knowledge scores of mothers in control and intervention groups about pre-lacteal feeds**

The mean knowledge score on knowledge on no need for pre-lacteal feeds of mothers in the Intervention group was higher than the control group with ‘P’ value <0.001. The findings are consistent with Sharma D (2005) which revealed that the knowledge about no need for pre-lacteal feeds was very inadequate which resulted in pre-lacteal feeding practices. Findings by Das D 1995 revealed that only 8% knew that breastmilk alone is needed for babies.

The mean knowledge score on the reasons for not needing pre-lacteal feeds also was significantly higher for mothers in the intervention group than the control group and the difference was statistically significant. The finding are supported by NFHS – II (1998-99) which revealed that pre-lacteal feeding practices are high in all States of India, revealing the highly inadequate knowledge and the adverse effects of pre-lacteal feeds.
Pre-lacteal feeding practices of mothers in the control group

Majority (80%) of the mothers did not give pre-lacteal feeds but 10.7% mothers had given sugar water and 9.3% had given honey to their infants. The findings are supported by Gupta N (2001), Devadass et al (1995) where 41% of the illiterates have given sugar water, and 21% honey to their infants. Other pre-lacteal feeds also were given to babies. Findings are also supported by, Das D et al (1999) that 52% answered that sugar water need to be given and 40% honey and 0.4% animal milk.

Comparison of mean knowledge score of mothers in control and intervention groups about exclusive breast feeding

The mean knowledge score of mothers on meaning of exclusive breastfeeding in intervention group was significantly higher with ‘P’ value 0.029. The findings are supported by Yeo et al (2005) where majority of mothers knew about exclusive breastfeeding (58%) but 33% believed that water need to be given to babies. Findings by Das D 1995 revealed that 51% mothers said that water need to be given.

The mean knowledge score about advantages of exclusive breastfeeding was significantly higher in the intervention group and it was less for mothers in the control group and the difference was
statistically significant. The findings are supported by Yeo et al (2005)\textsuperscript{196} where 90\% of mothers believed that breastmilk is best, few others, knew about its nutrient, anti-infective properties.

The mean knowledge score of mothers on duration of exclusive breastfeeding, was significantly higher for mothers in the intervention group than the control group and the difference was statistically significant. The findings are supported by Yeo et al (2005)\textsuperscript{196} where 38\% of mothers answered that exclusive breastfeeding should be given upto 4-6 months and 17\% mothers said that it should be given >6 months. Findings by Das D (1995)\textsuperscript{42} on 242 mothers revealed that duration of exclusive breastfeeding should be 1 month (47\%), 5 months (41\%) and 1 year (12\%).

**Comparison of mean knowledge score of mothers in control and intervention groups about feeding of colostrum**

The mean score on meaning of colostrum in the intervention group was significantly higher with ‘P’ value <0.001 and the mean knowledge score on the advantages of feeding colostrum was significantly higher with ‘P’ value <0.001 for mothers in the intervention group than the control group. Knowledge of meaning of colostrum and its advantages are found significantly low in a study by
Swamy et al (2002) revealed that in Bombay only 17% fed colostrum in contrast to 100% of tribal mothers fed colostrum in Andhar Pradesh. A study by Adikary et al (1996) revealed that colostrum was discarded by all mothers. A study by Sharan et al (2001) at Bangalore revealed that colostrum was considered dirty and will produce worms and it was avoided by 68-78% of mothers. Das D et al reported that 84% mothers answered that colostrum is good for health. Study by Gupta A (2001) revealed that colostrum was considered not good for health and 77% of mothers did not feed colostrum. A study by Sharma S et al (1997) on 200 women revealed that colostrum was considered good by >50% of mothers.

Mean knowledge score of mothers in the intervention group related to types of milk

The mothers in the intervention group had knowledge about types of milk and mothers in the control group had nil knowledge on these questions.

Comparison of mean knowledge and mean practice scores of mothers in control and intervention groups about the technique of breastfeeding

The mean knowledge score of mothers in intervention group was statistically significant and higher for items: Feeding expressed
breastmilk in absentia and feeding baby when baby has long sleep interval for mothers in the intervention groups with ‘P’ value <0.001. The mean practice score of mothers in the intervention group was higher and statistically significant for items; positioning breast correctly to feed, Areola covered while feeding and Starting next feed on the other breast fed last. The mothers in the intervention group scored higher on knowledge and practice scores and the difference was statistically significant. The researcher could not find studies relating to knowledge about technique of feeding for statistical comparison.

Feeding exclusively breast milk was advised by BPNI Information Sheet (2002) supported.5 All the other findings are supported by Neiffert (1998).220

Comparison of type of feeding between mothers in intervention and control groups

Mothers in the control group 46.7% and 80% of mothers in the intervention group practised demand feeding and the difference was statistically significant (‘P’ value <0.001).

The findings are not supported by Aruna et al (2001)161 and Swamy HM et al (2003)134 where demand feeding was practiced by
majority of the mothers. The average time between feeds was found to be 3.36±0.17 hours in a study by Benson. S., (2001).133

Comparison of mean knowledge score on feeding adequacy between and mothers in control and intervention groups

The mean knowledge score of mothers in intervention group was statistically significant and higher for items; Breastmilk sufficient for the baby, baby is sucking adequately and Feeling softness of breast after feeding. Having satisfactory experience with breastfeeding is a positive factor for the practice of breastfeeding.

Adequate breastfeeding leads to 4-5 hours of long sleep once in a day. This finding was supported by Neiffert (1998).220

Comparison of mean knowledge and mean practice scores of mothers in control and intervention groups about their feeding behaviour

The mean practice score of mothers was statistically significant and higher for mothers in the intervention group for items: identification of cues to breastfeeding, respond to cues immediately, nipples are painless while feeding and burping after feeding. The mean knowledge score of mothers in intervention group was higher than the controls for items reason for burping and position of baby after feeding and the difference was statistically significant.
Burping after feeding was associated with successful breastfeeding. The findings are supported by Anand RK (2002) which revealed that in Ghana mothers who burped had more breastmilk production.9

The findings are supported by Karl JN 2004 and Aruna et al (2001) which quotes that identification cues are important to breastfeed successfully.161

Painful nipple result from improper feeding practices as quoted by Vijayalakshmis (2002).120

**Comparison of mean practice scores of mothers in control and intervention groups about breaking suction at the end of feeding**

The practice about introducing a finger at the corner of the mouth of the baby to break suction while ending feeding of mothers, 60% answered correctly in the intervention group but none of the mothers in the control group knew about this practice. This practice was recommended by Niffert et al (1998)220 and further supported by Burton J218 to have painless nipples.
Comparison of mean knowledge and mean practice scores of mothers in control and intervention groups about feeding behaviour of newborns

The mean knowledge score on reason to feed >5 minutes at one breast was higher statistically significant for mothers in the intervention group than the control group mothers. Alternating breasts at each feed was supported by Burton J (1999) changing the breast after complete emptying of one breast and feeding for more than >5 minutes at breast was supported by Niffert (1998)

Comparison of mean knowledge score related to selected questions between mothers in control and intervention groups

For knowledge items 1, 2, 3, 4, 5, & 6 (Table 25) the mean knowledge score of mothers in the intervention group was higher than the mothers in the control group and the difference was found to be statistically significant. The findings are not supported by Sharma S and where duration of breastfeeding was reported to be one year. The duration was reported to be 2 years by 80% of mothers as reported in a study by Sinha A (1998). A study by Rasania SK (2002) at Delhi revealed that out of the 350 mothers 241 answered that breastfeeding should be continued for 6 months and only 7 mothers answered that it should be continued for 2 years. Advantages of breastfeeding for the baby was supported by Chopra (2004), Yeo et al (2005) and
Regarding diet for nursing mother, a study by Kwatra A (1998) and Bishnoi S (1999) supported that lactating women need special diet. Suckling was identified as the best galactogogue by Chapman DJ (1999).

**Overall knowledge scores between mothers in control and intervention groups**

The distribution of mothers in terms of their knowledge score revealed that 41 mothers had above average knowledge score in intervention group as compared to only one in control group.

The overall mean knowledge score of mothers in control group was less 28.27 out of 67, and when compared to mothers in the intervention group it was 49.01 out of 67 and the difference was statistically significant with the ‘P’ value < 0.001. The findings are also supported by Das D (1995) where the mean knowledge score was 4 ± 1.7 out of 10.

**Overall practice scores between mothers in control and intervention groups**

The distribution of mothers in terms of their practice score revealed that 29 had above average practice score in the intervention group compared to only two in the control group. Findings by
Gowri J (2003) where education on antenatal care to antenatal mothers showed improvement in knowledge levels to 71%.210

The overall mean practice score of mothers in the control group was higher 11.52 out of 25 and it was 14.85 out of 25 for mothers in the intervention group and the difference was statistically significant with the P value < 0.001.

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

**Correlation of Age with Mean Knowledge Score on Selected Aspects of Breastfeeding**

As age of the mothers increased the mean knowledge score on no need for pre-lacteal feeds also increased upto 30 years. P value inferred statistically significant association.

The mean knowledge score of mothers on meaning of exclusive breastfeeding was 0.750 for age group 26-30 years, and nil for age group, <20 years and 31-35 years. P value inferred that there was no association between age and the mean knowledge score.

There was no association between age and mean knowledge score on duration of exclusive breastfeeding.
Age had positive association with knowledge score on meaning of colostrum up to 26-30 years and afterwards the mean knowledge score decreased but the P value inferred that, the association was not statistically significant.

The mean knowledge score on advantages of feeding colostrum was very inadequate, but as the age increased the mean knowledge score also increased but the P value, 0.229 showed that the increase was statistically not significant.

The mean knowledge score on pre-lacteal feeds also increased and with Kruskal Wallis test, the P (<0.001) value was found to be statistically significant. The findings are not consistent with study finding by Devadas et al (1995).42

Correlation of Education with Mean Knowledge Score on Selected Aspects of breastfeeding

As education increased there was increase in the mean knowledge score on meaning of exclusive breastfeeding with P value which is highly significant (0.001). Table also inferred that mothers who studied up to the higher secondary and college level, had
higher knowledge. The findings are not consistent with study by Devadas et al (1995) where the practice of exclusive breastfeeding had an inverse association with education.42

As education increased the mean knowledge score on duration of exclusive breastfeeding also increased and the association was P value < 0.001, was highly significant.

There was a significant and positive association between education and the mean knowledge score of on meaning of colostrum and the P value 0.018 was statistically significant. The finding are not supported by Suvraapathi et al (1996).42

As education increased the mean knowledge score on advantages of feeding colostrum also increased and the P value inferred that, the association was statistically significant.

**Correlation of Income with Mean Knowledge Score on Selected Aspects of breastfeeding**

There was no association between income and the mean knowledge score of mothers on knowledge item on no need for pre-lacteal feeds. This is consistent with study findings by Devadas et al (1999).42
There was no significant association between income and the mean knowledge score about the meaning of exclusive breastfeeding.

There was a positive association between income and the mean knowledge score about the duration of exclusive breastfeeding and the association was statistically significant with P value 0.023. This is in contrast to study findings by Devadas et al (1999) where the practice of breastfeeding decreased with higher income of the families.42

There was a positive association between income and the mean knowledge score of mothers about the meaning of colostrum and it was higher for mothers who had income >Rs. 5000 per month, but the association was statistically not significant.

Income had no association with the mean knowledge score on advantages of feeding colostrum and the association was not statistically significant. The investigator could not find studies for statistical comparison.

**Correlation of Gravid Status with Mean Knowledge Score on Selected Aspects of breastfeeding**

There was positive correlation, between the gravid status and the mean knowledge score on no need for pre-lacteal feeds, but the association was statistically non-significant.
As the gravid status increased the mean knowledge score on meaning of exclusive breastfeeding also increased upto gravida three, but the association was statistically non-significant.

There was no association found between mean knowledge score on duration of exclusive breastfeeding and the gravid status. The findings are not consistent with study findings by Suvrapathi et al (1998).

There was positive correlation, as the gravid status increased the mean knowledge score on meaning of colostrum also increased, but the association was statistically non significant.

There was no association found between mean knowledge score on advantage of colostrum and gravid status.

**Correlation of number of antenatal visits with Mean Knowledge Score on Selected Aspects of breastfeeding**

There was no association between number of antenatal visits and mean knowledge score on pre-lacteal feeds.

As the number antenatal visits increased the mean knowledge score on meaning of exclusive breastfeeding also increased but the association was not statistically significant.
As the number of antenatal visits increased the mean knowledge score on duration of exclusive breastfeeding also increased but the association was statistically not significant.

The mean knowledge score about the meaning of colostrum had no association with number of antenatal visits.

There is no significant association between number of antenatal visits and the mean knowledge score on advantages of feeding colostrum.