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DIETARY PRACTICES, HEALTH STATUS AND HYGIENE OBSERVANCE OF SLUM KIDS: A PILOT STUDY IN AN ASIAN DEVELOPING COUNTRY

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Abstract

The study was conducted on kids living at slums of two statistical subdivisions (i.e., Bangladeshi constitutional capital Dhaka city and commercial capital Chittagong city) in an Asian developing country. There were 71% boys and 29% girls $(N = 110)$ of 4-18 years in age to take part in the data collecting survey in the study areas during the period from September 2014 to July 2015 by using structured questionnaire applying simple random sampling technique. The anthropometric measurements and socio-demographic data were collected from the slum dwelling kids. Analyses reveal that 37.26% kids were malnourished and the overall health status is not influenced through their education status $(p > 0.05)$. Findings demonstrate that 63.63% kids were able to manage three times meal a day and 4.54% two times snacks a day. Results also divulged that about 79.1% kids washed their hand before eating, 73.63% brushed teeth once a day, 68.18% took bath in a daily basis and 67.27% were able to use safe water for cooking and drinking condition.

1. Introduction

About 1.3 million kids die in developing countries each year and most of these deaths are in order to malnutrition correlated factors [1] and malnutrition is the biggest contributor to kids' mortality in developing countries [2-4]. Childhood malnutrition directs the occurrence of stunted growth and enlarged mortality and morbidity [5-7] which lowers the survival opportunities of adults in their later life span [1]. About 4 of each 5 malnourished kids live in South-East-Asia accounting 83% of their deaths are liable to mild to moderate malnutrition [8, 9]. Poverty is the premier socioeconomic hold back to meet the healthy health status in developing countries as like as Bangladesh [2, 10, 11]. Malnutrition in developing countries happened due to poverty, household food insecurity, gender bias, population pressure, food taboos, health, hygiene and nutritional negligence, famine and man-made disasters [9, 12, 13]. There are few studies done on malnutrition determinants and nutritional status of slum kids in home and

abroad [14-17] but no study has been conducted with a specifically showing the dietary and hygiene practices along with health status of slums dwelling kids in Bangladesh.

Slum kids are the homeless and careless boys and girls fellows less than eighteen years of age coming to fight to gild the rural and urban slums as their habitual abode and livelihood drifted into a nomadic life [18, 19]. They are in these states because of poverty, intra-family feud, lower class livelihood status, child abuse, deprivation of schooling opportunity and consequence of faulty family planning practices in their families [20-27]. The slum population is rising at an alarming rate for migration of rural poor into urban areas in the countries to sprint their professionalism and hence the slums are going to be the hibernating bid under miserable condition of poors [28]. Most of them are illiterate and cannot take foods knowing the nutritional value of available foods and do not know the tricks to make the adulterated foods into apt condition before eating which can help to make them healthy and to sustain their healthy life style [29-33]. These kids are mostly malnourished due to different diseases sufferings for seasonal variations and some are chronic diseases sufferers for their topographic variations of dwelling adobe across the country [16, 17] and also in country to country [34-37]. One of the ICCDDR, B's Centre for Nutrition and Food Security baseline survey in Bangladesh found that under nutrition was high among young children, 41% of them were stunted, 33% underweight and 11% wasting [38] because they always live in hazardous environment and work in various health-risky activities like street hawkers, rag pickers, buss helpers, beggars, flower sellers, show polishers, tea-boys, construction workers and so on [39] which tends them to reach an alarming level for basic health care services [40-42]. Therefore, the study was conducted to find out the health and hygiene practices of the study population along with their ongoing dietary habits linked with their socio-demographic settings.

2. Data and Methodology

The data were collected from the slum areas at Dhaka city of Dhaka

division and Chittagong city of Chittagong division in Bangladesh with a view to aggregate all the related information to carry on the current pilot study. The statistical simple random sampling method was used to take the sample with a view to collect data from the study areas. The questionnaire was pretested far away from the sample areas and rechecked based on the gained feedback from field level to overcome biasness. The questionnaire was formed to achieve the personal, household, socioeconomic details, basic hygiene practices, dietary behaviors, general behaviors, leisure period activities, anthropometric assessments and interrelation of a variable with another. The study purpose and objective were made clear to the respondents at the outset of the study in defense of taking verbal consent to carry on the study.

The anthropometric measurements, i.e., age was known directly asking the respondents, gender identity seeing their phenotypic traits, height recorded using modified tape keeping the respondent stranded on a platform, bare footed with their head upright, looking straight forward and body mass was taken using standard weighing machine placing the respondent in minimal cloths with bare footed in empty bladder. The health status of the respondents was measured applying the widespread Quetelet index in health and nutritional arena. The data was checked, cleaned and rechecked prior inflowing into the computer technology and statistical analysis was followed suit the eminent statistical software package SPSS 20 windows program. The MS Word and MS Excel were used to represent the tabular, chart and graphical icon.

3. Results

This segment highlights the results of the study.

The socio-demographic contour of slum kids at the study areas is available in Table I. Table I record showed to found 40% respondents were within 14-18 and 28.18% within 4-8 years of ages. Nearly 71% respondents were boys while nearly 79.1% had more than or equal to 3 siblings in their prevailing family structures.

Table I. Socio-demographic shaping of slum kids $(N = 110)$

Grouping	Frequency	Percentage
Gender		
Girl	32	29
Boys	78	71
Ages (years)		
4-8	31	28.18
9-13	35	31.82
14-18	44	40
Sibling		
<3	23	20.91
3-5	42	38.18
>5	45	40.91

It was found that 21.82% respondents were 2501-3500 and 7.27% were >3500 BDT earners per month to manage 63.63% three times meal and 4.54% single time snacks per day to sustain their diet for ongoing health status sufferers (Table II).

Table II. Earning range and diet planning history of respondents

Incoming and diet variable	Frequency	Percentage
Earning in BDT per month[a]		
<1500	11	10
1501-2500	20	18.18
2501-3500	24	21.82
>3500	8	7.27
Education level		
Illiterate	84	76.36
Signature capable	26	23.63

Meal per day		
2	40	36.36
3	70	63.63
Snacks per day[b]		
1	8	7.27
2	5	4.54

[a]The earning respondents within the study population.

[b]The snacks taking respondents within the study population.

The basic hygiene practices performers were in different ranges according to Table III outcome. Some 79.1% respondents washed their hand before eating, 68.18% brushed their teeth on daily basis, 73.63% took bath once a day and 67.27% used safe water for cooking and drinking.

Table III. Hygiene practices of the respondents

Hygiene variables	Frequency	Percentage
Washing hand before eating		
No	23	20.91
Yes	87	79.1
Bath taken frequency		
Daily basis	75	68.18
Now and then	35	31.82
Brushing teeth frequency		
Once per day	81	73.63
Irregularly	29	26.36
Using safe water in cooking and drinking[c]		
No	13	11.82
Yes	74	67.27

[c]The respondents' willingly given opinion on the debate of their using safe water or not for the purpose of water used during cooking and drinking.

Figure I showed the ultimate health plight of the respondents in accordance with the galore popular Quetelet index. Results were in the good book to make a laughing stock of finding the biggest portion of malnutrition, i.e., 34.54% underweight and 2.72% over weight keeping 62.72% healthy respondents.

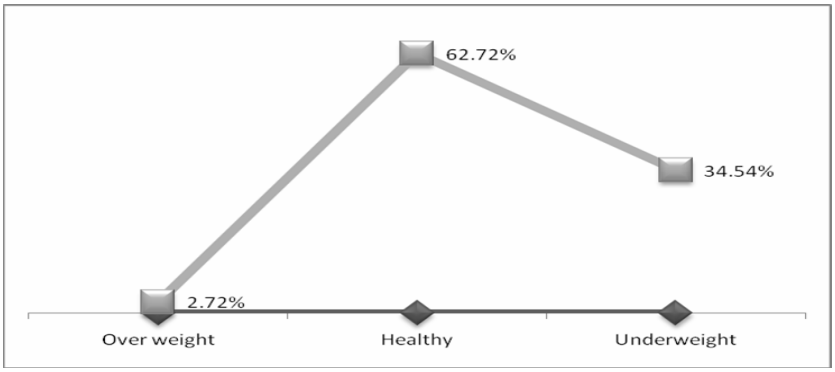

Figure I. Health status of the respondents.

The most respondents (i.e., some 76.36%) were illiterate and some 22.72% able to make their signature and the derived $\chi 2$ test result and the *p* value achieved from Table IV indicated that the respondents' educational background make no difference in health condition of the respective slums dwelling population on the study culture.

Table IV. Crosstab between health plight and education level

Grading of health plight	**Illiterate *n* (% of *N*)**	**Signature capable *n* (% of *N*)**
Under weight	31 (28.18)	7 (6.36)
Healthy	51 (46.36)	18 (16.36)
Over weight	3 (2.72)	0 (0.00)
$\chi^2 = 1.1898;\ p = 0.275366^d$		

[d] χ^2 and *p* value @ level of significance 0.05.

4. Discussion

The study was run after the densely populated Dhaka and Chittagong city in an Asian developing country Bangladesh by name in the world [43]. These landscapes were taken with a view to make the reporting of health and hygiene status of slum kids as an assessment of their overall health observance in Bangladesh as a whole aiming to aid in taking measures in order to upgrade their existing health plight assisting different demographic and socioeconomic factors [2, 3, 44-47]. The kids were 34.54% underweight and 2.72% over weight sustainers according to the study. The scanty meals eating and poor hygiene based on environmental affairs affecting their physical activity regularly [48, 49] by dint of lacked access to safe drinking water, inadequate nutritious foods consuming, poor hygiene practices, poverty and want of shelter [14, 15, 50-53]. The kids are deprived of their basic constitutional health and hygiene rights which lead them to face a great degree of malnutrition [54]. The nutrients consuming in the body support the growth and development, health and nutritional care and physical and mental activities and help to prevent diseases [55, 56]. The spatial microsimulation modeling [57-60] can be constructive in designing effective policies and see any governments and NGOs, environmental and spatial effects across different countries [61-65] to overcome the health and hygiene horrors because these tools are in vast application in most of the developed countries. The $1/n$ nutrition counseling [66] can be an effective measure to take bid to solve the existing health and nutritional astraphobia at the selected communities in the selected Asian developing country Bangladesh by name.

5. Conclusion

Childhood malnutrition is the anxious public health panic in developing countries and the biggest single threat to global health and hygiene and the premier contributor of child mortality in the world. The present study upshot revealed that malnutrition density is a multi-dimensional threat associated to socioeconomic and demographic characteristics. The kids in slums are the

easy observers to see childhood malnutrition due to various social and nutritional mismanage in their ongoing societies. So the think tank should come up with trendy solvable bid to overcome these sad tales. Future research should go ahead to investigate the problems properly aiming to implement different measures to curb the health, hygiene and nutritional confounding effects. Microsimulation modeling techniques should be also explored in a further study for the policy design, analysis and checking any spatial or regional effects for childhood malnutrition and development across the globe.

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