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Child Health and School Sanitation across School Systems

Afia Kanwal[*]
Awais Aslam Rana[**]

Abstract

The impact of sanitation facilities on academic environment and child health in Pakistan is a field of study that is often ignored. This research primarily attempts to provide an overview on the current sanitation scenario in different socioeconomically divided schools across three urban cities of Punjab, Pakistan. The study used a triangulation of urban ethnography with phenomenological approach to gather information through observations, interviews, student narratives and document analysis. The study, on one hand, highlighted the need of healthy safe school environment initiatives run and monitored by the state across the globe. The study also a hempted to explore the relation of this challenging issue to educational success and child health.

***Keywords**:* child health, safe school, educational success, sanitation facilities, drinking water facilities

[*]Air University, Islamabad, Pakistan; Email:afiakhere@gmail.com, afia.kanwal@mail.au.edu.pk
[**]Student & researcher, NUML, Islamabad; Email: aar21@student.london.ac.uk

Introduction

School sanitation refers to the basic environmental conditions of the school that influence health and well-being of school going children and includes conditions of clean and safe drinking water supply in schools, efficient sewage disposal system, environmental hygiene and availability of information on hygiene to the school staff and children.

A clean environment is the basic right of every child who enters schools as it has direct impacts on children health and their overall capacity to continue to learn and flourish. Both public and private sector schools speak at large about the quality they are constantly bringing in the educational sector through curriculum reforms, teacher trainings and improving induction techniques however, sanitation and health issues with a direct impact on children health are areas that are given the least importance. This is due to the lack of understanding about the link between sanitation in environment and the possibility of its influence and relation to educational success and children well-being.

Sanitation is an important concept for hygiene across the globe, yet it is an ignored issue in the context of everyday academic discussions, which may be one of the reasons why it is found in such a pathetic state of ignorance leading most children to sickness, dropouts and even death. The discussion on sanitation in academic circles as such is almost a 'taboo' not only in Pakistan but in almost every culture. Nevertheless, recent literature has thrown much light on the value of sanitation and the benefits it can bring to children health in any society. Fawcett, (2008) stated that 'our attitudes are not surprising. Faeces and urine are extremely distasteful subject and it's preferable to avert our gaze and our noses. As a result of this attitude the worldwide sanitary crises is often wrongly diagnosed and wrongly addressed'. Many international gatherings addressed the issue of sanitation during the last century and gained some success in improving the prevailing condition of sanitation across the world (Black & Fawcett, 2008) however, there is a lack of empirical studies on the topic and its impacts (Greene, Freeman & Akoko, 2012). Many harmful infections and diseases such as cholera, typhoid, diarrhea, acute respiratory illness and other communicable diseases are caused mostly by poor sanitation conditions on which little or no information is available to children, the school staff and families.

Children are not only likely to be affected in different ways by inadequate water, sanitation and hygiene conditions in schools, but it also impacts dropout and absence rates (Adams, Simms & Bartrom, 2009). Specifically, in case of girls it has been observed that school WASH

improvements can improve school attendance for girls (Greene et al., 2012). Similarly, Safe water and adequate sanitation are important to health which influences the ability to gain quality education.

Improved water and sanitary facilities and promotion of personal and domestic hygiene are known to enhance health and reduce chances of disease, Kliegman (2007). Wright (2010) points out that sanitation related disease is the biggest cause of burden of disease in low income countries with very little intervention. Pakistan falls in slowly progressing countries facing sanitation related disease. The situation becomes grave for children in such countries. UNICEF (2015) report on an integrated approach to drinking water, sanitation and hygiene across 50 countries which include Pakistan realized that in order to maximise positive impacts on the health, welfare and productivity of populations hand washing, using soap and access to basic facilities are critically important. Though the population who receives water is large, yet the water they receive is not safe and many times contaminated due to leaky pipes, unmonitored system and lack of resources.

Bourne (2013) pointed out that 'sanitation is a collective concern which requires an active understanding and cooperation of all community members and since it is a taboo ridden subject, it becomes difficult to achieve such cooperation'. Implementation programs in countries like Pakistan must understand the value educational factors play in removing this problem yet it is the educational institutes which seem to suffer the most from this problem. In low income countries such programs are only initiated by government which is why implementation is not appropriate.

Methodology

This research followed a mixed method approach that used urban ethnography in combination with phenomenology. The tools used to gather data included observations, interviews, document analysis and student narratives. Urban ethnography looked into the complexities of the social, cultural and physical settings of different socioeconomic classes in which the institutes existed provide different experience to its participants. Ethnographic methods provided the researcher with *what participants say whereas the phenomenological method provided answers to how they experience and feel.* Phenomenology was hence, used in combination to Urban ethnography as it provided instances of individual experience and an insight story of the experiencer.

Phenomenological methods have always been interested in narratives, and qualitative analysis based on phenomenological thought which is concerned with understanding people's experiences through the stories they tell (Davidsen, 2013). A systematic procedure was adopted to analyze data under phenomenological approach based on interpretation and description. It further involved different steps such as reading for meaning, dividing the text into meaningful units, expressing the meaning in a more transferrable method, formulating a structure that highlights the experience in the narratives, and illustrating the themes in detail.

The school systems of Pakistan are specifically interesting in their overall construct as they are stratified into different socio-economic classes based on the economic status of those who have access to specific schools. The assumption formed to assess data results was that there is no difference in water and sanitation facilities across low, medium and high paid school streams in different cities. The study included a total of thirty-six schools from three major cities of Pakistan in the state of Punjab namely Rawalpindi, Sialkot and Faisalabad. Twelve schools from each city formed a sample which was further divided into three categories based on the distinction made between them with respect to their socioeconomic standing and this category was referred to as low paid, medium paid and high paid schools. The criteria for school social class was based on the demographics of the children who had access to the particular school, the parents' income and education of the parents, the school fee structure and the funding schools received and generated. The students sample was categorized with respect to their socioeconomic class and the school category, for instance, students belonging to low socioeconomic class attending low paid schools, middle socioeconomic class attending medium paid schools and high socioeconomic class attending high paid schools. Exceptional cases were not considered for this study. A total of 180 students from all the schools across the three cities gave responses in the form of narratives.

The researcher visited schools in all three regions personally to observe the sanitation and water facilities however, in schools where it was not possible to physically attend observations were carried out through reliable staff and teachers based on a checklist. Moreover, twenty Interviews were conducted to gather responses of teachers, parents, educational specialists, NGO personals and students regarding sanitation and child health in schools. Likewise, documents available in schools in any form which were capable of providing information about provisions, policies and information on sanitation were reviewed.

Textbooks too were analyzed with respect to the existence of sanitation related content.

The data gathered through observation, interviews, student narratives and document analysis were combined to find out common themes across the complete set of information. Inter-reliability of the data was attained through the use of multiple tools to gather data from each school.

Results

In order to assess the overall sanitation condition across the sample, environmental hygiene, conditions of clean and safe drinking water supply, efficient sewage disposal system and availability of information on hygiene was observed based on a checklist with a scale of 1 to 10 (1 being poor and 10 being excellent) as a measurement criterion. The following table shows the sanitation situation and health status taken across the sample.

Table 1

Percentage of School Sanitation Situation and Health Status

Stratified school sample	School sanitation situation	School health status
Private Low paid, Federal & Government schools stratified as Lower Class with fee range 20—500	Sanitation facilities missing in 97% of the sample Basic sanitation facilities available in 3% schools	Nonexistent to very poor
Private medium paid, Federal & Government schools stratified as Middle Class with fee range 500-2500	Sanitation facilities missing in 79% of the sample Basic sanitation facilities available in 21% schools	Poor to somewhat satisfactory
Private high paid, International schools stratified as Higher Class with fee range 2500 Onwards	Sanitation facilities missing in 66% of the sample Basic sanitation facilities available in 34% schools	Poor to improved

It was observed that in high paid schools across the three cities basic sanitation facilities were mostly missing however in part of the sample

environmental hygiene was maintained in terms of cleanliness and the available water supply in these schools. Water however, was not monitored in terms of being uncontaminated and safe. There were a few campaigns to teach children hand washing practices but the information available on hygiene to children was overall insufficient. Sanitation related objects were not clean in most of these schools. Some of the high paid schools were built on large areas with relatively better sanitation facilities yet, some high paid schools existed in small house buildings where the latrines were attached with the classrooms and the staff did not maintain cleanliness. The ratio of the latrines was much lesser as per the children and staff ratio. Availability of Soap and tissues were missing, and the temperature of the available water too was not maintained in any school. Likewise, the sewage disposal system was poor in these schools and the toilets were not adapted to children needs specifically to the need of girls.

In medium paid schools, basic sanitation facilities were mostly missing. Although water was available however, it was not monitored, and the filters were never changed. The water area was unpleasantly dirty, and the water glass were chained to the coolers. Similarly, the condition of the latrines was pathetic. Environmental hygiene in these schools was poor and there was a lack of availability of clean and safe water supply. There were very few campaigns that taught children hand washing and hygienic practices. Sanitation related objects were missing in most schools and in cases they were present most of them were dirty and broken. The drinking and washroom facilities were quite distanced from the classrooms. For instance, in 30% of the total sample under study said that 'the latrines were so far that it took almost five or more minutes' for students to reach them. The ratio of the latrines as per the children and staff ratio was a complete mismatch. Availability of soap and tissues were missing in all the medium paid school and the temperature of the available water was not maintained as these concepts were not even thought of as necessary for school children. The sewage disposal systems were in critical to poor conditions in these schools as there was no monitoring of the available facilities. Moreover, most latrines were kept locked due to lack of water or blockages and there were cracks in the latrine buildings with leakages. Though the reinforcements of hygiene was carried out by teachers through textbook material yet in practice it did not exist. The health organization visited some schools once a year but awareness regarding hygiene and sanitation was not reinforced.

Figure 1: The water tank used in schools for drinking water

In low paid schools, sanitation facilities were completely missing. In cases where the water was available it was not monitored in terms of being safe. The water area was dirty and there were no glasses hence, children used hands to drink water in most cases. On the other hand, the conditions of the latrines were miserable. In these schools the concept of environmental hygiene did not exist, and the availability of clean and safe water supply too was missing. Campaigns that taught children hand washing and hygienic practices were nonexistent. Sanitation related objects were not present in most schools and at times children left school to use latrines at homes. The children ratio to number of latrines was also a mismatch in these schools and there was no concept of using soaps and tissues. Although some hygiene related information was present in textbooks, but it was a mere textbook chapter and no effort was made to address it practically. Below is a picture of water facility in one of the low paid schools.

Figure 2: Classroom Picture of a Low Paid School

The children bring water from homes. The school does not have water and sanitation facility.

Unstructured phenomenological **interviews** across each school provided in-depth data from the participants about the conditions of water and sanitation in each institute. Interviews not only provided with complementary information on the issues involved but also focused on learning about the participant experience. The sample of the interviewee consisted of teachers, parents, educational specialists, NGOs and students. Maximum participants across all the cities of different social structure were of the view that children health is influenced by school basic sanitation conditions. They pointed out that there were 'no policies or measures to provide children safe water'. A teacher from middle paid school said that children in her school mostly 'bring water bottles from home, do not use the latrines at school as they were dirty, and do not have water available in them'. A teacher from low paid government school pointed out that 'the school receives funds twice a year to improve facilities such as sanitation however, to avoid budgeting and paper work the fund is not utilized and the water sanitation facilities remain very poor'. Interviewees pointed out that the 'sewage disposal has been poorly managed' even in cases in which there are some improvements they 'don't last long due to the increased number of children in each school'. A student of middle paid school said that the 'latrines smell bad and the drinking water is right next to them so we don't go there and avoid that area. We hold until we get home'. Another

student who was interviewed pointed out that her mother 'instructed me not to use school latrine ever as it was very dirty and unbearable'. The students, staff and teachers showed complete dissatisfaction with the situation of the latrines across all schools in different cities.

The availability of information on hygiene to the school staff and children was an area worth attention. Although everyone realized the importance of such information, yet it was available through textbook chapters and rare campaigns throughout schools. A teacher in middle paid schools said that 'hygienic habits were mostly emphasized by parents and schools played fewer roles in developing and encouraging such practices'. As such, there were no policies regarding sanitation systems and their monitoring or improvements in schools and it was mostly up to the school itself to provide such facilities to children. Favorable hygienic behavior was a part of the textbooks however, there was no practical implication of such behavior due to the lack of facilities that could enable one to adopt hygienic habits.

Perceptions and experiences of students came to surface through narratives. The experience helped verify facts and understand the value sanitation had in school contexts. Narratives also highlighted the beliefs and expectations the considered sample had regarding sanitation. Narratives provided this work with valuable data as it gave voice to an otherwise un-discussed issue on which the student views were never really given any importance earlier.

Alia from high paid schools narrated that "although the school has succeeded in cleaning the environment by installing litter bins and dustbins in almost every location for environmental hygiene and has efficient sewage disposals, it has encountered problems in providing clean and safe water supply to its students. The major proportion of this problem originates from bathrooms. In almost every restroom, the water supply feels contaminated. There is lack of soaps available and broken water taps. At times, it takes more than two days to clean the restroom. Some of the water supply units for drinking seems unsafe and of health concerns for us".

Rehan Ahamad, a student form middle paid school narrated, "The washrooms are always dirty. Mostly there is no water and soap available. Moreover, the drinking water is not clean and safe. This is because of the fact that the water filter coolers have expired filters. Also, the water coolers are very small in number. These problems should be solved timely to avoid any unhealthy and unhygienic situation causing health problems. To do so the administration should make certain that washrooms are cleaned daily. The water should be available all the time

along with soap in every washroom. Furthermore, the filters should be replaced, and safe drinking water should be easily accessible to all".

Raza, a student from low paid school narrated that "sanitation is bad, the drinking water is near the toilets and it is a smelly place. There is no ventilation system in the washrooms hence foul smell is a permanent part of the school". He further said that "drinking water was not filtered and even if the filters are attached they are not in working conditions. There is no soap. Sometimes even water is not available in bathrooms. The word worst is not enough even if I describe my school sanitation system".

Overall, the children in their narratives pointed out different views regarding sanitation condition in schools based on their experiences. They used terms as 'satisfactory', 'always clean', 'good staff' in high paid schools on one hand but the ratio of those who described school sanitation as good was almost negligibly little to the overall sample. Maximum students across all streams of schools used the words 'dirty' and 'worst' etc., A student in middle paid school pointed out that in his schools 'there were too many children' due to which schools' sanitation facilities became 'unbearable'. Students in low paid schools point out that they 'never go to the school washrooms as they were kept dirty and although there were sweepers they did not perform their duty properly'. Children in all streams of schools pointed out that they faced different health issues as diarrhea, stomach aches and typhoid frequently. The children in middle paid schools reported that they were 'instructed to keep their own water bottles that they brought form homes and avoid the water and bathroom facilities provided'. Studentsand their parents understand the impact poor sanitation brings to their health. One parent stated that her child 'faced inadequate toilet facilities at school and would always come back from school to the home as the home was nearby to use toilet'. Through the experience of the school going children, it is clear that they went through different sanitation related experiences and remained dissatisfied.

Document analysis showed that the staff did not have information regarding water related disease in school or about the reasons why children fall sick as there was no document, policy or provision on sanitation related issues in all streams of schools. However, in a few of the high and middle paid schools sanitation related instructions did exist for students to follow yet there was no formal documentation or policy. Likewise, it has been pointed out above that information in the form of textbook chapters was available to children but emphasis or any formal and specific effort to inculcate sanitation related habits was missing.

Discussion

The results of this study show that in Pakistan there are many schools without any appropriate environmental facilities and teachers and children both continue to be involved in the learning process without ever being concerned about the impacts of an unhygienic environment on the physical and mental growth of children. In underdeveloped countries sanitation provisions are near to being nonexistent even when schools have a larger role to play in such countries (Jasper, 2012). Currently, many schools are not even providing the basic sanitation related facilities and the information available to children is insufficient. A few high paid schools have programs run by market products whose purpose is to sell rather than to inform children about hygiene, so such campaigns too are insufficient and disoriented. Under these circumstances, schools become unsafe places for children with a strong need to initiate sanitation programs.

It is not to say that an increase in the number of facilities on ground can influence positive children behavior and health but the availability of sufficient facilities and reinforcing their proper use in behavior through education can ensure child health. School sanitation facilities– for example, water quality and quantity, hygiene related education, provision of soap, improved latrine access or cleanliness – may reduce pupil absence by providing services and a learning environment that appeals to children, specifically girls who are menstruating without facilities for personal hygiene, and by reducing illness transmission (Pearson, 2008). Likewise, conditions of clean and safe drinking water supply in schools across the different streams were insufficient and highly unhygienic. Drinking water facility though was available in all the schools nonetheless it was never examined nor tested by the national water quality laboratory or any other authority. Over crowdedness was a major problem in most schools which worsened the existing facilities.

Efficient sewage disposal system was found to be insufficient in all schools across different cities. Not only was the sewage disposal system the worst part of the sanitation problems but the structure of the washroom areas, water facility within this area, staff working to clean this area and the whole concept of washrooms in all the schools was poorly managed. Students in their narratives specifically dreaded this part of the school and a few even mentioned having to change a previous school based on this specific problem. A direct relation of sanitation to school outcomes has not been established for which further research is required.

Environmental hygiene and availability of information on hygiene to the school staff and children was again almost nonexistent and

insufficient. Part of curriculum included a section on sanitation however, there was no implementation in practice. The advantage of sanitation facilities to students is that they not only will learn in a healthy and safe environment but develop hygienic practices and be concerned about the environmental impact on themselves in the long run. Such an indirect investment by the schools will create a generation who will be better equipped with practices of sanitation that will be directed towards a healthy development of the society at large.

The results clearly showed that urban schools across different streams of social structure lack water and sanitation conditions equally. There was a very negligible difference across the three social class based schools that showed slightly better sanitation facilities from high to medium and low paid schools in the form of a gradient. Nevertheless, the sanitation facilities in all organizations regardless of the social class are poor to non-existent in the three urban cities taken as sample. Although, a considerable percentage across schools did have some sanitation facilities however, in no school all the water and sanitation facilities were present in good and safe condition nor were they maintained simultaneously.

Conclusion

The school environment represents an important setting because many children's social habits and behaviors are learned at school, and inadequacies in water and sanitation in the school environment have the potential to influence children health and their attendance in schools hence, the sanitation as practice must be materialized in terms of daily practices, Jasper (2012). Instead of being considered a personal topic on which the school cultures threw less light it is recommended that sanitation must be prioritized in the school keeping in mind the benefits it brings to growth and well-being of a developing society. It is required that a complete set of roles and responsibilities where not only children but their families, teachers, school in charge and education authorities intervene locally and at district level.

Schools are sources of information and knowledge for children which play a key role in providing an academic environment for better citizenship. By providing a healthy or an unhealthy environment schools become means of promoting habits for future. Since these institutes can promote change and develop appropriate and desirable habits they have a larger role to play in disseminating information and the right kind of experience. Children build the future of any state hence, what they learn

at school holds promising future for a whole community. In underdeveloped countries schools have even a larger role to play hence enhanced sanitation facilities can ensure positive development and a healthy nation.

The government of Pakistan is doing much to reach the Millennium Development Goals (MDGs) and is committed through its policies and provincial plans of action and strategies to enhance the sanitation condition yet it is far from reaching the goals. It is an undeniable fact that through Improving sanitation condition, health and well-being of school going children can be ensured. It will ensure less drop outs from schools and bring the country more closely to the lifestyles of rich countries. It is recommended that if sanitation is to be prioritized in the schools keeping in mind the benefits it brings to growth and well-being of a developing society it is required that a complete set of roles and responsibilities where not only children but their families, teachers, school in charge and education authorities intervene locally and at district level to observe hygiene measures.

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