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# Nutritional Status and Hygiene Behavior of Government Primary School Kids in Central Bangladesh

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**Abstract:** The study was conducted among kids at the campus of Town Government Primary School, Darul Ulum Government Primary School and Jahangir Smrity Seberasrom Government Primary School in Tangail municipality, the hub of the Tangail district and consequently the central body of Bangladesh. From these three schools 60% (n=45) boys and 40% (n=30) girls were selected for the study by using the simple random sampling method. Results reveal that 80% (n=12), 73.33% (n=11), 86.67% (n=13), 80% (n=12) and 77.33% (n=11) school kids were in underweight at class 1 to class 5 orderly, 20% (n=3) kids were in normal weight at classes 1, 2 and 4 and 13.33% (n=2) and 6.67% (n=1) kids in normal weight at classes 5 and 3. 6.67% (n=1) kids were overweight at classes 2, 3 and 5 and 6.67% (n=1) was obese in class 5. The basic hygiene behaviors of children have significant positive effects on their nutritional status. Almost 100% school kids told that they always washed their hands with soap before and after meal taking and after the use of toilet and 98.67% (n=74) washed their hand coming back home from outside. About 77.78% (n=35), 17.78% (n=8) and 4.44% (n=2) boys brushed their teeth two, one and three times a day respectively while 66.67% (n=20), 20% (n=6) and 13.33% (n=4) girls brushed teeth two, one and three times a day respectively. The study also showed that 97.78% (n=44) boys and 93.33% (n=28) girls used sandal all the day as one of their main hygiene practices.

**Keywords:** Nutritional Status, Hygiene Behavior and Primary School Kids

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## 1. Background

The Tangail municipality by the mighty Louhjang river of Tangail Sadar upazila at Tangail district is the central section in Bangladesh based on demographic settlement of sum 64 districts under the 7 division in Bangladesh. The Tangail district of some 3.6 million people is surrounded by Jamalpur district on the north, the Dhaka and Manikganj districts on the south, the Mymensingh and Gazipur districts on the east and the Sirajganj district on the west [1]. The shifting of remote villagers in Tangail municipality in search of proper education, housing, gas and power supply and better economic earning chance have turned the municipality a concentrated jungle. The impromptu houses and markets construction are liable for inadequate fields, open spaces, swimming pools, botanical gardens, zoological gardens and children's parks. As a result, the kids are suffering in malnutrition and malnutrition is on the helm of galore public panic in the district [2]. Malnourished

kids are generally shorter and lighter in association with height-for-age and weight-for-age [3-6]. Malnutrition, especially the under nutrition is highly prevalent in order to combined effort of inadequate dietary intake [7], dare to elude basic hygienic practice and frequent infection regardless of adopting economic development in the developing countries [8-10]. There are different studies in different countries at different time frame to identify respiratory problems [9&11], diarrhea [12], anaemia [13-16], parasitic infections, pediculous, refractive errors [17], skin diseases, caries teeth [18], vitamin A deficiency diseases and Xerophthalmia [19&20], nematode infection [21], ear and throat problems [22], sleeping disorders, tic disorders [23] etc of primary school kids. Stunting and wasting are in vast spreading among school kids in developing countries [24-26]. High degree of stunting among kids suggest to have long term deficit in physical and mental improvement

leading the maximum school absence and least learning opportunities [9]. Epidemiologic evidence showed strong bond between maternal and early childhood under nutrition and increased adult risk of different chronic diseases [27&28]. 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 [5, 7&29]. There are more than 200 million school kids are stunted and if action delayed, nearly 1 billion stunted school kids would be growing up by 2020 with impaired physical and mental well-being [30]. Bangladesh is also facing high proportion of pauperism and child malnutrition [9&31]. The school going kids in Bangladesh-like developing countries are often the sufferers of communicable diseases [32&33] which can hamper their school attendance and class performance also [34,35]. An abundance fraction of world's illness and death is attributable to communicable diseases [36&37]. About 31% and 62% of all the deaths in South Asia and Africa are seen due to infectious diseases [38], while overweight and obesity is identified as the biggest contributing factor to chronic illnesses in the developed world [39&40]. The first and foremost aim of the study was to assess the nutritional status of the government primary school kids and their hygiene behavior in the central Bangladesh with a view to attain their safe childhood.

## 2. Methodology

### 2.1. Study Nature

The study was a cross-sectional study.

### 2.2. Study Areas

The premises of the Town Government Primary School, Darul Ulum Government Primary School and Jahangir Smrity Seberasrom Government Primary School of Tangail municipality at Tangail district in Bangladesh.

### 2.3. Study Duration

The study was conducted from January 2015 to May 2015.

### 2.4. Study Population

There were taken a total of 75 school kids sorting the boys and girls in the ratio of 3: 2 from each class of the selected primary schools at Tangail municipality in Tangail district.

### 2.5. Sampling Method

The simple random sampling method was adopted to sort the boys and girls inside the study population from each class of the selected primary schools.

### 2.6. Data Aggregating Techniques

A questionnaire was formed containing both the open and closed ended questions with a view to aggregate the relative query on hygiene behavior, anthropometric, social, economic and demographic assessment. The school kids, their guardians and teachers were the questionnaire answer providers.

### 2.6.1. Anthropometric Data

The anthropometric data were measured applying the following procedure:

### 2.6.2. Body Weight Measurement

The body weight was recorded in kilogram using standard weighing machine. The study participants were in bare footed with light cloths during weight taking period.

### 2.6.3. Height Measurement

Modified tape was used to record the height of the study respondents in meter. The participants were positioned to stand on a platform, bare footed with their head upright, looking straight forward at the time of taking height.

### 2.6.4. Nutritional Status Assessment

The nutritional status of the primary school kids was assessed using the Quetelet Index.

### 2.6.5. Hygiene Behavior Assessment

There were taken some hygiene linked query in the developed questionnaire like hand washing practice, brushing practice and sandal using all day.

### 2.6.6. Data Verification and Analysis

The data was first checked, cleaned and entered into the computer technology. The data was edited if there were any discrepancy sighted. The frequency distribution of the variables was checked by using SPSS 16 for windows program. The new variables gained were recorded on the spur of age, sex and educational background. Microsoft Word and Microsoft Excel were in widespread application to form the tabular and chart icon.

## 3. Results

Table 1. Socio-demographic Shaping of Primary School Kids.

Socio-demographic Shaping					
Gender	Frequency		Percentage		
Boys	45		60		
Girls	30		40		
Class standard	Boys	Girls	Boys	Girls	
Class 1 kids	9	6	20	20	
Class 2 kids	9	6	20	20	
Class 3 kids	9	6	20	20	
Class 4 kids	9	6	20	20	
Class 5 kids	9	6	20	20	
Total	45	30	20	20	
<b>Papas' Occupation</b>					
Government services	43		57.33		
Business	12		16		
Private services	20		26.67		
<b>Moms' Occupation</b>					
Government services	5		6.67		
Private services	10		13.33		
Housewife	60		80		
<b>Siblings</b>					
1 to 2	47		62.67		
3 to 4	22		29.33		
> 4	6		8		

Table 1 is the detector of 60% (n=45) boys and 40% (n=30)

girls shaping a total of 75 primary school going kids in central Bangladesh. There were 20% (n=9) boys and 20% (n=6) girls at all the classes from class 1 to class 5 in the concerned three government primary schools campus in Tangail municipality, the central region of developing Bangladesh. 57.33% (n=43), 16% (n=12) and 26.67% (n=20) kids' papas were government services holders, businessmen and private services holders respectively. Most of the kids moms were housewife (80%, n=60), 13.33% (n=10) were private services holders and very few were government services holders (6.67%, n=5).

Table 2 is the indicator of most of the kids were in underweight (Quetelet index < 18.5), 80% (n=12), 73.33% (n=11), 86.67% (n=13), 80% (n=12) and 77.33% (n=11) school kids were underweight at class 1 to class 5 sequentially. There were 20% (n=3) kids were in normal weight (Quetelet index 18.5 to 25) at classes 1, 2 and 4 while 13.33% (n=2) and 6.67% (n=1) were in normal weight at classes 5 and 3. A tiny bulk of kids (6.67%, n=1) were in overweight at classes 2, 3 and 5 making a great tension of having 6.67% (n=1) was in obese (Quetelet index >30).

**Table 2. Anthropometric Assessment.**

Outline of Kids' Nutritional Status based on Quetelet Index				
Kids Grouping	Quetelet Index			
	< 18.5 n (%)	18.5 to 25 n (%)	25 to 30 n (%)	> 30 n (%)
Class 1 kids	12 (80)	3 (20)	0 (0)	0 (0)
Class 2 kids	11 (73.33)	3 (20)	1 (6.67)	0 (0)
Class 3 kids	13 (86.67)	1 (6.67)	1 (6.67)	0 (0)
Class 4 kids	12 (80)	3 (20)	0 (0)	0 (0)
Class 5 kids	11 (73.33)	2 (13.33)	1 (6.67)	1 (6.67)

**Table 3. Hygiene Practice at a Glance.**

Kids' Practiced Hygiene Behavior			
<b>Hand Washing Practice</b>			
Category	Wash Hand n (%)	Don't Wash Hand n (%)	Wash Hand Irregularly n (%)
Before and after taking meal	75 (100)	0 (0.00)	0 (0.00)
After toilet with soap	75 (100)	0 (0.00)	0 (0.00)
Returning home from outside	74 (98.67)	1 (1.33)	0 (0.00)
<b>Brushing frequency</b>			
Gender	One n (%)	Two n (%)	Three n (%)
Boys	8 (17.78)	35 (77.78)	2 (4.44)
Girls	6 (20)	20 (66.67)	4 (13.33)
<b>Sandal Using All the Day</b>			
Gender	Use sandal n (%)	Don't use sandal n (%)	
Boys	44 (97.78)	1 (2.22)	
Girls	28 (93.33)	2 (6.67)	

Table 3 is denotes the basic hygiene practice everyday among the school kids. 100% respondents washed hand before and after taking meal and after toilet with soap. 98.67% (n=74) washed hand returning home from outside.

In case of brushing teeth, 77.78% (n=35), 17.78% (n=8) and 4.44% (n=2) boys brushed their teeth two, one and three times a day respectively and on the other hand 66.67% (n=20), 20% (n=6) and 13.33% (n=4) girls brushed teeth two, one and three times a day respectively. There were 97.78% (n=44) boys and 93.33% (n=28) girls used sandal all the day.

## 4. Discussion

The primary school age is the dynamic range of physical, mental social and spiritual growth and development. There is 29.6% literacy rate in Tangail district, of them 36.1% is male and 22.4% female [41]. The proportion of boys is greater than the girl at the primary schools at Tangail, the central part of Bangladesh. The primary school age is generally considered 6 to 13 years in Bangladesh creating a contradictory statement with the UNESCO as UNESCO categorizes 6 to 11 years in frame of primary school age. The study was conducted taking 6 to 11 years kids at boys' and girls' ratio of 3: 2 at each the classes of Town Government Primary School, Darul Ulum Government Primary School and Jahangir Smrity Seberasrom Government Primary School in Tangail municipality as the males' greater literacy rate than the females in Tangail and the UNESCO's age standard. The age of all the study respondents was collected by asking to the kids' guardians and from the school record with the spontaneous helping gesture of the school teachers and hygiene practice was recorded from the kids itself and their guardians. The study showed that 86.67% (n=13) class 3 kids were in underweight and 80% (n=12) class 1 and class 4 kids in underweight. The similar findings were found in different studies in different period [42-44]. The study showed that 100% kids washed hand before and after meal, 77.78% (n=35) boys and 66.67% (n=20) girls brushed twice their teeth everyday and only 2.22% (n=1) boys and 6.67% (n=2) girls don't use sandal all the day indicating a tremendous hygiene practice among the government primary school kids in central Bangladesh. The hygiene behavior in the study showed the galore improvement of hygiene practice among the school kids in developing Bangladesh [45&46].

## 5. Conclusion

The study has indicated clearly that the malnutrition is in alarming magnitude among the government primary school kids in central Bangladesh. Screening common health problems and observing hygiene behavior of school kids are mandatory to point out their existing nutritional status. The in time health troubles identification and their solvable measures can form a healthy schooling age to curb their being the burden of society in future. Alleviating different problems and practicing the basic hygiene behavior prior to their school entry and everyday balanced diet continuation and healthy snacks is suggested to make sure their safe childhood to boost safe adulthood.

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