

Diet Intake Pattern and Nutritional Status of Rural Population in Bangladesh

Md Monoarul Haque^{1*}
Md Amirul Hassan²
Khaleda Islam³
Md Rijwan Bhuiyan⁴
Md Shah Jalalur Rahman Shahi⁵
Rukshana Parvin Lipi⁶

¹Department of Community Nutrition
Faculty of Public Health
Bangladesh University of Health Sciences (BUHS)
Dhaka, Bangladesh.

²Centre for Medical Education
DOHS, Mohakhali
Dhaka, Bangladesh.

³Institute of Nutrition & Food Science
University of Dhaka
Dhaka, Bangladesh.

⁴Department of Public Health
Bangladesh University of Health Sciences (BUHS)
Dhaka, Bangladesh.

⁵Department of Immunology
Bangladesh University of Health Sciences (BUHS)
Dhaka, Bangladesh.

⁶Department of Public Health,
ASA University of Bangladesh (ASAUB)
Dhaka, Bangladesh.

*Correspondence to:

Md Monoarul Haque
Fellow
Department of Community Nutrition
Faculty of Public Health
Bangladesh University of Health Sciences (BUHS)
125/1, Darus Salam, Mirpur, Dhaka-1216, Bangladesh.
Mobile: +8801915839550
e-mail: monoarmunna@yahoo.com

Abstract

Objective: The aim of this study is to explore the diet intake pattern and nutritional status of rural population in Bangladesh. **Methods:** A population based cross-sectional study was conducted in three rural villages of Mohespur Upazilla, Jhenaidah district, Bangladesh. Total 200 samples were collected purposively to conduct this study. Data were collected through personal face to face interview by structured and semi-structured questionnaire from the respondents. **Results:** The mean (\pm SD) age of the respondents was 35 ± 16.6 years where 64% were male. The monthly dietary intake pattern of the respondents shows that majority of the respondents take pulses, fish, meat, egg, milk and fruits 1 to 2 time per month. Majority (94.5%) of the respondents take cereals 2 to 3 times per day. In case of nutritional status, majorities (47%) have normal nutritional status where 30% are overweight, 15% are obese and 8% are suffering from underweight. Study also shows that there is no relation between gender and nutritional status of the respondents. **Conclusion:** Finally, this study indicates that the overall dietary intake pattern of rural population in Bangladesh is poor. Further study should be needed in a large scale to explore the real scenario of dietary pattern and nutritional status of rural population in Bangladesh.

Key words: Diet pattern; nutritional status; rural area.

INTRODUCTION

Diets of populations around the world were primarily determined by the availability of local food and food practices. A balanced diet, adequate in all necessary nutrients; energy, protein, vitamins and minerals, can satisfy both perceptible and hidden hunger¹. Cereals, largely rice, are the main food in Bangladesh. The typical rural diet in Bangladesh is, reportedly, not well balanced as well².

Rural consumption of leafy and non-leafy vegetables has remained more or less the same over the past two decades after increasing over the preceding 30 years. Fruit consumption has declined in rural areas after more than doubling in the 1970s. With an average national per capita consumption of 23 g of leafy vegetables, 89 g of non-leafy vegetables and 14 g of fruit, the average Bangladeshi eats a total of 126 g of fruit and vegetables daily. This is far below the minimum daily consumption of 400 g of vegetables and fruit recommended by FAO and the World Health Organization (WHO)³. Despite considerable improvement in the national rural health status, the nutritional well-being of rural people continues to be neglected. Children and women in Bangladesh suffer from high levels of malnutrition and micronutrient deficiencies such as low birth weight (LBW), undernutrition (underweight, stunting and wasting), vitamin A deficiency, iodine-deficiency disorders (IDD) and iron-deficiency anaemia (IDA). At the same time, new health problems related to over-nutrition such as obesity are emerging⁴. Maternal undernutrition (body mass index less than 18.5 kg/m²) in non-pregnant women in the country, while declining from 54 percent in 1996–1997 to 38 percent in 2003, is still very high⁵⁻⁶.

Malnutrition early in life has long-lasting and negative effects on overall growth, morbidity, cognitive development, educational attainment and adult productivity⁷. The aim of this study is to explore the diet intake pattern and nutritional status of rural population in some village of Bangladesh.

METHODS

Study area and population

In March to September 2013 we conducted a population based cross-sectional study in some selected villages of Mohespur Upazilla in Jhenaidah district in Bangladesh where majority people lives on agriculture. People aged 19 years and above are considered the study population in this study.

Study design and sampling method

This was a population based cross-sectional study. We adopted a purposive sampling technique to select sample from each villages.

Sample size

200 samples were adopted purposively to conduct this study.

Tools

A structured and semi-structured questionnaire containing (i) socio-demographic and personal information; (ii) monthly dietary intake pattern; (iii) nutritional status of the respondents, was used in this study.

Data collection and data analysis

Data was collected by face to face interview from the respondents. Collected data was coded and entered in the computer and analyzed by using SPSS 15 software. Descriptive statistics were computed to describe both categorical and numerical variables. Inferential statistics were used to make relationship.

RESULTS

The mean age (\pm SD) of the respondents (n=200) were 35.34 (\pm 16.59) years where 64% (128, n=200) respondents were male. The majorities (97.5%) of the participants were Muslim and 80% were married. The educational level of the respondents were illiterate (30%), primary (11.5%), SSC (42.5%), HSC (13.5%), Graduate and above (2.5%). The majority of the respondent's occupation were agriculture (27.5%), than house wife (26%) and service (20.5%), Student (11%), Business (7.5%), others (7.5%) respectively. The majority of the respondent's (52.5%) monthly income was between 3000 to 5000 BDT. About 46% participants have family member upto 4 and 36% have family member more than 6 where 92% respondents lived in their own house. In case of fuel used in cooking, majority (94.5%) use straw, 3% use fire wood and 2.5% use others things. Among the respondents 92.5% use tube well as a source of drinking water and rest (7.5%) of use tap water (Table 1). In case of Cereals intake 94.5% (189) respondents take 2 to 3 times per day. For pulse intake 34% respondents take 1 to 2 times per month and 33.5% 2 to 3 times per day, 22.5% 3 to 6 times per week, 2.5% 1 time per day respectively. For fish intake majority (49.5%) of the respondents take 1 to 2 times per months and second majority (35%) respondents take 2 to 3 times per day where 5.5% never take fish. In case of meat 97% respondents take 2 to 3 times per month and 3% take 3 to 6 times per week.

For egg intake pattern 71.5% respondents take 1 to 2 times per month and 18.5% take 3 to 6 time per week where 2.5% never take egg at all. For milk 64.5% respondents take 1 to 2 times per month and 14% take 1 time per day, 8.5% take 2 to 3 times per day, 8% take 3 to 6 time per week and 5% never take milk. In case of vegetables intake 39% respondents take 3 to 6 times per day, 34% take 2 to 3 times per day, 14% take 1 time per day, 13% take 1 to 2 times per month. For fruit intake, 58% respondents take 1 to 2 time per month, 20.5% 2 to 3 times per day, 11.5% 1 time per day and 10% 3 to 6 times per week. For oil intake 100% respondents take 2 to 3 time per day. For stacks intake 65.5% respondents never take snacks at all where 14% take 1 time per day, 10 take 2 to 3 times per day, 8.5% take 1 to 2 time per month and rest of 3% take 3 to 6 time per week. Finally in sweets intake majority (64.5%) respondents take 1 to 2 times per month and 19.5% take 3 to 6 time per week, 13.5% take 2 to 3 times per day where 2.5% never take sweets (Table 2). Among the respondents 47% have normal BMI where 30% were overweight, 15% were obese and rest of 8% was underweight (Figure 1). There is no significant relation ($P=0.484$) were found among gender and nutritional status of the respondents in X^2 test from this study (Table 3).

Table 1: Socio-demographic characteristics of the study subjects (n=200)

Variables	n (%)
Age (Mean \pm SD)	35.34 \pm 16.59
Gender	
Male	128 (64)
Female	72 (36)
Religion	
Muslim	195 (97.5)
Hindu	5 (2.5)
Educational level	
Illiterate	60 (30)
Primary	23 (11.5)
SSC	85 (42.5)
HSC	27 (13.5)
Graduate and above	5(2.5)
Occupation	
Agriculture	55 (27.5)
Service	41 (20.5)
Business	15 (7.5)
Housewife	52 (26)
Student	22 (11)
Others	15 (7.5)
Monthly Family Income (BDT)*	
<3000	30 (15)
3000-5000	105 (52.5)
5000-10000	59 (29.5)
10000-15000	6 (3.0)
Marital Status	
Married	161 (80)
Unmarried	39 (19.5)
Household Member	
Upto 4	92 (46)
5-6	36 (18)
>6	72 (36)
Housing Status	
Own House	184 (92)
Rent / Others	16 (8)
Housing Condition	
Tin Wall Tin Roof	20 (10)
Timber	5 (2.5)
Timber Wall Tin Roof	28 (14)
Bamboo Wall Tin Roof	147 (73.5)
Fuel Used in Cooking	
Fire Wood	6 (3)
Straw	189 (94.5)
Others	5 (2.5)
Source of Drinking Water	
Tube well	185 (92.5)
Tap	7.5

The result is expressed as number (%) and mean \pm SD); *BDT = Bangladeshi Taka.

Table 2: Monthly dietary intake pattern of respondents (n=200)

Food Items	2-3 tims/day n (%)	1 tims/day n (%)	3-6 times/wk n (%)	1-2 tims/mnth n (%)	Never n (%)
Cereals	189(94.5)	6(3)	5(2.5)	0(0)	0(0)
Pulses	67(33.5)	5(2.5)	45(22.5)	68(34)	0(0)
Fish	70(35)	20(10)	32(16)	99 (49.5)	11(5.5)
Meat	0(0)	0(0)	6(3)	194 (97)	0(0)
Egg	5(2.5)	10(5)	37(18.5)	143 (71.5)	5(2.5)
Milk	17(8.5)	28(14)	16(8)	129(64.5)	10(5)
Vegetables	68(34)	28(14)	78(39)	26(13)	0(0)
Fruits	41(20.5)	23(11.5)	20(10)	116(58)	0(0)
Oil	200(100)	0(0)	0(0)	0(0)	0(0)
Snacks	20(10)	28(14)	6(3)	17(8.5)	129(65.5)
Sweets	27(13.5)	1(,5)	39(19.5)	128(64.5)	5(2.5)

Results were expressed as number %

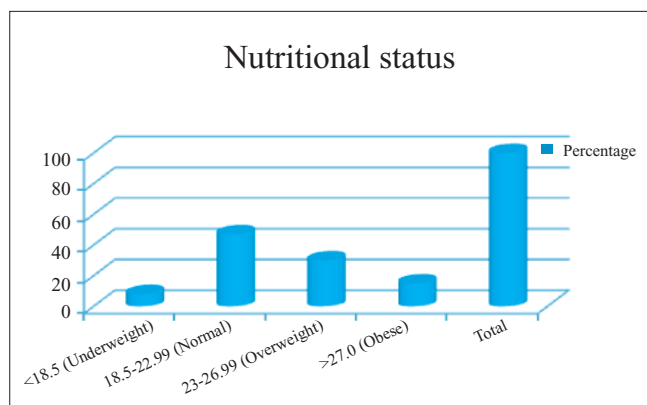


Figure 1: Nutritional status of respondents (n=200)

Table 3: Relationship between gender and nutritional status of the study subjects (n=200)

BMI	Male	Female	χ^2	Pvalue
<18.5 (Underweight)	8(4)	8(4)	2.433	0.484
18.5-22.99 (Normal)	63(31)	31(16)		
23.0-26.99 (Overweight)	38(19)	22(11)		
>27.0 (Obese)	20(10)	10(5)		
Total	128(64)	72(36)		

Results were expressed as number %, χ^2 test was performed and P<0.05 was level of significance

DISCUSSION

Promoting healthy diets and lifestyles to reduce the global burden of non-communicable diseases requires a multi-sectoral approach involving the various relevant sectors in societies. Research evidence from developing countries shows that household food insecurity is closely related to the under nutrition⁸⁻⁹. Based on the results of the study, it appears that intake of fish, meat, egg, milk and fruits are very poor among the respondents. The reason of this condition can be poverty and lack of education¹⁰⁻¹². In case of nutritional status although 47% respondents have normal BMI but 30% respondents have overweight and 15% are obese. Findings show that, now a day's obesity is increasing day by day in rural community as well as emerging in developing counties¹³. Study found there is no relation between gender and nutritional status, although the scenario is different. Study found women in rural area are suffering from severe mal nutrition⁸⁻⁹.

CONCLUSION

Finally we can say from this study that the overall dietary intake pattern of rural people in Bangladesh is poor. Further study is needed in large scale and details way to find out specific dietary intake patterns and as well as their nutritional status of rural people in Bangladesh.

DISCLOSURE

All the authors declared no competing interest.

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