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PREVENTIVE MEASURES OF CHOLERA AMONG UNDERGRADUATE STUDENTS OF UNIVERSITY OF NIGERIA, NSUKKA

Obayi, Benedeth Anulika; Ngozi Karen-Enemuo & Eze, Rhoda Chidinma
Department of Human Kinetics and Health Education
Faculty of Education, University of Nigeria, Nsukka

Correspondence: benedeth.obayi@unn.edu.ng

Abstract
This study investigated preventive measures of cholera among undergraduate students of University of Nigeria, Nsukka. It was guided by three research questions, and three null hypotheses. Descriptive cross-sectional survey design was adopted for the study. The population consisted of 43,451 undergraduate students from UNN, Nsukka campus. Two stage sampling procedure was used to draw a sample of 440 participants. Instrument for data collection for the study was the researcher's designed "Preventive Measures of Cholera among Undergraduate Students Questionnaire" (PMCUSQ). The reliability of the instrument was established using Spearman-Brown Correlation Coefficient statistics, which yielded reliability coefficients of 0.78. Data collected were analyzed using frequency and percentages, while the null hypotheses were tested using Chi-square statistics. The findings of the study showed that a high proportion (97.0%) of undergraduate students of University of Nigeria, Nsukka adopt the preventive measures of cholera. There was a significant difference in the proportion of undergraduate students who adopt preventive measures of cholera based on gender (= 19.289, p= .000< .05); and that there was a significant difference in the proportion of undergraduate students who adopt the preventive measures of cholera based on age (= 89.763, p= .000< .05). It was recommended among others that there is need to sustain the high level of preventive measures being adopted by university of Nigeria undergraduate students through formulating and implementing policies that encourage and promote good hygiene practices in the campus especially among male students by the university authority. The government and the university management should ensure adequate availability of water and prompt waste disposal within and around the campus.

Keywords: Cholera, preventive measures, undergraduate students

Introduction
Cholera has long been a significant public health challenge, particularly in developing countries. Globally, it continues to pose a threat, affecting an estimated 1.4 to 4.3 million people each year and causing up to 143,000 deaths (Girotto et al., 2024). Among populations such as undergraduate students, who often live in close quarters with limited access to safe water and sanitation facilities, the risk of cholera transmission is particularly high. Understanding and implementing effective preventive measures is therefore critical to safeguarding their health and wellbeing. United Nations Office for the Coordination of Humanitarian Affairs -OCHA (2021) noted that cholera outbreaks has affected multiple countries over the past years, particularly in Asia and Africa, with 323,369 cases and 857 deaths recorded from 24 countries in 2020. In the developed countries, European Centre for Disease Prevention and Control -ECDC (2022) reported that about 30,629 cases of cholera and 36 deaths were reported globally by February 16, 2022, and the number of suspected cases reached 262,955 by May 31, 2022, including 63 deaths. Recently, ECDC (2024) reported that since 1 January 2024 and as of 25 November 2024, 490,700 cholera cases and 3,693 deaths

have been reported worldwide. The authors further reported that cholera outbreaks were also reported in India and the highest number of suspected cases was recorded in Bangladesh in Asia. This is an indication that cholera has affected all the continents of the world including African countries. In Africa, cholera has continued to ravage lives constituting a serious health issue. According to Islam et al. (2019) cholera remains a public health threat especially in the less developed countries of Sub-Saharan Africa where there are limited resources that can help facilitate diagnosis, prevention and control of the disease. United Nations Children's Fund --UNICEF (2019) reported that since early 2019, a bulk of the Eastern and Southern Africa Region (ESAR) have been facing cholera rampage from an outbreak that affected about 9,494 people and left 34 dead with a mean Case Fatality Rate (CFR) of 0.4 per cent. The affected countries include Angola, Burundi, Kenya, Malawi, Mozambique, Tanzania, Somalia, Uganda, Zambia and Zimbabwe. In a recent report, UNICEF (2024) revealed that over 230,000 cholera cases and 4,000 deaths have been recorded across 14 cholera-affected countries in Eastern and Southern Africa since the beginning of 2023. Similarly, WHO (2024) reported that the cholera outbreak in the WHO African Region in 2024 affected 14 countries including Nigeria. Cholera has been an issue of great concern in Nigeria. The country has been plagued by the disease since the first notification of the disease in 1970 (Nigeria Centre for Disease Control-[NCDC], 2019). In 2021, Nigeria experienced one of its worst cholera outbreaks in years, with over 110,000 reported cases and more than 3,600 deaths (GAAC, 2022). This indeed is an indication of the grievous effect of cholera disease on the Nigerian populace including Enugu state indigenes.

In a more recent development, following cholera outbreak in 2024 in the country, Enugu State Ministry of Health, disclosed that about ten persons died as a result of cholera in Enugu State (Ukpong, 2024). Also, a report by Ogwuda (2015) published by Vanguard Nigeria revealed that cholera outbreak which occurred in Enugu State in February, 2015 left several people hospitalized, especially in Nsukka and its environs. However, there was no available detailed information of the incidence. The implication of the above is that cholera is a general health issue in Enugu state including Nsukka environs. Cholera is an infectious disease that causes severe watery diarrhea, which can lead to dehydration and even death if not properly managed. It is a type of severe diarrhoea caused by a *Vibrio cholera* bacterium (Reda et al., 2022). It is often found in contaminated water, particularly in coastal areas where human waste may be present. The infection spreads by eating food or drinking water contaminated with the bacterium called Vibrio cholerae. Cholera infection is characterized by certain signs and symptoms. There is usually a rapid onset of watery diarrhoea, with or without vomiting and extensive dehydration, a rapid loss of fluid, potentially resulting in severe clinical outcome such as lethargy, unconsciousness, confusion, drop in blood pressure and death (Sharmila & Thomas, 2019). WHO (2024) further stated that most people infected with vibro cholera do not develop symptoms but can spread the bacteria through their feaces within one to ten days. The WHO in addition stated that some people develop mild or moderate symptoms and a minority develop severe acute watery diarrhea and life-threatening dehydration. Certain risk factors are implicated in cholera outbreaks. The risk factors of cholera outbreaks include links to limited access to safe water, lack of basic sanitation facilities and poor hygiene practices (WHO, 2024). Other risk factors for cholera infection include inadequate hand washing, consumption of contaminated food, environmental and climatic conditions, pattern of

population migration, increasing armed conflicts and community misconceptions (Elimian et al., 2020 ; Girotto et al., 2024). UNICEF, (2019) also stated that extreme weather patterns, including heavier and more unpredictable rainfall leading to erosion and rising sea levels that further leads to flooding are some of the identified risks factors of cholera outbreaks. In other words, climate change exacerbates the conditions that contribute to cholera outbreaks. A lot can be done to prevent cholera outbreak.

Prevention is better than cure is one of the prime messages of public health. Preventive measures can also mean activities or practices taken to reduce or detect specific or preventable problems in order to protect the current state of well being or promote desired outcome or behavior (Okafor, 2019). Preventive measure of cholera refers to practices and activities engaged in by undergraduate students aimed at stopping the outbreak of cholera disease. Therefore, preventive measures for cholera involves those practices that are taken in order to prevent the occurrence or reduce the spread of cholera among the populace. Some fundamental preventive measures of cholera diseases include provision of easy access to clean drinking water, basic sanitation and good hygiene practises, as well as access to oral cholera vaccines (OCVs) (WHO, 2024). Other preventive measures reported by Dureab et al. (2021) include proper disposal of waste, proper washing of fruits and vegetables before consumption. Regrettably, undergraduate students have some lifestyle factors that could increase the risk of cholera outbreak such as infrequent hand washing with soap and water, eating from food vendors who may not follow proper food hygiene practices, poor toilet hygiene, drinking water from contaminated sources and limited knowledge about cholera transmission and prevention methods. Additionally, they live in close proximity to one another and in the habit of sharing food, utensils and drinks thereby increasing the possibility of person to person transmission.

Undergraduate students are individuals who are studying at a college or university. An undergraduate student in this study is a student who is admitted into a degree programme in the university education. Undergraduate students' lifestyle or activities can lead to or avert an outbreak of cholera especially within the university community. Socio-demographic variables of undergraduate students may influence their preventive measure of cholera. Socio-demographic variables refers to characteristics that describe a person's demographics, such as their gender, age, ethnicity, marital status, education level, employment status and level of income. Bottaro and Faraci (2022) defined socio-demographics as the social and demographic characteristics of specific individuals or group of individuals that include age, gender, education level, and income, which are crucial for decision-making processes and require careful handling. The present study considered the socio-demographic variables of gender and age. They are chosen because of their peculiarities with the study population. Nwosu, Oforka and Okolo (2019) opined that gender refers to a culturally and social construct that prescribes and describes roles, relationships, expectations, status, obligations an behaviour patterns ascribed to females and males based on their masculinity and feminity on biological sex. Women often have limited access to healthcare information due to cultural and social barriers, which results in lower awareness of cholera prevention methods. However despite that females generally are more conscious of hygiene practices than their male counterparts. Similarly, the age of an undergraduate student can also play a significant role in preventive measures of cholera disease. Age is described as the length of time an individual has lived from birth. Younger students may engage in more risk-taking behaviors, while older students

may be more meticulous because of exposure to health education and awareness campaigns. The study examined age brackets of 16-20, 21-25 and 26 years and above. By including gender and age as variables, the study can identify potential differences in preventive measures among male and female students of different ages.

It is expected that undergraduate students should adopt effective preventive measures against cholera infection. This includes frequent washing of hands after using the toilet, drinking safe water free from contamination, cooking food properly before eating, proper washing of fruits/vegetables and proper disposal of refuse. Despite the importance of the preventive measures of cholera, studies have shown that some students do not adopt effective preventive measures against cholera, such as drinking safe water, frequent hand washing, proper cooking of food, defecating at designated places and proper disposal of refuse. This inadequate practice of preventive measures among undergraduate students can increase their risk of cholera outbreak within their environment. Hence, the present study was designed to determine the preventive measures of cholera among undergraduate students of University of Nigeria, Nsukka.

Statement of the Problem

Cholera remains one of the most devastating waterborne diseases worldwide, posing serious public health challenges, particularly in developing countries. The study, Preventive Measures of Cholera among Undergraduate Students of the University of Nigeria, Nsukka, focuses on addressing this critical issue within the university environment. Ideally, students should have access to safe drinking water, adequate sanitation facilities, and sufficient knowledge of personal and environmental hygiene to prevent the outbreak and spread of cholera. However, in reality, many students at the University of Nigeria, Nsukka, face poor sanitation, overcrowded hostels, limited access to clean water, and low awareness of preventive practices. These conditions increase their vulnerability to cholera outbreaks, leading to illness, disruption of academic activities, and strain on campus health services. This study, therefore, seeks to investigate the preventive measures that can effectively reduce the incidence and transmission of cholera among undergraduate students, aiming to enhance their health, safety, and overall campus well-being.

Research Questions

The following research questions guided the study:

1. What is the proportion of undergraduate students of University of Nigeria, Nsukka who adopt the preventive measures of cholera?
2. What is the proportion of undergraduate students of University of Nigeria, Nsukka who adopt the preventive measures of cholera based on gender?
3. What is the proportion of undergraduate students of University of Nigeria, Nsukka who adopt the preventive measures of cholera based on age?

Hypotheses

The following null hypotheses were postulated to guide the study and we're tested at 0.05 level of significance:

Ho_1: There is no significant difference in the proportion of undergraduate students of University of Nigeria, Nsukka who adopt the preventive measures of cholera based on gender.

Ho_2: There is no significant difference in the proportion of undergraduate students of University of Nigeria, Nsukka who adopt the preventive measures of cholera based on age.

Methods

The descriptive cross-sectional survey design was adopted in carrying out the study. The population for the study comprised 43,451 undergraduate students from University of Nigeria, Nsukka campus. This was made up of all undergraduate students from the 10 faculties and 84 departments within the 2023/2024 session (ICT, University of Nigeria, Nsukka, 2023/2024). The sample size for the study was 440 undergraduates in UNN. Two stage sampling procedure was used to arrive at the sample. The validation of the instrument was done by public health experts. The instrument was trial tested at ESUT Enugu. The reliability of the instrument was calculated using Spearman Brown correlation coefficient and a reliability index of .78 was obtained. Data was collected through direct administration of the questionnaire to the respondents by the researcher and trained assistants. The questionnaire was filled on the spot and collected. Out of the 440 copies of the questionnaire administered only 430 copies duly filled out were used for analyses, which gave a return rate of 97.7 per cent. The remaining 10 copies representing 2.3 per cent were not properly filled, hence were not included in the analysis. The Statistical Package for Social Sciences (SPSS) version 26 was used to analyze the data. Frequency and percentage were used to answer the research questions and were interpreted as 0-39%= Low proportion; 40-60%= Moderate proportion; 70% and above= High proportion. The null hypotheses were tested using Chi-square statistics at .05 level of significance. The results were presented using tables and followed by a brief interpretation according to the research questions and null hypotheses. The null hypothesis was rejected when the calculated value is less than the probability value, but where the calculated value is greater than the probability value, the null hypotheses were not rejected.

Results

Research Question One: What is the proportion of undergraduate students of University of Nigeria, Nsukka who adopt the preventive measures of cholera? Data answering this research question are contained in Table 1.

Table 1: Proportion of Undergraduate Students of UNN Who Adopt the Preventive Measures of Cholera (n=430)

S/N	Items	Yes f(%)	No f(%)
1.	Proper cooking of food before serving.	405(94.2)	25(5.8)
2.	Thorough washing of vegetables and fruits before use/consumption	417(97.0)	13(3.0)
3.	Boiling water before use.	404(94.0)	26(6.0)
4.	Filtering water before drinking	391(90.9)	39(9.1)
5.	Treating water with chlorine products before use.	404(94.0)	26(6.0)
6.	Taking the Oral Cholera Vaccine (OCV)	355(82.6)	75(17.4)
7.	Hygienic and good sanitation.	404(94.0)	26(6.0)
8.	Frequent hand washing before eating.	417(97.0)	13(3.0)
9.	Proper and timely disposal of all wastes.	417(97.0)	13(3.0)
10.	Washing hands with soap and water after using latrine.	417(97.0)	13(3.0)
11.	Cover food to keep away flies	404(94.0)	26(6.0)

	Overall %	**97.0**	**3.0**

Key: 0-39%= Low proportion; 40-60%= Moderate proportion; 70% and above= High proportion

Result in Table 1 show that a high proportion (97.0%) of undergraduate students of University of Nigeria, Nsukka adopt the preventive measures of cholera.

Research Question Two. What is the proportion of undergraduate students of University of Nigeria, Nsukka who adopt the preventive measures of cholera based on gender? Data answering this research question are contained in Table 2.

Table 2: Proportion of Undergraduate Students of UNN Who Adopt the Preventive Measures of Cholera Based on Gender (n=430)

S/N	Items	Male (n=128)	Female (n=302)
		Yes f(%)	**Yes f(%)**
1.	Proper cooking of food before serving.	105(82.0)	300(99.3)
2.	Thorough washing of vegetables and fruits before use/consumption	117(91.4)	300(99.3)
3.	Boiling water before use.	117(91.4)	287(95.0)
4.	Filtering water before drinking	106(82.8)	285(94.4)
5.	Treating water with chlorine products before use.	117(91.4)	287(95.0)
6.	Taking the Oral Cholera Vaccine (OCV)	94(73.4)	261(86.4)
7.	Hygienic and good sanitation.	117(91.4)	287(95.0)
8.	Frequent hand washing before eating.	117(91.4)	300(99.3)
9.	Proper and timely disposal of all wastes.	117(91.4)	300(99.3)
10.	Washing hands with soap and water after using latrine.	117(91.4)	300(99.3)
11.	Cover food to keep away flies	117(91.4)	287(95.0)
	Overall %	**91.4**	**99.3**

Key: 0-39%= Low proportion; 40-60%= Moderate proportion; 70% and above= High proportion

Result in Table 2 show that a high proportion of female undergraduate students (99.3%) of University of Nigeria, Nsukka adopt the preventive measures of cholera more than male undergraduate students (91.4%).

Research Question Three. What is the proportion of undergraduate students of University of Nigeria, Nsukka who adopt the preventive measures of cholera based on age? Data answering this research question are contained in Table 3.

Table 3: Proportion of Undergraduate Students of UNN Who Adopt the Preventive Measures of Cholera Based on Age (n=430)

S/N	Items	16-20 years (n=62)	21-25 years (n=332)	26 years + (n=36)
		Yes f(%)	**Yes f(%)**	**Yes f(%)**
1.	Proper cooking of food before serving.	49(79.0)	320(96.4)	36(100.0)
2.	Thorough washing of vegetables and fruits before use/consumption	49(79.0)	320(96.4)	36(100.0)

3.	Boiling water before use.	49(79.0)	319(96.1)	36(100.0)
4.	Filtering water before drinking	49(79.0)	319(96.1)	36(100.0)
5.	Treating water with chlorine products before use.	49(79.0)	319(96.1)	36(100.0)
6.	Taking the Oral Cholera Vaccine (OCV)	24(38.7)	295(88.9)	36(100.0)
7.	Hygienic and good sanitation.	49(79.0)	319(96.1)	36(100.0)
8.	Frequent hand washing before eating.	49(79.0)	332(100.0)	36(100.0)
9.	Proper and timely disposal of all wastes.	49(79.0)	332(100.0)	36(100.0)
10.	Washing hands with soap and water after using latrine.	49(79.0)	332(100.0)	36(100.0)
11.	Cover food to keep away flies	49(79.0)	319(96.1)	36(100.0)
	Overall %	**79.0**	**100.0**	**100.0**

Key: 0-39%= Low proportion; 40-60%= Moderate proportion; 70% and above= High proportion

Result in Table 3 show that a high proportion of undergraduate students of University of Nigeria, Nsukka aged 26 years and above (100.0%) and 21-25 years (100.0%) adopt the preventive measures of cholera more than those aged 16-20 years (79.0%).

Hypothesis One. There is no significant difference in the proportion of undergraduate students of University of Nigeria, Nsukka who adopt the preventive measures of cholera based on gender. Data testing this hypothesis are contained in Table 9.

Table 4: Summary of Chi-square Analysis testing the null hypothesis of no Significant difference in the Proportion of Undergraduate Students of UNN Who Adopt the Preventive Measures of Cholera Based on Gender (n=430)

Variable	**N**	**Yes O(E)**	**No O(E)**	x^2	**Df**	**p-value**
Gender						
Male	128	117(124.1)	11(3.9)	19.289	1	.000
Female	302	300(292.9)	2(9.1)			

***** Significant at $p \leq 0.05$

Results in Table 4 show the Chi-square value with the corresponding p-value for hypothesis of no significant difference in the proportion of undergraduate students of University of Nigeria, Nsukka who adopt the preventive measures of cholera based on gender (x^2= 19.289, p= .000< .05). Since the p-value was less than .05 level of significance, the null hypothesis was therefore rejected. This implies that there was a significant difference in the proportion of undergraduate students of University of Nigeria, Nsukka who adopt the preventive measures of cholera based on gender.

Hypothesis Two: There is no significant difference in the proportion of undergraduate students of University of Nigeria, Nsukka who adopt the preventive measures of cholera based on age. Data testing this hypothesis are contained in Table 5.

Table 5: Summary of Chi-square Analysis testing the null hypothesis of no Significant differencein the Proportion of Undergraduate Students of UNN Who Adopt the Preventive Measures of Cholera Based on Age (n=393)

Variable	N	Yes O(E)	No O(E)	x^2	Df	p-value
Age						
16 – 20 years	62	49(60.1)	13(1.9)			
21 – 25 years	332	332(322.0)	0(10.0)	79.567	2	.000
26 years and above	36	36(34.9)	0(1.1)			

***** Significant at $p \leq 0.05$

Results in Table 5 show the Chi-square value with the corresponding p-value for hypothesis of no significant difference in the proportion of undergraduate students of University of Nigeria, Nsukka who adopt the preventive measures of cholera based on age (x^2= 79.567, p= .000< .05). Since the p-value was less than .05 level of significance, the null hypothesis was therefore rejected. This implies that there was a significant difference in the proportion of undergraduate students of University of Nigeria, Nsukka who adopt the preventive measures of cholera based on age.

Discussion

The findings showed that overall, a high proportion of undergraduate students of University of Nigeria, Nsukka adopt the preventive measures of cholera. This finding was not too surprising because since the respondents are university undergraduates, they are would have been exposed to health education and awareness on the dangers of cholera outbreak hence the high proportion of persons who adopt the preventive measures. Moreso since they are among the elite group in the society, they are more informed and are likely to be abreast of current knowledge which can be easily applied in cholera prevention. In support, Anetor and Abraham (2020) reported similar results, which showed that the respondents had high preventive measures of cholera (82.8%). While Ogbeyi et al. (2019) reported moderate preventive measures (65%) of cholera among residents in Wadata-a sub-urban slum of Makurdi, Benue State. The moderate result reported by Ogbeyi et al. (2019) may be attributed to the fact that the study was conducted among uneducated residents who may not have sufficient knowledge of the preventive measures of cholera.

The findings further showed that overall, a high proportion (99.3%) of female undergraduate students of University of Nigeria, Nsukka adopt the preventive measures of cholera more than male (91.4%) undergraduate students. Supporting this finding, Ali, Mohamed and Tawhari (2021) found out that females showed significantly improved preventive measures towards cholera infection than their male counterparts. The corresponding hypothesis in Table 4 showed there was a significant difference in the proportion of undergraduate students of University of Nigeria, Nsukka who adopt the preventive measures of cholera based on gender (x^2= 19.289, p= .000< .05). This finding is in consonant with the findings of Ali, Mohamed and Tawhari (2021), which showed that there was a statistically significant difference (P-value = 0.034) in the preventive measures of males and females to cholera. This implies that female respondents had better preventive measures towards cholera than the males. This could be because females often take up more domestic and care giving roles which may translate to better hygiene practices such as handwashing and proper food handling. In

some cultures, women are more likely to be responsible for household health and hygiene which could lead to increased adoption of preventive measures.

The findings showed that respondents aged 21-25 years and those aged 26 years and above engaged in preventive measures of cholera more than those aged 16-20 years. This finding was expected thus not surprising because younger students (16-20years) might just be trying to adjust to independent living after graduating from secondary school and this could lead to lapses in preventive measures because of immaturity. However in contrast with the findings, Anetor (2020) found out that younger people appeared to engage in preventive measures of cholera more than the older people. This difference in the findings may be because of advancement in technological development in the study area as well as the participants. The corresponding hypothesis in Table 4 showed that there was a significant difference in the proportion of undergraduate students of University of Nigeria, Nsukka who adopted the preventive measures of cholera based on age ($\boldsymbol{x^2}$= 89.763, p= .000< .05). In corroboration, Anetor (2020) also reported that age had significant influence on preventive measures (p < 0.021) of cholera, with an indication that the younger people appeared to engage in preventive measures of cholera more than the older people. Similarly, Rosdi et al. (2019) reported no significant difference for preventive measures of cholera based on age. Also, following prevailing technological advancement, which brought about smart phones and internet, anyone, irrespective of age can source for information on health related issues such as cholera using smart phones.

Educational Implications of the Study

The findings of this study have significant implications for health education and preventive health practices among undergraduate students. The high adoption of preventive measures of cholera among students indicates that health education, awareness campaigns, and exposure to information play a critical role in shaping health behaviors. Universities and other educational institutions can leverage this by incorporating structured health education programs into the curriculum and campus activities to reinforce hygiene practices and disease prevention. The observed gender differences suggest the need for targeted interventions that encourage male students to actively engage in preventive measures, while age-related variations highlight the importance of orientation programs for younger students to ensure they adopt effective health practices from the onset of university life. Overall, these findings emphasize the role of educational institutions as platforms for promoting healthy lifestyles and disease prevention among young adults.

Contribution to Knowledge

This study contributes to existing knowledge by providing empirical evidence on the preventive measures of cholera among undergraduate students of the University of Nigeria, Nsukka. It demonstrates that a majority of students, particularly females and older students actively engage in preventive practices, highlighting the influence of health education, gender, and age on cholera prevention. The study also underscores the differences in preventive behaviors among students, thereby offering insights into how demographic factors shape health practices. Through focusing on an educated student population, this research extends the understanding of cholera prevention beyond general populations or uneducated communities, providing a benchmark for similar studies in other university settings and informing policies aimed at enhancing public health education and disease prevention in academic environments.

Conclusions

The study investigated Preventive measures of cholera among undergraduate students of University of Nigeria, Nsukka. It was concluded from this study that majority of the undergraduate student of University of Nigeria Nsukka campus had very good preventive measures of cholera disease. However, female undergraduate students engage in preventive measures of cholera more that the males. Consequently, undergraduate students of older age (26 years and above) had higher preventive measures of cholera than their younger counterparts. This therefore calls for action to sensitize the males more on the preventive measures of cholera, and as well formulate policies that will encourage and promote good hygiene among the students, especially the males. There is also need to start the awareness on cholera disease outbreaks preventive measures right from secondary school.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. There is need to formulate and implement policies that encourage and promote good hygiene practices in the campus especially among male students by the university authority. This can be achieved through the office of the dean of student affairs in collaboration with the hall supervisors, who would ensure strict adherence and implementation of such policies.
2. There is need to strengthen health-education activities by the university authorities especially among young undergraduate students to improve their preventive measures of cholera.
3. The government and the university management should also ensure adequate provision and availability of water at all times within the campus and its environs for the students. This would to a great extent promote good hygiene behaviour among the students, which is a major preventive measure of communicable disease such cholera.
4. Similarly, the university management should as well ensure prompt and proper waste disposal. This can be achieved through effective and efficient works department.

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