

## **Knowledge of Water Sanitation among Boarders in Senior Secondary Schools Student in Kaduna State, Nigeria**

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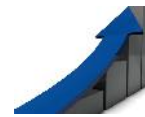
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### **Abstract**

*The study seek to assess knowledge of water sanitation among senior boarding secondary schools students in Kaduna state, Nigeria. This study employed ex-post facto design in assessing the knowledge and practice of water sanitation among senior boarding secondary school*



*students in Kaduna State, Nigeria. A multi-stage sampling approach that involved a stratified random sampling technique, simple random sampling technique and purposive sampling techniques was used for this study. The instrument used for data collection was a structured questionnaire. Out of three hundred and eighty one (381) copies of questionnaire administered, three hundred and eighty (380) copies of questionnaire were valid and used for the analyses. Data collected were analyzed using descriptive statistics with mean and standard deviation and one sample-t test. The null hypotheses were tested at 0.05 alpha level. The results obtained revealed that senior boarding secondary school students in Kaduna state do not have significant knowledge of water sanitation ( $t = 1.12, p=0.13$ ). It was therefore concluded that senior boarding secondary school students in Kaduna State do not have knowledge of water sanitation. It was recommended that there is need to educate and enlighten secondary students on water sanitation by the school authority.*

**Keywords:** Knowledge, Water Sanitation, boarding students,

## **Introduction**

Water sanitation is a public health issue that is of particular interest to international development programme. Several international development agencies have identified water and sanitation as an area with great potential to improve health, life-expectancy, student learning, gender equality and many other key issues of development in developing nations including Nigeria (WHO, 2014).

According to the United Nation International Children Emergency Funds: (UNICEF, 2006) lack of knowledge of water sanitation is a serious issues that is affecting most senior boarding secondary school students and the entire community. This is because most of the waterborne diseases result from poor knowledge of water sanitation. Extensive material on secondary school sanitation intended at facilitating learning should be more effective agents for change as they live within the community. This fact is relevant because what they learn in school is mostly applied in the community. This can be achieved by evaluation of the hardware aspects such as the physical infrastructure, sanitation facilities in schools and the availability of safe water. The software aspect includes the provision of knowledge on sanitation methods followed by their continued use (practices) at the schools. The ultimate goal is the reduction in water and sanitation related diseases otherwise they might be the source of infections (WHO, 2014).

Water sanitation among senior boarding secondary school students in Kaduna State is a programme that will help the students to acquire knowledge of how to sanitize water and prevent the prevalence of waterborne diseases. Lack of adequate knowledge on water and sanitation among senior boarding secondary school students will result into waterborne diseases such as cholera, dysentery, typhoid, salmonellosis and this will affect health negatively (Susasn, 2008; Blanton, Ombeki, Oluochi, Mwaki, Wannemehler & Quick, 2007). When contaminated water is consumed it will cause diseases. Some of the students when using tap, borehole and any other source of collecting water for drinking, bathing and other uses do not handle appropriately (UNICEF, 2012). Water must be treated at the source of collection and safe water storage takes place in covered containers, in order to prevent



recontamination of water in the schools. If the students are not covering water, filter, and use alum or chlorine in purifying water will result to waterborne diseases. Boarders in senior secondary school also lack knowledge on how to sanitize water to be clean and acceptable before drinking and other use. For example, the using of filter, chlorine, alum and soon to make the water clean before use are not put into practice within the schools (Vivas, Gelaye, Aboset, Kumie, Berhane & William, 2012).

Lack of knowledge on proper sanitation will cause diseases WHO (2014). Lack of knowledge on water sanitation is a serious issues that is affecting most schools and the community in transition. The importance of the isolation of excreta and waste lies in an effort to prevent diseases which can be transmitted through human waste, which afflict both schools and communities UNICEF (2006). Most of diseases resulting from sanitation have direct relation with poor knowledge of the causes. Water supply service quantity and cost recovery are low. Water tariff are low and many water user are not to pay their bill. There is insufficient knowledge to the service providers thus rely mostly on occasional subsidies to cover their operating costs. Investment is mainly financed by foreign donor and fall short of what is needed to achieve a significant increase in access WHO, (2007). The provision of safe water, sanitation in educational institutions is globally recognised as a key intervention to promote students right to health and clean environment. This has been established to improve health, boost educational achievements and promote gender equity which has a positive impact on the society.

### **Purpose of the Study**

The purpose of this study is to determine the knowledge of water sanitation among boarders in senior secondary school in Kaduna State, Nigeria.

### **Research Question**

Do Boarders in Senior Secondary School have adequate knowledge of water sanitation in Kaduna State, Nigeria?

### **Null Hypothesis**

Boarders in Senior Secondary School in Kaduna State, Nigeria do not have significant knowledge towards water sanitation.

### **Delimitation of the study**

The research was delimited to knowledge, attitude and practice of water sanitation among Students of Senior Boarding Schools in Kaduna State, Nigeria. Only Public Senior Boarding School Students were used for this study.

### **Methodology**

The research design used for this study was the ex post facto research design. The population for the study comprised of Boarders in Senior Secondary School of Kaduna State, Nigeria. There are forty seven thousand one hundred and twenty seven (47,127) boys and girls in twenty-four (24) Public Senior Boarding Secondary Schools in Kaduna State, Nigeria. (Kaduna State Educational Board, 2016).



For the purpose of this study, stratified sampling techniques, simple random sampling technique and purposive sampling technique were used. The first stage involved the use of stratified random sampling technique where senior boarding secondary schools in Kaduna State were stratified into twelve (12) Educational zone, namely zone one (Anchau), zone two (Birnin Gwari), zone three (Zaria), zone four (Giwa), zone five (Rigachikun), zone six (Kaduna), zone seven (Sabon Tasha), zone eight (kachia), zone nine (Godogodo), zone ten (Lere), zone eleven (Kafanchan), and zone twelve (Zonkwa). The second stage involved the used of simple random sampling technique used to draw one (1) senior boarding secondary school from each educational zone where each of the senior boarding schools from each educational zone was assigned numbers and written on pieces of paper which was folded and thoroughly mixed in a small container. The researcher picked one piece of paper, the name was check and recorded as a sample. This implied that no element of the population is omitted deliberately except by chance, this process is applied to all educational zones and schools belonging to the stratum. The third stage involved the used of Purposive sampling technique to select only senior boarding secondary schools in the twelve educational zone in Kaduna State, Nigeria The sample size was determined in accordance with Krejcie and Morgan (1970) sample size margin table that if the population fall from 40,000 to 50,000 then the required sample size for the study is three hundred and eighty one (381) at 5% margin error and 95% confidential of interval.

A close ended questionnaire was used to collect data for this study. This instrument was based on a modified 4 point Likert-Scale which required the respondents to tick the responses on each statement that appealed to them. In order to ensure the validation of the instrument, the questionnaire was vetted by three (3) expert in the Department of Physical and Health Education, Ahmadu Bello University Zaria, for comment, observation, correction and suggestions. After incorporating all the suggestions made by the experts, the questionnaire was finally prepared for gathering of information for the study. The instrument of this study was administered during the class in the selected senior boarding secondary schools. The researcher and three research assistants gained access to the senior boarding secondary schools after the submission of the letter of introduction given to the researcher by the Department of Physical and Health Education, Faculty of Education Ahmadu Bello University, Zaria. Students were briefed on the purpose of the visit. Descriptive statistics of mean and standard deviation were used to answer the research question and one sample t-test was used to test the formulated hypotheses at 0.05 alpha level of significance was used to analyze the data collected.

**Results**

**Research Question One:** Do senior boarding secondary school students have adequate knowledge on water sanitation in Kaduna State, Nigeria?

**Table 1: Mean scores of the knowledge of water sanitation among Senior Boarding Secondary School Students**

Item	Mean	SD
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Water sanitation make it easier for me in preserving water before use.	1.42	1.58
With the water sanitation programme in my school I preserve my water.	1.61	1.05
Safe drinking water prevent diseases.	2.69	1.59
Unclean water cause diseases.	1.57	1.40
Water that is not covered is not good for drinking.	1.61	0.98
Portable water is good for my health.	1.72	1.40
Filtered water is always good for my health.	2.15	1.50
With the water sanitation discussion group programme i know the effects of unclean water to my health.	1.57	1.95
Effective advice about water sanitation programmes help me to know ways of preserving water before use.	2.26	1.43
Students especially young ones should be encouraged to take their personal hygiene effectively.	1.61	1.05
<b>Aggregate Mean</b>		<b>1.82</b>

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Table 1 shows the mean score of the responses on the knowledge of water sanitation among senior boarding secondary school students. The aggregate mean score of the items is 1.82 which was found to be less than benchmark score of 2.5. This implies that boarders in secondary school students do not have adequate knowledge of water sanitation in Kaduna State, Nigeria.

**Null Hypothesis 1:** Boarders in senior secondary school in Kaduna State do not have significant knowledge of water sanitation.



**Table 2: One sample t-test Analysis on knowledge on water sanitation among senior boarding secondary school students.**

	Mean	SD	t-value	Df	P-value
Actual mean	1.82	1.39	1.12	379	0.13
Constant mean	2.50	0.00			

t (379) = 1.97, P > 0.05

From the above result of analysis presented, it shows that the probability value is less than 0.05 at 5% level of significance. The t-value value is 1.12 and the t-critical is 1.97 at degree of freedom 379 using two tailed significant level. The null hypothesis which states that “senior boarding secondary school students in Kaduna State do not have significant knowledge of water sanitation” is therefore retained.

**Discussion of Findings**

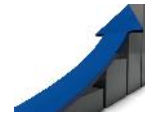
One research question and one null hypotheses were tested on the knowledge of water sanitation among senior boarding secondary school students in Kaduna state. In related to research question, the mean score of the responses on the knowledge of water sanitation among senior boarding secondary school students. The aggregate mean score of the items is 1.82 which was found to be greater than benchmark score of 2.5. This implies that senior boarding secondary school students have adequate knowledge of water sanitation in Kaduna State, Nigeria and the null Hypothesis one stated that senior boarding secondary school students in Kaduna State do not have significant knowledge of water sanitation. One sample t test was used to test the hypothesis. The result of the test reveals that t=1.12 at 0.13 level of significance with 379 degree of freedom. The null hypothesis was therefore retained that senior boarding secondary school students in Kaduna State do not have significant knowledge of water sanitation. This finding is consistent with WHO, (2006) that interventions have gone ahead to target schools and provide water and sanitation services with the aims of influencing knowledge and household adoption through children as proxies with mixed outcome. It shows that lack of knowledge is a serious issues that is affecting most students in secondary schools and the entire community, this because most of waterborne diseases result from poor knowledge on water sanitation that will intense person to person contact at a high in the environments. According to the United Nation International Children Emergency Funds: (UNICEF, 2006) lack of knowledge of water sanitation is a serious issues that is affecting most senior boarding secondary school students and the entire community. This is because most of the waterborne diseases result from poor knowledge of water sanitation. Extensive material on secondary school sanitation intended at facilitating learning should be more effective agents for change as they live within the community.

**Conclusion**

Based on the findings of this study, it can be concluded that senior boarding secondary school students in Kaduna State do not have knowledge of water sanitation.

**Recommendations**





The following recommendations were made;

1. The school authorities should include knowledge of water sanitation as topic for senior boarding secondary school students under health education, health science and biology.
2. Students should be persuaded to know methods used in water sanitation in other to improve their health.

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