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Original Article

Knowledge and Practice Regarding Personal Hygiene among the Secondary School Girls in Jashore, Bangladesh

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Abstract

Background: *Personal hygiene is a cornerstone of individual health and well-being, playing a pivotal role in preventing the spread of diseases and fostering a healthy lifestyle. Among the myriad of hygiene practices, handwashing stands out as one of the most fundamental and effective habits to mitigate the risk of infections caused by viruses, bacteria, and parasites.*

Objective: *The study seeks to explore the Knowledge and Practices pertaining to personal hygiene, with a specific focus on hand washing, among secondary school-aged children.*

Materials and Methods: *The study, conducted in January 2020 at Madhushudan Taraprasanna (MSTP) Girls School & College in Jashore, employed a descriptive cross-sectional design, involving 600 secondary school girls selected through convenient sampling. Face-to-face interviews with a semi-structured questionnaire were utilized.*

Results: *Most students understand the importance of daily body wash (93%), using soap during bathing (89%), and handwashing before meals (95%). However, notable proportions lack knowledge of using soap before meals (12%), and the necessity of regular nail (13%) and hair cutting (19%). Despite high levels of knowledge, discrepancies between knowledge and practice. While most students report positive behaviors like daily body washing (99.5%) and handwashing before meals (97.7%), fewer engage in regular nail cutting (74%) and hair cutting (40.7%).*

Conclusion: *The findings suggest a strong basis for hygiene practices among the surveyed female students, setting a positive precedent for further initiatives and education in this important domain.*

Keywords: *Personal Hygiene, Knowledge, Practice, Secondary school.*

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Introduction:

In developing countries people are living in extreme conditions like poverty, Periurban dwelling, poor availability of drinking water and improper sanitation. Among the important problems that are responsible for this kind of situation is poor hygiene behavior. Majority of health problems affecting children like diarrheal disease, skin disease, worm infestation and dental disease are preventable by promotion of hygienic practices through proper health education by the teachers, who are the first contact in schools as school children are vulnerable to neglect of basic personal hygiene[1]. Personal hygiene is the science of healthy livings and embraces all those day to day activities that contribute to health and wellbeing of an individual. The diseases that arise due to deficiency of personal hygiene remain one of the major public health

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concerns, particularly in developing countries[2].The two biggest killers of children in the developing world today are diarrheal disease and respiratory tract infections[3]. Diarrhea and water-borne diseases are leading causes of mortality and morbidity in developing countries (WHO/UNICEF, 2000). Approximately 88% of diarrheal diseases are attributed to unsafe water supply, inadequate sanitation and hygiene (WHO, 2004)[4]. Due to poor hygiene, children are more vulnerable to have food and water borne diseases. Most of the pathogenic organisms that cause diarrhea are transmitted primarily or exclusively by the faecooral route[5]. Each year 9.4 million people suffer from food borne diseases throughout the world[6]. Prevention of infectious diseases has become one of the daunting challenges facing developing countries all over the world in varying degrees. One area of special concern is the control of diseases in a school population where pupil/students live in very close proximity with each other. One of the most important vehicles of transmission of diseases in such environment is the hand, spelling the need for appropriate hand hygiene posited that hands readily become contaminated from so many activities like, using the toilet, after changing a baby's diaper (nappy), handling raw food, playing, shaking hands, cleaning, after handling pets and domestic animals, after wiping or blowing the nose or sneezing into the hands and after caring for an infected person. In such critical moments, hand hygiene especially hand washing with soap and running water has been scientifically proven and recommended as a cost effective and high impact intervention in reducing morbidity and mortality due to infectious diseases[7]. Hand washing is the act of cleaning hands for the purpose of removing soil, dirt, and microorganisms[8]. Many previous had concluded that hand washing with soap and water can effectively let down the diarrheal incidence rates by 47% with about 23% reduction in incidence of respiratory tract infections[9] and In almost all populations females are more likely to wash their hands than males[4]. Global Handwashing Day (GHD) takes place on October 15of each year. The campaign was dedicated to raising awareness of hand washing with soap as a key approach to disease prevention. The theme mainly focused on school children. It helps to promote hand washing and raise awareness and plays a great role in child survival and overall community health. On 5th May, WHO celebrates "Save lives; clean your hands" initiative? By cleaning hands in the right way and at the right time, WHO experts maintain "one can help reduce healthcare associated infections and save one's life". It is extremely important for everybody because it's through our hands that we pick up different germs, become infected, and spread disease[11]. UNICEF has published extensive material on school sanitation and hygiene intended at facilitating that learners be agents for change as they live within the community [12]. WASH programme initiated by UNICEF puts hand hygiene as effective intervention against many communicable diseases especially diarrhea and respiratory infections. A millions of lives could be saved through simple and proper hand washing. There are marked changes in hand washing behavior among school children after health education intervention at schools. Hygiene interventions are cost effective in developing world but the feasibility of the educational intervention is not yet clearly understood[13]. A majority of hand washing education programs begin with explaining how, why and when to wash hands. The CDC (2009b) recommends washing hands by rubbing together for at least 10- 15 seconds using warm water and soap. All surfaces of the hands, wrists, palms, back of hands, fingers and under fingernails should be washed. After washing, a hand lotion is recommended to prevent dry skin[14]. When children wash their hands with soap after going to toilet or before eating, they reduce their risk of getting diarrhea by more than 40 percent. Proper hands washing practice contributes to healthy development of children by keeping them in school. Hand washing actually improves school attendance by reducing the spread of preventable diseases, which means children are not staying home because of illness[8]. To improve health in developing countries dealing with challenges like poverty, living in peri-urban areas, limited access to clean water, and insufficient sanitation, our goal is to tackle poor hygiene habits, especially among school children. We

aim to achieve this by teaching students the importance of proper hand washing and personal hygiene through special health education programs. By doing so, we hope to reduce preventable health problems like diarrhea, respiratory infections, skin issues, worms, and dental ailments. This effort aims to create healthier and stronger communities.

Materials and Methods:

A descriptive cross-sectional study conducted in January 2020 among secondary school students at Madhusudan Taraprasanna (MSTP) Girls School & College in Jashore district, southwest Bangladesh. The school, purposively chosen to represent urban adolescents with average socio-economic status, enrolled all students in grades 6-10 (n=600) through Convenient sampling. Data collection was performed by 3rd-year female medical students from Ad-din Sakina Women's Medical College, Jashore, using face-to-face interviews and a semi-structured questionnaire. Interviewers were trained on interview skills, research ethics, and study objectives. All interviews occurred in empty classrooms to ensure privacy, and data were analyzed using SPSS version 25. Ethical approval for the study was obtained from the Institutional Review Board. The written informed consent was obtained from all study participants and Formal permission was taken from MSTP school authority.

Results:

This cross-sectional study, involving 600 secondary school girls in Jashore, aims to comprehensively evaluate the Knowledge and Practices related to personal hygiene, with a specific emphasis on handwashing, reflecting an average age of 13 years and a range from 10 to 16 years.

Table-I

Respondent's Age Distribution (Years). n=600

Respondent's Age (years)	Frequency	Percent
10	8	1.3
11	32	5.3
12	146	24.3
13	169	28.2
14	127	21.2
15	91	15.2
16	27	4.5

The age distribution(Table-I) revealed that the largest proportion of participants (28.2%) fell into the age group of 13, constituting 169 students, while the minimum number (1.3%) were 10 years old. The study captured the diversity of age representation, including 5.3% at 11 years, 24.3% at 12 years, 21.2% at 14 years, 15.2% at 15 years, and 4.5% at 16 years. Religious diversity was observed, with 459(76.5%) of respondents identifying as Muslims, 140(23.3%) as Hindus, and a minimal percentage 1(0.16%) belonging to other religions.

Table-II

Distribution of respondents according to their class n=600

Reading Class	Frequency	Percent
Class VI	50	8.3
Class VII	182	30.3
Class VIII	170	28.3
Class IX	92	15.3
Class X	106	17.7

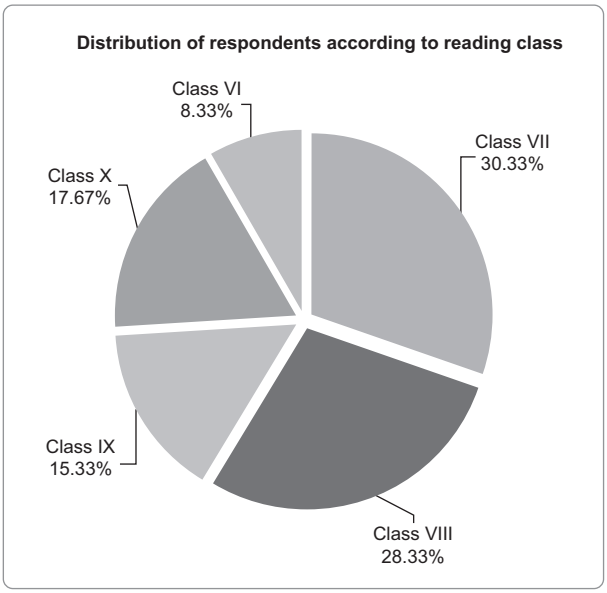

Figure 1: *Distribution of respondents according to their class n=600*

The study also considered the educational levels (Table II, Fig. 1) of the students, revealing that 170(28.3%) were in class eight, 92(15.3%) in class nine, and 106(17.7%) in class ten. Family structures varied, with 439(73.2%) from nuclear families and 161(26.8%) from joint families. The educational background of

respondents' fathers exhibited a wide spectrum, ranging from 26(4.3%) being illiterate to 107(17.8%) having completed graduation. Similarly, mothers' education varied from 33(5.5%) being illiterate to 60(10.0%) having graduated.

Table-III

Family income of the students.

Income (Taka)	Frequency	Percent
Upto 10000	186	31.0(%)
Upto 25000	232	38.7(%)
Upto 50000	154	25.7(%)
Upto 100000	24	4.0(%)
More than 1,00000	4	0. 7 (%)

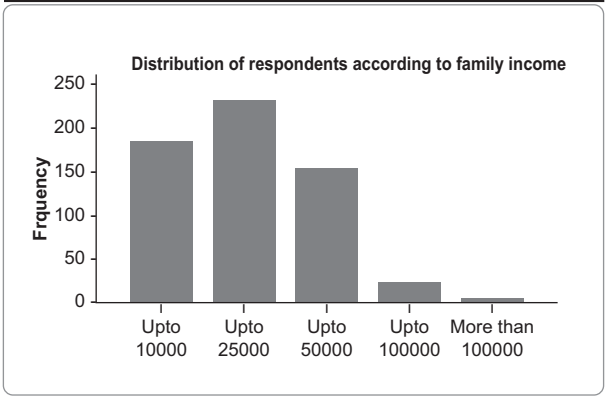

Figure 2: *Family income of the students.*

The data (Table III, Fig. 2) shows the distribution of individuals or households based on their income levels, with the corresponding percentages indicating the proportion of the total population within each income bracket. The highest percentage 232(38.7%) is in the Upto 25,000 Taka income range, followed by 186(31.0%) Upto 10,000 Taka and 154(25.7%) Upto 50,000 Taka ranges. 24(4.0%) Upto 100,000 Taka and More than 100,000 Taka ranges have smaller percentages, 4(0.7%) suggesting fewer individuals or households in these higher income brackets.

Table-IV

Educational status of parents.

Level of Education	Father Education(%)	Mother Education(%)
Illiterate	26 (4.3)	33 (5.5)
Up to Class V	96 (16.0)	107 (17.8)
Up to SSC	198 (33.0)	274 (45.7)
Up to HSC	173 (28.8)	126 (21.0)
Graduation	107 (17.8)	60 (10.0)

The Table IV illustrates the educational levels of both fathers and mothers of the respondents. Notably, 4.3% of fathers and 5.5% of mothers are illiterate, while 16.0% of fathers and 17.8% of mothers have education up to Class V. Furthermore, 33.0% of fathers and 45.7% of mothers have education up to SSC, and 28.8% of fathers and 21.0% of mothers have education up to HSC. Finally, 17.8% of fathers and 10.0% of mothers have attained a graduation level of education.

Table V presents data on the knowledge of personal hygiene among 600 students. Among them, 558 (93%) students are knowledgeable about the necessity of daily body washing, while 42 (7%) are not. Additionally, 534 (89%) students know the importance of using soap during bathing, while 66 (11%) do not. Furthermore, 570 (95%) students understand the importance of washing hands before meals,

Table-V

Knowledge on personal hygiene among the students (n=600)

Knowledge on personal hygiene	Known		Don't Know	
	Frequency	%	Frequency	%
Knowledge on daily body wash	558	93	42	7
Knowledge on using soap during bath	534	89	66	11
Knowledge on washing hand before taking Food	570	95	30	5
Knowledge on washing hand using soap before taking food.	528	88	72	12
Knowledge on daily teeth brush	558	93	42	7
Knowledge on regular nail cutting	522	87	78	13
Knowledge on regular hair cutting	486	81	114	19

Table-VI

Personal hygiene practice of the Students. n=600

Respondents Activities	Yes (%)	No (%)
Respondents body wash daily	597 (99.5)	3 (0.5)
Using soap during bath	580 (96.7)	20 (3.3)
Washing hand before taking Food	586 (97.7)	13 (2.2)
Washing hand using soap before taking food.	518 (86.3)	82 (13.7)
Respondents teeth brush everyday	595 (99.2)	5 (0.8)
Respondents cutting nail regularly	444 (74)	156 (26)
Respondents hair cutting regularly	244 (40.7)	356 (59.3)
Washing facility at near latrine	562 (93.7)	38 (6.3)
Hand wash after using toilet	595 (99.2)	5 (0.8)

whereas 30 (5%) do not. About washing hands with soap before meals, 528 (88%) students are aware, while 72 (12%) are not. In terms of daily teeth brushing, 558 (93%) students are aware of its necessity, while 42 (7%) are not. Moreover, 522 (87%) students know the importance of regular nail cutting, while 78 (13%) do not. Finally, 486 (81%) students understand the necessity of regular hair cutting, while 114 (19%) are not.

The study delved into various hygiene practices (Table-VI) among participants, highlighting positive behaviors. The majority 597(99.5%) reported daily body washing, and a significant percentage 580(96.7%) used soap during bathing. Handwashing habits were prevalent, with 586(97.7%) washing hands before meals, and 518(86.3%) using soap for this purpose. Other hygiene practices, such as daily teeth brushing 595(99.2%), regular nail cutting 444(74%), and hair cutting 244 (40.7%), were also commonly observed. Sanitation facilities were considered, revealing that 562(93.7%) of respondents had washing facilities near their latrine. Additionally, a high percentage 595(99.2%) reported washing hands after using the toilet.

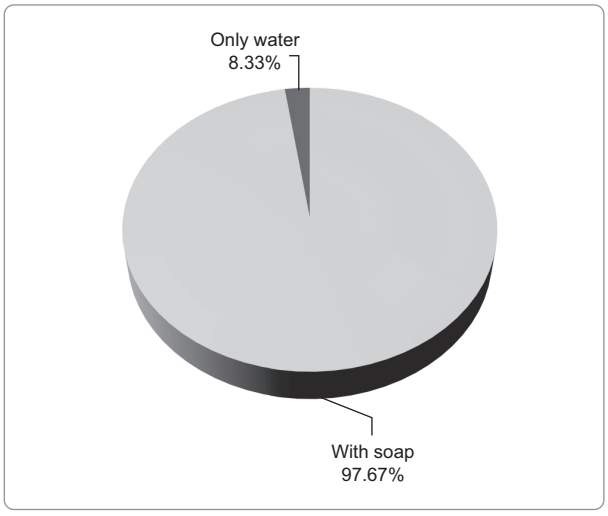

Figure 3: *Type of sanitizer used after using toilet by the students. n=600*

In terms of hand sanitization (Fig. 3) 580(97.63%) of respondents used soap, while a small percentage 20(3.33%) used only water, and none used mud/clay.

Discussion:

The age distribution illustrates a well-balanced representation of secondary school girls across various age groups. The concentration at 13 years suggests a pivotal point for understanding hygiene practices during adolescence. The gradual progression in age distribution provides a nuanced perspective on the dynamics of personal hygiene knowledge and practices within the broader context of secondary education in Jashore. The concentration in Class VII suggests that a substantial number of participants are in the middle of their secondary education. The overwhelming majority of respondents reported positive behaviors in fundamental hygiene practices. Notably, 99.5% of respondents stated that they wash their bodies daily which shows similarity to the study of Shekhawat R et al (2019)[1], 96.7% use soap during baths, and 99.2% brush

their teeth every day. These figures indicate a strong adherence to essential personal hygiene routines among the surveyed secondary school girls. A significant percentage, 97.7%, reported washing hands before meals, and 86.3% specifically mentioned using soap for this purpose in another study conducted by Rajbhandari AK[2] shows 96.2% of the respondents practiced hand washing before meal. Additionally, 99.2% reported washing hands after using the toilet. These figures suggest a high level of knowledge and practice regarding hand hygiene, which is crucial for preventing the spread of infections. While many respondents engage in regular nail cutting (74.0%), a smaller proportion reported regular hair cutting (40.7%). This indicates a degree of variability in grooming practices among the surveyed students, with nail cutting being more widely adopted compared to hair cutting. This accessibility to sanitation facilities contributes positively to maintaining hygiene standards, particularly after using the toilet. The data indicates that hair cutting is not as widely practiced, with only 40.7% of respondents reporting regular haircuts. This might suggest variations in cultural preferences or personal grooming habits among the surveyed population. A study in southern Ethiopia raveled by Buda AS et al (2018) [3] reported that among 246 students 85.4% use of soap and the remaining 13.8% used water only to wash their hands this dissimilarity with our study. Majority of the respondents in our study, 97.63%, reported using soap as a sanitizer after using the toilet. This high percentage suggests a strong awareness of the importance of using soap for effective hand hygiene, aligning with recommended practices for preventing the spread of infections. This dissimilarity is because of the unawareness about hand washing in southern Ethiopian people is quiet high. The data shows that none of the respondents reported using mud or clay as a sanitizer after using the toilet. This aligns with modern hygiene practices, where soap and water are recognized as more effective in removing and killing germs. The high percentage (Washing hand using soap before taking food 518 (86.3%) and Using soap during bath 580 (96.7%). of respondents using soap suggests that there may be effective hygiene education or awareness campaigns in place, emphasizing the importance of using proper sanitization methods. This reflects positively on the efforts made in promoting good hygiene practices among the surveyed population

Conclusion:

The study on personal hygiene among secondary school girls in Jashore reveals both positive behaviors and areas for improvement. It stresses the importance of ongoing education and awareness campaigns to enhance hygiene practices and ensure well-being. Improving school facilities and monitoring hygiene activities are crucial steps. Hand washing is emphasized as vital for disease prevention, highlighting the link between personal hygiene, education, and public health.

Conflict of Interest: No conflict of interest

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Ethics Approval and Consent to Participate: Ethical approval for the study was obtained from the Institutional Review Board. The written informed consent was obtained from all study participants. All methods were performed according to the relevant guidelines and regulations.

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