

PERCEPTION OF TEACHERS AND STUDENTS TOWARDS HYGIENE PRACTICE IN GOVERNMENT PRIMARY SCHOOLS

By

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fulfillment of the requirements for the degree of
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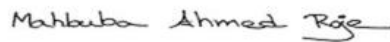
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Declaration

It is hereby declared that

1. The thesis submitted is my/our own original work while completing degree at Brac University.
2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I/We have acknowledged all main sources of help.

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Ethics Statement

The study took ethical approval from MEd Research Ethics Committee of BRAC Institute of Educational Development (BRAC IED), BRAC University. The authorities of the respective study sites were approached for permission to proceed with the data collection. Each participant was briefed about the study's objectives before data collection. Parental written consent was obtained on behalf of all child participants, and verbal/written child assent was obtained from each student participant. Adult participants (teachers and parents) provided written informed consent. All participant identities and school identities were anonymized. Data were collected, stored, and used solely for the purposes of this research.

Abstract

Introduction: Hygiene practice among primary school children in Bangladesh is still poor despite increasing awareness, and there is still a gap between knowledge and practice. This study explored the perceptions, practices, and barriers to hygiene among government primary school students in semi-urban Dhaka, Bangladesh.

Methods: The qualitative study was done at two government primary schools. Semi-structured interviews with 12 students and 6 teachers, two focus group discussions with 20 parents, and structured observation of WASH facilities and student hygiene behaviors were used to gather data. Thematic analysis was applied to analyze the data.

Results: The study found that multidimensional hygiene perceptions of students were based on physical cleanliness, health protection and social respectability. There was a considerable knowledge-practice gap that was influenced by knowledge-related, economic, infrastructural, and time-related hurdles. Hygiene behaviors were determined by multilevel factors, such as self-efficacy, maternal role, peer pressure and inadequate school WASH infrastructure.

Conclusion: Hygiene needs to be improved systemically, through infrastructure advancement, skills-based curriculum, parental involvement, and policy implementation to achieve sustainability.

Keywords: Hygiene Practices, Government Primary Schools, Knowledge-Practice Gap, WASH, Qualitative Research, Bangladesh.

Dedication

This thesis is dedicated to all the children of Bangladesh who deserve clean, safe, and healthy learning environments and to my family for their love and support.

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I would like to show my gratitude to my advisor Dr. Dilruba Sultana, Senior Lecturer, BRAC Institute of Educational Development for her kind support and guidance throughout this thesis.

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List of Acronyms

FGD	Focus Group Discussion
HBM	Health Belief Model
HSC	Higher Secondary Certificate
KAP	Knowledge, Attitude and Practice
SCT	Social Cognitive Theory
SSC	Secondary School Certificate
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
UNICEF	United Nations International Children's Emergency Fund/United Nations Children's Fund

Chapter 1

Introduction and Background

1.1 Introduction

Government primary school students have varying perceptions and practices of hygiene. While some students understand the importance of hygiene and practice good habits such as handwashing, others may have a different level of awareness (Ghosh et al., 2020). A study by Rahman et al. (2019) found that many of the primary school children in Bangladesh are unaware of how important personal hygiene is to their health. Their inadequate hygiene knowledge and suboptimal practices are making them sick. It is crucial to educate all students on the importance of personal hygiene. Hygiene is the practice of keeping the body clean and preventing the transmission of germs. Hygiene practice includes bathing and showering, hair care, nail care, foot care, genital care, and dental care (Chowdhury & Mahajan, 2020). Personal hygiene is something everyone does in different ways. It depends on many distinct things that are unique to each person. According to the World Health Organization (WHO Regional Office for Africa, n.d.), "hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases". Maintaining good hygiene practices is essential for everyone's well-being. Vivas et al. (2010) say that the lack of knowledge and hygiene facilities in less-developed countries makes spreading diseases easier. It is essential to teach children these values and effective practices at a young age to prevent the spread of illness. It would be helpful for parents, teachers, and the media to work together to educate schoolchildren about the importance of personal hygiene through coordinated education programs (Rahman et al., 2019).

Thus, this study intended to explore perceptions, practices, and barriers to hygiene among students in government primary schools with the help of a qualitative approach. The study

aimed to explain the understanding of hygiene, the factors that affect the hygiene behaviors and the barriers that hinder the practice of hygiene among resource-limited schools through involving the students, parents and teachers.

1.2 Research Topic

Health and Hygiene Practices Among Government Primary School Students.

1.3 Statement of the Problem

In Southeast Asia, infectious diseases are responsible for 31% of all deaths (Curtis et al., 2009). This pattern is undeniable in underdeveloped countries, where acute respiratory and intestinal illnesses are the leading causes of illness and death among young children (World Health Organization, 2009). In developing countries like Bangladesh, there is an increased prevalence of communicable diseases that can be transmitted from one individual to another due to the poor level of sanitation and hygiene. Rahman et al. (2019) did a cross-sectional study with 120 primary school students in Dhaka, Bangladesh. The results showed that these students need to learn more about personal hygiene and put it into practice. The study involved 54 students from grade 4 (45%) and 66 from grade 5 (55%). The mean age of the students was 10.5 years. The study found that only 50% of students washed their hands before eating and after using the toilet. Moreover, only 30% of students brushed their teeth twice a day. The study also found that only 20% of students used soap while washing their hands. However, the study did not explore why students are not following proper hygiene practices.

In a semi-urban region of Dhaka, a follow-up study by Alam et al. (2020) found that 89% of students had sufficient knowledge on handwashing, and 71.6% of them had positive handwashing behavior. Whereas Alam et al. reported better results as compared to Rahman et al., their results still indicated a significant disconnect between hygiene knowledge and actual practice among the students. This gap between knowledge and practice suggests some great

factors beyond awareness that influence hygiene behavior such as perceptions, attitudes, access to resources, family influences, and cultural beliefs in determining hygiene behavior. These contrasting findings suggest considerable variation across different contexts within Dhaka and highlight a critical research gap. Several studies (Rahman et al., 2019; Alam et al., 2020) also indicate a need for more understanding regarding those factors which are influencing the hygiene practices among government primary school students in Dhaka City. To this end, this study aimed to explore these gaps by conducting in-depth qualitative research to understand how government primary school students perceive hygiene, what determinants influence their perceptions and behaviors, and what challenges they face in maintaining hygiene. The study provided a holistic view of the complicated determinants affecting hygiene practices among this group of the population since it involved the opinions of several participants, including students, parents, and teachers.

1.4 Research Questions

Main Research Question

How do government primary school students perceive and practice hygiene, and what barriers do they face in maintaining hygiene?

Sub-Research Questions

1. How do government primary school students understand and perceive hygiene?
2. How do students' hygiene perceptions relate to their actual practices and what factors influence them?
3. How do students experience, interpret, and respond to barriers in maintaining hygiene?

1.5 Purpose of the Study

This study aimed to explore the perception towards hygiene practices, and barriers to hygiene among government primary school students in semi-urban Dhaka, Bangladesh, using a qualitative approach. Although the existing research on hygiene in Bangladesh has mostly made use of quantitative study methods to measure the levels of hygiene knowledge and behavior, the methods have not been effective in explaining the processes that have resulted in the existing gap between the knowledge that children have and the behavior that they actually adopt. In this regard, this study employed a qualitative research design to document the lived experiences, subjective meanings and contextual realities that affect the conceptualization and practical experiences of primary school children as they relate to hygiene in their lives.

The study inquired about the conceptual understanding of cleanliness among children, where they acquire cleanliness knowledge and learn hygiene behavior, and how they rank the different hygiene practices, and the implicit priority between brushing of teeth and using a clean uniform over the everyday use of soap and water. The study also charted the detailed barriers to the hygiene practices of students, including the expense of hygiene products, water and soap inaccessibility, poor toilets, limited hand-washing stations, and sociocultural restrictions in time, privacy and stigma. The students, parents and teachers were included to provide a full picture of the factors involved, as the hygiene behavior of students is formed at the point of intersection of home, school as well as community contexts. By means of triangulating semi-structured interviews, focus group discussion and systematic observations, the study provided a multi-perspective, rich account of the hygiene landscape of semi-urban government primary schools; an account beyond the single-perspective constraints and a powerful empirical basis of context-specific, evidence-based policy, curriculum and behavioral recommendations applicable to students, educators, parents and policymakers.

1.6 Significance of the Study

This research had a number of significant implications for research, policy, and student hygiene education. The study contributed to the existing body of knowledge regarding hygiene practices by offering detailed qualitative data on the experiences of students in their lives. This research addressed the gap in knowledge by analyzing the voices of students, their perceptions and decision-making process and found out the gap in the knowledge on hygiene education. This study could help researchers, educators, and policymakers understand the current context, the reasons students choose specific practices, and the challenges students face in maintaining hygiene. This thorough knowledge is critical in creating effective, culturally competent and contextually adaptive hygiene interventions that can respond to the real-life limitations and cannot be based on the assumption that knowledge alone can result in behavior change. The results could inform educators and health practitioners to formulate culturally sensitive and contextual hygiene education interventions in government primary schools. This could help program developers to develop more effective interventions that can overcome the real-world challenges that children encounter by addressing the real issues of water scarcity, supply shortages, inefficient infrastructure, and socioeconomic constraints. Knowledge of perception among the children could assist educators in conveying hygiene messages in a manner that resonated with students. This research offered evidence-based policy suggestions to the policy makers on infrastructure requirements, such as particular WASH facility upgrades necessary in government primary schools, resource allocation for the low-income families (e.g. provision of soaps programs, access to water) and teacher training to ensure that they would be able to promote hygiene within the limited resources. The results of the research could be used by future researchers in a number of ways: as a baseline of qualitative data on the perception of hygiene and its barriers in government schools; as an indication of important variables to be tested in future quantitative research; as an indicator of areas that have to be researched into

through intervention studies; and as an example of how to carry out child-centred health behavior studies in resource-limited environments.

Chapter 2

Literature Review and Conceptual Framework

The literature review presents research that has been available concerning hygiene perceptions, practices, and barriers to hygiene among primary-school students. The review can be described as having six major sections. To begin with, it introduces important concepts on hygiene and hygiene practices (Section 2.1). Second, it provides theoretical frameworks, including the Health Belief Model, Social Cognitive Theory and socio-ecological model that inform the interpretation of the mechanisms of hygiene behaviors formation and maintenance (Section 2.2). Third, it summarizes the research on hygiene knowledge, perceptions, and practices among primary-school children and the knowledge-practice gap that has been recognized in the literature (Section 2.3). Fourth, it discusses multilevel factors that impact hygiene behaviors of children, which include family, school, socioeconomic, cultural, and religious (Section 2.4). Fifth, it examines challenges to keep hygiene at knowledge, economic and infrastructural level (Section 2.5). Lastly, it introduces the synthesized conceptual model that will be used to guide this study, demonstrating how these theoretical views and empirical evidence are used to inform the study methodology (Section 2.6). In doing so, the review highlights gaps in the available literature, especially the lack of studies that would have represented the voices of children and the lack of studies conducted in semi-urban settings, which this study aimed to fill.

2.1 Concepts of Hygiene

In Greek mythology, hygiene comes from the word "Hygiea," which means the goddess of health. The term encompasses conditions and practices that promote well-being and prevent the spread of disease (WHO Regional Office for Africa, n.d.; Pal and Pal, 2017). According to the 2018 Oxford English Dictionary, "hygiene" is "conditions or practices conducive to

maintaining health and preventing disease, especially through cleanliness”. Practically, hygiene behaviors are the behaviors that include hand washing with soap, cleaning teeth, washing, caring about nails, hair, respiratory hygiene behaviors (e.g. covering the mouth when coughing or sneezing) (Curtis et al., 2009; Chowdhury and Mahajan, 2020). These are not all just normalized practices; they are shaped by the beliefs, values, socioeconomic conditions, cultural approaches, and religious requirements of individual (Sultana et al., 2022).

In the case of students of primary school age (8-12 years old), hygiene goes beyond a set of prescribed behaviors and becomes a dynamic set of practices shaped by their social environment, access to resources and cognitive development. At this development phase, students learn hygiene rules relayed by various channels such as family, teachers, peers and media, but in most cases have neither the autonomy nor the material resources that enable them to maintain hygiene at a constant level (Sarkar, 2013). The hygiene behaviors that are the most noticeable in this group of people include handwashing, using soap, brushing of teeth, bathing, and respiratory hygiene. There is a significant gap in the literature on the discrepancy between the personal views of hygiene in children and the norms of hygiene that are enforced by adults. The majority of the available literature measures the hygiene knowledge of children using clinical parameters without considering the ways they derive meaning, meaning of hygiene, or how they value it in their daily lives. Sultana et al. (2022) discovered that the notion of hygiene corresponds closely to religious concepts of purity and social concepts of respectability instead of disease prevention in low-income urban Bangladeshi communities but this study had targeted adults. Anthropological research reminds us that children do not receive health messages passively but are active interpreters whose meanings depend on stage of development, social setting and experience (Christensen, 1999).

2.2 Theoretical Frameworks for Understanding Hygiene Behavior

Hygiene behaviors among primary school students aged 8 to 12 years require theoretical frameworks to describe the process of formation and maintenance of health behaviors. According to the health belief model (HBM), health behaviors are a function of perceived susceptibility to illness, perceived severity of illness, perceived benefits of preventive actions, and perceived barriers to action (Rosenstock, 1974). When applied to students' hygiene, this model demonstrates that knowledge alone cannot motivate students to practice good hygiene. The students can know about hygiene but also, they can fail to understand that they are at risk of a disease and that the obstacles can be too great to be overcome.

The social cognitive theory (SCT) developed by Bandura deals with how observational learning, self-efficacy, and reciprocal determinism are utilized in influencing behavior (Bandura, 1986). This theory is particularly applicable to primary school students, as they acquire hygiene behaviors through observing parents, teachers, and peers. This theory predicts that not only is the hygiene behavior of students determined by what they are taught, but also by what they can see in their immediate environment and believing that they can also practice those in their life.

The social-ecological model offers a comprehensive approach to describing the various levels of influence on the hygiene behavior of students including individual (knowledge, attitude, skills), interpersonal (family, peers), organizational (school policies, WASH facilities), community (neighborhood norms, availability of resources), and policy levels (government regulations, educational curriculum) (McLeroy et al., 1988). The complex interdependence between variables that affect hygiene practices among government primary school students in semi-urban Dhaka is inexplicable without a multi-level approach to the question, since individual knowledge may be limited by household poverty, inadequate school infrastructure, and limited policy implementation. However, most of the studies that have been conducted on

hygiene in Bangladesh have not strictly incorporated these theoretical models. This theoretical gap undermines the development of effective interventions based on theory.

2.3 Hygiene Knowledge, Perceptions, and Practices Among Primary School Students

2.3.1 The Importance of Early Childhood Hygiene

The early stages of life play a crucial role in forming an individual's lifelong sense of responsibility toward maintaining proper health and hygiene (Sarkar, 2013). It is during these years that habits can be effectively instilled. Research indicated that teaching children about hand hygiene and raising awareness about it have significantly reduced gastrointestinal and respiratory tract infections, among children's leading causes of illness and death, by as much as 50% (Sekhon & Minhas, 2014). Additionally, this has resulted in fewer sick days and absences from school and improved academic performance (Ghanim et al., 2016). Primary school students could lead a healthy and productive educational life if they were properly educated about hygiene practices (Ghanim et al., 2016). The students should be physically and mentally healthy enough to spend their entire time studying. Unhygienic conditions aggravate their exposure to numerous infections. Primary school students are more likely to miss class due to illnesses which can also lead to in-school dropouts (Khobragade et al., 2021). Most childhood illnesses can be prevented by promoting hygienic practices among schoolchildren, which requires proper health education for parents and teachers.

2.3.2 Current State of Hygiene Knowledge and Practices in the primary school of Bangladesh

Research on the topic of hygiene knowledge and practices of primary school students in Bangladesh indicates a complicated, regionally diverse situation. Present studies are specifically dedicated to students of government primary schools, collectively documented the

prevailing gap between the knowledge and actual conduct. One of the most notable examples of the Dhaka context is the study conducted by Rahman et al. (2019) who conducted a cross-sectional survey of 120 primary school students in Dhaka City. Their results found that there were significant shortcomings in hygiene: 50% of the students washed their hands after a visit to the bathroom and before eating; 30% of them brushed their teeth twice a day, and only a fifth of their hygiene involved the use of soap. These statistics show that even the simplest hygiene habits are not practiced by a considerable number of students regularly, although handwashing is a widely recognized preventive behavior. The study explained these gaps by lack of hygiene education in schools and lack of awareness amongst parents, without probing the underlying reasons perceptual and structural as to why these are not practiced. The outcomes are more promising but still inconclusive in other districts.

In Mymensingh Sadar Upazila, Ghose et al. (2012) established that 79.5 percent of students in secondary school used soap when handwashing, which is significantly better than the results of Dhaka, and this indicates that there is indeed a substantial regional difference. According to Alam et al. (2020), 89 percent of students in primary school in a semi-urban area of Noakhali district showed adequate knowledge of handwashing and 71.6 percent showed appropriate handwashing behavior. Although these outcomes seem to be more favorable, they still demonstrate an 18-percent-point difference between knowledge and practice. In a similar manner, Ghosh et al. (2020) evaluated the knowledge levels, attitudes, and practices in primary school children in Sadar Upazila of Noakhali and discovered that, despite the comparatively high levels of knowledge, there was still no consistency in terms of actual practices, especially in relation to oral health and nail care. The array of these studies highlights the fact that contextual differences in Bangladesh are high and validates the need to conduct a location-specific qualitative investigation. Many studies make use of self-reporting which is gathered using structured questionnaires, which are prone to social desirability bias and cannot be used

to identify the situational factors, perceptual reasoning and resource constraints on which hygiene behaviors are practiced by students. Most importantly, none of these studies involves the voices and opinions of the students themselves as the active participants in the process of defining what hygiene can mean to them and what the obstacles are to its practice. This study fills that methodological and thematic gap by conducting a qualitative investigation of students, parents, and teachers in semi-urban government primary schools in Dhaka.

2.3.3 The Knowledge-Practice Gap in Hygiene

The one finding that is common in various studies is that there is a great disparity between the knowledge of hygiene and practice. Though Alam et al. (2020) discovered that 89 percent of students had good knowledge of handwashing, only 71.6 percent had sufficiently good practice, which is an 18-percent-point difference. This discordance on knowledge practice is furthermore accentuated in other studies. According to Rajbhandari et al. (2018), the students with good personal hygiene also had positive personal hygiene knowledge as well as positive attitudes, which implies a correlation but not a causal relationship. The critical question is: why do children who possess hygiene knowledge fail to practice it consistently? Quantitative research that has been carried out has found this gap, but such research has not focused on the mechanisms. These studies fail to record the thinking processes of children, situational determinants evoking or inhibiting hygiene behaviors, and social and emotional aspects of hygiene decision-making. The survey-based methods, though suitable in prevalence estimation, are unable to reach into the experiences of children, how they make sense of the concept of hygiene, and what elements of the surrounding environment enable or inhibit hygiene behavior.

2.4 Influences on Students' Hygiene Perceptions and Practices

2.4.1 Family and Parental Influence on Students' Hygiene Perceptions and Practices

Parents, especially mothers have a central role in influencing the hygiene behaviors of children. Alam et al. (2020) reported that the education and perceptions of parents play a major role in determining the hygiene practices of students. In Bangladesh, household water, sanitation, and hygiene responsibilities typically fall to women (Watts, 2004), making education and awareness for mothers crucial to students' hygiene behavior. The researchers established that those students with mothers who had gone through SSC/HSC or higher levels of education showed improved hand-washing patterns. The earliest hygiene lessons are given by mothers, and fathers take major decisions on household resource allocation on health and hygiene (Alam et al., 2020). Nevertheless, a significant number of the mothers of students at Bangladesh government primary schools have low levels of formal education (Ghosh et al., 2020). According to Nematian et al. (2004) mothers with low literacy levels might not be able to educate their children on proper hygiene habits and this might heighten the risk of contracting infectious diseases by children. This educational deficit not only influences the content that is learnt by children but also influences the prioritization of hygiene in the process of resource allocation in the household.

2.4.2 Influence of School and Teacher on Students' Hygiene Education and Behavior

Schools are regarded as the best setting for health education related to hygiene, environmental sanitation, and social norms (Maji & Samanta, 2021). In Rahman et al. (2019), the authors concluded that about 61.67% of the students perceived their teachers as the primary source of personal hygiene advice. The study of Alam et al. (2020) showed that handwashing practices were better among students who had been trained in handwashing, which proves the relevance of hygiene education in schools. Students have also been shown to act as change agents by passing what they learn in school to families and communities (Vivas et al., 2010).

Nonetheless, schoolteachers do not always work hard to teach students how to maintain proper hygiene practices, which discourages students from using proper hygiene practices (Rahman et al., 2019). This can be due to curriculum pressures, lack of teacher training on health education, lack of teaching material or the very poor knowledge of hygiene by the teachers. Further, access and quality of WASH facilities in schools have a direct impact on the ability of the students to put into practice what they know. Schools that lack sufficient toilets, handwashing facilities, soap and clean water provide an environment where hygiene practice is both structurally and practically impossible no matter how much students know or are motivated to perform hygiene practices.

2.4.3 Socioeconomic, Cultural and Religious Influences on Students' Hygiene Perceptions and Practices

Socio-economic status creates material limitations which influence the practice of hygiene. Lack of sanitary and hygienic standards in developing nations such as Bangladesh contributes to increased infectious disease morbidity and mortality, especially in children (Curtis et al., 2009; World Health Organization, 2009). The children in the government primary schools are mainly those in low-income families who are faced with several overlapping types of disadvantage. The role of cultural norms and religious beliefs in defining hygiene perceptions and behavior is decisive but this aspect is less studied in the works conducted among Bangladeshi primary-school students. In their qualitative study of a low-income urban community in Bangladesh, Sultana et al. (2022) found out that the very notion of hygiene is closely intertwined with religious ideas of purity (pak/napak) and respectability, as well as with the practices of the culture. The Islamic teachings promote ritual purity before prayer, which could promote certain hygienic practices (ablution, washing), but the hygiene process is framed primarily in a spiritual context rather than a health-promotion context.

2.5 Barriers to Maintaining Hygiene

2.5.1 Barriers to Knowledge and Awareness about Hygiene

Lack of credible information remains a major barrier to the consistent implementation of hygienic practices. Rahman et al. (2019) discovered that the knowledge of primary school students in Dhaka city is deficient in terms of personal hygiene and, therefore, they are unwilling to transfer the knowledge into everyday practice. Such knowledge is not distributed equally: handwashing, compared to other topics, like nail maintenance or oral health, is covered in health curricula at a relatively higher rate, which creates very strong familiarity inequalities. Besides, the knowledge of hygiene by children is seldom binary; more often, it is incomplete knowledge, deep-rooted beliefs or distorted information that cannot be adequately captured by closed-ended questionnaires.

2.5.2 Economic and Resource Barriers for Maintaining Hygiene

Families are often forced to make difficult decisions such as trade-offs between basic hygiene and other basic needs due to socioeconomic constraints. Such products as soap, toothpaste, toilet paper, and drinkable water are money expenses that might be unaffordable to resource-poor families. The only soap in a home can be used in some cases for laundry, dishwashing, or bathing and this means that it cannot be utilized in handwashing (Bloomfield and Nath, 2009). Water shortage is another major constraint of resources especially in semi-urban areas of Dhaka where the lack of water delivery, payment, and remote sourcing of water has increased water shortages. In these circumstances, regular hand washing or daily bathing becomes a luxury, and the inadequacy of sanitation infrastructures such as insufficient toilets, handwashing facilities or broken facilities means that hygienic practice is structurally impossible whether one is aware of it or driven to it or not.

2.5.3 Infrastructure Barriers for Maintaining Hygiene

The availability and condition of school WASH (Water, Sanitation and Hygiene) infrastructure directly determines whether hygienic behavior is facilitated or structurally prevented. As Rahman et al. (2019) argued, national education authorities should establish and implement policies that guarantee adequate access to supplies, equipment, as well as the opportunity to maintain personal hygiene both at home and in educational institutions. However, a huge number of primary schools in Bangladesh lack adequate WASH; toilets are frequently inadequate, inoperative, lack privacy doors, or are unhygienic. There can be a lack of washing stations or running water and soap, and in most cases waste bins to dispose of menstrual products or tissues are not available. The same shortfalls extend to domestic facilities that control sanitation with shared toilets in multi-family houses, lack of shower facilities, or lack of running water are structural handicaps that hinder the ability of children to engage in hygienic practices.

2.6 Conceptual Framework

This study is guided by an integrated conceptual framework drawing on the Socio-Ecological Model (McLeroy et al., 1988) and incorporating elements from the Health Belief Model (HBM) (Rosenstock, 1974) and Social Cognitive Theory (SCT) (Bandura, 1986).

The conceptual framework (Figure 1) illustrated how hygiene behavior of primary school children is shaped by a nested hierarchy of multiple levels of influence, which run in a descending order starting at the policy level to all the way to the individual. The research questions, data-collection tools and analytical plan were directly based on this framework to guide the study.

Figure 1: Conceptual Framework of Hygiene Perceptions and Practices Among Government Primary School Students

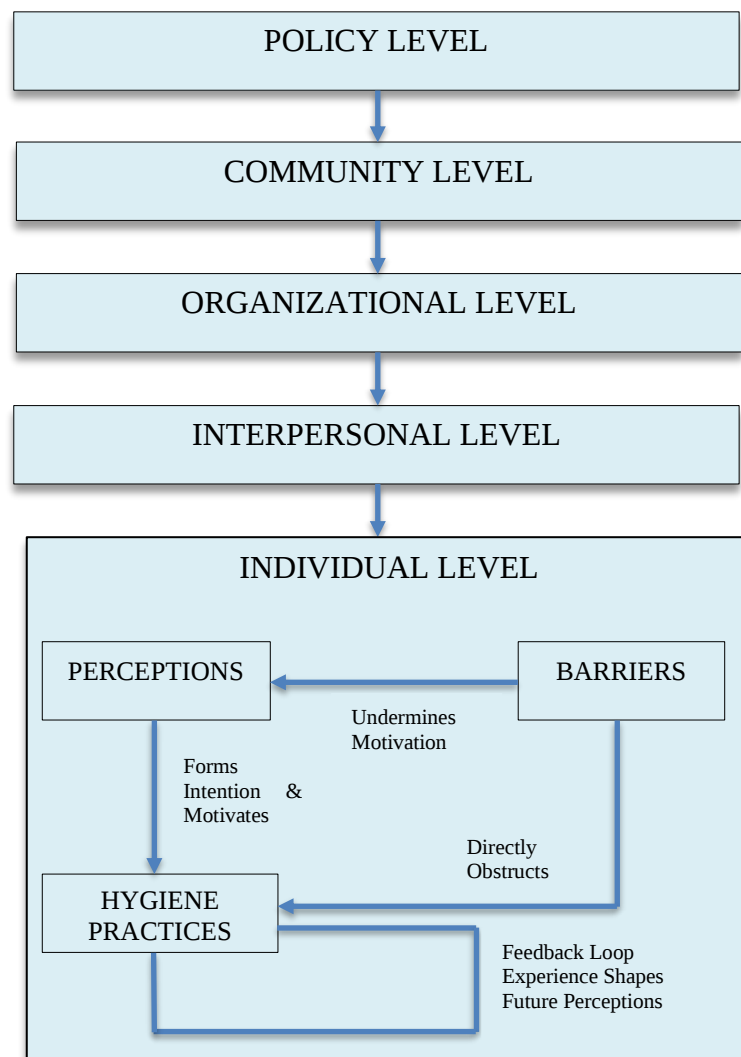


Figure 1 represents the conceptualization of the hygienic practices of children as the result of multifaceted and multi-level effects and moderated by several barriers. The socio-ecological model (McLeroy et al., 1988) offers the overall framework, considering that individual behavior exists in nested levels. The Health Belief Model (Rosenstock, 1974) explains how individual perceptions determine health behaviors, while Social Cognitive Theory (Bandura, 1986) explains the roles of observational learning, self-efficacy and reciprocal determinism of influencing the person, behavior and environment.

The framework shows hygiene behavior as a product of overlapping levels of influence. On the highest level, there is the national policy that stipulates the standards and resources to be used in the WASH infrastructure at schools. The community level entails the socioeconomic status, availability of water and the cultural or religious beliefs that influence the environment within which families and schools exist. The organizational level would include school WASH facilities, hygiene curriculum, and training of teachers- the primary institutional context of the daily hygiene practice among students. At the interpersonal level, modelling, instruction and social norms are direct influences on students developing their hygiene behaviors by parents, peers, and teachers. On the last level, hygiene perception, as perceived susceptibility to disease, perceived benefits and barriers, and self-efficacy, of the students determine the translation of the knowledge into action at the individual level. These barriers that act on all levels (economic, infrastructural, social and temporal) mediate the relationship between personal perceptions and actual hygiene behaviors hence the knowledge-practice gap that has existed over time.

The hygiene concepts that are most relevant to the present structure among the primary-school-aged children (8-12 years old) include handwashing with soap, brushing teeth, nail care, hair care, bathing, and practices related to respiratory hygiene such as covering the mouth with the mask or hand in case of coughing or sneezing. These actions are not independent, but, in fact, they are shaped by the multi-tiers of influence outlined in the conceptual framework. As proof,

the ability of a child to wash hands routinely depends not just upon personal knowledge and motivation but also upon the provision of soap and water at school (organizational level), the degree to which parents' model and reinforce the behavior at home (interpersonal level) and the economic capability of the household to afford hygiene products (community/socio-economic level). The fact that the framework is pegged on these particular and daily hygiene practices, makes the study certain that the theoretical lenses that are being applied are empirically based in the lived realities of the government primary-school students within the semi-urban Dhaka setting.

Chapter 3

Methodology of the Study

3.1 Research Approach

A qualitative research approach was used to conduct this study. It helped to understand students' experiences, express their perspectives, and help the researcher learn more about the phenomenon (Johnson & Christensen, 2019). Qualitative methodologies are utilized to understand an individual's experiences and perspectives on a particular topic (Hammarberg et al., 2016). This research approach can help the researcher collect concrete data to support, reject, or clarify observations (May, 1997).

The qualitative researchers engaged deeply in the research process and their subjects, thus enabling them to conduct a subtle analysis of the perceptions of hygiene practices among the primary school students (Tong et al., 2008). Unlike quantitative surveys which only measure the percent of children who practice various hygiene behaviors, qualitative inquiry opened up the opportunity to enquire why and how children practice hygiene, of what hygienic behaviors were to them, and of how they felt inhibited. The given approach was necessary to fill the knowledge-practice gap, which has been identified in existing literature, as it was able to reach the complexity of hygiene decision-making, which could be influenced by the situation, but could not be elicited by structured questionnaires. Therefore, a qualitative research design allowed a more in-depth visualization of the viewpoints of participants and their experience with hygiene practices and therefore this approach allowed children to be active participants whose voices are valued, rather than as passive subjects to be measured through standardized instruments.

3.2 Research Site

The study was conducted in two primary government schools located in semi-urban regions of Dhaka, Bangladesh. The schools were referred to as School A and School B to maintain confidentiality.

School A was in the Lalbagh thana. The school had around 350 students in grades 1-5 and six teachers. It had six permanent classes that had concrete walls and roofs. The school had a small outdoor area, during the dry season the area became dusty whereas during the rainy season the area became muddy. School A students had low-income families with their parents working as day laborers, rickshaw pullers, small shop owners, domestic workers or garment workers. School A had two toilet blocks, containing four toilets in total. One for students and one for teachers, with girls commonly using the teacher's washroom to clean up. The toilets were operational though they often lacked running water, and hygiene was not always preserved. There was no consistency in the supply of soap; sometimes the school provided it. There were no special menstrual hygiene facilities.

School B was situated in Dhanmondi thana. The school had an enrolment of about 700 students from grades 1 to 5 with thirteen teachers. It was a two-story building with eight permanent classrooms though not all rooms were used. Like School A, the composition of the student body in School B was mostly made up of families of low socioeconomic status and occupational backgrounds. The school yard was bigger but was a common area with another high school and thus many people were crowded during breaks. Washing arrangements in School B included two toilet blocks with 6 total toilets which were insufficient to cater to 700 students. There was a constant lack of water that rendered the toilets non-functional, and, in most cases, they were not hygienic since they were used by many and were poorly maintained. Even though there were two handwashing points, water would go off when school was in session. There was a lack of soap, and the students had to take their own supply.

3.3 Research Participants

This study involved three groups of participants: primary school students, parents, and teachers from two government primary schools (School A and School B) in semi-urban Dhaka, Bangladesh. The participants were selected because they directly experience, shape, and observe hygiene practices in the school environment.

Students formed the primary participants, as they are the central focus of this research. The students were chosen between grades of three to five (age between eight and twelve years old) as this is the age group where hygiene habits were being formed, and children are old enough to express their perceptions and experiences. Six student participants were selected in each of the schools. Three boys and three girls were selected from each school to ensure gender balance, as prior literature suggests differences in hygiene behavior by gender (Rahman et al., 2019).

Parents were included as participants since they were primary agents from whom students adapted the hygiene perception and behavior. The focus-group discussions contained 20 parents (10 each in both schools). The key participants were mothers because they played a crucial role in household hygiene education and water and sanitation management within the Bangladeshi households (Watts, 2004; Alam et al., 2020). Those parents whose children were in grade three to five were recruited but were not the same as those whose children were interviewed individually hence maximizing the diversity of views that were captured.

Six teachers participated in individual interviews, with three teachers from each school. From each school, three teachers of grades three to five were selected, aiming for gender balance. Additionally, the inclusion of head teachers provided perspectives on both policy-level and classroom-level issues of hygiene education. The multi-method approach technique was necessary to achieve triangulation and understand the multi-layered effects on the hygiene behaviors of students. These three groups provide the complete scene of the factors that

condition children to engage in hygienic behaviors. The research included thirty-eight participants, including twelve students in the individual interviews, twenty parents in the form of focus-group discussions, and six teachers in the individual interviews.

3.4 Sampling Procedure

Purposive sampling was employed in this study to select participants who possessed the characteristics most relevant to the research questions and objectives (Etikan et al., 2016). This method allowed the researcher to deliberately select participants based on specific criteria, ensuring that the data gathered was rich, relevant, and contextually appropriate. This approach was appropriate for this qualitative study, as the objective was to gather rich, context-specific insights from individuals who had direct experience with the research phenomenon, rather than to achieve statistical generalizability (Etikan et al., 2016).

3.5 Data Collection Methods

The research utilized several approaches of qualitative data collection to guarantee full comprehension and data triangulation.

The three major ones are: (1) semi-structured interviews, (2) focus group discussions and (3) structured observations.

This multi-method research design enabled the researcher to ensure that the questions were appropriately tailored to each group's role and experience. Semi-structured interviews were chosen as they were more flexible to collect personalized views of participants and elaboration compared to general interpretations (McGrath et al., 2018; May, 1997), whereas focus group discussions were used because it was necessary to prompt deeper impressions of parents (Salehi et al., 2010). Observation allowed the systematic recording of real behaviors and environmental situations as they existed naturally to present solid evidence, not as perceptions or intentions that were self-reported (Kawulich, 2005). These data collection tools were all constructed in

English, translated into Bangla to be used in data collection and then back-translated into English to verify accuracy. The main data collection was preceded by pilot testing of all data collection tools. The participants who were piloted were two students, two parents, and one teacher of a similar government primary school who were not a part of the main study.

3.5.1 Interview

All twelve student participants (30-35 minutes each) and all the six teacher participants (20-25 minutes each) were interviewed individually. The student interviews inquired into their conceptualizations of hygiene, their perceptions of importance, their real hygienic behaviors, and the factors which affect their behaviors as well as the barriers that the students face. The interviews with teachers explored their attitudes towards hygiene education, the student hygiene behaviors observed, their difficulties in teaching hygiene and the sufficiency of school hygiene infrastructure.

3.5.2 Focus Group Discussion

Two focus group discussions (FGDs) were conducted, one in each school. Each FGD comprised ten mothers (10 per school, 20 in total), as mothers are the primary hygiene educators in Bangladeshi households (Watts, 2004). Each FGD session lasted between 60 and 90 minutes. These FGDs generated interactive discussions on community standards concerning hygiene, family hygiene practices, economic issues, water access, cultural-religious factors, school-home partnership, and obstacles that could be preventing children from caring about their hygiene.

3.5.3 Observation

Both the hygiene behaviors of the students and the conditions of WASH facilities were observed. There were two observations of the facilities (one in each school, 1-2 hours each) that evaluated the presence, functionality, and cleanliness of toilets, hand-washing stations, water supply, and soap supply systematically.

There was observation on student behavior in three different meal and toilet breaks and play times to capture actual behaviors of hygiene like the frequency of hand-washing, use of soap and general cleanliness. Also, there were two full-day general observations of the school environment to get the overall picture of hygiene practice in school.

3.6 Role of the Researcher

During the qualitative inquiry, the researcher acted as the main tool of data gathering and as the interpreting presence whose own background and positionality are bound to affect the research process (Hammarberg et al., 2016). All semi-structured interviews and structured observation were done personally by the researcher, and both focus group discussions were moderated by the researcher. The interviews were conducted by adopting a non-judgmental and active listening style and open-ended probing questions were used in order to make the participants speak spontaneously. In the case of child participants, the researcher built rapport with the participants before the interview by engaging in informal conversation, use of age-related phrasing, and a non-judgmental environment. The researcher took the role of the facilitator in the focus group discussions and ensured equal participation among the members and the discussion took its course without any form of imposition or directive. The researcher was able to stay as a non-participant during observations and used the structured checklists to record the behaviors and environmental conditions and minimized interference in the natural setting. Reflexive journalling was maintained throughout the entire analysis process to keep track of imposing personal interpretations of the information. The researcher accepted the fact that she was distant from the socioeconomic background of the participants and used the strict triangulation of data sources to increase the validity and integrity of the results.

3.7 Data Analysis

Data analysis of the study was done through thematic analysis. The thematic analysis provided an accurate image of the data in terms of themes. It aimed to identify what people had experienced, what opinions they held, and what they thought. The data were first transcribed followed by coding. Coding defines and marks the topics, similarities, and differences between the interview material. Thematic analysis refers to the process of combining codes to summarize findings in a coherent and meaningful way (Adeoye-Olatunde & Olenik, 2021). After the data were coded, they were analyzed into categories. Themes were developed based on those categories, and then sub-themes were developed based on themes. The data were then compared and analyzed for patterns. The final step was data verification, which analyzed the transcripts and codes again to ensure that the arrangement of the dataset was accurate (Braun & Clarke, 2006). Data triangulation involved systematically comparing findings across student, parent, and teacher perspectives during analysis to identify convergences, divergences, and contradictions.

3.8 Ethical Issues and Concerns

The study was conducted in primary schools, with children being the main participants in this case, and, therefore, special attention was paid to the ethical aspects. The research was conducted in accordance with the principles of the Declaration of Helsinki. Before data collection, official consent was received by the administration of both School A and School B from the head teachers and other relevant school authorities. The purpose of the study, the approaches, and the importance were explained in a concise and clear fashion to school representatives both in writing and orally. In the case of child subjects, the consent procedure was used in two steps: parental written consent was taken on the behalf of parents or the guardians, and also verbal/written consent was taken on behalf of each child subject. Children

were told, in child-friendly language, that their involvement was completely voluntary, that they could leave any time and that their answers could not be disclosed.

With adult participants (teachers and parents), informed consent was represented in writing before the participation. Privacy and confidentiality of all the participants were ensured by anonymizing school names (identified as School A and School B) and not a single bit of information that could identify individuals was placed in the research data or outputs. Audio recordings, transcripts and field notes were kept in a safe place and could only be accessed by the researcher. Since the research involved some sensitive issues touching on personal hygiene, care was taken to ensure that the research area was a non-judgment environment and a respectful one. There was child-friendly language used in any interaction with the student participants. The researcher made sure that no child was embarrassed or felt stigmatized in the process of data-collection. The interviews and observations were made in the environments where the child was relaxed and safe. Information gathered in the course of the research was not utilized for any purpose other than this research and were processed in accordance with the principle of data minimization, i.e. the information obtained was used solely to answer the research questions.

3.9 Credibility and Rigor

Being the researcher of this qualitative study, the author relied on a mix of work experience, methodology training, and intentional planning to ensure the credibility and rigor of the investigation. As a primary school teacher with two years of experience, the researcher brought first-hand knowledge of the classroom setting and practices being studied, which allowed the author to build rapport with the participants, acknowledge the nuances of their experiences and create context-specific inquiries in data collection. The formal training in research methodology was also pivotal, and an intensive M.Ed. coursework established the skills to conduct interviews, facilitate focus groups, code data and perform thematic analysis, and work

ethically in research. Before beginning the data collection process, the author performed a comprehensive literature review to determine the gaps in the literature and to place the research questions in the context of the larger academic discourse. This was followed by a comprehensive research matrix that was used to express the purpose of the research, data sources and data analysis procedures and finally a formal research proposal was produced and discussed and approved by supervisor of the author prior to the fieldwork. All stages of the study were influenced by the personal and professional qualities of the author. Although teaching background added contextual knowledge, it also posed a risk of confirmation bias in the analysis and interpretation. To alleviate this, a reflective journal was kept throughout the study to identify and address the possible assumptions. Patience, active listening, and rapport qualities also contributed to an environment whereby participants felt free to interact openly when gathering data. The combination of these features and practices supported the general trustworthiness and credibility of the inquiry.

3.10 Limitations of the Study

The initial constraint is the access to research sites. Formal admission to both schools was a rather long process. Scheduling meetings was also a challenge due to the continuous exams of primary schools. The researcher had to negotiate with school officials over a long period and gain numerous sets of permission. This shortened the time taken on initial observations, and the initial stages of data collection. The finding of interviews with teachers was especially difficult, because they had strict schedules of classes and exams and curriculum obligations. Focus group discussion sessions with the parents, most of whom were working mothers, had to be rescheduled several times because of their work and household obligations. Although the researcher was proficient in Bengali, the process of translating data-collection instruments and transcripts between English and Bengali created a risk of the researcher missing out some nuances of language. The presence of the researcher on observations could have created an

observer effect, i.e. when the students knew they were being observed they would change their behavior of handwashing, even though they made an attempt to stay unobtrusive. The child respondents, especially in Grade 3 and Grade 4, occasionally found it difficult to describe their experiences using open-ended questions, giving shorter and less descriptive answers in comparison to older students and this could have created an age-based difference in the richness of the data.

Despite these drawbacks, steps were taken during the research process to reduce the effects of these limitations - such as member checking, keeping a reflexive research journal, and data triangulation across various sources and groups of participants. These constraints should also be considered when reading the findings.

Chapter 4

Results

4.1 Introduction

The chapter presents the findings of the qualitative study of the perceptions, practices, and barriers to hygiene among students of government primary schools located in semi-urban Dhaka. The method of data collection was semi-structured interviews with twelve students (six students in each school), six teachers (three teachers in each school), focus group discussions, which included twenty parents (ten parents in each school), and structured observation of WASH facilities and student behaviors at both areas of research (School A and School B).

Through thematic analysis of interview transcripts, FGD recordings, and observation notes, five major themes emerged: (1) Hygiene Practices of Government Primary School Students; (2) Facilities and Support Available in the School Compound; (3) Barriers and Challenges Students Face in Not Maintaining Hygiene; (4) Multilevel Influences on Hygiene Behaviors of Students; and (5) Ways Forward to Mitigate the Challenges and Ensuring Hygiene Practice of the Students. All themes have several sub themes thus giving a detailed explanation of the intricate factors that influence students' perceptions and hygiene behaviors.

Data triangulation across multiple sources (students, parents, teachers, and observations) revealed both convergences and divergences in perspectives, providing a comprehensive understanding of the hygiene landscape in these schools.

4.2 Hygiene Practices by the Students of Government Primary Schools

This theme addresses the first research question: *How do government primary school students understand and perceive hygiene?* The results show that the conceptualization of hygiene

among children is multidimensional and based on various sources and cultural, religious, and rational influences.

4.2.1 Students' Understanding and Knowledge of Hygiene

The conceptualization of hygiene among students is multidimensional, including physical cleanliness, health protection, social acceptability and this understanding is more sophisticated with age. Although each of the participants was able to define hygiene, the definitions varied between concrete physical behavior and more abstract concepts of health and social acceptability. A 10-year-old boy at School A explained “Hygiene means when we keep our body clean, clothes clean and we wash our hands and feet clean” (Interview 1, November 2025). On the other hand, a 9-year-old girl made a direct connection between hygiene and health outcomes: “If we don't stay clean, germs will enter our body and we will get sick. My teacher said germs are everywhere and staying clean can protect us” (Interview 7, November 2025). Other students related the notion of hygiene to social acceptance and respectability; an 11-year-old girl of School A said: “When I go to school with dirty clothes or a messy hairstyle, no other students will sit with me” (Interview 3, November 2025). The multidimensional understanding was supported by teachers. A teacher in School B commented: “The children understand that hygiene is about cleanliness, however, what drives them is different. Others fear sickness, some desire to be beautiful and some just do what we say because we say so without their deeper insight into our intentions” (Interview 17, November 2025).

The respondents cited three main sources of hygiene information, which included teachers, parents (especially mothers) and media (television and school posters). The majority of students said that they learned about hygiene at school. A 10-year-old student of School B said: “Our teacher informs us every day before lunch to wash hands. In science, we also learned about germs. Our teacher also showed us how to wash our hands, the proper method” (Interview 8, November 2025). The second most important source was found to be mothers

particularly in daily hygiene routines. One girl at School A said: “My mother wakes me up every morning and tells me to brush my teeth. She inspects to know whether I washed my face. She shows me how to take a bath and helps me to wash my hair” (Interview 2, November 2025). The media especially TV advertisements and school posters conveyed certain health messages, such as the 20-second handwashing rule.

Students’ motivations for hygiene clustered into two categories: health-related and social/appearance-related. Motivations that were health-related were generally expressed, and usually reflected the lessons in a classroom. One of the teachers at School A observed, “Students are more responsive to social issues than health issues. There are things abstract like disease; there are things immediate like social acceptance” (Interview 13, November 2025). Some students mentioned avoiding parental anger as a motivation.

4.2.2 Reported vs. Observed Hygiene Practices

A large systematic discrepancy exists between self-reported and actually observed behavior, so hygiene knowledge does not reliably translate into regular practice. This conclusion was made by the direct comparison of the interview data (self-reported practices) and structured observation data (real behavior) on two days of observations in two schools. All the students reported that they washed hands before eating and after using the toilet; it was observed that this was not the case. In School A, the majority of students who were observed washed hands before eating; as well as students of School B, but mostly with water only. Field notes showed that students who purchased food outside mostly did not wash their hands, and those who brought home-cooked meals washed their hands with water only. The use of soap was very low. Students acknowledged that they used soap on a regular basis, but among all the handwashing observed only a few involved the use of soap (Observation 1, Day 1, School A, November 2025). In School B, one of the teachers mentioned that students are aware of the need to use soap but consider it time-consuming. There was variation in the frequency of

bathing: all the students bathed in summer on a daily basis, yet only a few did the same during the winter season. Very few students trimmed their nails regularly; many had long or dirty nails visible during interviews. Collectively, these convergent discrepancies in handwashing, use of soaps, frequency of baths, and nail care provide significant evidence that the self-reported data is highly overstated to reflect the actual hygiene practice in students.

4.2.3 Selective and Situational Practice

The compliance of hygiene among students was very selective - it was always greater in the socially visible behaviors than in the less visible ones - situationally contingent on supervision. Students exhibited higher compliance with visible hygiene behavior (tooth brushing, clean school uniforms) in comparison with less visible hygiene behavior (correct handwashing, cough etiquette, and hair washing). Parents associated school uniform cleanliness with family respect: “We try to make sure our children go to school wearing a clean uniform” (FGD 1, School A, November 2025). Some students admitted to always covering their mouths when sneezing, and stated they wash their hair once a week or less. In both schools, gender differences were observed by the combination of the interview records and field observations. The female students were more attentive to clothing, hair, and other appearance-related hygiene which was also supported by the student self-report, teacher observations, and field notes. These were less significant to male students. The hygiene behavior was also highly situational. Supervision enhanced compliance; in cases where the teachers were close to handwashing points, students applied more soap. A grade 5 student at School B confessed: “When teacher is watching us, we wash hands in a proper way. We just fly, when there is no one watching” (Interview 12, November 2025).

4.3 Facilities and Support Available in the School Compound

This theme focuses on organizational and institutional factors that facilitate or limit hygiene practice in the two schools. Both schools suffered from severe infrastructural shortages. School

A had 4 working toilets with 350 students; School B had 6 with 700 students which are well above the WHO/UNICEF recommendations that are not more than 25 girls in each toilet. Breaks caused long queues thus many students did not use the toilets. Observations revealed that water was turned off in the middle of the morning, and students did not have an opportunity to clean their hands (Observation 3, Day 2, School B, November 2025). The toilets were dirty and smelly, as one female School B student explained: “I try not to use them at school” (Interview 9, November 2025). Handwashing facilities were inadequate. School A had two handwashing points for 350 students. The supply of soap at the two schools was inconsistent. Both schools lacked a formal hygiene education program; health subjects were covered in a short period in the science curriculum but not taught or evaluated in detail. The head teacher at School A admitted that the hygiene education did not receive specific time and was left to the initiative of individual teachers. Teachers also became aware of their shortcomings. One of School A's teachers reported the pressure of the curriculum: “When is time to teach hygiene education? We mention them in science classes or sometimes randomly but there is no structured way or time to teach students about them” (Interview 14, November 2025). In comparison, a School B teacher who made frequent nail checks noted significant progress in compliance, which proves that unified, systematic reinforcement works. The insufficient WASH infrastructure in both schools and with no organized hygiene education program, the institutional level of hygiene behavior was structurally limited irrespective of the amount of student knowledge or motivation towards it.

4.4 Barriers and Challenges Students Face in Not Maintaining

Hygiene

This theme was used to respond to the third research question: *How do students experience, interpret, and respond to barriers in maintaining hygiene?* There were several obstacles that

were working at various levels and posed compound challenges that students would not feel like they could overcome.

4.4.1 Knowledge and Awareness Barriers

Although there was a seeming fundamental understanding of hygiene, there were critical deficiencies that could result in no success. Students are aware that they are supposed to wash hands, but not everyone knew how to do this correctly. Only a few students demonstrated appropriate technique on handwashing (wetting hands, applying soap, rubbing 20 seconds and rinsing, drying hands). The majority of the students had poor washing practices- quick rinse 3-5 seconds, lack of total coverage of hand surfaces. When asked about rubbing between fingers or around nails, a student looked uncertain and confessed that nobody had taught her these things. Some of the students had ill beliefs that may weaken the motivation of hygiene. Three students thought that sickness was mainly caused by cold air or consuming cold food hence downplayed the influence of hygiene. One student from School A said, “People get sick from cold air and getting wet in the rain” (Interview 5, November 2025).

Younger students had a poor understanding of the concept of the invisible germs. Some students seemed to be perplexed when questioned as to the need to wash their hands when they did not seem to be dirty. This ‘dirty only’ logic disrupted the practice of handwashing consistency, especially after using the toilet in which cases the hands may not show any dirt but rather much contamination. This result shows that there is a large disparity between students’ knowledge of hygiene on a declarative level and their knowledge on a procedural level and a sub group of students holds misconceptions about the cause of diseases which negatively influence the level of hygiene motivation.

4.4.2 Economic and Resource Barriers

All the participant groups reported material constraints to be the most commonly mentioned and emotionally charged barriers to proper hygiene. Hygiene commodities were very expensive

to families as it was pointed out during focus group discussions. In School B a mother estimated that handwashing alone could cost her family approximately 120-140 taka every month using soap. Toothpaste was also expensive; most of the families resorted to using tooth powder or cheap substitutes (FGD 2, School B, November 2025). The most widely mentioned barrier was water scarcity - it was stated by ten out of twelve students and all parents during FGDs. Families put drinking and cooking in the priority before washing. A mother in School A said that she would fill in three or four drums in the mornings and use the water in strict sequence: drinking, cooking, toilet, washing - little left at the end of the day (FGD 1, School A, November 2025). There were indirect expenses like purchasing several school uniforms which were commonly washed on a daily basis. So, the most emotionally salient barrier to hygiene among students' families of both schools was economic constraints, which take the form of unaffordable hygiene products and water scarcity, that makes hygiene a secondary priority.

4.4.3 Infrastructural and Environmental Barriers

Physical structures in the two schools provided obstacles that were not dependent on knowledge or motivation. Poor toilets, maintenance, privacy (particularly by the girls), and steady water supply were the various factors that could not make consistent practice of hygiene easy. Some of the female students skipped school toilets as a result they often got urinary infections due to poor toilets. One of the school A's teachers remarked, "A lot of girls do not want to use school toilets. They withhold the urine throughout the day leading to urinary infection" (Interview 14, November 2025). A student at School B said, "We keep water in a big drum. I use the mug to get water in the drum and wash in case of need" (Interview 11, November 2025). There were three families that used toilets with more than one household. One of the parents in School B, when asked about this through a focus group discussion, stated: "There are six families that share only two toilets in our building" (FGD 2, School B, November 2025). The analytical aspect is that these are some barriers not based on knowledge: even when

students know that they need to maintain hygiene, they are unable to do it regularly when toilets are not available, when there is no water, or when there are no handwashing facilities. Inadequate physical infrastructure in the school and home among students is a structural element of hygiene that is independent of student knowledge and motivation.

4.4.4 Time and Convenience Barriers

Almost every student was hurried with morning routines. A 9-year-old student from School A recounted that he got up at 8:30 and had 15 minutes to walk to school so there was not much time to take care of hygiene (Interview 4, November 2025). There were also the competing demands of cooking and dressing children in the morning and household chores, which imposed restrictions on hygiene supervision on mothers. The short tiffin breaks also made it hard to wash hands properly in the lines to the toilets and hand washing stations as eating and socializing was competing with them. A grade 5 student of School B described: “It is only 20 minutes of break time. If I wait for toilet and wait to wash hands properly, I will have only 5 minutes to eat. So, I wash hands quickly with just water” (Interview 10, November 2025). This finding shows time constraints caused by compressed morning schedules and short school break times induced consistent time pressures and compelled students to make pragmatic trade-offs where hygiene measures are reduced or omitted.

4.5 Multilevel Influences on Hygiene Behaviors of Students

This theme deals with aspects at various levels, which influence the perceptions and practices of children in terms of their hygiene. It was found that hygiene behaviors are caused by complicated interactions of individual, interpersonal, organizational, community, and policy-level influences.

4.5.1 Factors at the Individual Level: Knowledge, Self-efficacy and Personal Beliefs

Hygiene consistency is significantly affected by personal psychology. Adaptive strategies were employed by students who had high self-efficacy when resources were scarce. As one of the female students of School A explained: “I am capable of keeping myself clean even in times when there were water problems. I consume less water, clean the most urgent areas first and keep some water aside. I find ways” (Interview 2, November 2025). On the other hand, learners who had low self-efficacy said they were helpless. A boy of School A responded that, “If there is no water, no soap, how can I wash? I just clean my hands by rubbing on something!” (Interview 5, November 2025). Favorable views of cleanliness provided some motivation to some of the students, yet the ambivalence was more common among male respondents. Age variations were also noticed during the observation and interviews, younger students (Grades 3-4) were mostly dependent on parental reminders, but older students (Grade 5) were more self-reliant, and sometimes abused the aspect of non-observation to avoid the hygiene practices.

4.5.2 The Role and Involvement of Parents in Supporting the Hygiene Practice

Mothers were the key players in determining the hygiene practices of children. Nails, hair, clothing, and handwashing were inspected by the engaged mothers on a daily basis. One of the mothers of School A explained her routine: “I always make sure that I check my daughter on her nails, hair and clothes each evening. I ask if she washed hands at school. I remind her about the importance of hygiene.” (FGD 1, School A, November 2025).

However, this engagement was very distinct by socioeconomic status. Mothers who were involved in prolonged factory work claimed that they had limited abilities to check on their children on a daily basis. Fathers were recorded as hygiene teachers very rarely; their intention remained solely to buy the supplies, and cleanliness was imposed by means of disapproval and not by positive teaching (FGD 1, School A, November 2025).

4.5.3 Hygiene Behavior Influenced by Peers and Teachers

Although students did not specifically mention that they used peers as a source of information, the effect of the peer on hygienic behavior was observable. During observations, the students changed their behavior in accordance with the existence of their classmates. In one particular case, a girl had a meal without washing her hands, but when a friend commented on her, saying, “*Are you not going to wash?*” she went at once to wash her hands (Observation 2, Day 1, School A, November 2025). Teachers also admitted this dynamic: “Students follow-through of their friends. When a high achiever student takes good care of himself, the others will strive to follow suit. On the other hand, one can adopt the attitude of influential students as others adopt the same attitude by not following hygiene” (Interview 16, November 2025).

Teachers admitted their role but offered curriculum overload as an impediment to systematic hygiene education. The teacher at School A observed that there is intense pressure on the curriculum. “We refer occasionally to it, scold dirty students, but we cannot teach systematically” (Interview 15, November 2025). However, constant observation by individual teachers had measurable results. One teacher at School B who would check the nails of students on a regular basis noted that the students would eventually develop the habit without opposition meaning that structured, repeated reinforcement can also be effective even in the larger framework of the system.

4.6 Way Forward: Mitigating Challenges and Ensuring Hygiene

Practice of the Students

All the results of the themes above lead to a complex of tangible interdependent steps that should be implemented to enhance hygiene outcomes among students of government primary schools in semi-urban Dhaka.

4.6.1 Urgently Upgrade School WASH Facilities

The state of school WASH infrastructure was the most consistently identified barrier among all groups of participants. School A had four functional toilets for 350, School B six functional toilets for 700 students- 87:1 and 116:1 ratio respectively, way above the WHO/UNICEF recommended 25 girls per toilet ratio. A midday water cut-off was reported at School A that caused students to be left at handwashing stations without water to wash their hands with, forcing students to improvise by using bottled drinking water. Backup storage tanks and contingency plans need to be developed in schools that experienced the disruption of water supply, which was among the issues that every parent cited in the FGDs. Water was available for no more than 3-4 hours a day in some communities. One mother at School B explained, “Water is needed to be saved for cooking after that what remains is for washing” (FGD 2, School B, November 2025).

4.6.2 Shift Hygiene Education from Information to Skills

There was no specific hygiene education program in either of the two schools. National curriculum, as the head teacher at School A admitted, did not have any particular time of hygiene education, but it had some health subjects. If there was a structured hygiene curriculum from Grade 1 to Grade 5 with specific time schedule slots and grade-specific skills-based content, the correct technique on handwashing, toothbrushing, cough and sneeze etiquette, nail care, hair hygiene would have been demonstrated during the lessons. More importantly, the data demonstrates the fact that students are responsive to health and social motivations. One of the teachers in School A remarked: “Students are more sensitive to social than health issues. When I inform them, you will be liked or other people will be nice to you, they will borrow it in comparison to when I inform them that they will get disease” (Interview 14, November 2025). The results show that students possess declarative hygiene awareness but lack

procedural competence; they are aware that they are supposed to wash their hands and are unaware of how to do it.

4.6.3 Expand and Redistribute Parents' Role in Hygiene Education at Home

Mothers were found in all sources of data as the major hygiene educators in the domestic realm. However, the mothers in the FGD groups often reported the shortage of correct hygiene knowledge: “I tell my children to wash hands, take bath, keep clean but I myself don’t know everything. What I learned from my mother; I teach them” (FGD 2, School B, November 2025). FGD groups from both schools suggested that schools should initiate family hygienic education programs that provide parents with evidence-based and practical hygienic education and address the existing myths, including the misguided belief that cold air or cold food is the cause of disease, not microorganisms. Such programs should be scheduled to accommodate the time limits that working parents are going through. The involvement of fathers should also be considered, since at present they have a minimal role; it has been proved that they mostly react to the fact of children being dirty, as one observed Grade 5 student in School B noted: “My father buys soap, toothpaste when we need. He doesn’t teach about hygiene, but he gets angry if we are dirty” (Interview 12, November 2025). There should be more equal sharing of the hygiene education duties of both parents.

4.6.4 Address the Economic and Structural Root Causes of Poor Hygiene

The policymakers are advised to explore the feasibility of subsidized hygiene product distribution to the low-income families and school-based program of supplying soaps by both parents and teachers. The teachers explicitly pointed to the gaps in the policies: “According to the government, adequate WASH facilities should be provided in schools, but none is enforced efficiently. Inspectors do not check. In the case they do, no extra budget is provided to schools to improve. Even if the budget is approved it takes a long time to implement” (Interview 18, November 2025).

The mandates on WASH should be backed by effective accountability systems, specific fiscal allocations and technical support. Even though students seemed to be resigned to their circumstances, “All my friends face some problems. This is how things are. What can I do?” (Interview 11, November 2025) — deserve an environment of structural hygiene, not of expected hygiene.

Chapter 5

Discussion and Conclusion

5.1 Discussion

This qualitative study explored the perceptions, practices, and barriers to hygiene among government primary school students in Bangladesh. Through triangulation of data from student interviews, teacher interviews, parents' focus group discussions, and structured observations, the study generated insights about the factors shaping children's hygiene behaviors.

5.1.1 Understanding Children's Hygiene Perceptions

Chapter four (Section 4.2.1) showed that students have multidimensional conceptions of hygiene encompassing physical cleanliness, health protection, and social acceptability and that social motivations have consistently dominated the health motivations as predictors of actual hygiene behavior. These results have significant implications for the design and delivery of hygiene interventions. The fact that hygiene is perceived as a social norm as much as it is a health behavior is consistent with Sultana et al. (2022), who discovered that hygiene within Bangladeshi societies is connected to the cultural concepts of respectability and purity rather than prevention of disease. It is also indicative of the dual-motivation pattern in the Social Cognitive Theory (Bandura, 1986), which acknowledges that the presence of the social consequences, which are immediate (like peer acceptance) is more likely to motivate behavior than the abstract future health consequences. This demonstrated more behavior-based definitions among the younger students (Grades 3 & 4) and more abstract health-based thinking among the older students (Grade 5), as would be expected based on developmental patterns in health cognition with the rest of the literature.

5.1.2 The Knowledge-Practice Gap

The results of Chapter four (Sections 4.2.2 and 4.2.3) showed that there was a significant discrepancy between the self-reported practices and observed behaviors of the students. Every respondent stated that they washed their hands prior to eating and after going to the toilet, however, observations revealed that these practices were not performed properly and in a complete way. The use of soaps was very low, and very few students were able to portray the appropriate hand-washing method. Hygiene behavior was differentiated as being very selective and situational. The level of compliance with visible hygiene practices, including clean school uniform, brushing teeth, was greater among students, compared with less noticeable ones, including proper handwashing technique, cough etiquette, and hair hygiene. Supervision was also very important: the presence of teachers in close locations with handwashing points made students use soap more often. The knowledge-practice gap aligns with the previous quantitative studies (Alam et al., 2020). The selectivity of the hygiene behaviors is explainable using the principles of operant conditioning (Skinner, 1953) in which, behavior is reinforced by visible, immediate outcomes. Compliance is situational, which explains the idea of Bandura (1986) of reciprocal determinism, whereby the behavior of students is determined by a combination of individual factors, behavioral patterns and environmental situation.

5.1.3 Multilevel Influences on Hygiene Behavior

The hygiene behavior (Chapter four (Sections 4.5.1-4.5.3)) has been influenced by issues that work at various levels, including individual, interpersonal, organizational, and community. At individual level, self-efficacy played a very important mediating role: high self-efficacy students formulated adaptive solutions when faced with resource limitations, but low self-efficacy students demonstrated helplessness. Gender disparities developed and the female students were more concerned with the appearance and adherence to hygiene that were portrayed as culturally reinforced norms of cleanliness for girls. At the interpersonal level,

mothers were the major hygiene educators at home, although the effectiveness of such education was usually limited due to workload and lack of knowledge in mothers themselves. Although this influence of peer did not find direct recognition in the respondents, it was quite noticeable in the fieldwork. At the organizational level, the school WASH facilities were extremely poor with student to toilet ratios of 87:1 and 116:1, which formed a significant structural obstacle to the practice of consistent hygiene.

These findings are in line with the socio-ecological model (McLeroy et al., 1988), which assumes that the result of health depends on intersecting spheres of impact. Self-efficacy as a mediator on the individual level and the role of mothers in hygiene education is consistent with the previous study on child health in Bangladesh (Alam et al., 2020). The gap between the reported school WASH policy and the infrastructure indicates the system-wide issues with the education sector (Huisman & Smits, 2009).

5.1.4 Barriers to Maintaining Hygiene

Chapter four (Section 4.4) has determined that there are four categories of barriers which are interrelated. Concerning knowledge barriers, the students were able to explain the importance of hand-washing; however, they lacked the procedural knowledge of how to do it correctly, only a few students who were observed could do proper hand-washing. Other students had wrong assumptions related to the cause of sickness, including cold air causing sickness as opposed to germs, thus, lowering their willingness to engage in hygiene. There were also the economic barriers: the price of soap, toothpaste, and water was a real burden on the low-income families, and some households spent approximately 120–140 taka per month on hand-washing soap. Structural barriers such as lack of water, poor school toilets and inadequate hand washing sites among others rendered consistency of practice structurally impossible with or without the intent to do so. Lastly, lack of time, especially pressed morning schedules and limited school recesses, also led to appropriate hygiene often being sacrificed for practicality.

The difference between declarative and procedural knowledge that was determined in the study has not been examined in hygiene studies to a great extent. Health education that is based on skills training instead of information sharing is more effective in behavior change as was discovered by Luby et al. (2009). The complex nature of the barriers which have been compounded by economic barriers, structural barriers and time barriers means that personal awareness is inadequate to create consistent hygiene practice.

5.1.5 Integration of Theoretical Frameworks

The results of this research integrated theoretical approach by applying Health Belief Model, Social Cognitive Theory and the socio-ecological model. Health Belief Model (Rosenstock, 1974) describes the personal decision-making on hygiene in terms of perceived barriers, benefits, and susceptibility. Nevertheless, the data showed it alone does not suffice in the resource-constrained environment: learners might be aware of the necessity of hygiene but cannot make a change because of structural and economic barriers. The Social Cognitive Theory (Bandura, 1986) offers significant understanding of observational learning, self-efficacy, as well as the influence of environmental conditions in developing behavior. The socio-ecological framework (McLeroy et al., 1988) gives the widest frame, to understand individual behavior within the context of inter-personal, organizational, community, and policy-level influences. These findings demonstrate clearly that sustainable improvement of hygiene cannot be achieved through individual knowledge alone, as long as the family resources, the infrastructure of schools, water supply in the community, and even the policy enforcement are all insufficient.

5.1.6 Methodological Contributions

This study contributes to the hygiene research in Bangladesh in several methodological ways. The triangulation (interviews, use of focus groups and structured observations) approach unveiled significant differences between self-reported and actual hygiene behaviors, and thus

demonstrated the weaknesses of using self-report measures. The involvement of students, parents and teachers in the study provided a more detailed picture than those that only used one point of view because they revealed differences in opinions on the issue of responsibility in hygiene education. The approach of child-centred which viewed students as active agents and not passive receivers of health messages also showed usefulness of qualitative methods in obtaining children's own reasoning and motivation. The structured observations in natural environments provided observational data that self-report methods cannot capture.

5.2 Conclusion

This study has generated a rich, multi-layered, contextually grounded understanding of the perception, practice and experience of semi-urban Dhaka government primary school students on the barriers to hygiene. The results support the idea that individual, interpersonal, organizational and policy-level determinants of hygienic behaviors among students are influenced by a complex interaction. The conversion of knowledge into practice is mediated by self-efficacy and personal convictions. Mothers acted as the main hygiene educators in the domestic setting, but they were limited by their lack of knowledge and financial limitations. Educators recognized their educational roles and were overwhelmed by the requirements of the curriculum and lack of resources. The poor WASH facilities at schools make regular hygiene habit structurally burdensome. The economic constraints, low water availability, poor school infrastructures and time constraints compound each other in a way that they contribute to maintaining the gap between knowledge and practice even among the students with rather strong awareness.

5.3 Recommendations

According to the results of this research, the school administrators, teachers, parents, policymakers and community stakeholders are advised as follows:

5.3.1 Renovating School WASH Infrastructure

The significant lack of WASH facilities should be solved as soon as possible by school administrators and government officials. Student to toilet ratios between both schools of study were way above WHO/UNICEF requirements (25 students per toilet). Schools should ensure that there are functional, sanitary, and gender separated toilets in adequate numbers and increase handwashing points with a constant supply of soap. Back-up storage tanks should be installed in regions where the supply of water is discontinuous. The government ought to implement the available WASH requirements by undertaking routine inspection, responsible budgetary allocations and implementation timetables.

5.3.2 The Implementation of Structured Hygiene Curriculum

At the national primary school level, a structured, skills-based hygiene education program should be included between Grade 1 and Grade 5 with specific instructional time and age specific learning objectives. Teaching should go beyond information to teach the correct skills-how to wash hands, brush teeth, cough etiquette and nail and hair care. Since students are more willing to respond to social than health motivations, hygiene education messages ought to be developed in terms of social relevancy in relation to health information.

5.3.3 Building Teacher Capacity

The teachers need to be trained on health and hygiene teaching before and after service provided in addition to the teaching materials. Little routines of hygiene such as nail and uniform checks should be institutionalized at schools, which the study has shown to be effective in creating habits that are consistent among the students. Time and institutional help should be distributed in such a way that hygiene education is not left to purely teacher initiative.

5.3.4 Involvement of Parents, Especially Fathers

Schools ought to create family hygiene education programs that provide parents with evidence-based and practical hygiene information and challenge common myths. The working parents

should be able to fit in these programs. Notably, fathers should be actively involved as a co-educator in this case because they are now involved in a rather passive role of being just buyers or showing their dissatisfaction instead of offering positive experience. Equity in the distribution of hygiene education between the two parents would improve on the results of the students.

5.3.5 Addressing the Economic and Policy Underlying Causes of Poor Hygiene

Hygienic product programs aimed at low-income households and school-based schemes of giving out soaps to the schoolchildren should be considered by the policymakers. Realistic budgets, technical support, and actual accountability mechanisms should ensure that WASH mandates are enforced. Poor hygiene is the result of structural factors, which include poverty, lack of proper water supply, and poor infrastructure and, thus, needs a concerted effort from the education sector, health sector, and the local government. Without structural change, the primary school students in the semi-urban city of Dhaka cannot maintain healthy hygiene behaviors when only individual knowledge and motivation are in place.

References

- Adeoye-Olatunde, O. A., & Olenik, N. L. (2021). Research and scholarly methods: Semi-structured interviews. *Journal of the American College of Clinical Pharmacy*, 4(10), 1358–1367. <https://doi.org/10.1002/jac5.1441>
- Alam, S. S., Haque, A., Shipu, T. A., Ghosh, S., Kabir, R. K., & Rahman, M. N. (2020). Assessment of hand washing knowledge and practice among primary school children in Noakhali District, Bangladesh. *American Journal of Public Health Research*, 8(6), 197–201. <https://doi.org/10.12691/ajphr-8-6-3>
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.
- Bloomfield, S. F., & Nath, K. J. (2009). *Use of ash and mud for handwashing in low-income communities*. <https://www.ifh-homehygiene.org/review-best-practice/use-ash-and-mud-handwashing-low-income-communities/>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Chowdhury, T. N., & Mahajan, P. (2020). Knowledge, attitude and practices among government school students towards personal hygiene. *International Journal of Scientific Research in Science and Technology*, 7(6), 311–322. <http://ijsrst.com/IJSRST207542>
- Christensen, P. H. (1999). *Towards an anthropology of childhood sickness: An ethnographic study of Danish schoolchildren* [Doctoral dissertation, University of

<https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.310242>

- Curtis, V. A., Danquah, L. O., & Aunger, R. V. (2009). Planned, motivated and habitual hygiene behaviour: An eleven country review. *Health Education Research*, 24(4), 655–673. <https://doi.org/10.1093/her/cyp002>
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1–4. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Ghanim, M., Dash, N., Abdullah, B., Issa, H., Albarazi, R., & Al Saheli, Z. (2016). Knowledge and practice of personal hygiene among primary school students in Sharjah-UAE. *Journal of Health Science*, 6(5), 67–73. <https://doi.org/10.5923/j.health.20160605.01>
- Ghose, J. K., Rahman, M. M., Jayedul, H., Khan, M. S. R., & Alam, M. A. (2012). Knowledge and practicing behavior related to personal hygiene among the secondary school students of Mymensingh Sadar Upazila, Bangladesh. *Microbes and Health*, 1(1), 34–37. <https://doi.org/10.3329/mh.v1i1.13712>
- Ghosh, S., Kabir, M. R., Khan, M. M. I., Shill, L. C., & Alam, S. S. (2020). Knowledge, attitude, and practice (KAP) regarding personal hygiene among primary school going children in Sadar Upazila, Noakhali District, Bangladesh. *Indian Journal of Public Health*, 11(6), 1465–1471. https://doi.org/10.4103/ijph.IJPH_167_20
- Hammarberg, K., Kirkman, M., & de Lacey, S. (2016). Qualitative research methods: When to use them and how to judge them. *Human Reproduction*, 31(3), 498–501. <https://doi.org/10.1093/humrep/dev334>

- Huisman, J., & Smits, J. (2009). Effects of household- and district-level factors on primary school enrollment in 30 developing countries. *World Development*, 37(1), 179–193. <https://doi.org/10.1016/j.worlddev.2008.01.007>
- Johnson, R. B., & Christensen, L. (2019). *Educational research: Quantitative, qualitative, and mixed approaches*. SAGE Publications.
- Kawulich, B. B. (2005). Participant observation as a data collection method. *Forum: Qualitative Social Research*, 6(2), Article 43. <https://doi.org/10.17169/fqs-6.2.466>
- Khobragade, A. W., Nagrale, N., & Junaid, M. (2021). Personal hygiene practices and morbidity pattern among a tribal primary school children of Maharashtra. *Indian Journal of Forensic Medicine & Toxicology*, 15(1), 1939–1943. <https://doi.org/10.37506/ijfmt.v15i1.13693>
- Luby, S. P., Halder, A. K., Huda, T. M., Unicomb, L., & Johnston, R. B. (2009). Using child health outcomes to identify effective hygiene promotion: Community trials of different interventions in Bangladesh. *American Journal of Tropical Medicine and Hygiene*, 80(6), 1089–1097.
- Maji, B., & Samanta, S. (2021). Assessment of personal hygiene and morbidity pattern among primary schoolchildren in a rural coal-field area of West Bengal, India. *Journal of the Scientific Society*, 48(2). https://doi.org/10.4103/jss.jss_105_20
- May, T. (1997). *Social research: Issues, methods and process*. Open University Press.
- McGrath, C., Palmgren, P. J., & Liljedahl, M. (2018). Twelve tips for conducting qualitative research interviews. *Medical Teacher*, 41(9), 1002–1006. <https://doi.org/10.1080/0142159X.2018.1497149>

- McLeroy, K. R., Bibeau, D., Steckler, A., & Glanz, K. (1988). An ecological perspective on health promotion programs. *Health Education Quarterly*, 15(4), 351–377. <https://doi.org/10.1177/109019818801500401>
- Nematian, J., Nematian, E., Gholamrezanezhad, A., & Asgari, A. A. (2004). Prevalence of intestinal parasitic infections and their relation with socio-economic factors and hygienic habits in Tehran primary school students. *Acta Tropica*, 92(3), 179–186. <https://doi.org/10.1016/j.actatropica.2004.06.010>
- Oxford University Press. (2018). Hygiene. In *Oxford English Dictionary Online*. Retrieved April 25, 2026, from <https://www.oed.com>
- Pal, J., & Pal, A. K. (2017). Knowledge, attitude and practice of personal hygiene and its predictors: A school-based study among adolescent girls in an urban slum. *International Journal of Medical Science and Public Health*, 6(9), 1411–1417.
- Rahman, M. M., Ali, M. A., Parvez, A., Shahriar, M., Rahman, T., & Shameem, D. (2019). Knowledge and practice of personal hygiene among primary school students in Dhaka, Bangladesh. *Journal of Pharmaceutical Sciences and Research*, 11(9), 3140–3144.
- Rajbhandari, A. K., Dhaubanjari, R., GC, K. B., & Dahal, M. (2018). Knowledge and practice of personal hygiene among secondary school students of grade nine and ten. *Journal of Patan Academy of Health Sciences*, 5(2), 107–113. <https://doi.org/10.3126/jpahs.v5i2.24030>
- Rosenstock, I. M. (1974). Historical origins of the health belief model. *Health Education Monographs*, 2(4), 328–335. <https://doi.org/10.1177/109019817400200403>

- Salehi, K., & Golafshani, N. (2010). Commentary: Using mixed methods in research studies—An opportunity with its challenges. *International Journal of Multiple Research Approaches*, 4(3), 186–191. <https://doi.org/10.5172/mra.2010.4.3.186>
- Sarkar, M. (2013). Personal hygiene among primary school children living in a slum of Kolkata, India. *Journal of Preventive Medicine and Hygiene*, 54(3), 153–158.
- Sekhon, H., & Minhas, S. (2014). A school-based survey on hygiene in a rural area of Northern India. *International Journal of Pharma Research and Health Sciences*, 2(2), 179–184.
- Skinner, B. F. (1953). *Science and human behavior*. Macmillan.
- Sultana, F., Rahman, M. M., & Hossain, M. S. (2022). Water, sanitation and hygiene (WASH) practices and perceptions in Bangladesh: A systematic review. *International Journal of Environmental Research and Public Health*, 19(7), 4055.
- Tong, A., Sainsbury, P., & Craig, J. (2008). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19(6), 349–357. <https://doi.org/10.1093/intqhc/mzm042>
- Vivas, A., Gelaye, B., Aboset, N., Kumie, A., Berhane, Y., & Williams, M. A. (2010). Knowledge, attitudes, and practices (KAP) of hygiene among school children in Angolela, Ethiopia. *Journal of Preventive Medicine and Hygiene*, 51(2), 73–79.
- Watts, S. (2004). Women, water management, and health. *Emerging Infectious Diseases*, 10(11), 2025–2026. <https://doi.org/10.3201/eid1011.040237>
- World Health Organization & UNICEF. (2018). Core questions on drinking water, sanitation and hygiene for household surveys: 2018 update.

World Health Organization. (2009). *Global health risks: Mortality and burden of disease attributable to selected major risks*.

World Health Organization Regional Office for Africa. (n.d.). Hygiene.
<https://www.afro.who.int/node/5610>

Appendices

Appendix A. Consent Letter

I am aware of the research on “Perception of Teachers and Students Towards Hygiene Practice in Government Primary Schools.” I have been oriented by the researcher to the research related to this consent. I was given the opportunity to ask relevant questions for this research, which were answered accordingly and to my satisfaction by the researcher. As a participant, I fully understand that this consent is voluntary, and in no way am I threatened or convinced to participate under duress.

I am aware that if I feel it inconvenient to continue with my participation in this research, I may withdraw from my participation at any time.

Please check the box:

☐ I am of legal age.

☐ I am below legal age. Therefore, a guardian will sign on my behalf.

Participant’s name:

Name of the researcher:

Signature & Date

Signature & Date

Appendix B. CONSENT FORM

Hi! My name is Mahbuba Ahmed Roje. I am learning about how students stay clean and healthy.

I would like to talk with you about:

- How you wash your hands
- How you brush your teeth
- How you take a bath
- What makes it hard to stay clean

This will take about 30 minutes, like one class period.

You can:

- ✓ Ask me questions anytime
- ✓ Skip questions you don't want to answer
- ✓ Stop talking to me anytime
- ✓ Take a break if you need

I will not tell your teacher, parents, or friends what you say, except in situations where I am worried about your safety.

Do you want to talk with me?

- ☐ Yes, I want to talk
- ☐ No, I don't want to talk

Child's name: _____ Date: _____

Researcher signature: _____

Appendix C. INTERVIEW GUIDELINE FOR STUDENTS

Time of the interview:

Date of the interview:

Place of the interview:

Part A: Socio-demographic information

SL No. Question

1. Age of the participant
2. Gender of the participant
3. The grade you read in
4. Your mother's occupation
5. Years of education your mother completed
6. Your father's occupation
7. Years of education your father completed
8. Your religion
9. Number of family members
10. Working members of your family

Part B: Perception Towards Hygiene

SL No. Question

1. Have you ever heard about the term "hygiene"?
2. From whom did you hear?
3. What do you understand by hygiene?
4. Do you know the basic requirements for maintaining hygiene?
5. What are they?
6. How do you maintain hygiene?
7. Does anyone help you maintain good hygiene?
8. What do you think about good hygiene practices?
9. Is it good for our health or important for our health and why?
10. What happens if we don't practice good hygiene?

11. Can you name some diseases that may be caused if you do not maintain proper hygiene?
12. What makes it hard for you to stay clean?
13. What do you do to overcome those obstacles?
14. Do you feel comfortable discussing your personal health and hygiene?
15. With whom do you feel comfortable discussing your hygiene practices? Why do you feel comfortable discussing these with them?

Part C: Hygiene Practices

SL No. Question

1. How do you clean your teeth?
2. How many times do you brush your teeth in a day?
3. How do you brush your teeth?
4. What do you do before eating?
5. Do you use soap when you wash your hands before eating?
6. Do you wash your hands after using the toilet?
7. What do you use to wash your hands after using the toilet?
8. What do you use to clean yourself after using the toilet?
9. Do you clean your hands and legs after playing?
10. Do you clean your hands and legs after returning home from outside?
11. Do you take a bath every day?
12. How many times do you shower in a week?
13. Do you use soap every time you take a bath?
14. Do you clean your eyes and nostrils?
15. How frequently do you clean them?
16. How frequently do you clean your hair?
17. What do you use to clean them?
18. Do you trim your fingers and toenails?
19. How often do you trim them?
20. Do you cover your face while coughing and sneezing?
21. Do you use tissue if you have a cold?

- 22. Do you wear slippers or shoes while going outside?
- 23. How often do you change your clothes?
- 24. What do you think makes your clothes dirty?
- 25. If your clothes are dirty, how do you feel?

Appendix D. INTERVIEW GUIDELINE FOR TEACHERS

Date of the interview:

Place of the interview:

Part A: Socio-demographic information

SL No. Question

1. Age of the participant
2. Gender of the participant
3. Years of teaching experience
4. Have you ever heard about the term “hygiene”?
5. What is your understanding of good hygiene practices?
6. How do you think good hygiene practices affect our health?
7. Have you received any training in hygiene education?
8. Do you think it’s important for students to know about hygiene?
9. How do you think good hygiene knowledge will help the students?
10. Have you ever discussed hygiene practices with any students?
11. What challenges do you face in teaching hygiene to students?
12. What hygiene practices have you seen maintained by the students?

APPENDIX E. FOCUS GROUP DISCUSSION GUIDELINE

SL No. Question

1. What are your biggest concerns as parents about your children's health?
2. Have you ever heard about the term “hygiene”?
3. Can you describe a typical day in your household - when and how do your children practice hygiene?
4. How did you learn about hygiene? How do you teach your children?
5. What makes it difficult for families in our community to maintain good hygiene? How do you manage when money is tight?
6. What role does the school play in teaching your children about hygiene? Do you feel the school does enough?
7. Do you notice differences in how boys and girls practice hygiene? Why do you think this is?
8. What are the biggest barriers preventing children from practicing good hygiene? What would make it easier?
9. Is there anything important about children's hygiene that we haven't discussed?
10. What advice would you give to health educators or policymakers trying to improve children's hygiene?

P.S: Probing questions will be asked according to the discussion and response from the FGD participants.

APPENDIX F. GENERAL OBSERVATION CHECKLIST

WASH Facility Observation Checklist

Toilet Facilities:

- Number of toilets & Accessibility (boys/girls/total)
- Functionality (working/non-working)
- Cleanliness level (very clean/clean/moderately dirty/very dirty)
- Presence of water
- Privacy (doors present and functional)
- Signs of maintenance

Handwashing Facilities:

- Number and location of handwashing stations
- Type of water source (tap/tube well/bucket)
- Water availability at time of observation
- Soap availability (present/absent; type)
- Condition of facilities (functioning/broken)
- Drainage system

General WASH Environment:

- Waste disposal bins present and in use
- Cleanliness of surrounding area
- Accessibility of facilities (queues/crowding)
- Menstrual hygiene management facilities
- Distance from classrooms
- Overall maintenance level

Student Hygiene Behavior Observation Checklist

Handwashing Behavior:

- Before meals? After toilet use? After playing?
- Use of soap? Duration? Just Rinsing with water?
- Where do students wash hands?

- What do they use to wash/dry?

General Cleanliness Indicators:

- Clothing: Cleanliness of uniform, condition
- Hands and nails: Nail length and cleanliness.
- Hair: Grooming, cleanliness.
- Face: Clean or dirty?
- Shoes/feet: Wearing shoes? Condition?

Hygiene-Related Behaviors:

- Covering mouth when coughing/sneezing?
- Eating practices (clean hands before eating?)
- Sharing food/water bottles.
- Toilet usage patterns.
- Response to dirty hands.