

Assessment of Sanitation Practices of Primary School Pupils in Abuja, Nigeria

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ABSTRACT

Good sanitation practices in schools are a pathway to better performing children. The objective of this study was to investigate the sanitation practices of primary school pupils in schools located in Abuja, Nigeria. The study was a cross-sectional descriptive study. A total of 1,514 pupils from 24 schools in Abuja were selected using the multistage sampling technique. They were given questionnaires to fill out after getting parental consent. Results obtained showed that 1114 (73.6%) pupils responded “yes” to having toilets in their schools while 400 responded “no”. Two hundred and twenty-nine (15.1%) pupils used pit latrine; 404 (26.7%) used ventilated improved pit latrine; 528 (34.9%) used pour flush toilet; 69 (4.6%) used bucket latrine; and 54 (3.6%) used the open field. Four hundred and forty-five pupils said they had 0-2 toilets in their school; 3-5 toilets, 394 (26.0%); 6-8 toilets, 357 (23.6%); 9-10 toilets, 38 (2.5%); above 10 toilets, 280 (18.5%). Two hundred and forty-six (16.2%) pupils said their toilets in school was washed once a week; 246 (16.2%) said their school toilets were washed twice a week; 265 (17.5%) was once a month and 757 (50%) said their school toilets was washed every day. Seven hundred and fifty-six (49.9%) pupils said the generated waste from their school was disposed by open burning; 144 (9.5%) said landfill; 158 (10.4%) said recycling; and 36 (2.4%) said incineration. The level of sanitation among the primary school pupils was found to be unsatisfactory. Government intervention was recommended to improve the level of sanitation practices.

Keywords: Sanitation, Pupils, Toilet, Water, Waste, Excreta disposal

INTRODUCTION

School Sanitation improves learning and increases school attendance, particularly of girls. It also reaches out to promote household sanitation and hygiene practices. [1] The Child Friendly Schools (CFS) Manual underscores the notion that to be truly child-friendly, a school must have accessible, gender-appropriate toilets with hand-washing facilities, access to potable drinking water and solid waste management with proper boundaries. [2] The school must also teach children appropriate hygiene practices. [3] This module explores various options for effectively implementing good sanitation in schools. Resources, physical conditions, existing capacity and opportunities for change will yield a variety of solutions. In essence, good sanitation and hygiene in schools is a pathway to healthier and better performing pupils. [3] Key CFS principles and desired features should be used as guides for interventions, stimulating discussion and creativity for the development of sustainable Water, Sanitation and Hygiene (WASH) in Schools programmes. These programmes must then be adapted to the practical realities of the school and its surrounding community. [4] Any WASH in schools ultimately aims for government policies, community support and school action to sustain the initiative.

The keys to sustainability are the development of political interest and commitment, cooperation between ministries, a national education policy on WASH in Schools, national policies in related sectors and the allocation of sufficient financial and human resources. [5] The policy should aim to improve children's education and health by creating an environment conducive to implementing, operating and maintaining good sanitation in Schools programmes. [6]

Sustainable sanitation in Schools programmes require the involvement and political leadership of ministries of education as well as related ministries such as health, public works, finance, local governance and water authorities. Without the political commitment evidenced in policies, standards and budgets, sanitation in schools remains externally subsidized. Such small-scale interventions cannot move beyond the pilot stage. [7] To become catalysts for building alliances for sanitation in Schools, UNICEF and other partners must focus on gathering evidence, creating all-stakeholders' consultation venues and facilitating a coordinated nationwide approach. If faith-based and private schools do not fall under national policies, mechanisms must be found to promote sanitation in those schools as well. In the past, these were considered schools for the privileged and did not generally require development interventions. [8] However, the reality of the twenty-first century is that 11 per cent of primary and 24 per cent of secondary schoolchildren in developing countries attend non-state schools, with wide variations per country. [3]

WASH in Schools also focuses on the development of life skills and the mobilization and involvement of parents, communities, governments and institutions to work together to improve water and sanitation conditions. While there are many approaches based on differing cultural insights and environmental and social realities, any WASH in Schools intervention should include a sustainable, safe water

supply points, hand-washing stands and sanitation facilities. [9] It will also have a fully integrated life skills education, focusing on key hygiene behaviors for schoolchildren and using participatory teaching techniques. The objective of this study is to assess the level of sanitation practices among primary school pupils in Abuja, North central Nigeria.

MATERIALS AND METHODS

This study was a cross-sectional descriptive study carried out in Abuja, North central Nigeria to assess the level of sanitation practices among primary school pupils. The multi stage sampling technique was used to select 1,514 pupils from 24 schools. Parental consent was obtained for the pupils and they were given questionnaires to fill out under supervision to ensure accurate data entries. Data was uploaded into the Statistical Package for Social Sciences (SPSS) version 21, and descriptive statistics was used for analysis of data.

RESULTS

A total of 1,514 primary school pupils within the ages of 5 to 12 comprising 663 males and 851 females participated in this study. Table 1 showed that 1114 (73.6%) pupils responded "yes" to having toilets in their schools while 400 responded "no". In response to type of toilet facility, pit latrine with slab was 229(15.1%); Ventilated improved pit latrine, 404 (26.7%); flush/pour flush toilet, 528 (34.9%); Bucket latrine, 69 (4.6%); Composting toilet/open field, 54 (3.6%); Hanging latrine (Hole over water), 14(9%); Pit latrine without slab, 126 (8.3%); No toilet or latrine, 90 (5.9%). Table 2 showed the response to number of toilets; 0-2 was 445 (29.3%); 3-5, 394 (26.0%); 6-8, 357 (23.6%); 9-10, 38 (2.5%); above 10, 280 (18.5%); 1075 (71%) said girls' toilets are separated from boys' toilets, while 439 (29%) said "no". For the number of toilets for girls, 406 (26.8%) had 1 toilet in their school; 2, 522 (34.5%); 3, 169 (11.2%); and

417 (27.5%) was more than 3. For the number of toilets for boys, 409 (27%) had 1 toilet in their school; 2, 451 (29.8%); 3, 184 (12.2%); and 470 (31%) was more than 3. Table 3 showed the frequency of washing of toilets in the schools. It showed that 246 (16.2%) of the respondents said their toilets were washed once in week; twice in week, 246 (16.2%); once in a month, 265 (17.5%); and every day, 757 (50.0%). Table 4 showed the response to number of waste bins in schools. It showed that 577 (38.2%) was for 0-2 waste bins; 388 (25.6%), 3-5; 279 (18.4%), 6-8; 72 (4.8%), 9-10; 198 (13.1%), above 10. Table 5 showed the response to method of disposal of the generated waste from school. The table showed that 756 (49.9%) practiced open burning; Landfill, 144 (9.5%); recycling, 158 (10.4%); municipal waste dumpsites, 297 (19.6%); incineration, 36 (2.4%); and others, 123 (8.1%).

Table 1: Response to presence of toilet facilities

Response to school having toilet facility	n	%
Yes	1114	73.6
No	400	26.4
Total	1514	100.00
Response to type of toilet facility in the school		
Pit latrine with slab	229	15.1
Ventilated improved pit latrine flush/pour flush toilet	404	26.7
Bucket latrine	528	34.9
Composting toilet / open field	69	4.6
Hanging latrine (Hole over water)	54	3.6
Pit latrine without slab	14	.9
No toilet or latrine	126	8.3
	90	5.9

Table 2: Response to number of toilets in the school

Number of toilet in school	n	%
0 -2	445	29.3
3-5	394	26.0
6-8	357	23.6
9-10	38	2.5
Above 10	280	18.5
Response to girls' toilets separated from boys' toilets		
Yes	1075	71
No	439	29
Response to number of toilets for girls		
1	406	26.8
2	522	34.5
3	169	11.2
More than 3	417	27.5
Response to number of toilet facilities for boys		
1	409	27.0
2	451	29.8
3	184	12.2
More than 3	470	31.0

Table 3: Response to frequency of washing of toilets in school

Variable	n	%
Once in week	246	16.2
Twice in week	246	16.2
Once in a month	265	17.5
Every Day	757	50.0
Total	1514	100.00

Table 4: Response to number of waste bins in schools

Variable	n	%
0-2	577	38.2
3-5	388	25.6
6-8	279	18.4
9-10	72	4.8
Above 10	198	13.1
Total	1514	100.00

Table 5: Response to method of disposal of the generated waste from school

Method	n	%
Open burning	756	49.9
Landfill	144	9.5
Recycling	158	10.4
Taking them to municipal waste dumpsite	297	19.6
Incineration	36	2.4
Others	123	8.1
Total	1514	100.00

DISCUSSION

Sanitation practices of the children in schools were likely to expose them to high risk of diseases as the level of toilet washing and excreta disposal was not very regular. Although the excreta disposal methods in the study schools appeared to be fair, the children were still subjected to using unsanitary toilet facilities and only 71.8% of the pupils had access to toilet facilities. The remaining 28.2% who had no access to toilet might be forced to defecate indiscriminately, thereby exposing themselves and their colleagues to high disease risk. Anamali et al. [10] studied sanitation practices in tertiary institutions in Nigeria and found an underutilization and inadequate sanitary facilities in the hostels. The frequency at which the primary schools in this study washed their toilets was of high disease risks, because only 50% of them washed their toilets daily while the rest washed between once in a week and once in a month. Barasa et al. [11] found the state of sanitary facilities in some primary schools to be inadequate in 50% of schools that were studied. Osuji et al. [12] carried out a study on sanitation practices in Southeastern Nigeria and found that 14.7% of children defecated in the bushes and 57.2% had

access to improved water system. Open defecation is a common practice in developing countries where poverty is high, especially, in Sub-Saharan Africa⁸. The practice is often encouraged by lack of access to sanitation facilities. In Nigeria for instance, more than 39 million people practiced open defecation in 2012. ^[13] Some studies ^[14-16] have outlined criteria for maintaining hygienic conditions of toilet facilities which include avoidance of handling of fresh feces; prevention of feces from flies, animals and vermin; as well as prevention of water and soil pollution. Excreta disposal is one of the most important determinants of child survival. The change from the use of unimproved to improved sanitation facilities has reduced child mortality. But where sanitation facilities are absent or inadequate, the situation could lead to disease transmission, such as diarrhea, cholera, typhoid fever, dysentery, hook worm, etc. especially through flies, fingers, contaminated food and water. ^[17]

Most of the schools in this study had had waste bins, but the few that had no waste bins will create a significant nuisance to environmental health as they will throw their refuse indiscriminately. Even in schools where waste bins were available, the numbers were not enough as only 18.1% had more than 10 bins. When children do not have access to waste bins, they are left with no choice but to throw their trash away at nearby bushes or indiscriminately. This will give room for flies to perch on them and carry germs around. Azuamah et al ^[18] reported in their study that transmission of diseases can occur when flies that perch on feces. These flies carry the microorganisms present on the feces and get in contact with humans. There is a strong need for schools to ensure good sanitation practices for their pupils as this will protect them from sanitation related diseases and ensure good health and better performance in school.

In conclusion, while a good number of primary school pupils have access to

toilet facilities, others do not. Those that have access to toilet facilities do not enjoy the proper and daily cleanliness of these toilets as they are not being washed regularly. Many schools do not also have enough working toilets to serve all the pupils making them to be over utilized and hence in constant unsanitary condition. Many schools also do not have adequate waste bins for proper disposal of waste by children and all these can create enabling environment for flies to carry microorganisms around leading to sanitation-related diseases. The government must put in place and enforce laws toward ensuring that schools comply with sanitation standards.

REFERENCES

1. Gyabaah D, Awauh E, Ackerson NOB. Sanitation in Basic Schools A Case study in Tano South. *J Env Health*.2009; 45(22): 671-677.
2. Hutton G, Laurence H. Evaluation of the Costs and Benefits of Water and Sanitation Improvements at the Global Level; Water, Sanitation and Health Protection of the Human Environment, World Health Organization, Geneva.2004.
3. UNICEF. Water Sanitation and Hygiene for accelerating and sustaining progress on Neglected Tropical Diseases. A global strategy 2015 - 2020. Geneva, Switzerland.2015; 26.
4. UNICEF. Water, Sanitation and Hygiene Education for Schools. Roundtable Proceedings and Framework for Action, Oxford, UK. 2005; 11.
5. UNHCR. Division of Operational Services. Guidance for UNHCR Field Operations on Water and Sanitation Services. Geneva, Switzerland.2008.
6. WHO.UN-water global annual assessment of sanitation and drinking water: Targeting resources for better results. Geneva: WHO Press. 2010; 23 - 40.
7. WHO. Water quality: Guidelines, standards and health. Edited by Lorna Fewtrell and Jamie Bartram. Published by IWA Publishing, London, UK.2011.
8. UNICEF. Progress on Sanitation and Drinking Water. New York: UNICEF. 2010; 23-29.

9. Sarka M. Personal hygiene among primary school children living in a slum of Kolkata, India. *J prev med hyg.*2013; 54: 153-158.
10. AnamaliCP, Amadi COA, Okereke CO, AzuamahYC, Amadi AN. Assessment of the Sanitation Status in a Tertiary Institution in Southeastern Nigeria. *Int J Res Rev.*2019; 6(11): 616-622.
11. Barasa FM, Christine W, Nathan S, Mustafa B, George SA, Odiini VA, Wakhisi J, Abwajo JO. State of sanitation and hygiene of public primary schools in Kakamega municipality, western Kenya. *Int Res J Pub Environ Health.* 2015; 2 (12): 215-224.
12. Osuji IE, AzuamahYC, Amadi AN, Esenwah EC, Agu GC, Nwala OR. Water sanitation practices in Obowo, Southeastern Nigeria. *Int J Res.*2014; 1(10): 678-684.
13. WHO/UNICEF. Scaling up group handwashing in schools - Compendium of group washing facilities across the globe. New York, USA. 2016.
14. OrimoloyeEO, Amadi COA, Amadi AN, AzuamahYC, NwokeEA, Zacchaeus U, Dozie INS. Assessment of Water Sanitation and Hygiene Practices in Ibadan, Nigeria. *International Journal of Research.*2015; 2(2): 94-100.
15. KilakimeJ, Amadi COA, AzuamahYC, Amadi AN, Zacchaeus U. Assessment of Excreta Disposal And Its Health Implications In Tambiri Ii Community – Biseni, Bayelsa State, Nigeria. *Int J Res.*2015; 2(2): 85-93.
16. AzuamahYC, Amadi AN, Iro OK, Amadi COA, Braide W. Bacteriological qualities of red meat (Beef) and meat hygiene practices among meat handlers in Aba Metropolis, Nigeria. *Int J Health SciRes.*2018; 8(7): 41-49.
17. Williams AP, Quilliam RS, Thorn CE, Cooper D, Reynolds B, Jones DL. Influence of land use and nutrient flux on metabolic activity of *E. coli* O157 in river water. *Water Air Soil Poll.* 2012; 223: 3077–83.
18. AzuamahYC, Amadi AN, Iro OK, Amadi COA. Distribution of Bacterial Isolates from Contact Surfaces of Meat Handlers in Abattoirs of Southeastern Nigeria. *Int J Res.*2019; 6(7): 109-119.

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