

AVAILABILITY AND UTILIZATION OF SANITATION FACILITIES AMONG SECONDARY SCHOOLS STUDENTS IN KANO STATE

¹Muhammad Hadi Ahmad, ²Nura Muhammad Wali and
³Umar Ibrahim Babangida

¹Kano State College of Health Science and Technology, ²Kano State Primary Health Care
Management Boa ³Kano University of Science and Technology. Wudil, Kano

Abstract

This research investigated the availability and utilization of sanitation facilities among secondary schools students in Kano state. A descriptive survey design was used for the study. The population of the study comprised senior secondary schools' students with a population of four hundred and fifty thousand four hundred and forty-four students (450,444) in Kano state. The sample size used for the study was four hundred (400) respondents. A multi-stage sampling procedure was used to select the sample for the study. The instrument used for this study was a researcher designed questionnaire. It was validated and standardized with a reliability of 0.80r. The questionnaires were distributed to students with the help of 3 research assistants who are teachers of the schools and help to retrieved back the filled questionnaires. Out of the four hundred questionnaires administered, three hundred and ninety-one (391) were duly completed and returned, Frequency counts and percentages were used to organize and described the demographic characteristics of the respondents in section "A" of the questionnaire. Chi- square statistics was used to test hypotheses 1 and 2 while PPMC was used to test hypothesis 3 all at 0.05 level of significance. The findings of the study revealed that Sanitation facilities are available in senior secondary schools of Kano state. Sanitation facilities are not properly utilized in senior secondary schools' students of Kano state. There is strong relationship between availability and utilization of sanitation facilities in senior secondary schools. Therefore, it was recommended among others that, government and private schools owners should ensure that sanitation facilities provided are utilized to reduce the spread of diseases among the students.

Keywords: Sanitation, Provision, Utilization, Sanitation Facilities

Introduction

World Health Organization (WHO), in 2015, described sanitation generally as the provision of facilities and services for the safe disposal of human urine and faeces. Also Abhiruchi G. Utsan R. and Roja VR in their study on utilization of sanitation facilities described sanitation refers to provision of facilities and services for the safe disposal of human waste of all types with a view to condition the environment fit for human habitation. *Oxford Dictionary* (2017) described sanitation as the hygienic means of promoting health through prevention of human contact with the hazards of wastes as well as the treatment and proper disposal of sewage or waste-water. According to Kampala Ministry of Health (2000)

Sanitation encompasses the isolation of human excreta from the environment, maintenance of food and personal hygiene, safe disposal of solid and liquid wastes, safe drinking water and vector control. *Sanitation and hygiene remain a challenge in many parts of the world. World Health Organization and United Nations International Children's Emergency Fund (2010), reported that about 50% of the developing world's population (2.5 billion people) lack improved sanitation facilities and over 884 million people still use unsafe drinking water sources. This contributes greatly to morbidity and mortality in children. Water and sanitation facilities in schools are increasingly recognized as fundamental for promoting good hygiene behavior and children's well-being.* Good sanitation at school is meant that every student should have access to a convenient and well-maintained facility for the safe disposal of human waste, suitable anal cleansing materials, and wash hand materials with soap after defecation must be provided and used (Waterkayn, 2000). The process thus involves building, use and maintenance of latrines and other sanitation facilities; such as construction of urinals, hand washing facilities, anal cleansing materials and safe water supply. It also involves learning, behavior change, organization, and collective action with other community members.

UNICEF (2005), posts that many schools have very poor sanitation facilities, which are mostly inappropriate and inadequate. Inadequate sanitation is a major cause of diseases world-wide and improving sanitation is known to have a significant benefit on individual, and family's health both in households and across communities. In 2020, 54% of the global population (4.2 billion people) used a safely managed sanitation service; 34% (2.6 billion people) used private sanitation facilities connected to sewers from which wastewater was treated; 20% (1.6 billion people) used toilets or latrines where excreta were safely disposed of in situ; and 78% of the world's population (6.1 billion people) used at least a basic sanitation service (*WHO Fact sheet, 2022*)

Utilization of sanitation facilities involves proper human waste disposal, water handling from the source to the point of consumption and effective hand washing with soap after using the toilet (Waterkayn, 2000). National Sanitation Guidelines of Uganda (2000) defines utilization of sanitation facilities as the state of cleanliness of the facilities, it involves presence of clean latrines and urinals, functioning hand washing facilities with soap and water. It is the use of sanitation facilities and the related appropriate hygiene behaviors of people that provide health benefits.

In developing countries like Nigeria and Bangladesh poor school sanitation practices and hygiene behavior is a major problem and remains a high risk behavior among school children, causing many students to fall ill and sometimes lead to death. Many gastrointestinal infections have been linked with how primary and secondary school students utilized sanitation facilities (UNICEF, 1998).

According to WHO (2012), access to sanitation facilities is a fundamental right that safeguards health, humility and dignity. Providing these facilities in schools not only help to meet that right, it also provides the most favorable setting to encourage behaviour change in schools and community. Also WHO (2012) made a pilot survey of 14 countries in primary and secondary schools in some of the poorest countries have inadequate sanitation facilities. The average number of users is often higher than 50 students per toilet in city schools. In Cote d' Ivoire, 62% in rural areas had water and 40% in the capital Abidjan had sanitation facilities in schools only 30% have water and 32% latrines. According to a survey in the Yopougon area, Cote d' Ivoire, 62% of water closets do not work and there are about one water closet/toilet per 381 students and one urinal per 892 students (suggested 1 out of 50).

African Medical and Research Foundation (AMREF) (2009) discovered that in Kibera of Kenya the latrine to a pupil ratio is 1:50 compared with the recommended public health standard of 1:30 for boys, 1:25 for girls. Limited availability of sanitation facilities pose a constant threat of diseases and dropout rate of over 50% by the end of standard (class) six and the academic performance is lower than the average for Nairobi. Disposal facilities were available within an individual cubicle in 43% of the girls' toilets.

UNICEF (2008) asserted that, in Nigeria girls are particularly affected, and poor sanitation is a contributing factor in Nigeria's low girl enrolment rates. In schools, there is average of only one toilet for every 500 students this is ten times the standard of one for every 50 students. In some schools, the toilets provided have either become disused, overused or badly overtaken by faeces as to be unusable again. Many secondary schools students in the federal capital territory defecate in the open because their schools do not have toilets, thereby exposing them to serious health hazards (Opeyemi and Kehinde, 2015).

A study conducted by Agboh, Anwazzi, Gabriel and Ibrahim (2012) on An assessment of toilet facilities in secondary schools in Jos North Local Government area of Plateau State showed that day and boarding schools were 71.7% and 28.3% respectively; 75.5% privately owned. Forty five schools (84.9%) had toilet facilities, while 1/6th of the schools had none. Water carriage toilets (water squatting and water seat) comprised 20 (21.6%) while the non-water carriage accounted for 55 (59%).

As the COVID-19 pandemic spreads across the globe, millions of people are heeding the advice of health experts to wash their hands. A simple tool to promote public health, hand washing is one of the most effective ways to prevent transmission of disease not just the coronavirus (e.g. COVID-19), but also diarrhea, cholera, and typhoid. (RUWASA, 2020)

Statement of Problem

Provision of sanitation facilities in schools is a responsibility of government and stakeholders, because of their utmost importance to the students and staff in secondary schools for proper environmental cleanliness. Joshua (2004) and Vernon (2003), said facilities for academic and non-academic activities need to be properly put in place to provide an optimal sanitary environment which is safe and conducive for physical, mental and emotional health of the student in order to achieve maximum benefits from educational programmes. Human excreta which form an important cause of environmental pollution need to be properly disposed through modern methods that are socially and culturally acceptable to the people (UNICEF, 2009, Dworsky, 2007). But for 3 billion people around the world who do not have a hand washing facility with water and soap at home, this small action to prevent infection remains out of reach.

Today, 47 percent of secondary school's students lack hand washing facilities with water and soap, which affect 900 million school-age children. And in 16 percent of health care facilities, there are no hand washing facilities in the areas where patients receive care or near the toilets. More than 500 million secondary school students have very poor utilization of sanitation facilities as in many schools were overtaken by faeces, refuse and even mensuration pads in most of girl's schools. This crude behavior and improper utilization of such facilities lead to spread of various diseases among school students. It is against this backdrop that the researcher intends to conduct a study on sanitation facilities provision and utilization among senior secondary schools in Kano state.

Hypotheses

The following hypotheses were tested:

1. There is no significant provision of sanitation facilities in secondary schools of Kano state.
2. There is no significant utilisation of sanitation facilities in Kano state secondary schools.
3. There is no significant relationship between provision and utilisation of sanitation facilities in Kano state secondary schools

Methodology

The design employed for this study was descriptive survey. The population of this study is 450444 respondents comprise the entire senior secondary schools' four hundred (400) respondents were selected as sample for this study. Multi-stage sampling procedure was used for this study. Stage one the researcher use simple random sampling stage two stratified sampling technique stage three proportionate sampling technique finally researcher use simple Random sampling technique to arrive at sample size. The instrument for data collection was researchers developed questionnaire the instrument was validated and standardized with reliability index

of 0.80r. The questionnaires were distributed to students with the help of 3 research assistants who are teachers of the schools and help to retrieved back the filled questionnaires. Frequency count and percentages was used to organize and describe the demographic information of the respondents, while the hypotheses were tested using chi-square and PPMC (Pearson Product Moment Correlation). All the tests were carried out at 0.05 level of Significance.

Results and discussion

Out of four hundred (400) questionnaires administered, three hundred and ninety-one (391) were duly completed, returned and used for the analysis.

Table 1: Demographic Information of the Respondents

Variable	Percentage	(%)Frequency
Gender		
Male	222	56.8
Female	169	43.2
Total	391	100
School location		
Urban	109	27.9
Rural	282	72.1
Total	391	100
Ownership		
Public	371	94.9
Private	20	5.1
Total	391	100
School type		
Boarding	198	50.6
Day	193	49.4
Total	391	100

Table 4.2.1 above shows the total responses from 391 respondents were analysed which represent 100%. The table indicates that 222 (56.8%) respondents were male and 169 (43.2%) were female students. The majority of the respondents were male students. Also 109 (27.9%) respondents were students of schools located at urban while 282 (72.1%) were respondents from rural schools. This shows that most of the respondents were from rural schools. Based on school ownership public schools had 371 (94.9%) respondents while private schools had only 20 respondents representing (5.1%) because their population is 5% of public schools. This indicated that majority of the respondents were from public schools. 198

respondents were from boarding schools with (50.6%) and day schools were 193 with (49.4%). The majority of the respondents were boarding students.

Hypothesis 1: There is no significant provision and utilisation of sanitation facilities in secondary schools of Kano state

Table 2. Chi-square summary on provision of sanitation facilities in secondary schools

Variables	provided	not provided	total	df	x ²	P-Value
FO	234	157	391	1	15.164	.001
FE	195.5	195.5				

X²=15.164; df=1; X²crit 3.84

Chi-square analysis was conducted of which 234 (59.84%) respondents stated that sanitation facilities were provided in their schools and 157 (40.16%) responded sanitation facilities were not provided. The statistical analysis indicated chi-square (X²) value of 15.164 at df 1, (P<0.05). This means that the null hypothesis is rejected on the account that sanitation facilities are provided in senior secondary schools in Kano state.

There is no significant relationship between provision and utilisation of sanitation facilities in Kano state secondary schools.

Hypothesis 2. There is no significant utilization of sanitation facilities in secondary schools of Kano state

Table 3. Chi-square summary on Utilization of sanitation facilities

Variables	Utilized	Not Utilized	total	df	x ²	P=Value
FO	161	230	391	1	12.176	.001
FE	195.5	195.5				

X²= 12.176; df=1; X²crit 3.84

Chi-square analysis was conducted of which 161(41.18%) respondents agreed that they utilized sanitation facilities in their school toilets while 230 (58.82%) respondents were not utilizing the facilities. The statistical analysis indicated chi-square (X²) value of 12.176 at df 1, (P<0.05). This means that the null hypothesis is accepted on the account that there is no significant utilization of sanitation facilities in senior secondary schools in Kano state.

Hypothesis 3. There is no significant relationship between provision and utilization of sanitation facilities in Kano state secondary schools.

Table 4. Pearson Product Moment correlation Coefficient (PPMC) Summary table on the relationship between provision and utilization of sanitation facilities in Kano state secondary schools

Variables	N	Mean	SD	df	r	P-Value
Provision	391	22.877	7.297	389	0.788	.001
Utilisation	391	24.765	7.332			

PPMC was conducted to determine the relationship between provision and utilisation of sanitation facilities in senior secondary schools of Kano state. A mean of 22.877 and standard deviation of 7.297 was obtained for provision and mean of 24.765, standard deviation of 7.332 for utilisation. Statistical computation indicated that $r = 0.788$, $df = 389$ ($P < 0.05$). This means that there is significant relationship between provision and utilization of sanitation facilities among students in senior secondary schools of Kano state. Therefore, the null hypothesis tested is rejected on the account that there is significant relationship between provision and utilization of sanitation facilities among students of senior secondary schools

This study investigated the sanitation facilities provision and utilization in senior secondary schools of Kano state

This result revealed that there is significant provision of sanitation facilities in senior secondary schools of Kano State, the provision is due to the fact that provision of sanitation facilities is one of the requirements of building a school. The finding is in line with the finding of UNICEF (2013), which stated that provision of water and sanitation facilities in schools are increasingly recognized as fundamental for promoting good hygiene behaviour among children. The finding also is in line with the findings of UNICEF and IRC in 1998 in a study published in manual on School Sanitation and Hygiene on Water, Environment and Sanitation described that school sanitation packages involved provision of water and sanitary facilities. The water should be provided for pour flush latrines, anal cleansing and hand washing, and should be located closed to the latrine for proper utilisation.

The finding revealed that senior secondary students significantly not utilised sanitation facilities in the school toilets. Their non-utilising is due to their population, and the provision is not line with their proportion as recommended by WHO, poor maintenance services and students attitudes toward poor usage of the facilities The finding is in line with a study conducted by Agboh, et,al (2012) which shows that inadequate or poor utilization of toilet facilities seriously affect the wellbeing of students in schools. However, the finding is in contrast to the finding of Nansereko (2010), in his study in Mpigi district in Uganda asserts that proper use of latrine, hand washing after defecation and maintaining a latrine in an

adequately sanitary state, is an attitude that promote sanitation and hygiene among students.

The finding revealed that there is significant relationship between provision and utilization of sanitation facilities among students in senior secondary schools of Kano state. The finding may be as a result of sanitation facilities are provided and utilized by students. The finding is in line with UNICEF& IRC (1998) which stated schools are often more than just places for learning and behaviour change. If school sanitation and hygiene facilities are absent, or are badly maintained and used, schools become risky places where diseases are transmitted. It is also in line with the finding of Pillitteri (2012), who described insufficient toilet/student ratio contributed to overuse, filthy conditions and a consequent return to open defecation around schools, or absenteeism in order to use a home toilet. The finding also corresponds to the finding of Nansereko (2010) which shows that the installation of sanitation facilities has to go hand in hand with their proper use and maintenance, hygiene promotion aims to ensure the proper use and maintenance of facilities by motivating people to change their behaviour,

Conclusion and recommendations

Based on the findings of the study, we concluded that;

Sanitation facilities are provided and available in senior secondary schools of Kano state but were not utilized but there is strong relationship between provision and utilisation of toilet sanitation facilities of Kano state secondary schools.

Based on the conclusions of this study the following recommendations were made;

- i Stakeholders of private schools should also put more effort in provision of adequate sanitation facilities in their schools to ensure school sanitation and hygiene.
- ii Government and school authorities should ensure that students are utilising the sanitation facilities provided to reduce the spread of diseases among the students.
- iii Finally, leadership government and schools should encourage their students in good maintenance of sanitation facilities especially public schools where the population is high.

References

- Abhiruchi, Utsan and Roja (2019), A study of utilisation of sanitary facilities by adolescent girls in urban slum of central India. *Journal Family Medicine and Primary care*
- Agboh, Anwazzi, Gabriel and Ibrahim (2012) An assessment of toilet facilities in secondary schools in Jos North Local Government Area of Plateau State Greener *Journal of Educational Research* 2 4, pp. 091 - 094
- AMREF, (2009), School health intervention, Kibera programme. Personal hygiene and sanitation education (PHASE). *International Journal of Academic Research in Business and Social Sciences* March 2014, Vol. 4, No. 3 Kenya

- Joshua, M.T. (2004), Secondary school: An assessment and evaluation resources Paper Presented at the National Workshop on Developing Education. Issues of standards and Sustainability in Secondary Schools in Nigeria
- Kampala Ministry of Health (2000).The National Sanitation Guidelines. Kampala Uganda
- KSSMB (2017), Kano state senior secondary schools management board. Department of Planning, Research and Statistics. Lawan Danbazau Road Behind old Bank of the North.
- Nansereko F. (2010), Adequacy and utilisation of sanitation facilities in Secondary Schools in Mpigi district. A Dissertation of MSc in Makerere University Uganda.
- Opeyemi & Kehinde (2015). Poor toilets in FCT Schools kick up a stink. *Daily trust newspaper published January 31 2015.*
- Pillitteri, S.P. (2012). School menstrual hygiene management in Malawi: More than toilets. [Cited Oct 2012]
- RUWASA, (2020), COVID-19 Makes Hand washing facilities and promotion more critical than ever UNICEF (2013), Water, sanitation, and hygiene in schools.
- Waterkayn, A. (2000). Sanitation for rural school in Uganda. A consultancy report for RUWASA, Kampala, Uganda
- WHO & UNICEF (2010), Progress on sanitation and drinking water. Geneva, Switzerland.
- World Health Organization, (2012). *Global costs and benefits of drinking-water supply and sanitation interventions to reach the MDG target and universal coverage.*
- WHO [World Health Organization] and UNICEF [United Nations Children's Fund] (2015) *Water, sanitation and hygiene in health care facilities: Status in low- and middle-income countries and way forward.* WHO Press. Geneva.
- WHO (2015).Fact sheet on Sanitation. www.WHO.Int/topics/sanitation/en/.
- WHO (2022) Fact sheet on sanitation. [Who.int/news.room/factsheet /detail/sanitation](http://Who.int/news.room/factsheet/detail/sanitation)
- Vernon bas (2003), Toilets facilities in schools: *Nursing Times.* 99 (19).50