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Original Research Article

Nutritional status and key factors among vagrants at Government Shelter Home Dhaka, Bangladesh

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ABSTRACT

Background: Nutritional status and others related determinants among vagrants are important issues even in developing countries like Bangladesh. Exploring the current situation it terms of magnitude of people would be a good resource for the policy makers in considering the malnutrition, health care and other supports for the shelter less population.
Methods: A cross sectional descriptive study was done. A total of 106 vagabonds form government shelter home were included. The nutritional statuses of the respondents were assessed using measured BMI and dietary pattern was assessed by the 24-hour recall method. The data were processed to undergo statistical analysis using SPSS 23 windows program.
Results: The overall mean age of of the respondents 35.3±9.86 years and 42 (39.7%) were in 18-20 years age group and 62% were female. About 62% were correctly married and 22% were single life lead. Less than half (47.1%) of the respondents non-educated, on the other hand 40(37.7%) of the respondents were primary level educated. 22.6% vagrants were abandoned by their family due to certain problems. Association of age group with BMI most respondents were in underweight that gain highly significance where (p=0.0001), there had no association was found between educational status and BMI except non-educated (p=0.025). Most respondents were significant Hand washing before eating, daily bath taken and Suffering from disease Last 1 month with nutritional status where (p=0.020), (p=0.010) and (p=0.0001).
Conclusions: Special attention to be given for improving vagabonds care, Attention to improve service quality with special attention to identified areas (balanced diet, treatment etc).

Keywords: Vagrants, Nutritional status, Body mass index, Hygiene practice, Education level, Malnutrition

INTRODUCTION

Homelessness is a long-standing social problem in many countries. People who work and volunteer in homeless shelters struggle with the question of how to help homeless people lead an independent life. One who has no established residence and wanders idly from place to place without lawful or visible means of support, a person who wanders from place to place without a fixed home, one leading a vagabond life.[1] People made landless by poverty, disaster and the effects of climate change build shelters where they are able. Large numbers of people in Bangladesh, having nowhere else to go, live in temporary housing structures put up on public land. Article 15 of the

Constitution of Bangladesh states that the government has a responsibility to provide access to basic necessities, including shelter. Article 31 and 32, which protect the right to life, have been interpreted by the High Court to include and incorporate the right to livelihood and accordingly the right to shelter. While the Government does not have the responsibility to immediately provide shelter to all persons[2] the number of the homeless people is on the rise. In 1991, 950,000 people were homeless and the number rose to 11, 30,000 in 2001 and 4.6 million in 2010. As per the five-yearly plan documents, the number will be increased to 8.5 million by 2021.[3] "In Mujib Year and on the 50th anniversary of our independence, no one will be homeless in Bangladesh. Our government is working tirelessly to achieve this aim," Prime Minister Sheikh Hasina said on Saturday, as she inaugurated the Ashrayan-2 Project in a virtual ceremony due to coronavirus restrictions. The ruling Awami League-led government has declared the year 2020-2021 as Mujib Year to celebrate the 100th birth anniversary of Sheikh MujiburRahman; the founding father of Bangladesh.[4] Moreover, DSS is running a good number of programs for poverty reduction and human resource development. Among the programs, development services provide for juvenile delinquents, training and rehabilitation of the socially disadvantaged women, counseling, training and rehabilitation of orphan and vulnerable children, development and rehabilitation of vagrants, safe custodian women, adolescent, destitute and helpless.[5] The condition of health of a person that is influenced by the intake and utilization of nutrients is called nutritional status. Nutritional status is commonly assessed by anthropometrics measurement, clinical examinations for ascertaining nutritional deficiencies & also biochemical assessment.[6] Results also show that women and children are the primary victims of malnutrition.[7] Malnutrition have many adverse consequences. In young children prolonged malnutrition retards growth, increases illness and delays learning. It is often argued that a malnourished is mentally and physically fatigued. [8] Malnutrition and under nutrition are also the major cause of morbidity and mortality among children.[9]

The adverse dietary changes include shifts in the structure of the diet towards a higher energy density diet with a greater role for fat and added sugars in foods, greater saturated fat intake (mostly from animal sources), reduced intakes of complex carbohydrates and dietary fiber, and reduced fruit and vegetable intakes.[10] These dietary changes are compounded by lifestyle changes that reflect reduced physical activity at work and during leisure time.[11] Sources of supply may include home production for consumption, domestic commercial food production, food stocks accumulated in earlier periods, commercially purchased imports, and food aid.[12]

Access to food refers to the ability of households to obtain food, whether through home production, commercial purchase, or transfers. In most circumstances the main cause of food insecurity is not lack of availability but lack of access due to a lack of purchasing power and insufficient household agricultural production—both characteristics associated with poverty.[13]

METHODS

Study design

It was a cross sectional study design was chosen for this study.

Study place and population

The study was conducted among the attending resident vagabonds of the selected institution of government shelter home, Mirpur, Dhaka run by the department of social services under ministry of social welfare in Bangladesh.

Study duration

From March 2022 to august 2022.The study was started with protocol preparation and finished with final report submission

Sampling technique and sample size

The simple random sampling technique was applied to sort the vagabonds for the study continuation. Simple random sampling technique was used to select participants based on the inclusion and exclusion criteria.Since some studies claim the nutritional status and its determinants among vagrants in Dhaka citywe took sample size of 106 persons using the formulan=

$$N = \frac{pqz^2}{d^2}$$

So,

$$N = \frac{7 \times 93(1.96)^2}{(5)^2} = 101$$

and after considering 5% non-response rate, our final sample size was 101/0.95=106. Both genders were included in this study where age group was selected from 16-70years.

Data collection techniques

A planned questionnaire was developed containing both the closed and open ended query to collect data through face to-face interview with the respondents. The questionnaire was pretested in areas far away from the sample areas and revised according to the feedback gained in the field level.

The questionnaire was formed to obtain the relevant information considering personal, household, social and economic details, dietary patterns, general behaviour's,

anthropometric assessments and interrelation between different variables.

Anthropometric data collection

The anthropometric data were collected using the procedures listed below.

Body weight measurement

The body weight was recorded using the standard weighing machine keeping the respondent bare footed with minimal cloths.

Body height measurement

The height was recorded using modified tape keeping the respondent stranded on a platform, bare footed with their head upright, looking straight forward.

Nutritional status assessment

The nutritional statuses of the respondents were assessedusing measured BMI of the respondent by means of the following formula.

$$BMI = \frac{Weight\ (kg)}{Height\ (m)^2}$$

Dietary assessment

The dietary pattern was assessed by the 24-hour recall method through a semi-structured questionnaire.[14]

Questionnaires also included questions regarding respondents' indicators of food security, including food consumption sufficiency, intake of stale food and food waste (food which had been thrown away), and number of meals a day.

Data analysis

Data was coded, entered in to computer using computer software SPSS version 23 and then cleaned and analyzed as per objectives.

Descriptive statistics such as frequencies and percentages as well as mean and standard deviation were calculated. Chi-square tests were done to explore the association between dependent and relevant independent variables.

RESULTS

Socio-demographic characteristics and hygiene practice and disease related factor

In this study, more than (39.7%) of the respondent were within the age group of 16-20 years, among them female (62.2%) were predominant; In terms of education, about 47.1% patients had no formal education. Distribution of the respondents by their marital status shows that 62% were married, 22% were single, 11% were divorced and 6% were widowed, according to information, 65.5% suffered from diseases in last 1 months and 87.3% washed their hand before eating as a common hygiene practices 84.3.% respondent took bath daily (Table 1).

Homeless reasons

The reasons given by the homeless people for being homeless left us to re think about the human society and the humanity. 11.3% people have been reported to consume drugs and 22.6% vagabond abandoned by their family.

And they are from the urban areas and saying that they couldn't control their cravings for drugs and alcohol. Unemployment causing a huge change in a men's life, 18.8% homeless people said that being unemployed and could not find a mere job led them to be on the street with the family.

And few of the homeless people exposed that they are from rural villages and came here seeking for a job opportunity and couldn't afford a home due to high rental prices.

Mentally ill conditioned folks and physically disabled homeless people also can be seen in the area. Due to their health problem they have been neglected by their busy families and left behind.

Indeed these ill people do not like to get treated for their diseases. They prefer to be free and roam around. 18.8% homeless people said that they escaped from their house due to physical torture and domestic violence caused by their foster parents and life partners (Table 2).

Hygiene practice and disease related factor

According to information, 65.5% suffered from diseases in last 1 month and 87.3% washed their hand before eating as common hygiene practices 84.3% respondent took bath daily (Table 3).

Daily meal intake pattern

Frequency of food intake pattern among the study subject (n=106).

All of the respondents were 100% intake of food more than three times in a day (rice, fish, Vegetables, Milk, eggs etc), according to the institutional food intake

Diseases pattern among the respondents

About 106 of respondent 21.6% were suffer from hypertension, diabetes (19.8%), asthma (14.1%), other diseases (fever, diarrhea, cold etc.) were 25.7% and 18.8% respondents had no disease (Figure 1).

Association between age group, educational level, hygiene and disease factor with nutritional status

The maximum respondents were in underweight that gain highly significance where (p=0.0001), other age group of the respondent have no significance association in their nutritional status. They had no association was found between educational status and BMI except non-educated (p=0.025).

The higher educated respondents were no significance compared to lower educated respondents about underweight (1% verses 18.8%). Similarly primary level of education of the respondent wasnone significantly compared to non- educated respondents about underweight (15.1% verses 18.8%).

This table represented that most respondents were significant Hand washing before eating, daily bath taken and suffering from disease last 1 month with nutritional status where (p=0.020), (p=0.010) and (p=0.0001) (Table 4).

Results were expressed as number (%), χ^2 was performed and p<0.05 was level of significance and <0.01 was level of highly significance.

Table 1: Socio-demographic characteristics of the respondents.

Variables	Number	Percentage (%)
Age (Mean±SD)	35.3±9.86	
Age group, years		
16-20	42	39.7
21-40	24	22.7
40 and above	40	37.6
Gender		
Male	40	38.8
Female		
Marital status		
Single	22	22
Married	66	62
Divorced	12	11
Widowed	6	6
Level of education		
Non-educated	50	47.1
Primary	40	37.7
SSC and above	16	16.2

Table 2: Distribution of the homelessness reason (more than one reasons told by one homeless person).

Reasons	Number	Percentage (%)
Consumption of drugs	12	11.3
Unemployment	20	18.8
Mental health disorder	14	13.2
Physical health problems	16	15
Domestic violence	20	18.8
Abandoned by family	24	22.6

Table 3: Pattern of hygiene practice and disease related factor (n=106).

Pattern	Percentage (%)
Hand washing before eating	
Yes	87.3
No	12.7
Daily bath taken	
Yes	84.3
No	15.7
Suffering from diseases in last 1 months	
Yes	65.5
No	34.5

Table 4: Association between age group, educational level, hygiene and disease factor with nutritional status (n=106).

Variables	Nutritional status					χ^2	P value
	Underweight	Overweight	Obese	Normal	Underweight		
	N (%)	N (%)	N (%)	N (%)	N (%)		
Age groups (years)	16-20	20 (18.9)	5 (4.8)	3 (7.1)	14 (2.9)	14.04	0.000
	21-40	10 (9.5)	3 (7.1)	1 (1)	10 (9.5)	1.429	0.231
	41-above	13 (12.3)	8 (7.6)	7 (6.7)	12 (11.4)	3.081	0.079
Educational level	Non-educated	20 (18.8)	5 (4.8)	3 (2.9)	10 (9.4)	4.984	0.025
	Primary level Education	16 (15.1)	4 (3.8)	2 (1.9)	18 (16.9)	0.506	0.476
	SSC and above	1 (1)	3 (2.9)	2 (1.9)	20 (18.8)	0.509	0.475
Hygeine and disease factors	Hand washing before eating	2 (1.8)	10 (9.4)	3 (2.8)	25 (23.5)	5.329	0.020
	Daily bath taken	1 (1)	6 (5.6)	1 (1)	20 (18.8)	6.560	0.010
	Suffering from disease last 1 month	15 (14.1)	5 (4.7)	8 (7.5)	10 (9.4)	20.126	0.000

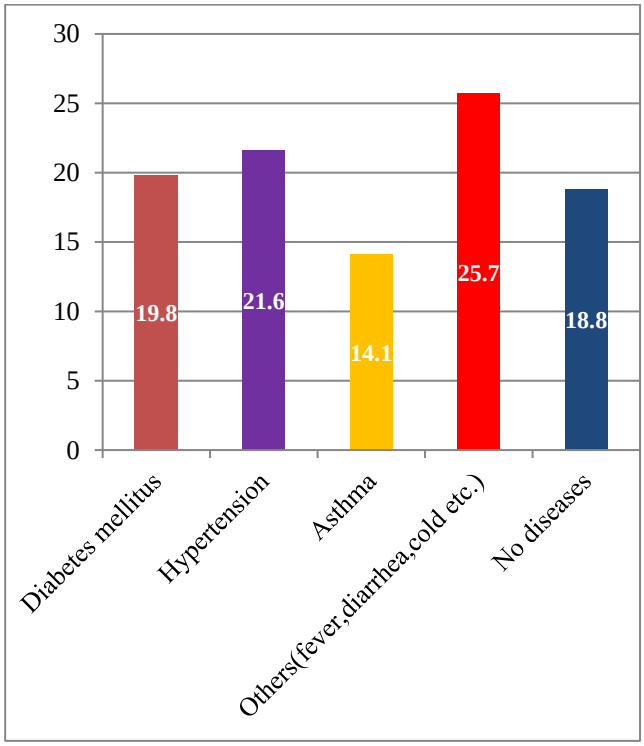

Figure 1: Diseases pattern among the respondents (n=106).

DISCUSSION

Less adequate prior study has examined the nutritional status, the dietary pattern, and the relationship between these among the vagabonds in Bangladesh.

Age distribution of respondent where 70.83% within 11 to 15 and 29.17% within 6 to 10 age ranging and it's also observed that 47.5% respondent had 3 to 5 and 18.33% had <3 siblings respectively.[15]

The present study there were showed that 42 (39.7%) were in 0-18 years age group followed by 40 (37.6%) in 41-above years age group, 24 (22.7%) were in 19-40 years age group with an overall mean age of 35.3±9.86 years (Table 1).

Youth homelessness statistics Australia were shows that, 37% were housing crisis, 25% domestic and family violence and 15% inadequate/ inappropriate dwelling conditions.[17]

In present study shows that 22.6% vagabond abandoned by their family, 18.8% homeless people said that being unemployed and could not find a mere job led them and 18.8% homeless people said that they escaped from their house due to physical torture and domestic violence caused by their foster parents and life partners (Table 2).

The dietary pattern, based on a 24 h recall, shows that frequency of rice and vegetable consumption was higher than the other food items such as meats, eggs and fruits. Almost all (99.2%) the respondents consumed vegetable at least one time a day whereas fruits, eggs and meats were the least consumed of the daily food items.[16]

This study showsthat frequency of food intake pattern among the study subject (n=106). All of the respondents were 100% intake of food more than three times in a day, according to the institutional food intake chart.

According to information, 57.5% respondent took bath daily, 59.8% suffered from diseases in last 3 months and 85.3% washed their hand before eating as a common hygienepractices.[15]

According to (Table 3) information, 65.5% suffered from diseases in last 1 month and 87.3% washed their hand before eating as common hygiene practices 84.3% respondent took bath daily.

Chronic diseases made up 45.7% of the total number of diagnoses in patients visiting the humanitarian clinics in 2020. The predominance of hypertension, diabetes and chronic ischemic heart disease in our study population mirrors the most common chronic diseases in the general German population. However, the prevalence of hypertension, chronic ischemic heart and diabetes disease (10%, 5.8% and 8.9%) respectively.[18]

This study shows that about 106 of respondent 21.6% were suffer from hypertension, diabetes (19.8%) and asthma (14.1%) (Figure 1).

According to the Nutritional Status of Central Bangladesh Street Children this study were proved that maximum respondent were in underweight and the gained phi coefficient (φ=-0.013) indicated that age of the respondent have no difference in their nutritional status, the Phi coefficient (φ=+0.367) from this study indicated that there were weak positive association of nutritional status with the education level of respondent in the study culture where there were found more illiterate respondents to bear underweight health.[15]

In this study proved that maximum respondents age group 0-18 were in underweight that gain highly significance where (p=0.000), other age group of the respondent have no significance association in their nutritional status,no association was found between educational status and BMI except non-educated (p=0.025) (Table 4).

Limitations

Emphasis was given on the correct procedure of data collection and its manipulation. However, the study is not free from the following limitations: (a) due to time restriction this study includes only one orphan house. It was difficult to cover much resident shelter less institution within this short period of time; (b) this study was conducted with limited resources, it make impossible to include many important question and variables; (c) since the study conducted in resident vagrants' institution the results may be distorted by information bias; and (d) lack of generalizability.

CONCLUSION

All the respondents were vagrants. There lived in government shelter home, Mirpur, Dhaka. It is shelter home under department of social welfare. The majority of the study subject were does not bear normal nutritional status. It indicates higher prevalence of malnutrition such as underweight, overweight and obese. All the respondents were taking food more than three times in a day (rice, fish, vegetables, milk, eggs etc). The majority of the vagabonds were suffering from diabetes, hypertension, fever, cold, diarrhea and other diseases. These results provide initial evidence of nutritional status using BMI, food intake pattern and others condition was associated.

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