

Feeding Practices, Hygienic Aspect and Nutritional Status of Infants attending an Urban Hospital of Dhaka City.

Muhammad Abu Bokr Siddique^{1*}, Sabina Khan², A.M.M. Mokarram Hossain¹, Mir Shafi Uddin Ahmed¹ and Md. Aminul Haque Bhuyan¹.

Institute of Nutrition and Food Science, Dhaka University, Dhaka¹,
Bangladesh Home Economics College, Dhaka²

Abstract:

A cross sectional study was carried out among 120 mother-infant pairs attending an urban hospital of Dhaka city to determine appropriateness of the existing infant feeding, hygienic aspects of the infants and their nutritional status. Data were collected with pre-tested and modified questionnaire.

Fifty percent of the mother and thirty eight percent fathers completed secondary education. Highest percentage of the family heads were service holders (28.3%) and greater percentage of them earned less than Tk. 4000 per month.

Weight for age, height for age and weight for height (mean \pm SD) were $82 \pm 12\%$, 96 ± 5 and $91 \pm 8\%$ of NCHS median respectively. According to Gomez Classification 96% of children had varying degrees of protein energy malnutrition (PEM) : 48.3% mild, 26.7% moderate and 0.8% severe. Weaning food was started at (mean \pm SD) 4 ± 2 months. Low house hold income, parenteral illiteracy, imbalance complementary food, early or late weaning and hygienic practices were significantly associated with PEM. Timely weaning, nutritional education and appropriate hygienic practices may reduce childhood malnutrition especially PEM.

Key Words: Feeding Practices, Hygienic Aspect, Nutritional Status.

Introduction:

Bangladesh is one of the poorest country of the world with a population of 109.87 millions¹ and large number of peoples living below poverty line (48%)². Child health situation is very poor in Bangladesh and above 90% of children suffer from various degree of malnutrition³. An important and wide used indicator of nutritional status is the infant mortality rate (IMR), which is still very high (91/1000)⁴ in Bangladesh. About 50% of all babies born alive are of low birth weight (< 2.5 kg)⁵ and thus are malnourished at birth. One in ten infant dies before reaching first birthday. First year of life is crucial in laying the foundation of good health. Therefore, health status of infants and children is a major concern.

Bangladesh Journal of Nutrition. Vol. 22-23 December, 2010. Institute of Nutrition and Food Science, University of Dhaka, Dhaka-1000, Bangladesh.

* Author for Correspondence

Breastfeeding is virtually universal in Bangladesh, almost 100% of mothers breastfeed their children from birth, especially in the rural areas. However, with the trend towards urbanization and industrialization, the practice of breastfeeding is declining and feeding related problems are becoming increasingly prominent, particularly in the developing countries.⁶

Constant support, promotion and protection of breastfeeding and the process of adequate complementation with locally available home made weaning foods can compensate for nutritional deprivation of infant. As one of the world's poorest nation with high infant mortality rate, there should be measures to create appropriate environment to discourage bottle feeding. The perquisites for safe artificial feeding are neither available nor affordable to the vast majority of woman. Neither can the country afford to waste precious foreign exchange for the purchase of an imported product which is already abundant in their country itself. Yet, there is now substantial evidence that bottle feeding is on the increase in Bangladesh, especially in the urban areas and is now gradually spreading towards remote villages.

Materials and methods

Study area:

The study was conducted at the treatment centre of ICDDR,B, which is one of the largest diarrhoeal research centers in the world. It is based in Mohakhali, Dhaka-1212.

Study population:

Children between the age of 6-11 months attending in ICDDR,B with their diseases duration of only 2 days.

Sample size:

Total sample size was 120 as estimated using the following formula:

Sample size = **n**

$$n = \frac{z^2 pq N}{e^2 (N-1) + Z^2 pq} = 124.32 \approx 120$$

Where,

N = Total screened pregnant women = 200

n = small sample size

z = 1.96 (at 95% confidence interval)

p = proportion = 30.7%

q = 1-p = 0.69

e = precision of estimate as 0.05

Study period:

The data was collected during the period of June, 2007 to April, 2008.

Development of the Questionnaire:

A standard questionnaire was developed to obtain the relevant information regarding the general information, socio-economic information, breastfeeding and infant feeding, food preparation and hygiene, anthropometry of the mother and child and diseases pattern information of the participants as per objectives of the study.

Data Analysis:

All the statistical analysis and all other data processing were done by using SPSS 12.0 windows program. Descriptive statistics was mainly used. Data were analyzed in terms of frequency distribution, percentage means and standard deviation.

For tabular, charts and graphical representations Microsoft word and Microsoft excel were used. Anthropometric data were compared with data from National Centre for Health Statistics (NCHS) standard, U.S.A.

Results:

It appears from figure 1 that the monthly income of 29% families was below TK. 4000 while that of 25% was within TK. 4000-7999 and 21% was within TK. 8000-11999. Only 14% families had income above TK. 16000.

Table 1 shows the mean, standard deviations and skewness of the anthropometric indicators of the surveyed children aged 6-11 months. The mean height and weight of the children was 68.03 cm & 7.17 kg, which were 95.77 % and 81.86 % of NCHS median height for age and weight for age respectively. The mean weight for height was 90.79 % of the reference weight for height. The Z- score value of height for age, weight for age and weight for height were 2.71, 2.53, and 2.87 and SD volumes that were 0.56, 0.62 and 0.37 respectively.

Figure 2 shows the Z-score classification of nutritional status of all children aged 6-11 months. This shows that 5.8% children were severely stunted and 16.7% were moderately stunted; 6.7% children were severely under weight and 33.3% were moderately under weight, where as 1.7% children were severely wasted and 9.2% were moderately wasted.

According to Gomez classification of malnutrition (according to weight-for-age as % of median NCHS reference value) the prevalence of mild (1st degree), moderate (2nd degree) and severe (3rd degree) malnutrition is 48.3%, 26.7%, and 0.80% respectively, which are shown in table 2. Gomez classification is not commonly used today but the NNP in Bangladesh continues its community based growth monitoring and promotion program using this classification.

Discussion:

Total 120 mother-infant pairs were included in the study. It was found that the highest percentage (50%) of mother's and father's (38.3%) education was secondary education. Illiteracy rate for mother and father was same (17.5%). Father's occupation showed wide diversifications; majority of them was service holder (28.3%) and the next dominating occupation was day labour (25.8%). Understandably, the socio-economic conditions of the respondents varied according to their income, the monthly income of 29.2% families was below TK. 4000 while that of 25% was within TK. 4000-7999 and 20.8% were within TK. 8000-11999. Only 17 families had income above TK. 16000 (Figure-1).

Of the 120 infants, 69.2% infants, were male and the remaining (30.8%) were female. Majority of the children's age were almost equally distributed (around 15%) from 8 months to 11 months, while the lowest percentage (9.2%) of children's age was 6 months. The mean height and weight of the children was 68.03 cm & 7.17 kg, which were 95.77 % and 81.86 % of NCHS median height for age and weight for age respectively. The mean weight for height was 90.79 % of the reference weight for height (Table-1).

Figure 1: Distribution of the households according to their monthly family income (in Taka)

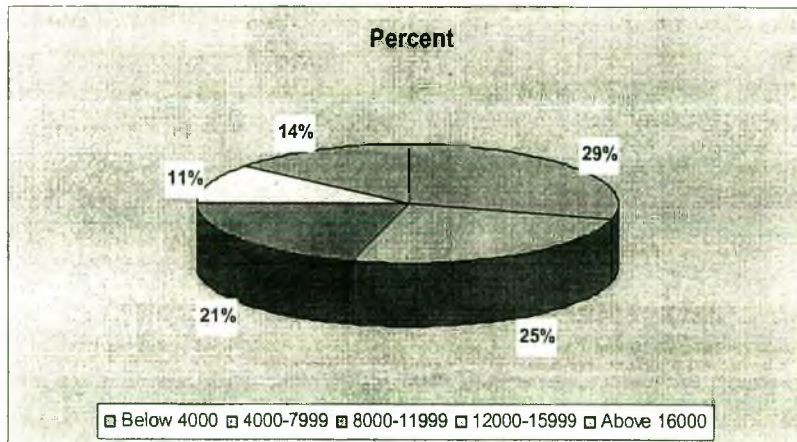


Table 1: Mean, Standard Deviation and Skewness of anthropometric indicators of 6-11 months old children

Indicators Respondent (n=120)	Mean	Standard deviation	Skew ness
Length (cm)	68.03	4.01	0.20
Weight (Kg)	7.17	1.21	1.27
Height for age Z-score	2.71	0.56	-1.89
Weight for age Z-score	2.53	0.62	- 0.98
Weight for height Z-score	2.87	0.37	-3.18
Height for age (% median)	95.77	4.42	-0.25
Weight for age (% median)	81.86	11.69	1.17
Weight for height (% median)	90.79	8.29	0.50

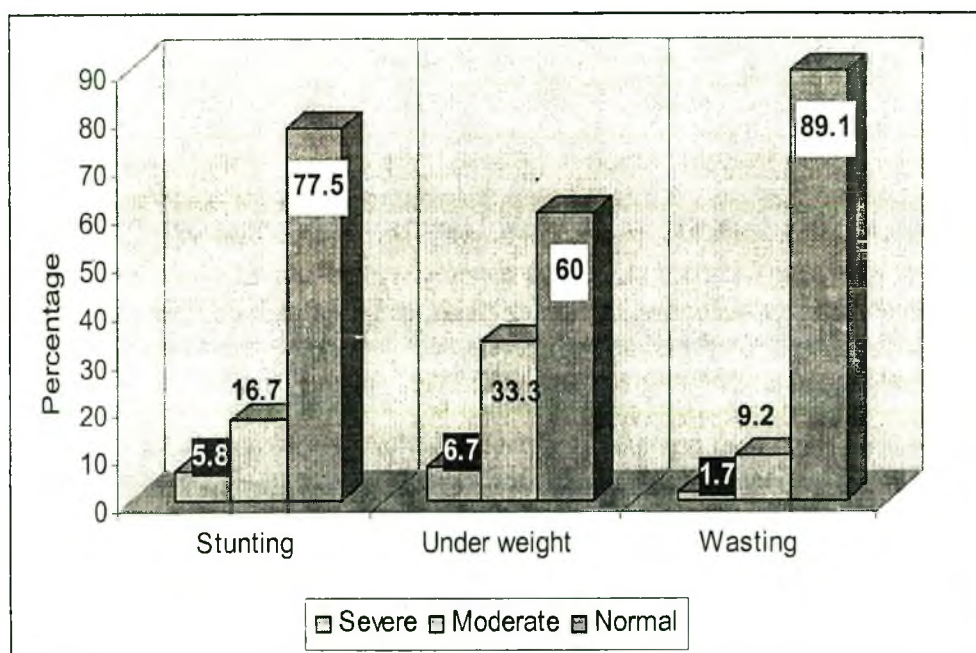
Figure 2: Prevalence of stunting, under weight and wasting

Table 2: Prevalence of malnutrition by sex as determined by Gomez classification

Nutritional status	Distribution of children					
	Boys		Girls		Total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Severe or 3 rd degree malnutrition (WAM<60.00)	1	0.80	-	-	1	0.8
Moderate or 2 nd degree malnutrition (WAM=60.00-74.99)	19	15.8	13	10.8	32	26.7
Mild or 1 st degree malnutrition (WAM=75.00-89.99)	43	35.81	15	12.51	58	48.3
Normal (WAM>90.00)	20	16.7	9	7.5	29	24.2
Total	83	69.2	37	30.8	120	100

According to Z-score classification of nutritional status of all children aged 6-11 months, 5.8% children were severely stunted and 16.7% were moderately stunted; 6.7% children were severely under weight and 33.3% were moderately under weight, where as 1.7% children were severely wasted and 9.2% were moderately wasted (Figure-2). According to Gomez classification of malnutrition (according to weight-for-age as % of median NCHS reference value) the prevalence of mild (1st degree), moderate (2nd degree) and severe (3rd degree) malnutrition is 48.3%, 26.7%, and 0.80% respectively.

References:

1. Statistical year book of Bangladesh, 1992. Bangladesh Bureau of Statistics, Dhaka, Bangladesh.
2. Household expenditure survey 1988-89, Bangladesh Bureau of Statistics, Bangladesh.
3. Children Nutrition Status Survey. 1989-90. Bangladesh Bureau of Statistics, Dhaka, Bangladesh.
4. Akhter HH Breastfeeding in Bangladesh. Bangladesh J of Child Health 1992; 16:31-35.
5. Infant and Young child feeding. WHO/UNICEF, 1991.
6. Fiona, Breastfeeding in Bangladesh, 1989.