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Nutritional Status and Hygiene Practices of Primary School Goers in Gateway to the North Bengal

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Abstract

The study was conducted considering the primary school goers at gateway to the North Bengal in Bangladesh. There were 36.5% girls and 63.5% boys chosen for the study from the 9 upazilas in gateway of the North Bengal using simple random sampling method. Results revealed to have 31.75% healthy and 68.25% underweight respondents at the selected topographic site in Bangladesh. Their basic hygiene practices have noteworthy positive effects on their nutritional status. Almost 100% respondents washed their hand with soap prior to taking meals, 98.41% after taking meals and 95.24% after using toilet. About 76.1% girls and 85% boys brushed their teeth twice daily. The study also found that 91.3% girls and 90% boys were wearing sandals all the day as one of their premier hygiene practices.

Keywords

Nutritional Status, Hygiene Practices, Primary School Goers, Gateway to the North Bengal

1. Background

The gateway of the North Bengal under Rajshahi division in Bangladesh of 1200/km² population density by the mighty Jamuna, Baral, Karatoa, Phuljuri and Ichamati rivers is enclosed on the north by Bogra and Natore districts, the west by Natore and Pabna districts, the south by Pabna and Manikganj districts and the east by Manikganj, Jamalpur and Tangail districts. More than 50% villagers in the North Bengal are hand-loom cottage industries doers to earn their livelihoods, some are private and few are government jobs doers. Many people shifted to different urbanized areas to sprint their multi-dimensional professionalisms. Due to their poverty, lack of dietary and hygiene knowledge, time shortage to spend for the children boosts a galore public panic on their children's malnutrition [1]. Malnourished children are normally lighter and shorted in association with weight-for-age and height for age [2-5]. Malnutrition, especially the under nutrition is highly prevalent due to efforts of inadequate dietary intake [6], eluding basic hygiene practices and rampant infection fighting shy of adopting economic solvency in the developing countries [7-9]. There are various studies in various countries at various time intervals to chalk out diarrhea [10], anaemia [11-14], parasitic infections, pediculous, refractive errors [15], skin diseases, caries teeth [16], respiratory problems [17], vitamin A deficiency diseases and Xeropthalmia [18, 19], ear and throat problems [20], sleeping and tic disorders [21] etc of primary school goers. Epidemiologic evidence has given strong tie between maternal and early childhood under nutrition and increased adult risk of different chronic diseases [22, 23]. A sum of 52% school going kids in under developed countries is normal, while 48% of them are malnourished and 10% of them are severely malnourished [6, 24]. There are more than 200 million school kids are stunned and if action delayed, nearly 1 billion stunned school kids would be growing up by 2020 with impaired physical and mental wellbeing [25]. Bangladesh is also on the verge of high proportion of pauperism and child malnutrition [26]. The school goers in developing countries are often the sufferers of communicable diseases [27] which can hinder their school attendance and class performance also [28, 29]. A huge

fraction of world's illness and death is attributable to communicable diseases [30]. About 31% and 62% of all the deaths in South Asia and Africa are seen due to infectious diseases [31], while overweigh and obesity is acknowledged as the prime contributing factor to chronic illnesses in the developed world [32]. The study aim was to assess the nutritional status of primary school goers and their hygiene practices at gateway to the North Bengal in Bangladesh in order to accomplish their safe childhood.

2. Framework

2.1. Study Nature

The study was a pilot study.

2.2. Study Areas

The primary schools situated at the villages in Sirajganj Sadar, Ullahpara, Shahjadpur, Rajganj, Tarash, Belkuchi, Chouhali, Kamarkhanda and Kazipur upazilas of Gateway to the North Bengal under Rajshahi division on Bangladesh were the areas to be in motion for the study.

2.3. Study Period

The study was conducted from January 2015 to July 2015.

2.4. Study Population

There were framed a sum of 126primary school goers as a rule of sorting 14 samples applying simple random sampling method from 9 upazilas at Gateway to the North Bengal in Bangladesh.

2.5. Age Consideration

There were framed 6 to 11 years school goers to continue the study according to the UNESCO standardized primary schooling age detection standard. The school goers' age was confirmed asking to their guardians or care takers or from the school record with the natural helping gesture of the school teachers and the hygiene practices were recorded knowing from the school goers themselves and from their guardians or care takers.

2.6. Sampling Procedure

The simple random sampling method was applied for the study maintenance in full swing.

2.7. Data Collecting Tricks

A pre-planned questionnaire was twisted containing both the open and closed ended questions with a view to collect the relative query on hygiene behavior, anthropometric, social, economic and demographic contours. The school goers, their guardians or care takers and teachers were the questionnaire answer givers.

2.8. Anthropometric Data Collection

The anthropometric data were measured applying the process given below:

2.8.1. Body Weight Measurement

The body weight was recorded using the standard weighing machine keeping the school goers bare footed with minimal clothes and after bladder emptying.

2.8.2. Body Height Measurement

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

2.9. Nutritional Status Assessment

The nutritional status of the school goers was assessed using the widespread Quetelet Index.

2.10. Hygiene Practices Assessment

There were adhered some hygiene associated query in the developed questionnaire like hand washing practice, teeth brushing practice and wearing sandals all the day.

2.11. Data Verification

The questionnaire was checked per day taking the interview and again these were carefully rechecked after collecting all the data and coded prior the entering into computer technology. The data was edited in case of sighting any discrepancy (doubt entry, wrong entry etc.).

2.12. Data Analysis

The data were processed to undergo statistical analysis using SPSS 16 windows program. Microsoft Word, Microsoft Excel were used to represent the tabular, charts and graphical idol.

2.13. Ethical Consideration

The study purpose and objective were initially told to the school teachers to take the permission to conduct the study at their campus. Verbal consent was taken from school goers and their guardians or care takers to carry on the self funding study.

3. Results

There were 63.5% boys and 36.5% girls shaping a total of 126 primary school goers in gateway of the North Bengal on various percentages on various ages. There were found 53.97% businessmen fathers and 77.78% housewife mothers of the school goers (Table 1).

There were proved 68.25% underweight and 31.75% healthy school goers on the basis of the current study following assessment of nutritional status applying widely used Quetelet Index in nutritional point of view (Figure 1).

Table 1. Socio-demographic characteristics of school goers.

Parameters	Frequency		Percentage			
Sex						
Girls	46		36.5			
Boys	80		63.5			
Age (years)	Girls	Boys	Girls	Boys		
6	6	5	4.76	3.96		
7	11	22	8.73	17.46		
8	12	15	9.52	11.9		
9	9	21	7.14	16.67		
10	5	10	3.96	7.93		
11	3	7	2.38	5.55		
Fathers' occupation						
Business	68		53.97			
Government jobs	23		18.25			
Private jobs	35		27.78			
Mothers' occupation						
Housewife	98		77.78			
Jobs	28		22.22			
Siblings						
1 to 2	73		57.94			
3 to 4	42		33.33			
>4	11		8.73			

The majority of respondents were in underweight for age and the gained phi coefficient ($\phi = + 0.17$) from the table 2 indicated that there was no significant relation between age and nutritional status.

Table 3 indicated the basic hygienic practices performed daily by the school goers. 100% respondents washed their hands with soap before taking meal, 1.58% washed hands irregularly after taking meal and 1.58% didn't wash hands after using toilet. About 6.52% girls brushed their teeth three

times daily and 76.1% girls two times daily, while 12.5% and 85% boys brushed their teeth once and twice daily respectively. 90% boys wore sandals all the day and 8.7% girls refrained from wearing sandal all the day.



Figure 1. Nutritional status by means of Quetelet Index.

Table 2. Crosstab between nutritional status and age.

Agos (Voors)	Nutritional status			
Ages (rears)	Underweight (N)	Healthy (N)		
6 to 8	50	16		
9 to 11	36	24		
$\phi = +0.17$				

Table 3. Hygiene practices of school goers.

Hand washing(with soap) practices					
Categories	Wash hands regularly N (%)	Don't Wash hands N (%)	Wash hands irregularly N (%)		
Before taking meal	126 (100)	0 (0.00)	0 (0.00)		
After taking meal	124 (98.41)	0 (0.00)	2 (1.58)		
After toilet	120 (95.24)	2 (1.58)	4 (3.17)		
Returning home from outside	116 (92)	7 (5.55)	3 (2.38)		
Frequency of brushing teeth daily					
Sex	Once N (%)	Twice N (%)	Thrice N (%)		
Girls	8 (17.4)	35 (76.1)	3 (6.52)		
Boys	10 (12.5)	68 (85)	2 (2.5)		
Wearing sandals all the day					
Sex	Yes N (%)	No N (%)			
Girls	42 (91.3)	4 (8.7)			
Boys	72 (90)	8 (10)			

4. Discussion

The primary school going time interval is the dynamic range of physical, mental and social growth and development. The study showed 31.75% healthy and 68.25% underweight school goers. This is similar to the findings of other different studies in different time frame in different countries [33-37]. The study showed that 100% students washed hand with soap prior to taking meal, 98.41% after taking meal and 95.24% after using toilet and 92% washed hand on returning home from outside. 90% boys wore sandals all the day and 8.7% girls evaded this practice. This

observation is in accordance with different studies showing 99.10% washed their hand before taking meal and 91.81% wore sandal all the day [38] and 100% washed hand before and after taking meal and after toilet with soap, 97.78% boys and 93.33% girls wore sandal all the day [39]. The hygiene practices in the study focused the galore upgrading bid ahead of hygiene practices in the developing Bangladesh [40, 41].

5. Closing

The study has divulged that malnutrition is in alarming intensity among the primary school goers at gateway to the North Bengal in Bangladesh. Early screening of common health problems and making sure that hygiene practices are followed to search out their prevailing nutritional status. Health troubles detecting in the nick of time and immediate measure taking can resist their being the burden of society in their future life span. Driving away different ongoing health perils and regularly practicing of the hygiene practices prior to their school entry as well as balanced diet sustaining and healthy snacks consumption is the come to the point to assure safe childhood for better future performance. Along with the government, different national and international Non Government Organizations should come up with health, nutrition and hygiene education programs to improve nutritional and hygiene condition of the school goers in Bangladesh.

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