

Sanitation Practices among Undergraduate Students at the University of Benin, Nigeria

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Abstract. The purpose of this study was to identify the sanitation practices among undergraduate students in halls of residents in University of Benin. The study followed a descriptive research design. The students residing in the halls of residents in Ugbowo campus at University of Benin constituted the study population. The sample size for was 400 students. These were selected through multi stage sampling. A structured questionnaire designed by the researchers titled “personal attributes influencing sanitation practices among undergraduate students” was used. The instrument was validated by three experts and when subjected to reliability testing, a reliability coefficient of 0.72 was obtained. Data collected was analysed using frequency counts and percentages. The findings were that sanitation practices among the students are poor and that age and gender influenced these practices. It was also found that inadequate water supply, poor toilet facilities, insufficient toilets, bathroom and waste disposal facilities and poor drainage system are major causes of poor sanitation in the halls of residents. It was recommended that there is need to educate the students on cleanliness during their orientation exercise and that keeping the environment clean on campus should be a joint responsibility of the school authority and students.

Keywords: Student services; Student affairs; Education facility planning.

1 Introduction

Over the years, it has been established that poor sanitary practices play major roles in the increased burden of communicable diseases within developing countries. In 2006, regions with the lowest coverage of “improved” sanitation were sub-Saharan Africa 31%, Southern Asia 33% and Eastern Asia 65% (World Health Organization



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& UNICEF, 2012; Centre for Disease Control and prevention, CDC, 2018). But most worrisome is that the communicable diseases caused by poor sanitation are preventable through proper or adequate sanitation practices. Experience has shown that there is an intricate relationship between human health and the environment. This relationship has been empirically proven. The National Institute of Environmental Health (1999) summarized these relationships and concluded that human health, illness and mortality are intimately connected to the state of the environment. Wastes are generated through daily activities of man and if they are disposed improperly, they tend to pollute the surrounding environment and endanger health. This corroborates the position of the most familiar disease model, the epidemiologic triad, which depicts a relationship among agent, environment and host, in the occurrence of disease. This triad maintains that for every disease condition, there is a corresponding relationship/ interaction among agent, host and environment.

Agent in this context refers to any factor tangible or intangible, visible or invisible whose excessive presence or relative absence is necessary for a particular disease or injury to occur. General classes of disease agents include chemicals such as benzene, oxygen, and asbestos; microorganisms such as bacteria, viruses, fungi, and protozoa; and physical energy sources such as electricity and radiation.

Environment in this context refers to all extrinsic factors, other than the agent, that can influence human health. Environment is further categorized into social factors such as crowding, sanitation, adherence to laws, rules and regulations of the land and the availability of health services, physical factors such as pollution, geology and climate, and biological factors such as insects that transmit the agent.

The host factor is the sufferer of the disease condition. Host's susceptibility is affected by personal characteristics such as age, occupation, income, education, personality, behaviour, attitudes values, skills, gender and other genetic traits (2018). From the perspective of the epidemiologic triad, the host, agent, and environment can coexist fairly harmoniously. Disease and injury occur only when there is interaction or altered equilibrium among these three variables. But if an agent, in combination with environmental factors, can act on a susceptible host to create disease, then disruption of any link among these three factors can also prevent disease.

The existence of this relationship among agents, hosts and environment is one of the key causes of poor sanitation practices in developing countries like Nigeria including her higher institutions where the hostel (environment) is littered with all forms of environmental pollution (agents) by man himself (host) thereby causing disease condition. Based on this, the Nigerian government set up institutional bodies of various levels for environmental sanitation. Tertiary institutions have also set up some frameworks in their institution in this regard. However, one still finds the cities and hostels very filthy. In the higher institutions, faculties and hostels are dirty most of the time. It becomes necessary to find out to what extent individuals (hosts) particularly students in the universities are involved in environmental sanitation.

1.1 Statement of Research Problem

Following the problem of poor sanitation practices in higher institutions of learning in Nigeria, the authorities in many of these institutions contracted the cleaning of hostels out by employing cleaners. Based on this one will be quick to think that universities hostels are now “heaven on earth”. But this might not be true as a visit to the university of Benin halls of residents and many other universities reveal that the hostels environment are still rough and dirty. Although many researchers have argued that the unhealthy state of school hostels could be traced to poor or total lack of supervision of these cleaners, others maintained that it is one thing to employ cleaners and it is another thing for the cleaners to work under an enabling environment or favourable atmosphere by ensuring adequate provision of working tools and facilities. Having gone through many literatures, the researchers are not satisfied that previous studies’ efforts geared towards understanding and eradicating poor sanitation practices among students were mainly based on environmental and agents factors with little or no attention giving to the host factors. Therefore the need for this study to consider the hosts’ factors in relation to hostel sanitation practices with particular interest in hosts’ personal characteristics such as: students sanitation practices, students attitudes towards sanitations in hostels, sex influence on sanitation practices, and adequacy and availability of facilities. This is because employing cleaners and having adequate facilities are good but it is better when students have the right attitudes towards sanitation and good sanitation practices. It was on this note that this study was undertaken.

1.2 Research Questions

1. Do University of Benin undergraduate students engage in sanitary practices in their halls of residence?
2. Does sex influence the students’ sanitation practices?
3. What are the causes of poor sanitation practices among students?
4. What attitudes do students hold towards sanitation practices?

1.3 Purpose of the Study

The purpose of this study was to investigate sanitation practices, the attitudes of students towards sanitation and the extent to which undergraduate students engage in sanitary practices.

2 Methodology

The study followed a descriptive survey design. The population was made up of all the 7,360 undergraduate students living in the five the halls of residence in Ugbowo campus of University of Benin. The sample size for the study was 400 respondents

and was selected through the multi-stage sampling technique. In the first stage the stratified random sampling technique was used to stratify the population by sex (i.e. male, female and mixed hostels). This resulted in Hall 1, 2, 6 and Keystones for girls' hostels, 3 and 4 for boys' hostels, while 5, NDDC and Clinical Hostels for mixed hostels. In the second stage, purposive sampling technique was used to pick two halls of residence each from boys and girls hostels to get a total of four halls of residence and the halls are 1, 2, 3 and 4 respectively. In the third stage, the simple random sampling technique was used to select 100 students from each of the selected halls to get a total of 400 respondents.

A self-constructed questionnaire titled "personal attributes influencing sanitation practices in halls of residence" was used. The questionnaire had four sections: Section A elicited demographic data (i.e. sex, age and educational level). Section B was made up of fifteen (15) items on the sanitation practices of students living in the halls of residence. Section C was made up of four (4) items on the causes of poor sanitation practices while Section D was made up of nine (9) items on the attitudes the students held towards sanitation in their halls of residence

A draft of the instrument was validated by three experts in the Department of Health Safety and Environmental Education, University of Benin, Benin City after which it was revised. The reliability of the instrument was determined using test-retest method of reliability. The instrument was administered to twenty (20) students in the halls of residence that was not used for this study. After an interval of two weeks, the same instrument was re-administered to the same group. The scores obtained from the tests were computed using the Pearson Product Moment Correlation Co-efficient, a co-efficient score of 0.87 was obtained. The researchers administered the questionnaires to the respondents in their various halls of residents with the help of two trained research assistants. Respondents were requested to respond to all the items in the questionnaires and a total number of 400 questionnaires were administered. The data collected was analysed using frequency counts and percentages.

3 Findings and Discussion

The findings are shown in Tables 1 through 4.

Table 1: Students' Sanitation Practices

SN	Attributes	Yes (%)	No (%)
1	Do your roommates make use of the facilities provided by the school for waste disposal?	304(76)	96(24)
2	Do your roommates wash their hands regularly with soap and water?	128(32)	272(68)
3	My roommates are not fond of littering the environment with dirt.	260(65)	140(35)
4	Do your roommates make use of the bathroom facilities provided by the school?	190(47.5)	210(52.5)
5	My roommates do not throw dirty water just anywhere in the hostel environment?	206(51.5)	194(48.5)
6	Students in the hostel do not urinate indiscriminately.	36(9)	364(91)
7	My roommates do not store up dirty plates for days before taking out time to wash them?	142(35.5)	258(64.5)
8	Do your roommates brush their teeth at least twice a day?	196(49)	204(51)
9	Do your roommates make use of the toilet facilities provided by the school?	226(56.5)	174(43.5)
10	My roommates usually sweep their bed space everyday	208(52)	192(48)
11	My roommates do not soak dirty clothes in water for the discomfort of others.	276(69)	124(31)
12	My roommates' kitchen utensils are always neat.	210(52.5)	190(47.5)
13	My roommates always remove the cobwebs in the room.	78(19.5)	322(80.5)
14	My roommates always clean/mop their bed space.	150(37.5)	250(62.5)
15	My roommates do not throw solid refuse into the gutters.	260(65)	140(35)

Table1 above reveals the extent undergraduate students engage in sanitation practices in their various halls of residence in University of Benin. The Table 1 shows that 76% of respondents make use of the facilities provided by the school for waste disposal, 68% do not wash their hands regularly with soap and water, 35% of respondents are fond of littering the environment with dirt's, while 65% of them do not, 52.5% do not use of the bathroom facilities, 48.5% of respondents dispose dirty water anywhere in the hostel environment, while 51.5% of them do not, 91% urinate indiscriminately, 51% do not brush their teeth regularly (at least twice daily), 56.5% make use of the toilet facilities provided by the school, 52% of respondents sweep their bed space daily, 31% of respondents soak dirty clothes in water for days thereby making others uncomfortable, while 69% of them do not, 52.5 % of respondents' kitchen utensils are always neat while 47.5% of them are not, 80.5% do not remove cobwebs from their rooms, 62.5% do not clean/mop their bed spaces. 35% of respondents throw solid refuse into gutters, while 65% of them do not. From Table1 above, it can be concluded that the sanitation practices among University of Benin undergraduate students are low as revealed by mean scores of 47.8% against 52.2%.

Table 2: Influence of Gender on Sanitation Practices

S/N	Items	Male		Female	
		Yes (%)	No (%)	Yes (%)	No (%)
1	Do your roommates make use of the facilities provided by the school authority for waste disposal?	160(80%)	40(10%)	144(72%)	66(28%)
2	Do your roommates wash their hands regularly with soap and water?	48(24%)	76(76%)	40(40%)	60(60%)
3	My roommates are not fond of littering the environment with dirt.	64(64%)	36(36%)	66(66%)	34(34%)
4	Do your roommates make use of the bathroom facilities in hostels?	77(77%)	23(23%)	18(18%)	82(82%)
5	My roommates do not dispose dirty water indiscriminately?	49(49%)	51(51%)	54(54%)	46(46%)
6	Students in the hostel do not urinate indiscriminately	06(06%)	94(94%)	12(12%)	88(88%)
7	Do your roommates store up dirty plates for days before washing them?	26(26%)	74(74%)	45(45%)	55(55%)
8	Do your roommates brush their teeth at least twice daily?	61(61%)	39(39%)	39(39%)	61(61%)
9	Do your roommates make use of the toilet facilities provided by the school?	93(93%)	07(07%)	20(20%)	80(80%)
10	My roommates usually sweep their bed space daily.	43(43%)	57(57%)	61(61%)	39(39%)
11	My roommates do not soak dirty clothes for days to discomfort others.	62(62%)	38(38%)	76(76%)	24(24%)
12	My roommates' kitchen utensils are always neat.	41(41%)	59(59%)	64(64%)	36(36%)
13	My roommates always remove the cobwebs in their rooms.	15(15%)	85(85%)	24(24%)	76(76%)
14	My roommates always clean /mop their bed spaces.	32(32%)	68(68%)	43(43%)	57(57%)
15	My roommates do not throw solid refuse into the gutters.	63(63%)	37(37%)	67(67%)	33(33%)

In Table 2 above, more males (80%) than females (72%) make use of waste disposal facilities, more males (76%) than females(60%) do not wash their hands regularly with soap and water, more females(66%) than males(64%) do not litter the environment with dirt, 77% of males make use of bathroom facilities while 82% of females do not, 54% of females do not dispose dirty water indiscriminately while 51% of males do, 94% of males and 88% of females urinate indiscriminately in hostels’ environment respectively, more females(45%) than males(26%) store up dirty plates for days before washing them, more males(61%) than females(39%) brush their teeth at least twice daily, more males(93%) make use of toilet facilities than 80% of females who do not, 61% females sweep more than 57% males who do not, more females(76%) than males(62%) do not soak clothes for days to discomfort others, more males(41%) than females(36%) do not kitchen utensils neat, more males(85%) than females(76%) do not remove cobwebs from their rooms, more males(68%) than females(57%) do not clean /mop their bed spaces and lastly more males(37%) than females(33%) throw solid refuse into the gutters. In conclusion, sex does influence sanitation practices. Males with a mean score of 774(51.6%) engage in sanitation practices more than their females’ counterparts with a mean score of 683(45.5%).

Table3: Causes of Poor Hostels Sanitation among students

S/N	Items	Yes	No
1	Does shortage of water in the hostel contribute to the poor environmental condition of the hostel?	320(80%)	80(20) %
2	The major cause of indiscriminate urination by students in the hostel is due to poor toilet facilities.	346(86.5%)	54(13.5%)
3	The poor sanitary condition of the hostel is as a result of insufficient toilet and waste disposal facilities.	306(76.5%)	94(23.5%)
4	Poor drainage system is one of the factors that contribute to the poor environmental condition of the hostel.	332(83%)	68(17%)

Table 3 shows that 80% of respondents agreed that storage of water in the hostel contributes to the poor environmental condition of the hostel, 86.5% of respondents said that the major cause of indiscriminate urination by students in the hostel is due to poor toilet facilities, 76.5% of respondents reported that insufficient toilet and waste disposal facilities resulted in the poor sanitary condition of the hostel and lastly, 83% of respondents agreed that poor drainage system is a factor that contributes to poor sanitation practices.

Table 4: Attitudes towards Sanitation

S/N	ITEMS	A	D
1	Students should be held responsible for the poor sanitary condition of the hostel environment.	143(71.5)	57(28.5)
2	The cleaners should be strictly held responsible for the poor condition of the hostel environment.	82(41)	118(59)
3	Students found not practicing sanitation or not keeping their environment clean should be sent out of the hostel	103(51.5)	97(48.5)
4	Keeping the hostel environment clean is a joint responsibility of the school authority and the students.	195(97.5)	5(2.5)
5	It is humiliating for me to clean any part of the hostel apart from my room.	80(40)	120(60)
6	Students should be bothered about environmental sanitation.	168(84)	32(16)
7	It is necessary to keep your environment clean.	199(99.5)	1(0.5)
8	I am disgusted with the poor sanitary condition of the hostel environment.	197(98.5)	3(1.5)
9	Seeing students messing up toilet facilities is irritating.	196(98)	4(2)

Table 4 above shows the attitudes of University of Benin undergraduate students towards sanitation. The Table4 shows that 71.5% of the respondents agreed that students should be held responsible for the poor sanitary condition of the hostel, 41% agreed that cleaners should be held responsible for the poor condition of the hostel while 59% disagreed, about 52% agreed that students found not practicing sanitation should be sent out of the hostel while 97.5% maintained that keeping the hostel environment clean is a joint responsibility of the school authority and the students, 40% of respondents find it humiliating to clean the environment apart from their rooms while 60% disagreed, 16% agreed that students should not be bothered about environmental sanitation while 84% disagreed, 99.5% said it is necessary to keep their environment clean, 89.5% feel disgusted with the poor sanitary condition of the hostel environment and 98% of respondents feel irritated when they see others messing up toilet facilities. Lastly, the Table4 shows that students' attitude towards sanitation is very high in the University of Benin because 75.7% of them have a positive attitude towards sanitation.

4 Discussion, Conclusion and Recommendations

The study revealed that the extent to which students engage in sanitation practices is low. This finding corroborates the findings from the study of Musa and Haque (2016) that the male hostels of the University were not free from environmental problems. The result of this study could be related to poor knowledge and people's negative attitudes towards sanitation practices.

This agrees with findings of Worlanyo (2013) that most of the market users in his studies have inadequate education on good hygiene and basic sanitation promoting practices. As a result they do not see the issue of improved sanitation as a current priority; hence, they failed to change their lifestyle which could lead them to practice proper sanitation. But disagree with the findings of Fonyuy (2014) that the understanding of the notions of hygiene and sanitation, the knowledge and practices on the collection and preservation of potable water of the women used in his study, were not based on the level of education but on how much public health information they got about drinking water collection, treatment and preservation.

The study showed that gender and age influences sanitation practices of students. It was discovered that male students engage more in sanitation practices than female students and also, those between the ages of 19-23yrs engage more in sanitary practices than others because at that very stage in life, individuals do their best to fit into the society and to be accepted by their peers.

The findings of this study disagree with that of Dube and January (2012) when there was no association between a child's sex, age and parents' occupation with predisposing, enabling and reinforcing factors that are causally related to water- and sanitation- related hygiene practices among school going children.

The study also revealed that the major causes of poor sanitation practices among students are: poor toilet and bathroom facilities, insufficient toilet and waste disposal facilities, shortage of water supply and lastly, poor drainage system. This agrees with the findings from the study of Musa and Haque (2016) that irregular water supply, lack of waste disposal facilities and student's attitude contributes to poor hygienic conditions in the hostels while there is a lack of maintenance of wastes facilities.

Lastly this study reveals that the attitude of student towards sanitation is high. This study disagrees with that of Ikelegbe and Ogeah (2010) who carried out a study on the attitudes of students towards environmental sanitation in the University of Benin. Similarly, it disagrees with the findings from the study of Musa and Haque (2016) that student's attitude contributes to poor hygienic conditions in the hostels.

Based on the result of the study, it can be concluded among others that that sanitation practices among undergraduate students of University of Benin in their halls of residents is low and that inadequate water supply, poor toilet facilities, insufficient toilet, bathroom and waste disposal facilities and poor drainage system are the major causes of poor sanitation in the hostel environment.

Based on the findings and conclusion the following recommendations were made:

1. Keeping the school environment clean should be a joint responsibility of the school authority and students.
2. There is need to educate the students on cleanliness during their orientation period.
3. The school authority should organize environmental sanitation competition in order to stimulate the students to keep their hostels environment clean.

4. The school authority should contract more cleaners and they should be regularly supervised.
5. Rules and regulations should be placed in the hostels concerning the environmental sanitation of the hostel and defaulters should be punished.
6. Hostel executives or representatives should be placed in each block to monitor students and report defaulters.
7. The school management should rise up to the responsibilities of making facilities adequate especially the provision of adequate water, more toilets and bathing facilities.

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