CHAPTER - IV

DISCUSSION
The present study has made an attempt to depict values and practices of breast feeding as they exist in urban and rural areas under different socio-cultural and educational background and to assess the knowledge regarding psychological aspect of breast feeding.

All over Asia, the rapid urbanization that is taking place is bringing with it new problems. Traditional practices are being modified by external influences, a mixed culture can be observed, as in many cities of the developing world. Nor is this trend confined to capital cities. Effective communication systems and increasing literacy have provided access to mass media and have spread these cultural changes to many secondary towns. With higher levels of education, women have many more opportunities to meet "change agents".

One of the practices which is changing is that of breast feeding, which has come to be looking upon as old-fashioned. In deed, it is strange that breast feeding has been one of the traditional practices related to the care and rearing of children that has undergone that most radical modifications, giving way to an unfortunate trend towards bottle feeding. On the other hand, the introduction of supplementary feeding, which constitutes a change for the better in child nutrition, is lagging behind in its acceptance.
Breast feeding, however, is not completely instinctive in the human. To a great extent it has to be learned; and for its successful continuation most breast feeding mothers also need encouragement and active support. What form this support takes depends on the nature of the mother's environment and her own needs. Moreover, in these circumstances, the nature of the family and social organization provide the mother with support and assistance during pregnancy, child birth and lactation. This support may come in the form of other mothers who share responsibility for child care and provide emotional support as well as physical help.

The attendance at the antenatal clinic could be a good opportunity to educate the mothers about the feeding of their newborn and also nutritional needs during lactation. Percentage of women attending antenatal clinic is 69.2% in urban area but it is low in rural area, figures as low as 10.2 and 18.7 percent have been reported (Chuttani, C.S., Nayak, M.D., 1976).  

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Even in urban field practice area of the department of P.S.M., Institute of Medical Sciences, Varanasi, there were 34.9% women attending antenatal clinic (Kaur P, 1978\textsuperscript{2}). Many factors like education, awareness and distance of the women from the hospital effect their utilization of antenatal services (Chuttani, 1976\textsuperscript{1} and Mittal, 1969\textsuperscript{3}). Although in the present study figures are much higher than reported by previous workers but still they are far below the target of health for all by 200 A.D. Education of the couple as well as socio-economic status directly effect the utilization of antenatal clinic and place of delivery. State of Kerala in our country did demonstrate that women's literacy and better communication facilities did make a noticeable impact on health of young children. (Chopra, P. 1982\textsuperscript{4} and Panikar, P.G.K., 1984\textsuperscript{5}).

Colostrum is often present before the end of pregnancy but is secreted mainly during the first five days after delivery. It contains less fat and lactose than mature milk but more sodium, chlorine and zinc. It is high in anti-infective but also has laxative and proteolytic effect to facilitate clearing

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out the meconium and possibly supply concentrated doses of certain nutrients such as zinc, but colostrum feeding is not recommended by our ancient physicians. Susruta (Singhal, G.D. and Guru, L.V., 1973) recommended that colostrum should be discarded for first four days, instead honey and butter with gold ash should be fed to facilitate the discharge of meconium and the breast feeding should be started only on the fifth day.

Although breast feeding is traditional in our country but colostrum rejection is also equally traditional (Rao et al, 1982) from Hyderabad reported that babies were fed on breast of a relative or friend and colostrum was not given. From Gwalior Ojha, K.M., 1979 and Gupta et al, 1980). Varanasi (Agarwal et al, 1981) and Jhansi (Avasthi, 1983) figures around 90 percent for discarding colostrum have been reported. From Gorakhpur (Kushwaha, K.P. 1987) reported that colostrum was discarded by all mothers.

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In the present study practice for discarding colostrum was less in urban area. The practice was reduced in better educated mothers in both the areas. Family system did not have any significant influence in urban and rural area. The figures of discarding colostrum in hospital or home delivery in rural area also showed no significant difference. But in urban area frequency of discarding colostrum was high in home deliveries. The reasons for discarding colostrum are not well understood and it seems that the old teaching of ancient Indian physicians still remain in the mind and heart of our community and tradition to avoid colostrum feeding for first three or four days. The same observations were found in other studies (Bhandari et al., 1973, Swaminathan et al., 1971, Walia, B.N.S. et al., 1974, Ghai, O.P., 1976, Seth, V et al., 1971). Colostrum was not thrown by 58.8% urban mothers. Advice by medical personnel was given as the main reason by majority of urban and rural mothers who were following this practice.

The practice of colostrum rejection is compensated by feeding the newborn babies by different kind of prelacteal feeds. This practice is almost universal (91.4% urban and 97.6% in rural areas) in the present study. It was not very different from that reported by other Indian authors (Anand and Rama Rao, 1962; Ghosh, 1976; Saxena and Garg, 1968; Seth and Ghai, 1971; Mehta et al, 1972; Bhandari et al, 1973; Indira Narayana et al, 1974; Dutta Banik, 1975; Ajay Kalra et al, 1982; Awasthi et al, 1983 and Prabhakara et al, 1987 and Kushwaha, 1987).

In the present study breast milk as first feed was given by 8.6 and 2.4 percent urban and rural mothers, respectively, while honey, glucose, boiled water and ghutti were the common first feeds followed by diluted animal milk in urban area. Many such existing practices have been studied by various authors. Awasthi (1983) observed honey, glucose water and boiled water 30.3, 23.3 and 17.0% of families as the first fed, respectively. Neonatal feeding practices in different regions were studied by the ICMR (1984), animal milk, glucose water, ghutti and honey were the common first feeds. Similarly, as already observed by Saxena and Garg (1968), Dutta Banik (1975), Agarwal (1982).

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and Gopijkar (1984) in the present rural study as well, Ghutti
was the most common article of diet given before lactation was
established. From Gwalior (Gupta, 1980), Bikaner (Rao et al,
1989) and southern Orrisa (Satapathy et al, 1984) higher
use of ghutti has been reported. Educational status of mothers
did not have any significant influence in the choice of prelacteal
feed. "As a substitute of breast milk", was the common explanation
given by urban and rural mothers for giving prelacteal feed
to the neonates. Similar explanation regarding prelacteal feed
has been reported by Ajay Kalra et al, 1982).

In the present study bottle was commonly used for first
feed by urban mothers. Studies by the Nutrition Foundation of
India (Gopijkar et al, 1984) recorded that 19% in Calcutta,
5% in Bombay and negligible number of women in Madras were using
bottle for giving pre-lacteal feeds. The observation for higher
use of bottle in Calcutta is comparable with rural population
(20.8%). This use was mainly confine to upper economic group.
In the present study prelacteal feeds were given most commonly
by cotton swab (47.6%) in rural area, while the survey (Agarwal
et al, 1985) conducted by Indian Academy of Pediatrics
revealed mostly the use of bottle (50%) followed by cotton swab

status of infant and childhood feeding practices. Indian
21. Ajay Kalra, Kalra, K., Dayal, R.S. Breast feeding practices
in different residential, economic and educational groups.
(24%) for prelacteal feeding. Kushwaha et al (1987) also reported that prelacteal feeds were given most commonly by cotton swab (66.5%) in peri-urban areas of Gorakhpur.

Earlier studies from Hyderabad (Rao et al, 1982), Delhi (Ghosh, 1977), Pondicherry (Narayanan, 1980), Himachal Pradesh (Bansal et al, 1973; Dattal et al, 1984) and Jabalpur (Arora et al, 1973) reported that no mother initiated breast feeding in first 6-8 hours and most breast fed between 1-3 days. Studies in three metropolitan cities conducted by the nutrition Foundation of India (Gopujkar, 1984) also show that initiation of breast feeding within 24 hours was limited (Calcutta 48% and Madras 24%) and majority fed after 48 hours, 79% in Bombay and around 33% in Calcutta and Madras. From Himachal Pradesh (Dattal et al, 1984) initiation of breast feeding has been reported in more than 50% by 12 hours in urban area and between 48-72 hours in rural area. The data of present study showed that a higher percentage of urban mothers (59.4%) as against 30.6% of rural

mother started giving breast milk within 48 hours of birth. 40.6% urban and 69.4% rural mothers were initiating breast feeding on second or third day. This trend was also reported by others (Anand, 1962\textsuperscript{46}; Gopujkar et al, 1984\textsuperscript{52}; Wallia et al, 1974\textsuperscript{31}). The delay in starting breast feeding is based on time old traditional thinking and practices. Knowledge percolating from mother and mother-in-law to future mothers.

From Calcutta, Madras and Bombay it was reported that 96%, 93% and 33% mothers respectively fed on demand (Gopujkar, 1984\textsuperscript{52}). The same observations were also found in other studies (Lalita Bahal, 1979\textsuperscript{26}, 1982\textsuperscript{27} and 1987\textsuperscript{28}; Prabhakara, 1987\textsuperscript{50}; Ajay Kalra, 1982\textsuperscript{21}). In the present study mothers were not following any strict schedule for feeding their babies. Feeding was mostly by demand. Whenever the baby cried. Scheduled regimen was practically unknown in the rural area and 97.4% mothers fed their babies by demand. However, 20% of urban mothers gave a scheduled breast feeding and about two third of these mothers were educated above the graduate level.

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In some of the families special precautions are also taken so as to avoid any difficulty in initiating and maintaining breast feeding. In such cases, the mothers' breasts are massaged and warm clothes are applied. This milking off process succeeds in preventing over distension and tension of the breasts. Once breast feeding is initiated, an indulgent feeding relationship is established from the beginning. Mothers respond to babies' demands as they arise and it is really of interest to watch the experienced mother's interpretation and response to her baby's crying and movements. Practically all the demands of an infant are met by giving the breast.

Studies (Arora et al, 1973; Idris et al, 1981) have demonstrated that breast swabs show contamination by fecal coliforms, these organisms are also present in rectal swabs. Therefore, infants' immediate environment is heavily contaminated i.e. mother's hands, nails, drinking water etc. Such contamination is responsible for higher episodes of diarrhoea in rural and illiterate infants of urban area. Unfortunately the habit of breast cleaning before feed is quite low in rural area. But frequency of breast cleaning before feed is high in educated women of both the areas. The practice was better in hospital deliveries in the present study. Arora et al from Jabalpur (1973) also reported that women consider breast cleaning un-necessary.

The mother's decision to feed the baby by breast or bottle depends upon many factors, not all of which can be assessed. The decision is mainly influenced by the feelings of her in-laws, her neighbours and her own social group.

Breast feeding is less troublesome for the mother who has no help. In many instances difficulties occur in the early weeks of breast feeding and it would be dishonest to ignore them. But by many mothers they are considered well worthwhile and they may be lessened by good management.

Breast feeding is a potential source of satisfaction and pleasure for the mother. It is supposed to be the major contribution to happiness and mental health when mother and baby enjoy each other. When the mother suckles her infant it is a 'social' occasion with an important inter-relationship between the two of them. Suckling is a complex physiological process, in which the distension of the mother's breast by milk is relieved at the same time as the infant's hunger. Physiological relief of tension is usually pleasurable, and many mothers get pleasure, it is largely a sense of having done their duty, for some a sensation of deep peace is felt after feeding, in a few the experience is comparable to the most intense physical pleasures.
The breast feeding is associated with rather better health in the infant as suggested by various mothers. They are of the opinion that breast milk is always very light and can be easily digested by the infants, while artificially fed infants are more prone to infections like diarrhoea, stomach upsets and other minor illness.

No hygiene and qualitative maternal care is required so long the child is breast fed.

Among other possible benefits attributed to breast feeding is that it promote a specially close link between mother and baby which is likely to lead to stable and secure relationship later.

Besides the above mentioned factors 'poverty' is considered to be an addition so far as the breast feeding is concerned. They are not economically well off to provide their children artificial milk or other valuable nutrients so as to suffice the infant's needs. Hence, breast milk is cheaper and requires no preparation and costs nothing in money.

Furthermore, it is commonly believed by the mothers that lactation of a women helps in avoiding pregnancy. Hence they continue breast feeding to the maximum they can to limit the number of children.
Breast feeding is given a high value and it is believed the longer the child is breast fed, the longer the life span of the child.

All the 1,000 mothers included in this study were found to be breast feeding their newborn at least during the three months of life. This was in conformity with reports from other parts of the country. Thus, whereas Thaman et al (1968) \(^6^3\) from Kashmir reported an incidence of 96.2%, Mehta et al (1972) \(^5^1\) of Surat found it to be 98% while 100% of the Rajasthani mothers according to Saxena and Garg (1968) \(^3^2\) breast fed their infants. Datta Banik (1975) \(^6^1\) and Ghosh et al (1976) \(^3^0\) from Delhi as well as Walia et al (1974) \(^3^1\) from Chandigarh and Sharma et al (1977) \(^6^2\) from rural Jammu also had a similar experience to report. That, breast feeding was just as popular and prevalent in South India was confirmed by observations made by Rao (1982) \(^7\), Bhavani Belavady et al (1979) \(^6^6\), Ghosh (1976) \(^3^0\) and Indira Narayanan et al (1974) \(^1^5\). The incidence of breast feeding in the metropolis of Bombay was found also to be 95% (Karkal, 1975) \(^6^9\). Further, as already pointed out by Salber et al (1966) \(^3^3\),

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Mayer (1968)\textsuperscript{34}, Walia et al. (1974)\textsuperscript{31}, Ghosh et al. (1976)\textsuperscript{30}, Venkatachalam (1971), Indira Bai et al. (1981), Gurdeva et al. (1982)\textsuperscript{49}, Kushwaha et al. (1987)\textsuperscript{12} and Lalita Bahl (1987)\textsuperscript{26}, Prabhakara (1987)\textsuperscript{50}, the duration of breast feeding in the present study too was found to be inversely related to the educational status of mother, illiterate and semiliterate tending to breast feed longer (Table XXXVII-a). Moreover, women from a rural background were also seen to persist with nursing for a longer period (Table XXXVII-B). However, as pointed out by Salber et al. (1966)\textsuperscript{33}; Guthrie et al. (1966)\textsuperscript{36}, Walia et al. (1974)\textsuperscript{31}, Ajay Kalra (1982)\textsuperscript{21} and Prabhakara et al. (1987)\textsuperscript{50} health personnel could hardly take any credit for this satisfactory state of affairs, namely, the almost universal acceptance of breast feeding by Indian mothers. It was perhaps the strong under current of tradition, the peculiar Indian family setting and the cultural milieu which instinctively promoted our mothers to breast feeding. As against this, breast feeding which had been practically given up in the technologically advanced countries of the west in the forties, fifties and


sixties (Bain, 1948; Storm, 1956; Salber et al, 1958; Meyer, 1958; DHSS report, 1944; Robertson 1961; Newson and Newson, 1962; Newton 1967; Chajecka, 1964) seemed to be gaining ground there once again during the last few years (Guthrie and Guthrie, 1966; Harris and Chan, 1979; Jepson et al 1986). However, while it was tradition and culture that prompted the oriental mothers to breast feeding, the recent interest in breast feeding seen in the Western society was the result of an enlightened appreciation of its advantages (Guthrie and Guthrie, 1966). Thus as pointed out by Fomon (1974) the groups of American women most likely to nurse their infants included college students (Salber and Feinleib, 1966) physicians wives (Harris and Chan, 1969) and health food enthusiasts.

In the present study birth order of the children has no significant difference on the duration of breast feeding.

Significant difference was noticed with regard to duration of breast feeding in this study. Highly educated urban mothers try to wean infants earlier than rural mothers. Similar downward trend in duration of breast feeding has also been reported from other developing countries. In Taiwan (Francis, 1984) illiterate mothers used to continue breast feeding for a man period of 15.35 months in 1967-68 as compared to 7.32 months during 1979-80. In the same study corresponding figure declined from 7 to 2.93 months in the highly educated mothers during this period. In Philippines and Thailand a steep decline in the duration of breast feeding has been reported in the last two decades (Francis, 1984).

In other developed countries of the world the downward trend which was noticeable before 1970 has been replaced by upward trend. In USA (Hendershot, 1984) breast feeding up to 3 months has increased from 8% in 1971 to 27.1% in 1978. In Norway (Helsing, 1981) in 1970 about 25% mothers breast fed up to 3 months and in 1980 approximately 70% did so. There was little difference among rural and urban mothers with regard to duration of breast feeding. Taitz (1976, 1982) in his study

observed that during 1970 only 10% mothers breast fed till six weeks but in 1982 the percentage increased to 15.9, which shows a very encouraging trend in the developed countries.

While top feeds in the present study was given to 100 percent of the babies, its incidence varies from 49% in Surat (Mehta and Pawar, 1972)\(^1\), 63.66% in Najafgarh (Anand and Rama Rao, 1962)\(^2\), 56.8% in Bhopal (Bhandari and Patel, 1973)\(^3\), 42.4% in Jammu (Sharma et al. 1977)\(^4\). Further whereas the age of introduction of artificial feed was 1-3 months, 4-6 months, 7-9 months and 10-12 months in 38%, 16.4%, 14.6% and 31% of the urban cases studied respectively (Table XXX-a) and in 7.6%, 13.2%, 9.4% and 69.8% of the rural cases studied, respectively (Table XXX-b). In the present study supplementary milk feeds were initiated earlier in upper socio-economic and educated group. But urban educated and upper socio-economic women introduced supplement milk much earlier than rural educated and upper socio-economic mothers. This has also been observed in the studies done in different parts of the countries as well (Dutta Banik, 1975\(^5\); Ghosh et al, 1976\(^6\); Chowdhary et al, 1978\(^7\); Famandez et al, 1980\(^8\) and Walia et al, 1974\(^9\)).


In the present study 39.2% urban mothers were using either undiluted fresh milk and preparing it according to manufacturer's instructions as compared 15.8% rural women. Further, 181 (36.2%) urban mothers were using milk in the dilution of 1:1 and 2 parts of water was added to 1 part of milk by 41.2% of rural mothers giving top feeds to their babies. The frequency as well as the extent of dilution of animal milk used for infant feeding was more in rural area. These findings have also been reported by (Anand and Rama Rao, 1962; Saxena and Garg, 1968; Madhavi et al, 1973; Dutta Banik, 1975 and Ghosh et al, 1976). Large number of women were using undiluted milk as compared to the reported figures in NFI study (Gopujkar et al., 1984) for Bombay (1.6%), Calcutta (4.6%) and Madras (4.2%).

Majority of (43.6%) urban mothers, used powdered milk, 34.2% used cow's milk and remaining were using buffalo and goat's milk. But in rural area 46.6% mothers were using diluted buffalo milk. The use of goat's milk was more (28.2%) in rural area. The use of goat's milk has also been reported in 12% and 6% by Bhandari et al from Bhopal (1973) and Gurdeva et al from Rewa (1982) respectively.

In the present study majority of urban and rural mothers offered supplementary feeds 1-3 times a day. Socio-economic status has no influence on number of supplementary feeds (Table XXXV - a & b). The most common reasons for introducing supplementary feeds were lack of breast milk and child remaining hungry (Table XXXVI). In contrast Ghosh et al (1976) from Delhi reported next pregnancy as an important factor in 23.6%.

Mode of administration of top feed was yet another aspect of infant feeding practices that had to be taken special note of. Thus feeding bottles were used for this purpose by 69.4% of urban mothers as compared to 27.6% rural mothers. The frequency of using feeding bottle was very much high in rural educated women. As against this 100% urban educated mothers were using proper feeding bottles. More significant, however, was the fact that instead of proper feeding bottles, old discarded empty bottles of all shapes and sizes were being used for infant feeding by 6.2% of urban and 31.6% of rural illiterate and semi-literate mothers. Cup and spoon was commonly used for top feed in rural area. Illiterate and poor mothers were using feeding utensils without any hygiene and sterilization. They continued to clean feeding utensils with mud and ordinary water. Educated as well as upper class women

were using hot water with detergent. These findings are supported by NFI study in villages 5-15 km. around Calcutta, Bombay and Madras (Gopujkar, 1984). 52

97.2% of urban infants were given semisolids and solids during the first year of life (Table XXXII-A). This was comparable to the situation as prevalent in Kashmir (Thaman et al, 1968)63, Bikaner (Saxena and Garg, 1973)32, Jammu (Sharma et al, 1977)62, Himachal Pradesh (Lalita Bahl, 1987)26, Gwalior (Gupta et al, 1980)9, Andhra Pradesh (Indira Bai, 1981)67, and Bangalore (Prabhakara et al, 1987)50. In Punjab (Thaman et al, 1968), Surat (Mehta et al, 1972)51 and Delhi (Ghosh et al, 1976)30, on the other hand 62.6%, 52.3% and 77% of the infants studied were getting semisolids respectively sometimes during the first year. The corresponding figure for their counterparts in Simla was reported to be over 90% by Bansal et al (1973)22. Introduction of semisolids was however, invariably, delayed in rural area. 41.8% of rural mothers started weaning around one year of age. According to Kushwaha et al (1987)12, in 126 (31.5%) cases, cereals were introduced at the age of 9 months while in 29 cases (18.5%) they were introduced after the age of 6 months.

Cereals were introduced after the age of 6 months. Cereals were introduced in the form of dal, rice, superficial layer of Chapati potato and commercial weaning foods. However, as already emphasized by Ghosh et al (1976), in the present study too, the literacy level of the mother seemed to have direct bearing on the frequency as well as the age of introduction of semi-solids to their infants’ diet. In relation with socio-economic status 100% class I, 82.4% class II and 61.3% of class III urban mothers introduced semi-solids within six months of age. 76.6% of class I and 54.6% of class II rural mothers also started weaning around six months of age. In contrast, in rural area (17.1%) lower income groups were introduced semi-solids between 10-12 months of age but 82.9% of infants received semi-solids after one year of age. Further, religion in the present study seemed to have no influence either on the age of introduction of semi-solids or on its frequency of administration. The frequency of solids before 12 months of age by urban mothers, according to Sharma et al (1977), decreased markedly with increase in birth order. In the present study same, observations have been made for urban children. But in rural area birth order of the children did not seem to influence the introduction of semi-solids. While the failure of the primigravida to introduce semi-solids in time could be attributed to lack of experience.

Urban mothers with high education mostly used commercial preparation as well as home preparations, while the illiterate women used home diet i.e. cereals and pulses. 99.4% rural mothers used home preparations. Educational status of rural mothers did not seem to influence the choice of weaning food. The use of vegetables, fruits, eggs and meat was limited. The data from NFI study (Gopujkar, 1984) showed that semi-solids were introduced earlier in cosmopolitan cities, in Bombay proprietary cereals were commonly used while in Madras proprietary cereals as well as biscuits were used. The most common preparations were common family dietary items e.g. rice, bread, pulses etc. the use of vegetable, fruits, egg and meat was limited. Educated, middle and upper class mothers were mainly using commercial cereal preparations, replacing fresh common family food items, besides the cost may add to considerable financial drain. Further, the risk of infections from these weaning foods due to bacterial contamination will remain in poor illiterate, urban slum and rural families (Agarwal, D.K. et al, 1982). About 45 percent of the mothers in the present study specially introduced tea as a precaution against cough and cold and not with an idea of supplementing the baby's diet.

Bhavanibelavady et al (1979) in their study observed that in all the tribes the first supplement was invariably a cereal. Among Todas mashed rice was the most popular cereal
used as first supplement, other items of food given as supplements, in a few families, were biscuits, made out of refined wheat flour (Maida), caffeine, bread etc. In a few Toda families the mothers were reluctant to give animal milk to the suckling child. Among Kotas, rice and samai (amillet) were commonly used in the early stages of supplementary feedings, while regi replaced these cereals in the later stages. A few families among Irulas were found to use Samai in place of rice for supplementary feeds. In some of the prosperous families goat's milk was given as the first supplement.

The maximum number of mothers i.e. 46.2 percent introduced the above solid foods at the age of 1-1½ years. 60% of the babies were weaned forcibly and the important common reasons given by the mother are child's growth, in adequate flow of breast milk, next pregnancy and illness of the mother. Amongst the uncommon causes listed in order of decreasing frequency are doctor's advice, customs, mothers need to go to work and mother's death.

In the present study families in rural area performed some ceremony before introducing semisolids (67%), of these 60% did not give semi-solids after the ceremony, only 40% fed regularly. The practice of such ceremony was less frequent in urban area. Majority of the mothers were not giving the semi-solids more than twice a day. This practice did not have much relationship with religion.
Only 103 (20.6%) of the 500 rural babies were completely weaned off from the breast by 12 months of age as compared to (42%) in urban area in the present study. Shavanibelavady et al (1979) reported that no Kota child in Nilgiri Hills was completely weaned before the end of first year. Madhavi V. (1973) from Hyderabad also had a similar experience to document. Seth and Ghai (1971) found that 36.8% of urban, 4.5% of semi-urban and 2.1% of rural mothers had completely weaned their babies from breast by 12 months. Walia et al (1974) observed that 17.7% of all socio-economic groups breast fed between 6-12 months of age. Shah (1985) observed that 38.4% of rural mothers weaned their babies from breast between 9-11 months of age. Datta Banik (1975) reported that in Delhi whereas in 54.7% of 3 months old infants artificial milk were introduced, there were only 24.5% 1 year old infants who were put on complete artificial milk preparation. According to Ghosh et al (1976) 18.0% of babies were not given semi-solids till the age of 1 year and as many as 37% of all infants had not received solids by 1 year of age. Surprisingly introduction of solid food was delayed till the 1 year of age by 25% of the graduate mothers also. According to Kumar et al (1981) 16.4% of all infants in Agra were completely weaned by one year of age.

Lalita Bahl (1987)\textsuperscript{26} reported that in Himachal Pradesh 83.2\% of children were completely weaned by 24 months of age while 10.9\% were weaned by 36 months of age. The reason for stopping breast feeding in majority of children (71.1\%) was cessation of breast milk.

Therefore, WHO/UNICEF has recommended the introduction of semi-solids at 4-6 months (1981)\textsuperscript{54}. Conversely, much delayed weaning leading to perpetuation of vicious cycle of malnutrition-infection-malnutrition is a common sight in developing countries. Along with age of initiation, the quality and quantity of supplementary food is equally important in this respect.

Prolonged breast feedings (upto around two years of age) has been a rule rather than an exception in our country (Mudgal et al, 1979\textsuperscript{55}; Sharma et al, 1977\textsuperscript{62}). Various authors from different parts of India have reported prolonged breast feeding among infants belonging to poor communities (Ghosh et al, 1976\textsuperscript{30} Indira Bai et al, 1981\textsuperscript{67}). While prolonged breast feeding is important to help bridge the protein deficiency period of infancy, specially in subtropics and tropics, the actual optimal

length of breast feeding is uncertain. As an approximate gauge it is advised that breast feeding be continued up to at least one and preferably two years, according to local circumstances (Jelliffe, 1968). According to the value of chi-square, significant difference was also observed in the attitudes of respondents belonging to different educational status towards continuation of breast feeding (Table XXXVII a & b). Similar observations were also made by other workers (Arora et al, 1973; Dutt et al, 1981; Kalra et al, 1982; Saxena and Garg, 1968; Walia et al, 1974).

The majority of respondents (62.8% urban and 73.0% rural) were not particular about feeding position. They were following sitting as well as lying down position. Only 27.4% of urban and 21.8% of rural mothers favoured sitting position and rest


of them following only lying position. As observed in the other studies (Dutta Banik, 1975⁶¹; Sharma et al, 1977⁶²; Thoman et al 1972⁶³), although a sitting posture of mother is to be encouraged, much fuss should not be made about the posture as most of the time it is guided by the circumstances and personal convenience (Dutta Banik, 1975⁶¹), when inquired about posture of infant after feeding 56% urban and 41% rural mothers answered correctly (either right lateral or prone position). Ideally, after feeding, the infant should be burped and put in right lateral or prone position for a while, in order to avoid aspiration if child regurgitates or vomits. In the present study even 60.5% urban and 78.9% rural were not aware of this fact. No information is available from earlier studies regarding this aspect of breast feeding except for the observation of Sharma et al (1977)⁶² that burping was practised in 9% urban and 1% rural infants.

According to Dr. Margaret Cameron in the management of successful breast feeding⁶⁴, of first importance is a peaceful confident

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attitude on the part of the mother sometimes emotions like
eembarrassment, tension or fatigue can also interfere with the
let-down of the milk. A mother should therefore relax and sit
comfortably when she feeds her baby. Some babies like to
suckle even after they have had their stomach fill, this is
called 'comfort suckling'. According to doctors this should
be encouraged because it helps the emotional development of
the baby.

The rural and illiterate and semi-literate urban mothers
often express fear that they will not be able to nurse their
babies always shield the breast with the sari when nursing in
company, reinforcing modesty with the rationalization that the
'jealous eye' might make the milk dry up. There are also
conventional remedies to improve their supply of milk in quality
and quantity.

For the three days after delivery mother eats sparingly
a special curry prepared of dry fruits and pure ghee locally
known as 'Panjiri' amongst the Hindus and Achvani or Harira
amongst the Muslims. On the third day after she is reintroduced
to spiced food with a specially prepared meat curry amongst the
non-vegetarian families (both Hindus and Muslims) and their
similar substitutes in the vegetarian families. She also takes,
in addition to her ordinary food, special mixtures, to introduce
warmth and health and her diet is carefully regulated for the
benefit of the baby. It excludes beans, cabbage and other
food stuffs these are believed to produce wind, diarrhoea and
other care of the baby. On the contrary, the diet includes
hot nourishing and light foods. The child also continues taking
traditional mixtures 'ghutti' to help digestion. Such practices
were practically observed in rural and illiterate and semi-
literate urban population and seen only in limited number of
families in urban educated class.

The present study reveals that majority of the lactating
women used Lahsun (Garlic), imli (tamarind), zeera (cuminum
cyminum), ajwain (trachyspermumammi), makhana (eurvale ferox),
atta or suji (triticum aestivum) and nuts and dalia (coarse
ground wheat cooked in milk or water) in the dietaries with the
belief that they acted as galactogogues. The amount consumed
is according to the economic resources of the family and one's
own capacity. These foods are supposed to strengthen the
mother. Garlic is extensively used as a galactogogue (Table
XXXIV) shows the attitude of mothers according to their choice
of galactogogues. Gopalan (1968) had observed that in the low
socio-economic group of Indian population, the lactating women

* Galactogogues: Food materials which increase lactation.
65. Gopalan, C. Studies on lactation of poor Indian communi-
used garlic, tamarind and cotton seed in the dietaries with the belief they acted as galactogogues.

Shavani Belavady et al (1979) in his study of these customs in the Nilgiri Hill Tribes observed that the Toda mother was usually not allowed to take milk during early lactation with the belief that milk caused gastrointestinal upsets to the mothers and the breast fed infant while in the present study intake of milk by the lactating mother is believed to increase milk secretion. Use of certain condiments as galactogogues in early lactation was common among the tribes. Indira (1981) carried out a survey of food belief systems among Hindus of Telangana area in Andhra Pradesh and gathered details of beliefs about the value of breast milk to the infant and food taboos and prejudices during lactation. Breast feeding was given a high value and it was believed that the longer the child was breast fed, the longer the life span of the child. Garlic is believed to have the galactogogues properties and is used as such. Present study reveals that only educated urban women were taking normal diet with milk during lactation. According to doctors, there are no special foods or medicines to improve


the quality and quantity of breast milk. To breastfeed successfully and to maintain her own health, a nursing mother should eat slightly more of the food she normally eats. There is no need to eat anything special. An extra helping of rice or chapati, dal, green leafy vegetables and fresh fruits will give the nursing mother all the nourishment she needs to produce enough milk for her baby.

It is well known that breast feeding delays the return of menstruation and ovulation after parturition, and mothers who breast feed are therefore less likely to conceive than those who do not. This happens because the baby's frequent nursing stimulates the release of the hormone 'Prolactin' that holds back the monthly preparation for a new pregnancy. Ovulation the release of an egg usually does not take place. The present study reveals a delayed resumption of menstruation after delivery in the mothers of poor income group because they breast fed for a longer time. The result of a WHO collaborative study on breast feeding which among other things examined the reported return of menstruation, indicated a consistent and close relation between the duration of breast feeding and the duration of post-partum amenorrhea. Every where the return of menstruation was seen to follow the pattern of weaning. In developing countries,


economically well-to-do mothers who breast fed for a shorter time also had shorter post-partum amenorrhoea. The present study also observed same pattern. In rural traditional mothers who breast fed mostly till the eighteenth months, the return of menstruation was significantly delayed. An analysis of the information showed that about 85% of the total variability between countries and study groups in the return of menstruation could be attributed to reported differences in duration of breast feeding (WHO/UNICEF, 1979).

According to same WHO study in more homogenous socio-economic societies, differences in return of menstruation were also clearly associated with breast feeding. In Hungary, 43% of mothers who were breast feeding reported a return of menstruation before 8 months, whereas it had returned by that time in 98% of those who were not breast feeding.

The effect of breast feeding on the spacing of births has also been studied in many developing countries. In Ghana, where the fertility rate is high, the effectiveness of breast feeding in reducing fertility is considered to be as follows. "If Ghananian women who did not practice contraception switched from breast feeding to artificial feeding, the number of children born per women would in theory rise from 9.1 to 12.9 a 41%
increase in fertility (Priyani E. Soysa, 1981).\(^{70}\)

In developing countries, Rosa (1975)\(^{71}\) has estimated that approximately one third more protection is provided by lactation amenorrhea than by all family planning programme contraceptive methods. One of the main reasons for prolonged breast feeding in the present study were belief that they might not become pregnant during the lactating period.

Mother-child bonding posed no problem in the past, and this healthy dyadic link still survives in rural areas where breast feeding is the usual practices. Its value has been highlighted by (B. Lozaff et al, 1977).\(^ {73}\) Bonding is perhaps one of the main advantages of breast feeding, and one that has stimulated a return to breast feeding in the developed world.

In the present study majority of mother knew that breast feeding is associated with better mother-child attachment. In


Sri Lanka, there is a new trend among working women in the city to leave their children with the extended family which is sometimes back in the village. This is an instance where the extended family is used for child care to the point that it is detrimental to mother child bonding.

The mother who breast feeds her baby successfully for as long as she and the baby both want to likely to get a lot of satisfaction from doing the right thing for her baby, even if she doesn't know of all the very real physical advantages to him. Many mothers say that they felt a tremendous sense of lose when they gave their baby its last breast feed. Perhaps this is partly because a breast fed baby is even more dependant upon its mother for its food than is a bottle fed one, and the majority of mothers enjoy this feeling of being needed. Another feeling often expressed is that breast feeding is one of the things that only a woman can do like giving birth. In today's world of sexual equality and unisex this feminine fulfilment is valued not only by the naturally maternal but also by the erstwhile career women who sees the enjoyment of breast feeding as representing the female part of her character.

The present study shows that the behaviour of breast feeding mothers before, during and after feeding is more likely

to kiss, rock and touch her baby. Sharma et al (1977)\textsuperscript{62} and Ghai (1976)\textsuperscript{76} reported similar findings. In communities where unrestricted breast feeding is not only allowed but is actively encouraged by society, mothers do not let their babies cry even for a short time. In western society babies are often left to cry in their cots because it is not time for a feed. The baby whose mother gives him the breast for food or comfort whenever he cries would seem highly likely to grow up more secure in his mother's love. This feeling of security helps in later development of stable and confident personality. The properly breast fed baby, cries from hunger less because his needs can be immediately satisfied by warm milk. The bottle fed baby is more likely to have to wait until his mother thinks it is time for his feed and then will have to wait again while his feed is prepared and warmed and may feel very real hunger and frustration during this time, which adversely affect the psychological development of the child.

Summing up, bottle feeding can only provide the nutrition and satisfy the physical needs of the baby. But baby needs much more than only nutrition. Breast feeding is the basis for interpersonal relation in later years. Breast feeding provides an attachment and close relationship with the mother and also feeling of security to the child, which is necessary for the development of adequate personality.