Study on Weaning Practices of Mothers in Rural Bangladesh

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Introduction

In developing countries the growth of the babies is well for the first four to six months as breast milk is adequate for the needs of growth up to this age [1]. When the babies has reached four months of age breast milk will not satisfy their all requirements, although it remains his principal food [2]. In the tropics or developing countries one of the most prevalent problems affecting infants and young childern is malnutrition[1, 2]. Malnutrition, acting concurrently with infectious disease is a major cause of mortality among postneonatal infants and preschool children[3]. As long as successful breast-feeding continues the child is reasonably well protected, but once this unique food no longer available in sufficient quantity the child enters a very precarious period of life. The child then have to wean, which mean to accustom the loss of breast milk by substitution of other nourishment. Weaning is a process in which an infant is gradually introduced to a variety of liquid, semi-solid and solid foods to effect a smooth shift to the adult or family food pattern[4]. Various aspects of weaning have been commented on by Le Gros Clark, who pointed out it as a curious process and that a young animal's survival depended upon bridging this biologically momentous transitional period, when it changed from milk-drinking to starch and flesh eating [5]. And a weanling is a young child or infant who recently changed from breast to formula feeding. Actually, weaning period is a crucial time in a child's life when he shifts gradually from exclusive breast feeding to the adult diet. This transitional period generally begins around fourth month and may extend upto two or even three years of age. Ponderance on the process of weaning is perhaps of minor importance in population with adequate nutrition and good sanitation, but it is of major concern in communities where income are low, knowledge about infant nutrition is poor and environmental conditions are unsatisfactory [6].

Additional foods should be given by 4-6 months of age , since after which baby's needs for nutrients outstrip the quantity of mother's milk secretion [1,7]. It is not often recognized in many communities that breast milk alone is insufficient to meet the nutritional requirements of an infant beyond the age of four to six months. Many

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women believe that as long as there is some breast milk the child does not need any other food. But this is not true, as when he is four to six months old, he has become so big that breast milk is not enough by itself [1,7,8]. Fourth month is the best time for a baby to start eating other foods [8]. Thus, the main defect in the current infant feeding practice is delayed supplementation and some mothers wait to give a child his first porridge until he reaches out for her food with his hand [9]. Delayed weaning has its nutritional repercussions too [7]. Weaning practices vary in different region and in different socio-economic goups in the same regions [7,8].

Fortunately, breast-feeding is still the usual practice in rural communities in Bangladesh. Malnutrition is prevalent among the infants in rural Bangladesh especially during this weaning period as the weaning practices were not found to be satisfactory. The nutritional deficiencies endured in early childhood can have debilitating mental and physical consequences that are carried into adulthood. The existences of such conditions in any population clearly has a negative impact on the growth and production of a nation [3]. The children having> 80% of the Harvard Standard of nutrition by Weight for Age are normal according to the nutritional status but the children having< 80% of the Harvard Standard of nutrition are suffering from malnutrition [10].

Proper weaning practice is indispensable for betterment and welfare of a society . Proper weaning practice means the proper time of weaning and balanced diet in weaning according to age specific physical condition. Birth weight of a new born becomes double at the age of six months and triple at 12 months of age. During this development adequate nutrition should be maintained. As the breast milk is not sufficient at the age of 4-6 months, a supplementary food is needed which can be maintained by a proper weaning practice for the infant by the mother [1-3]. Lack of food is not the only cause of malnutrition. Malnutrition is a man-made disease related to various ecological factors such as conditioning, socio - economic, cultural factors and others [10].

Materials and Methods

A cross-sectional study on the weaning practices of the rural Bangladeshi mothers for their babies and the nutritional status of these babies was done from 1st February 1989 to 31st March 1989. The study was conducted in two villages Digarkanda and Bhatibarera of sadar *thana* (sub-district) in the district of Mymensingh. This study areas was selected purposively with the hope of collection of free and unbiased information. All the mothers having children (of both sexes) aging from 4 months to 12 months in the two selected villages were selected for the study. The studied population size was

180, of which 120 were in the village Digarkanda and 60 in the village Bhatibarera. A questionnaire was developed to collect data which was checked and verified by a pre-test. Requisite number of quuestionnaires were cyclostyled and data were collected personally by the author himself. A weighing machine with a scale in kilogram was not available, a 30 pound capacity, Detecto Baby scale, INC (Brooklyne, N.Y., USA) having a curved platform on which the baby could be laid in supine position was used for recording weight. Weight of each baby was taken naked in pounds and ounces (to the nearest of one ounce). Every weight was then converted into grams using a conversion table. The machine was then checked from time to time with the help of known weights.

Mothers of the babies were interviewed by making door to door visits. Weight of each baby was taken. Nutritional status of these babies was assessed by Weight for Age method and compared with the values derived from the Harvard Standard[11]. The mothers were asked whether their babies on weaning or not, and about the names of the foods given to the babies on weaning. The quantity of food given to the babies each time were described by the mothers either in *chhatak* or by fist size. Frequency of the given foods was also noted. The mothers were interviewed about the classification of our daily food stuff along with other questions with the pretested structured questionnaire. The interviews were conducted by the author himself. The obtained datas were compiled, tabulated, analyzed and interpreted analytically by using only percentage analysis to ascertain the role of weaning on the nutritional status of the babies; and the relation between knowledge and education status of the mothers with the age of weaning of the infants.

Results

In the study it was found that 61.67% of the respondents (mothers) had no formal ecucation. Among them 22.22% had primary education, 11.11% had class VI-S.S.C. level of education i.e. Secondary education, and 5.00% had *Madrasha* and *Moktob* education (Table-1). In the present study more than half of the families (72.78%) were in the income group of Taka 1001-2000 per month and 12.22% of the families were in the income group of Taka< 1000 per month with only 1.67% of the families were in the income group of Taka> 4001. And in the income group of Taka 2001-4000 there were 13.33% of the families (Table-2) . But in the study it was found that only 3.89% of the children were equal to or above 90% of the Harvard Standard of nutrition measured by Weight for Age. And 48.33% of the children were between 71-80% of the Harvard Standard, 46.67% of the children were between 61%-70% of the Harvard Standard, 46.67% of the children were between

61%-70% of the Harvard Standard and 1.11% of the children were found equal to or below 60% of the Harvard Standard of nutrition (Table-3). Among 180 children (infants) in the present study only 74 (41.11%) children were found on weaning and 106 (58.89%) children were found not on weaning. Among 74 weanlings, only 7(3.89%) were nutritionally of 90% and above of the Harvard Standard, 35(19.45%) were 71%-80% of the Harvard Standard, 31 (17.22%) were 61%-70% of the Harvard Standard, and 1(0.55%) was 60% or below of the Harvard Standard of nutrition measured by Weight for Age (Table-4) . Among the weanlings 41 (22.78%) were of the literate mothers, and 33(18.33) of the illiterate mothers (Table-5). In the study 50.00 %, 5.00%, and 3.89% of the mothers were found to keep their babies only on breast milk due to ignorance about proper weaning age; superstition; and economical cause respectively (Table-6). The present study also shows that only 12.22% of the mothers had knowledge of weaning at age 4-6 months, 31.67% thought proper weaning age is 7-9 months, 36.11% opinioned that to be 10-12 months; 0.55% thought that a proper weaning age is to be> 13 months; and 19.45% of the mothers were did not know the proper age of weaning (Table-7).

Table 1 : Distribution of the mothers according to educational status.

Mother's educational status	Total number of mothers	Percentage
Illiterate*	111	61.67
Primary	40	22.22
VI- S. S. C.	20	11.11
H. S. C. -Degree	-	-
Others**	9	5.00
Total	180	100.00

* Who can not read and write.
** *Madrasha* and *Moktob* education.

Table 2 : Distribution of the mothers according to monthly family income.

Monthly family income (in Taka*)	Total number of mothers	Percentage
< 1000	22	12.22
1001-2000	131	72.78
2001-4000	24	13.33
>4001	3	1.67
Total	180	100.00

* 35.00 Taka=1 US $

Table 3 : Distribution of the children according to their Weight for Age* (Nutritional status**)

Anthropometric measures Weight for Age* (Nutritional status **)	Age of the Children (in month) 4-6 months	7-9 months	10-12 months	Total	Percentage
90% Standard and above (Normal)	3	4	0	7	3.89
71% Standard— 80% Standard (1st. Degree Malnutrition)	22	28	37	87	48.33
61% Standard— 70% Standard (2nd. Degree Malnutrition)	54	19	11	84	46.67
60% Standard and below (3rd. Degree Malnutrition)	1	0	1	2	1.11
Total	80	51	49	180	100.00

* Weight for Age : Values derived from the Harvard Standard-Stuart and Stevenson (1959).
** Nutritional status[10].

Table 4 : Distribution of the weanlings according to their nutritional status* by age

Anthropometric measures Weight for Age** (Nutritional status *)	Age of the Children (in month) 4-6 months	7-9 months	10-12 months	Total	Percentage
90% Standard and above (Normal)	3	4	-	7	9.45
71% Standard— 80% Standard (1st. Degree Malnutrition)	5	20	10	35	47.30
61% Standard— 70% Standard (2nd. Degree Malnutrition)	8	14	9	31	41.90
60% Standard and below (3rd. Degree Malnutrition)	1	-	-	1	1.35
Total weanlings	17	38	19	74	100.00

* Nutritional status [10]
** Weight for Age : Values derived from the Harvard Standard-Stuart and Stevenson (1959).

Table 5 : Distribution of the weanlings according to their ages of starting of weaning by educational status of the mothers.

Educational status of the mothers	Age of the weanlings (in month) 4-6 months	7-9 months	10-12 months	Total	Percentage
Literate*	15	23	3	41	22.78
Illiterate**	2	15	16	33	18.33
Total	17	38	19	74	41.11

* Who can read and write

** Who can not read and write.

Table 6 : Distribution of the mothers in accordance with the causes of non-weaning with continued breast feeding.

Cause of	Number of Non-weaning mothers	Percentage
Ignorance	90	50.00
Superstition	9	5.00
Economical cause*	7	3.89
Total	106	58.89

* Breast milk is free, so child was on breast-feeding only.

Table 7 : Distribution of the mothers according to their knowledge about the proper age of weaning of the children

Weaning age (in month)	Total Number of mothers	Percentage
4-6	22	12.22
7-9	57	31.67
10-12	65	36.11
>13	1	0.55
Not known	35	19.45
Total	180	100.00

Discussion

In this study it was found that about all children were being/were to be breast fed. This finding was similar to a longitudinal survey done by Huffman *et al.* [12] and another study carried out by Moslemuddin Khan[13] in rural Bangladesh. In the present study it has been seen that only 41.11% of the children were found on weaning though proper weaning age is 4-6 months of age[14]. This finding was very much similar to the results of studies done by M. Haque *et al.* [15] and Moslemuddin Khan [13] in rural Bangladesh. The babies in the study were mostly without weaning, and who on weaning were mostly with inadequate weaning foods. That is, the quantity of weaning foods given to the weanlings were insufficient in the most cases. In this study it was seen that only 3.89% of the total children had nutritional status>80% of the Harvard Standard, and remaining 96.11% had nutritional status<80% of the Harvard Standard of nutrition. The

results of the studies carried out by Moslemuddin Khan *et al.*[16] and Kabirullah *et al.* [17] in rural Bangladsh were very much similar to the found nutritional status in the present study. The present study also revealed a relation between the educational status of the mothers and ages at which the babies weaned. In the present study another important finding was that 49.99% of mothers kept their babies only on breast milk due to ignorance about proper weaning age, and 5.00% and 3.89% of the mothers did not start weaning due to superstition and economical cause respectively. So, the worst factor for malnutrition is non-weaning at proper age of weaning and improper weaning of the children. The nutritional problems of the infants in the study were simply due to the ignorance of proper weaning practices of the rural mothers but not the poverty.

Summary

The study was conducted cross-sectionally among 180 mothers having children aged 4 months to 12 months by personal interview in two rural villages in Bangladesh. Information on feeding pattern and anthropometric measurements were collected by door to door visits. It was found that 61.7% of the mothers were illiterate and 72.8% families had a monthly income of Taka 1001-2000. All the infants in the study were being breast fed and only 74 (41.1%) infants were weaned. Most of the mothers(36.1%) were found to think that proper weaning age is 10-12 months and 31.7% thought it to be 7-9 months. Diets supplied to the weanlings were very much restricted in quantity and quality. Only 3.9% infants in the study were found to be normal nutritionally according to the Harvard Standard, and 1.1% were found suffering from third degree malnutrition. The cause of malnutrition was a consequence of non-weaning and the lack of proper weaning. The nutritional problems found in this study were simply due to the ignorance of proper weaning practices of the rural mothers but not the poverty.

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