

An Assessment of Hand Hygiene Practice among Adolescent People of Dhamrai Upazilla, Bangladesh

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Abstract

Introduction: Hygiene is essential to the public health mission of reducing the transmission and consequences of infectious diseases. Hand washing is very important hygiene practice, especially for children and adolescents. The objective of the study was to find out the habit of hand hygiene practice in daily life of adolescent people.

Methods: A descriptive type of cross sectional study was conducted by non-probable purposive sampling by using a semi structured questionnaire among 418 adolescent people in several villages of Dhamrai Upazilla of Bangladesh from 1st January to 31st March, 2019 through face to face interview. The collected data were analysed manually and some portion by using calculator and computer based software Microsoft office, Excel worksheet.

Results: Out of the 418 respondents 212 (50.7%) were male and 206 (49.3%) were female. Most of the respondents were students (93.8%) and 57.4% had completed primary level of education. Among 418 respondents 96.9% always washed their hand before meal and most (98.1%) of them always washed their hand after coming from toilet. Majority (54.8%) used tap water for hand washing and 33.3% washed hands for 1 minute. Among them, 79.9% washed their hands with bar soap. During hand washing 89.9% respondents removed hand accessories and 60.0% washed their hands up to wrist. They (59.09%) dried their hands after hand washing by using separate towels (42.6%). About 68.9% knew about hand washing and they (61.6%) learnt this from their parents. About half (50.9%) of the respondents who reported illness in last 2 weeks of interview with most common morbidities were RTI (31.9%) and GIT (24.8%). Due to these morbidities about 59.1% were absent from school. Among them 43.1% were absent for 1-2 days.

Conclusion: Majority of the respondents always washed their hands after coming from toilet but yet it's not satisfactory. Considering the findings of the study it is recommended for arrangement of awareness program and campaigning about hand washing and more educational TV programs and cultural show like puppet show, street drama show should be organized regarding this important issue.

Key words: Adolescent, Hand hygiene, Respiratory tract Infection, Gastrointestinal tract infection

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Introduction:

Proper hand washing is one of the simplest, most affordable and effective means of stopping the spread of infection via feces, body secretion, and inanimate objects.¹ Hand hygiene involves any action of hand cleansing, rubbing hands with an alcohol made hand rub or washing hands with soap and water to avoid the growth of microorganisms on hands.² Normal hand washing with soap and water is the best component of a hand hygiene program to reduce the risk of contracting infection through contact with hands, however, there is difficulty of

maintaining compliance to basic hand washing practices and this are difficulties to conquer, especially being in a school environment.³ Hand washing is especially important for adolescent, as this group is more susceptible to infections gained from unwashed hands.⁴ The practice of hand hygiene is a simple yet effective way to prevent infections.⁵ In developing countries, 80% of the diseases are associated with poor domestic and personal hygiene and about 2.2 million people die; mostly children die annually due to diarrhoea; the same number again die from acute respiratory infections.⁶ Hand washing is the most important way to reduce the spread of infection. When hand washing is done correctly by children and adults there can be a 17% reduction in respiratory infections for young children. This translates to prevent more than 100,000 cases of common cold per year.⁷ So the general objective of the study was to assess the hand hygiene practice among the adolescent people and their socio demographic status, preference of hand washing, materials used for hand washing, timing of hand washing, drying of hand after wash, materials used for drying hands ,source of water for hand washing. Types of morbidities due to inadequate and improper hand wash and their duration of absence from work place for this reason were also considered.

Methods:

It was a cross sectional type of descriptive study. The study was conducted in several villages of Dhamrai Upazilla during the period of 1st January 2019 to 31st March 2019 among 418 adolescent boys and girls with age range of 10-18 years. Non probability convenient sampling was done to select the sample. Semi structured questionnaire was developed, pretested and then finalized. Data were collected by face to face interviewing of adolescent boys and girls residing in DhamraiUpazilla by using semi structured questionnaire. After collection of data, each questionnaire was checked for inconsistency. Then data were analyzed manually and some portion by using calculator and using computer based software, Microsoft Office Excel worksheet.

Results:

The age group of 10 to 12 years constituted the highest proportion (57.4%) of the respondents. Fifty one(51%) percent of the respondents were male and 49% female. More than half (57.4%) of the respondents had completed primary level of education & the rest of the respondents had Junior School Certificate level (27.5%), SSC (10.0%), HSC (02%)

and others (2.6%) respectively. Most (93.8%) of the respondents were students & rest were day laborers (3.6%), shopkeeper (0.5%) & household worker (1.9%) individually (Table-I).

Table-I

Distribution of the respondents by sociodemographic characteristics (n=418)

Sociodemographic characteristics	Frequency (n)	Percentage (%)
Age of respondents in year		
10-12 years	240	57.4
13-15 years	116	27.8
16-18 years	62	14.8
Gender of the respondents		
Male	213	51
Female	205	49
Religion of the respondents		
Islam	373	89.2
Hinduism	45	10.8
Educational status		
Illiterate	02	0.5
Primary Education Certificate	240	57.4
Junior school Certificate	115	27.5
SSC	42	10
HSC	08	02
Others	11	2.6
Occupational Status		
Student	392	93.8
Day labourer	15	3.6
Shopkeeper	02	0.5
Household work	08	1.9
Others	01	0.2

It has been shown in Table-II, that 86.2% of the respondents had habit of washing hand always before meal and 84.2% had habit of washing hand after coming from toilet always. Only 33.3% washed their hand for one minute that is ideal.

Table-II
Knowledge of respondents about hand washing
(n=418)

Variable	Frequency (n)	Percentage (%)
Preference of hand washing		
Before meal	405	97
After coming from out side	410	98.1
After using toilet	247	59.1
After playing	167	40
After handling the animal	105	25.1
After any cleaning	111	26.5
After handling the sick people	60	34.3
After handling the garbage	153	37
After blowing nose	71	17
Whenever hands look dirty	91	22
Habit of hand washing before meal		
Always	360	86.2
Sometimes	52	12.4
Never	06	1.4
Habit of hand washing after coming from toilet		
Always	352	84.2
Sometimes	56	13.4
Never	10	2.4
Time duration of hand washing		
5 second	80	19.1
10 second	56	13.4
15 second	65	15.6
30 second	78	18.6
1 minute	139	33.3

* Multiple response was present

In Table-III shown, more than half (54.8%) of the respondents used tap water whereas 45.2% people used tube well water. Majority (78.7%) of the respondents used bar soap to wash their hands. Surprisingly among 418 respondents about 46.2% male respondents are more conscious about removing hand accessories than female (43.8%). About 59.09% respondents dried their hands after washing hands. Proportion of using separate towel was much more than using common towel after washing hands.

Table-III
Accessories used by the respondents related to Hand Washing (n=418)

Variable	Frequency (n)	Percentage (%)
Source of water for hand washing		
Tap water	229	54.8
Tube well	189	45.2
Material used by the respondents after Hand Washing		
Ashes	4	0.9
Detergent	12.1	2.9
Bar soap	328.9	78.7
Liquid Soap	43	10.3
Only water	30	7.2
Removal of hand accessories		
Yes	376	89.9
No	28	6.7
Do not know	04	3.4
D Drying hands after washing		
Yes	247	59.64
No	117	27.44
Do not know	54	12.92
Way of drying hand after completing the Hand washing		
Using common towel	145	34.7
Using separate towel	178	42.6
Tissue paper	64	15.3
Air dry	16	3.8
Clothing	15	3.6

It is shown in figure 01, out of all 418 respondents, about 61.6% learnt about hand washing from their parents, 22% got to know from their teachers and 9% from the media.

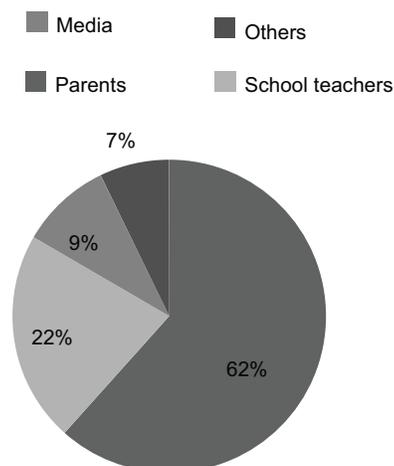


Figure-01: Distribution of the respondents according to concerned persons from whom the respondents learn about hand washing. (n=418)

In Figure-02, it is shown that out of 213 respondents about 51% were ill in the last 2 weeks and 49% were not ill.

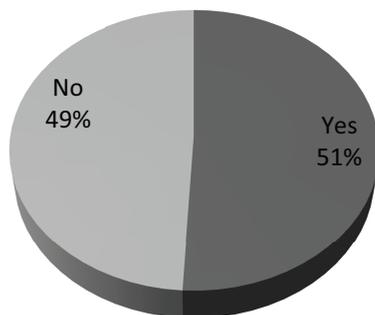


Fig-2: Distribution of the respondents according to their illness in last two weeks.(n=213)

It is revealed in the figure 03, the type of infection distribution of the study population. Out of 213 samples, majority (44.2%) of the respondents suffered from cold, fever, etc. whereas 31.9% suffered from respiratory tract infection and 24.9% suffered from gastrointestinal tract infection.

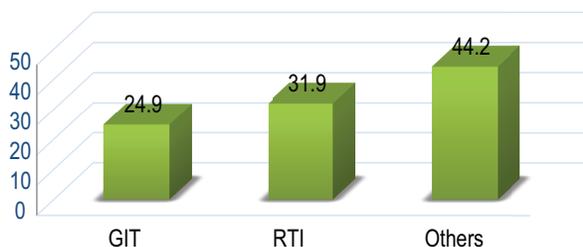


Fig.-3: Distribution of the study population by infection they suffered.(n=213)

Discussion:

The objective of the study was to assess the hand hygiene practice among the adolescent people and their socio demographic status, preference of hand washing, time and materials used for hand washing, drying of hand after wash, materials used for drying hands, source of water for hand washing. Types of morbidities due to inadequate and improper hand wash and their duration of absence from work place for this reason were also considered.

Most of the respondents (57.4%) were in the age group of 10-12 years. Among the total respondents 50.7% were male and 49.3% were female and more than half (57.4%) of them were primarily educated. But a study which was done

among Indian students in Puducherry where only 40.19% were in age group of 10-12 years and 48.1% were male students and 51.9% were female students and most of them were in middle school which is quite different from present study.⁸

Regarding economical status most of the respondents (46.9%) belonged to lower middle class family where monthly income was below twenty thousand taka. But in the study conducted in India has depicted a quite astonishing scenario where 66% of the respondents had very low monthly income below three thousand six hundred taka.⁹

In the present study, primary education of the mother and father of the respondents were 25.6% and 16.3% respectively. But primary education of mother and father were almost double in the study of Puducherry which were 38.8% and 28.9% consequently.⁹

Very few (3.2%) of the respondents did not their hand before meal and only 1.9% did not wash hands after coming from toilet which was similar to the study conducted in Chennai among school going adolescent where 94.4% washed hands before meal and 89.8% after coming from toilet.¹⁰

In this study among adolescent respondents 78.7% use bar soap, 7.2% used only water for hand washing. Another study conducted by Md. Abdur Razzak in Bangladesh published in World Journal of Nutrition and Health in 2017, where about 88% adolescent washed their hands with soap and water, less than 9% used soil to wash their hands which is higher than the present study.¹¹ But a study by Borchgrevnik showed washing hands with soap was 67% which was less in frequency than present study.¹²

About 54.8% respondents used tap water for hand washing in this study which is quite similar to the study done in Chennai where 65.3% had ideal water source for hand washing that was running water from tap.¹⁰

In this study 61.6% respondents learned about hand washing from their parents, 21.8% from school teachers and 9.4% from media. But In another study conducted in slum area of Kolkata where 54.2% from parents, nearly 40.9% of the students learned about hand washing through teachers, 3% from media.¹³

This study reveals that about 24.9% suffered from gastrointestinal infection and 31.9% from respiratory tract infection. It is not unlikely of high prevalence of respiratory tract infection than gastrointestinal infection as because of severe air pollution of Bangladesh, especially in Dhaka. Whereas in America 40% suffered from GIT infection and 20% from other infections.^{7, 14, 15, 16}

In this study absence of respondent due to illness 43.2% for 1-2 days, 36.6% for 2-3 days and 20.2% for more than 3 days. This finding is almost same with the study conducted in China where absenteeism due to illness 54% and in Egypt 40%. But in Kenya it is 35%, in Philippines 27% and in Columbia 20%.^{9,17}

Conclusion:

Male respondents were little more in numbers than the female. Most of the respondents always washed their hands before meal & only few of them never washed their hands before meal. Majority of them always washed their hands after coming from toilet but yet it's not satisfactory. It was revealed that there were no female respondents who never washed their hands after coming from toilet. Among the respondents, most of them dried their hands after washing hand but the rate was not up to the mark. The number of the respondents was high who used separate towel to dry their hands after washing and more male used separate towels than female. Hand washing is very important for reducing mortality and morbidity of many diseases. Awareness program should be undertaken among the adult members of the family because a child gets his primary education from his family. Emphasis should be given on school health program as it the crucial period for a person to develop hygiene practice. By extending the quality school health program it will be easier to disseminate healthy life style among the population in a country. In addition, the government should support both private sector and NGOs to conduct more surveys on hand washing.

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