Assessment of Nutritional Knowledge in a Rural Area of Bangladesh

A.M.M. Mokarram Hossain[1] *and A. Hafez*[2]

1. Institute of Nutrition and Food Science, University of Dhaka, Bangladesh. 2. National Institute of Preventive & Social Medicine, Mohakhali, Dhaka, Bangladesh.

Introduction

Bangladesh is one of the most densely populated countries in the world with a population more than 100 millions [1]. Most of the people in our country are living from hand to mouth. Illiteracy is one of the causes of improper nutritional knowledge within the family which consequently leads to ill health. disease and death. Various studies [2,3,4] have also revealed the higher prevalence of malnutrition in Bangladesh. A high percentage of our children die more frequently than well nourished children. The IMR of our children is as high as 125 per 1000 live birth[5]. On the other hand children as well as mothers of rural areas are found to be most vulnerable. More than 73% of our children and women suffer from iron deficiency anaemia[4]. while about 30,000 children go to blind in every year due to Vitamin A deficiency[6]. Weaning period is very critical for our children and death during this period is about 10 to 15 times higher than in developed countries[7]. Moslem Uddin [8] indicated that the weaning practice in our country is very much inapropriate and unduly delayed. Children as well as pregnant and lactating mother's are often neglected and delayed in respect of food intake due to existing cultural barriers and misconcetions [9]. Hasan and Ahmed[10] studied the food and nutrition situation in Bangladesh by a nationwide food consumtion survey in selected local locations between January 1981 and June 1982. Efforts were made to determine actual food and nutrient intake in relation to daily recommended allowances of various demograhic groups within the family. Observations were also made to see adequacy and inadequacy of nutrient intake. This study also revealed the major nutrient gaps for specific categories of family members. The study also emphasized food and nutrient intake according to the income group in rural areas of Bangladesh. Stan'D suza and Lincoln C. Chen [11] have demonstrated in their study the

* Bangladesh Journal of Nutrition Vol. 4, No. 2 , June 1991. Printed in Bangladesh Institute of Nutrition and Food Science, University of Dhaka, Dhaka, Bangladesh.

evidence of higher female deaths than male from shortly after birth through the child bearing age in a rural area of Bangladesh. The study showed that male death exceeds female in neonatal period, but this differentials were reversed in the post neonatal period. Higher female deaths continued through childhood to adolescent and extended throuth the reproductive age. Undue preference in intrafamilial distribution of food is one of the possible causes of such higher level of female deaths in our country. Lincoln C. Chen et al[12] examined the validity of the hypothesis that some preference in parental care, feeding practices, and undue intrafamilial distribution of food are some of the behavioural machanisms by which sex-biased attitudes may have lead to the observed high female death pattern. The researchers in depth showed that sex-biased health and nutrition behaviour discreminates female children and their by causing an increase in the female death rates in Bangladesh. Marry et al[13] described that for pregnant women, lactating mothers, infants, children and adolescents adequate nutrition is vital for attending growth, promoting development and maintaining health and well being. Low birth weight babies have higher death rates and more likely to suffer handicapping conditions leading to undue problems in the community. WHO writes "The extension to all people of the benifits of medical, psychological and related knowledge is essential to the fullest attainment of health. Informed opinion and active co-operation on the part of the public are of the utmost importance in the improvement of the health of the people[14]". The above concept from the preamble to the constitution of WHO, concisely discribes the need for nutritional knowledge leading to optimal health of the individual, his family and the community. Nutritional knowedge is concerned with trying to persuade people to modify their way of life with a view to improve their health and nutrition by better use of available resources. The criterion for successful food and nutritional knowedge is, therfore, not the gathering of knowledge alone but consists of imparting information, changing of attitude and finally altering the behaviour, Nutritional knowledge is governed by the specific priorities of the under nutrition problems and the population groups that are more vulnerable and more affected by

such under nutrition. The present study has been designed to determine how well food and nutritional knowledge is prevailing in a rural area of Bangladesh with the hope of filling some of the gaps in their knowledge in future.

Materials and Methods

The study was carried out in a village named chandpur about 30 k.m. north-west of Dhaka city. The area of the village was approximately 2 square k.m. with a total population of about 920, living in 164 households. Agriculture was the main occupation of the people. Most of the houses were straw roofed with carthen walls. Tube-wells were the source of drinking water. Most of the latrines were pit type. There was only one Govt. free primary school or health center in the village. The village was located in an extremely low lying area and looks like an island during the rainy session, when it is reached from the main road (Dhaka-Aricha Road) only by boat. The study place was a rural village within the proximity of Dhaka city and was easily approachable. The people were also co-operative. These considerations had gone in favour of selecting the study area. The village was selected purposively. Out of 164 households, 75 were selected using simple random sampling technique. They were wives, daughters, and mothers in relation to the head of the households. An interview schedule was prepared considering all the variables. In this study, knowledge levels were referred to what the study population knew about different types of foods, balanced diets, food requirements among different age, sex and need groups and foods to be used after delivery. The schedule was pretested among the village women. The instrument was finalised on the basis of the results of the pre-test. Levels of nutritional knowledge were judged on 2 scales e.g. yes/present or no/absent. Yes/present means at least one or all relevant answers marked correctly. No/absent means, no reply or wrong scoring. Correct answers (indicative to yes/present knowledge) to a particular aspect are shown in the Annexure-I. Collected data were edited to correct errors and analysed by using percentage only. According to Ceneus 1981, a person has been treated in line with international usage as literate if he/she can write a letter in any language. In our study, literacy level referred to Class I to degree class and illiterate means who

Table 1 . Distribution of respondents in relation to head of households.

Respondents	No.
Wife	59 (79)
Daughter	7 (9)
Mother	9 (12)
Total	75 (100)

Figures in parenthess indicate percentage

Table 2 . Distribution of respondents by age.

Age in years	No. of Respondents
15-29	31 (41)
30-44	29 (39)
45-54	15 (20)
Total	75 (100)

Mean 33.22 SD ± 9.25

Figures in parentheaes indicate parcentage

Table 3. Distribution of the respondents by knowledge on energy giving food.

Knowledge	Raspondents			Total
	Wife	Daughter	Mother	
Yes	4 (7)	2 (28)	1 (11)	7 (9.3)
No	55 (93)	5 (72)	8 (89)	68 (90.7)
Total	59 (100)	7 (100)	9 (100)	75 (100)

Figures in parentheaes indicate parcentage

Table 4. Distribution of the respondents by knowledge of body building and repairing food.

Knowledge	Respondents			Total
	Wife	Daughter	Mother	
Present	53 (90)	4 (57)	6 (67)	63 (84)
Absent	6 (10)	3 (45)	3 (35)	12 (16)
Total:	59 (100)	7 (100)	9 (100)	75 (100)

Figures in parentheaes indicate parcentage

Table 5. Distribution of the respondants by knowledge on protective foods.

Knowledge	Respondents			Total
	Wife	Daughter	Mother	
Yes	2 (3)	1 (14)	1 (11)	4 (5.3)
No	57 (97)	6 (86)	8 (89)	71 (94.7)
Total:	59 (100)	7 (100)	9 (100)	75 (100)

Figures in parentheaes indicate parcentage

Table 6. Distribution of Respondents knowledge on types of foods that are to be served after delivery.

Respondents	Types of foods		Total
	Yes	No	
Wife	51 (86)	8 (14)	59 (100)
Daughter	6 (86)	1 (14)	7 (100)
Mother	5 (56)	4 (44)	9 (100)
Total	62 (82.7)	13 (17.3)	75 (100)

Figures in parentheaes indicate parcentage

Table 7. Distribution of respondents by knowledge on balanced food.

Respondante	Knowledge of balanced food		Total
	Yes	No	
Wife	15	44	59
	(25)	(75)	(100)
Daughter	1	6	7
	(14)	(86)	(100)
Mother	1	8	9
	(11)	(89)	(100)
Total	17	59	75
	(22.7)	(77.3)	(100)

Figures in parentheaes indicate parcentage

Table 8 : Distribution of raspndents knowledge on proper sharing of milk and milk products by educational level.

Level of Education	Knowledge of proper sharing of milk and milk products		Total
	Present	Absent	
Illiterate	60	3	63
	(95.2)	(4.8)	(100)
Literate	10	2	12
	(83.3)	(16.7)	(100)
Total	70	5	75
	(93.3)	(6.7)	(100)

Figures in parentheaes indicate parcentage

Table 9 : Distribution of Respondents knowledge on proper sharing of meat and egg by age

Age in group (Years)	Knowledge of proper sharing meat and egg		Total
	Yes	No	
15-29	13	24	37
	(35.1)	(64.9)	(100)
30-44	5	18	23
	(21.7)	(78.3)	(100)
45-54	5	10	15
	(33.3)	(66.7)	(100)
Total:	23	52	75
	(30.7)	(69.3)	(100)

Figures in parentheaes indicate parcentage

Table 10 : Respondent's overall knowledge on different aspects of foods including it's intrafamilial distribution.

Items	Yes	No	Total
Energy giving foods	7	68	75
	(9.3)	(90.7)	(100)
Body building and	63	12	75
repairing foods.	(84)	(16)	(100)
Protective foods	4	71	73
	(5.3)	(94.7)	(100)
Type of foods that are	62	13	75
to be served after delivary.	(82.7)	(17.3)	
Balanced food	17	59	75
	(22.7)	(77.3)	(100)
Proper sharing of milk	70	5	75
and milk products.	(93.3)	(6.7)	(100)
Proper sharing of meat	23	52	75
and eggs.	(30.7)	(69.3)	(100)
Total:	246	280	525
	(46.8)	(53.2)	(100)

Figures in parentheaes indicate parcentage

Annexure 1

Variables	**Yes/Present**
Energy giving food	- Rice, bread and potato.
Body building and repairing food	- Meat, fish, egg and pulses.
Body protective food	- Vegetables and fruits
Types of food that are to be served after delivary	- All types of foods e.g. rice, eggs, bread, fish, meat etc.
Balanced food	- Consumption of all nutrients as required by age, sex, occupation, activity etc.
Sharing of milk and milk products in the family	- Mainly young children, pregnant, lactating mothers.
Sharing of meat and egg in the family	- Mainly young children, pregnant women and lactating mothers.

cannot read and write in any form. The study was conducted from April to May, 1989.

Results

Of the rspondents, 59 were wives, 7 daughters and 9 mothers (Table 1). Almost half 31 (41%) were in the age of 15 to 29 years, while 29 (39%) in 30-44 years and 15 (20%) had a age of 45 to 54 years (Table 2). About cent percent 59 (93%) of the wives and 81 (89%) of the mothers had no knowledge on energy giving foods (Table 3). In the same way, 53 (90%) of the wives and 6 (67%) of the mothers had knowledge on the body building and repairing food (Table 4). Almost nearly full percent 57 (97%) of wives and 8 (89%) of the mothers had no knowledge on protective foods (Table 5). When asked about the types of foods that are to be served after delivery, 62 (82%) had the correct answers (Table 6). As many as 44 (75%) of wives and 8 (84%) of mothers had no evidence of knowledge on balanced diet (Table 7). No discrimination was found in the level of knowledge among literate and illiterate groups which were 95.2% and 83.3% respectively (Table 8). But as the respondents age went higher evidence of knowledge diminished e.g. in 15 to 29 years the knowledge was 35.1% followed by 33.3% in 45 to 54 years and 21.7% in 30 to 44 years (Table 9). Overall nutritional knowledge (Table 3,4,5,6,7,8,9 combined) when averaged, was good (46.8%) (table 10).

Discussion

The study area Chandpur, a small village near, Dhaka, was typical of rural Bangladesh interms of social, economic, cultural and other characteristics. Poverty, illiteracy, poor housing and sanitation condition, the typical picture of a village, was also prevalent in Chandpur. However preparation of nuclear family with comparatively low family size was perhaps the only exception. Proximity to the capital city might have caused this particular family type, Bangladesh is one of the developing countries of the world, where food and nutrition is a problem of the community. Moreover people commonly lack of knowledge on food requirements which in tern deepens the health of the vulnerable groups. Our study has focussed the prevailing knowledge on food and nutrition in a rural area of Bangladesh. Most interesting is that, study women's knowledge on body building and repairing food was the highest (84%). followed by energy giving

foods (9.3%) and protective foods (5.3%). Knowledge on availability of foods that are to be served after delivery and balanced diet were 81.7% and 22.7% respectively. No discremination was found in the level of knowledge among the literate and illiterate groups of women (Table 8). which indicates that non-formal nutritional knowledge more or less similar among them. It has also been seen that. as age went higher, evidence of knowledge was diminished (Table 9). Tlhis is probably due to aging process. The overall knowledge of the respondents on food and nutrition, when averaged, was good (46.8%). A study among the wives of the head of the households of slum dewellers of Metropolitant area of Dhaka was carried out to determine the knowledge on preventive and MCH care. They showed nearly the similar findings (39.7%)[15]. Another study was done among the Tribal women volunteers in Bangladesh. It was found that at the beginning of the training programme nutritional knowledge score was 56.28% [16]. Bhuyan et al [17] showed the similar nutritional knowledge (45.24%) at the beginning of a training programme by the trainees of 4 selected upazilas in rural Bangladesh. The above resuls of this study, therefore, clearly indicates that the nutritional knowledge among the village women is good but what is required is to adopt of better food and nutritional habits and their sustenance in daily life. The high prevalence of malnutrition in Bangladesh is essentially due to poverty coupled with lack of proper nutritional knowledge and other interelated factors. By changing food behaviour and utilizing nutritional knowledge, we can improve the nutritional status of the village people.

Summary

The study interviewed 75 women, mostly the wives (79%) of the heads of the households of a village, near Dhaka. The study women were selected on simple ramdom sampling technique. Almost the half (41%) were in the age of 15 to 29 years. Among the study women, knowledge levels were reported on energy giving foods, body building and repariing foods, protective foods, types of foods that are to be served after delivery and balanced diet as 9.3%, 84%. 5.3%. 82.7% and 22.7% respectively, (Table 3, 4, 5, 6, 7) No major discrimination was found in the level of knowledge among literate and illiterate groups. (Table-8) But as the respondents age went higher, evidence of knowledge diminished. The overall nutritional knowledge, when averaged, was good.

References

1. Bangladesh population Census, Dhaka. Bangladesh Bureau of Statistics. 1984. p. 79.
2. Nutrition Survey of Rural Bangladesh. 1975-76. Dhaka. Institute of Nutrition and Food Science, University of Dhaka. 1977. p. 1-158.
3. Nutrition Survey of East Pakistan. Washington, D.C. US Depártment of Health. Education and Welfare. 1966. p. 1-426.
4. Nutrition Survey of Rural Bangladesh. 1981-82. Dhaka. Institute of Nutrition and Food Science, University of Dhaka, 1983. p. 1-281.
5. Grant, J.p. The state of the World's Children Communication and Information Division, UNICEF. 866 UN plaza, New York, 1985. p. 76-77.
6. HKI. Bangladesh Nutritional Blindness study, 1982-83. Hellen Keller International and Institute of public Health Nutrition. Bangladesh, 1985.p.4.
7. Scrimshaw, N.S. and Underwood, B.A. Timely and appropriate complementary food and nutrition fooding of the breast-fed infant-Anoverfind. Food and Nutrition Bulletin, 1980: 1(2): 19-21.
8. Moslem Uddin K. Infant feeding practice in rural Meheran, Comilla, Bangladesh. Am. Jour. Clin. Nutr. 1980: 3: 2356-64.
9. Bhuyan MAH, Chowdhury, MMH and Malek, MA. Dietary practices and food taboos among mothers during pregnancy and after delivery in two selected rural locations of Bangladesh. Bangladesh Journal of Nutrition, 1988: 1(2): 105-110.
10. Hassan, N. Ahmed, K. Intrafamilial distribution of food in Rural Bangladesh. Food and Nutrition Bulletin, 1984: 6(4): 34-42.
11. Stan D'Sauza and Lincoln, C' Chen. Sex differentials in Mortality in Rural Bangladesh. Population and Development Review, 1980: 6(2): 257-269.
12. Lincoln c. Chen., Haque, E. and Stand'D Souza. Sex bias in the family allocation of food and health care in rural Bangladesh. Population and Development Review. 1981: 7(1): 55-70.
13. Mary, C.E. Goodwin, M. and Maretzki, A. Women, Children and Adolescents. Journal of Nutrition Education. 1980: 12(2): 121.
14. Nutrition Training Manual. Bangladesh Institute of Public Health Nutrition Dietetics and Food Science, Dhaka, 1980: 1:120.
15. Rahman. S., Banu, S. and Nessa F. Health Situation of Slum Dwellers of Metropolitant Area of Bangladesh. Bangladesh. Medical Research Council Bulletin, 1989: 15(2): 90-96.
16. Chowdhury, MMH, Bhuyan, MAH Khan KNI, Ahmed, N. and Malek, MA. Effect of Retraining on Nutrition among Tribal Women Volunteers in Bangladesh Bangladesh Medical Research Council Bulletin, 1989: 15(2): 73-80.
17. Bhuyan MAH, Malek MA., Ahmed N. Khan MNI and chowdhury, MMH. Performances of the selected rural women nutrition volunteers in Nutrition Education Programme. Bangla-desh Journal of Nutrition, 1988: 2(1): 13-17.