

# Study on the Nutritional Status of the Street Children at Shabagh Area of Dhaka City

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**Abstract:** Malnutrition is a major health problem; especially in developing countries and it is the gravest single threat to global public health. Malnutrition is by far the major contributor of child mortality across the globe. A non experimental, descriptive action research with a multi-methodological approach study was carried out to assess nutritional status, socio-demographic condition and associated factors of the selected street children of Dhaka City. This study was conducted among 120 street children at Shabagh area in Dhaka city. All of the respondents were boys, and aged between 6-18 years. Methods included on site observation, completion of a standard demographic questionnaire, a validated quantitative food frequency questionnaire and anthropometric measurements. The nutritional status indicated that, 61.7% of the children were underweight and 38.3% of the children were healthy. According to this study about 31.7% were involved with different types of work and also 68.7% were not involved with any kind of work. Majority (87.5%) of the street children ate three times a day followed by another 12.5% having two meals a day. With respect to sources of drinking water, most (63.3%) of the respondents took drinking water from tube wells, while 36.7% of the respondents took drinking water from the WASA/Supply. Most (86.7%) of the respondents washed their hands before eating and 60.8% of them suffered from a disease in the 3 months prior to the study. It is necessary to design interventions that will prevent children from coming to the streets.

**Keywords:** Nutritional Status, Street Children, BMI, Dhaka

## 1. Introduction

The term 'street child' describes any girl or boy for whom the street (in the broadest sense of the word, including unoccupied dwellings, wasteland etc) has become his or her habitual abode and or source of livelihood, and who is inadequately protected, supervised or directed by responsible adults. UNICEF however, gives the following definition: Street children are those who have abandoned their homes, school and immediate communities before they are sixteen years of age, and have drifted into a nomadic street life [1]. Street children live, grow up and work on the margins of the society in a state of neglect and deprivation. They lack protection, education, affection, care and proper guidance from adults. Every street child has a reason for being on the streets. Children leave their homes and come on to the streets

because of the inter-connection and relationship of three reasons; poverty, family violence and allure of modernity, which have destabilized the traditional family structures, whose consequence is broken families and child abuse [2,3]. The Bengali term of street children is 'Pathshishu' and informally people used 'Tokai' to address them. 'Tokai' means rag pickers who use to collect waste paper, bottle, shoes and other item from road and dustbin. These floating children are also named as disadvantaged children, hard to reach children, urban working children and children at risk or in need of special protection to associate them with support and reintegration [4].

It is estimated that the number of world's street children has reached any number between 30-170 million. Every year, the number of street children increases. The number of street children may reach 800 million by 2020 if there is no serious

effort to overcome the problems faced by street children [5]. There has been an alarming rise in the number of street children in the major cities of Bangladesh. A report in Bangladesh has warned that the number of Street children in the country is set to rise as the urban population grows by 9% a year. The report has been released by Appropriate Resources for Improving Street children Environment (ARISE) which is a joint between the government reports into the plight of street children in Bangladesh [6]. In 1990, the government estimated that there were about 1.8 million children on the streets of Bangladesh. About 215,000 children (including 100,000 girls) were thought to be in Dhaka City alone. Twelve years later, there are probably several million children on the streets in Bangladesh. Most of them work as vendors, car-cleaners, newspaper-sellers, beggars, helpers in garages/rickshaw repair shops, rag pickers, and in other informal areas. They are often involved in dangerous and hazardous jobs [7]. The number of street children in Dhaka was 249200 at 2005 [8].

Government statistics, based on a survey by the Bangladesh Institute of Development Studies, estimate the number of street children in Bangladesh to be around 380,000 — of whom 55% are in Dhaka city. A little less than half of them (49.2%) are of the age group < 10 years, while the remaining falls in the age group of 11-19 years. Their gender composition is as follows: boys 74.3%, while girls account for 25.7%.

It found that the street children mostly came to Dhaka from Jamalpur, Sherpur, Mymensingh and Rajshahi districts [9]. They generally sleep at footpaths, railway stations, bus stations and in other public places at night and are found in district and thana (Sub district) headquarters [10]. Even though many street children can usually get some amount of food to eat, they do not have nutritious or balanced diets. Malnutrition results from a combination of causes or factors and conditions. Low birth weight arises from poor maternal nutrition, early marriages, repeated pregnancies, short birth intervals apart from other factors. Globally, street children experience poor health because of their life style and often fall sick due to such ailments as malaria-like febrile illnesses, respiratory tract illnesses diarrhoeal diseases, headaches, chest pain, abdominal colic, renal colic, back pain, blood in the urine, coughing, wounds, bruises, diarrhoea, dental problems, fever, intestinal parasites, anaemia, tonsillitis, otitis media, hair lice, skin abscesses, skin diseases, HIV/AIDS and malnutrition [11, 12].

Nutrition, which they should have gotten as the priority to support development and growth, is often not present. Eating for fullness is merely their own major need. The eating of healthy and balanced meals is not their main concern.

So far there has been no accurate data about the nutritional status of street children. Irregular eating habits and food quality below the standard of nutritional requirement have made street children susceptible to health problems. Nutritional deficiency is one of the factors that increases the risk of developing infectious diseases to an individual because the body's natural system of immunity has weakened.

This condition is worsened by the exposure to heavy-metal polluted air they breathe in everyday, making them easily develop various infectious diseases which are closely related to the decreased level of immunity against germ inflection [5, 13]. The major problems of street children are: insecure life; physical and sexual abuse by adults from the immediate community; harassment by law enforcement agencies; non-existent/inadequate access to educational institutions and healthcare facilities; and lack of decent employment opportunities.

About 73 percent of street children in Dhaka city suffer from chronic malnutrition while mortality and morbidity status among the street dwellers has reached an alarming level due to lack of basic healthcare services [14].

This study will explore the situation of the street children and their requirements, which will be helpful for developing relevant programmes on their issue. Academic understanding of street children is fragmented and research is not systematic. Thus, there is a need to conduct more studies to generate new knowledge on street children, thereby enriching the information used by policymakers and governments in country specific contexts as they address the problem. This study explored the situation of the selected street children at Shabagh area in Dhaka City with respect to morbidity pattern, nutritional status, hygienic condition and socio-economic condition. It is hoped that this study will be helpful for the development of relevant programmes that will adequately address their issues.

## 2. Materials and Methods

**Study population:** Street children are the most vulnerable children in any context and therefore selected population for this study. The age group of the street children is between 6 to 18 years and only males were purposively selected for our study as they were willing to take part in the study.

**Study area:** The study was conducted in 6 purposively selected area of Dhaka city including Shahbag, Ramnapark, Suharwardy Uddan, High Court Mazar gate, Dhaka University campus Area and Karwan Bazar.

**Sample size and Study design:** It was a cross sectional study. A total of 120 subjects were selected based on the selection criteria and on their availability.

**Development of tools:** A semi-structured questionnaire was developed to collect data through face-to-face interview with the respondents. The questionnaires were pretested in areas outside our sample area and revised on the basis of feedback received from field-testing. This questionnaire was developed to obtain the relevant information regarding personal information, household information, socio-economic information, dietary intake pattern, morbidity treatment seeking behavior, leisure time activities, drug addiction & abuse, anthropometric measurements of target children & the interrelationship between different variables. After pre-test, the questions which were related for quantitative data collection were improved & reformatted to ensure content coverage, the reliability & validity of the study. The anthropometric data

were collected based on standard methods.

### 2.1. Data Verification

Questionnaires were checked each day after interviewing and again these were carefully checked after completion of all data collection and coded before entering into the computer. The data was edited if there was any discrepancy (doubt entry, wrong entry etc).

### 2.2. Statistical Analysis

All of the statistical analysis and all other data processing were done by using SPSS 16.0 windows program. For tabular, charts and graphical representation Microsoft Word and Microsoft Excel were used.

## 3. Results

**Table 1.** Distribution of the respondents according to some background characteristics.

Age of the Respondent	Percentage of the respondents (%)	Number of Family Members	Percentage of the respondents (%)
6-10	21.7	<4	36.7
11-15	56.7	4-6	58.3
>15	21.7	7-9	5.0

Table 1 shows age distribution of the respondent where 21.7% of the respondents were within the age of 6 to 10 and >15 years and 56.7% of the respondents were within the age range 11-15 years respectively. From the table it is also

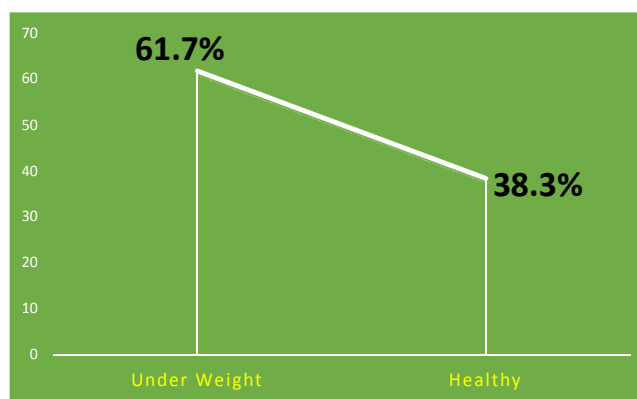
observed that 36.7% of the respondents had <4 family members and 58.3 % of the respondents were within the range of 4-6 & 7-9 members respectively.

**Table 2.** Monthly income and Number of meals eaten per day by the respondents.

Monthly Income	Percentage of the respondents (%)	Number of meals eaten per day by the respondents	Percentage of the respondents (%)
<1000	0	1	0
1000-1500	30.5	2	12.5
1501-2000	31.7	3	87.5
>2000	37.8	4	0

Table-2 shows that 31.7% of the respondents earned 1501 to 2000 Tk. per month whereas 37.8% of the respondents said they earned more than 2000 TK per month and no one earned less than 10000 TK per month. The majority (87.5%) of

of the street children ate three times a day followed by another 12.5% having two meals a day. It was also observed that none of the respondents had only one meal a day.



**Figure 1.** BMI-for-age weight status categories.

Figure 1 represents the nutritional status of the respondent where nutritional status was measured by using BMI for age. From the data it was observed that the majority (61.7%) of

the respondents were in the underweight category and 38.3% of the respondents were in the healthy weight category.

**Table 3.** Hygiene habits and disease experience in the in the last 3 months.

Respondent washed hand before eating	Percentage (%)	Took Bath Everyday	Percentage (%)	Suffered from a disease in last 3 months	Percentage (%)
Yes	86.7%	Yes	52.5	Yes	60.8
No	13.3%	No	47.5	No	39.2

Most (86.7%) of the respondents washed their hands before eating and only 13.3% respondent did not. A little

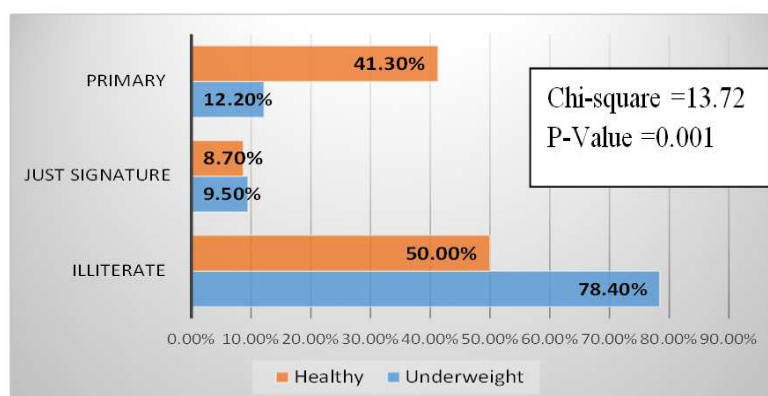
more than half (52.5%) of them took a bath everyday while 47.5% did not. In addition, 60.8% of the respondents suffered

from a disease in the last 3 months, while 39.2% of the respondents did not (Table 3).

**Table 4.** Crosstab between Respondent Nutritional Status and Age of the Respondent.

Age of the Respondent	Nutritional Status	
	Underweight	Healthy
	N (%)	N (%)
6-10	12 (16.2)	14 (30.5)
11-15	46 (62.2)	22 (47.8)
>15	16 (21.6)	10 (21.7)
Chi-square =3.67	P-Value =0.159	

Table 4 represents, maximum 62.2% underweight respondent's age and maximum 47.8% healthy respondent's age belong to 11-15. Chi-square test result indicates that null hypothesis is accepted. In other word, age of the respondent makes no difference in nutritional status. And the result of P-Value indicates that result is not significant.



**Figure 2.** Crosstab between Respondent Nutrition Status and Educational Status.

Most (78.4%) of the underweight respondents were illiterate while 50% of the healthy respondents were illiterate (figure 2). The Chi-square test result indicates that the educational status makes difference in nutritional status and the P- Value indicates that result is highly significant.

**Table 5.** Crosstab between Respondent Nutrition Status and Sources of Drinking Water.

Sources of Drinking Water	Nutritional Status	
	Underweight	Healthy
	N (%)	N (%)
Tube Well	39 (52.7)	37 (80.4)
WASA/Supply	35 (47.3)	9 (19.6)
Chi-square =9.39	P-Value =0.004	

Table 5 shows that maximum 52.7% underweight respondent took drinking water from Tube Well whereas minimum 19.6% healthy respondent took drinking water from WASA/Supply. Chi-square test result indicates that the sources of drinking water make difference in nutritional status and the P- Value indicates that result is highly significant.

**Table 6.** Logistic regression analysis of Respondent Nutrition Status by Occupation.

Occupation of the Respondent	Coefficient (β)	S.E. of β	P-Value	Odds Ratio
Day labour®	----	----	----	1.000
Street Hawker	-0.660	1.002	0.510	0.517
Bus Helper	0.318	1.321	0.810	1.375
Garbage picker	0.303	1.062	0.775	1.354
Others	0.735	1.172	0.530	2.086

Table 6 shows the logistic regression analysis of respondent nutrition status by occupation, where the odds ratio 0.517 indicates that the street hawker have 0.517 times less chance to become underweight than the day labor, the odds ratio 1.375 indicates that the bus helper have 1.375 times more chance to become underweight than day labor. From the odds ratio 2.046 it can be understood that the others have 2.086 times more chance to become underweight than day labor and the Odds ratio 1.354 indicates that the garbage picker have 1.354 times more chance to underweight than day labor.

## 4. Discussion

Street children are equally deprived of their rights to survival, health, nutrition, education and safe drinking water. The study has covered important areas and indicators relevant for street children health and nutritional care as well as dietary habits for improving conditions of their nutritional status. A total of 120 street children between the ages of 6 -18 years were selected from "Shabagh area" in Dhaka city. About 67.5% of the selected street children were illiterate and about 9.2% of them were only able to do their signature. In addition, only 23.3% of them studied to the primary level of education. So it can be said that most of the street children were drop out from the primary level or they may have never been given the opportunity of an education. The nutritional status of the children studied was generally poor. Nutritional Status was assessed by BMI-for-age weight status categories. Majority of the street children in the study were found to be

underweight. Out of one hundred and twenty respondents 61.7% were belonged to underweight. While 38.3% belonged to healthy and there was no overweight or obese street children. These results are comparable to findings in literature reviewed that street children experience malnutrition [15, 16]. Malnutrition impedes growth and weakens the immunity and this makes the children more susceptible to infections. The immediate causes of malnutrition can be linked to ingesting tainted food which has been scavenged, inadequate dietary intake of essential nutrients, faulty dietary habits and repeated illnesses. It is also reported that 63% of them go to bed hungry and 53% suffer from chronic malnutrition, 27 million are severely underweight and 33 million never attended the school [1].

The study determined that the street children in Shahbag were experiencing health problems. They lacked access to safe drinking water, adequate and nutritious food and shelter. Most of them recorded a BMI of <18 (61.7%) indicating that they were underweight and were experiencing poor nutritional status. Nutritional status reflects how far someone's physiological needs for nutrients have been fulfilled. When the nutrients are consumed in adequate quantities to meet the needs of the body and metabolism, it is said the nutritional status is said to be optimal. This situation will support good growth and development, health care, and physical activity, and help prevent disease. On the contrary, when nutrients are consumed in excessive or less amount, the body will adapt to achieve homeostatic state that maintains physiological functions. When excess or deficiency conditions exist for a long time, they result in interference with the functions of the body and an increase in the occurrence of diseases [17].

Street children are not a homogeneous group and studies conducted in one part of a country do not necessarily reflect the circumstances of street children in another part of that country. It is necessary to develop programmes that will target street children and their parents/guardians. The programmes should focus on strengthening the link between health facilities through community health workers (CHWs) who can monitor their health status, refer them to health facilities for treatment and follow up on their adherence to the treatment plan. The government needs to speed up the strengthening of the national child protection system which will monitor the violation of children's rights. Though the findings of this study offer a general picture of the health status of street children and the factors affecting it still there remains an urgent need to conduct in-depth investigations into their sexuality and reproductive health, nutrition status and factors influencing their adherence to treatment. There are opportunities for future research that can build upon the findings of this study.

## 5. Conclusion

The present study findings divulge that the problem of malnutrition is multifaceted and has various links to socio-economic and demographic factors. Life on the street

continues to have an unfavorable effect on the health of children living and working on the street, particularly young children below 10 years. Street children who are younger than 10 years have a higher risk of experiencing health problems because their young age increases their vulnerability. Children living in the street are mainly involved in occupations that are mentally, physically and developmentally harmful. They are only able to earn a very small amount of money which is not enough for their own living expenses. In addition, they have to support their family's income due to being from very poor and socio-economically deprived families. Street children are exposed to various types of violence, abuse and exploitations with most of them having to either live in the street or any open places in the city. Some of the street children are even involved in different illicit activities such as drug mugging, drug selling; sometimes they themselves become addicted to drugs. Social awareness and campaign on child rights could help build critical awareness among people to support street children. Along with government, national and international NGOs and child rights organizations should come up with education, health, protection and development programmes to improve the conditions of street children.

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