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Original article

A candle in the wind: An assessment of sanitation behavior among students of tertiary educational institutions in southwest Nigeria

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ABSTRACT

This article examined sanitation behaviour among students' of tertiary education institutions in southwest Nigeria. The study surveyed the behaviour of the students in the residential hostels across gender differences. A total of 125 students were selected for the survey using a systematic sampling technique. The study revealed that the majority 194 (96.8%) were below 28 years of age. Findings revealed that the number of occupants in a student room was higher than the number of students allocated to the room. Due to overpopulation in rooms within the hostels, the available sanitary installations are overstretched. The study found that the average per capita use of toilets and bathrooms in male and female hostels was 27 and 21 students respectively. The study reports on poor sanitation behaviour among the students in terms of washing of hands after defecation, hand cleaning materials used by the student after using the toilet, flushing the toilet after use, sanitary alternatives when the toilet is in a bad condition and cleaning of students' rooms. It recommends a mind-set reorientation for the students about adequate sanitary behaviour through effective sanitation education and provision of adequate sanitary amenities to cater for the students residing in the hostels. The findings of this study will have implications for effective policy making on sanitation behaviour among students in tertiary education institutions with a similar background.

KEY WORDS: sanitation, behaviour, sanitary facilities, sanitation habits, amenities, Ile-Ife

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1. Introduction

The prevalence of abusive sanitation behaviour in Nigeria and the impunity with which they are perpetuated has generated increased concern. The resultant effects of these behaviours are unsanitary and unhealthy environmental conditions that are prevalent in living environments in Nigerian (FGN, 2005; Olowoporoku, 2017a). In developing societies, health and well-being concerns of inhabitants are associated with the unplanned living environment and poor sanitary habits among its dwellers (Mmom & Mmom, 2011). In Nigerian tertiary education institutions, the poor hygienic behaviour of students could be attributed to inadequate infrastructure and ineffective hygiene education. This explains why vector-borne diseases such as malaria, bilharzia, typhoid are rife on campuses due to the absence of pest and disease vector' control programmes (Odunsi, 2017). These conditions have serious health impacts with attendant social and economic costs on the students.

Sanitation is a group of methods to collect human excreta as well as community waste in a hygienic way, where human and community health is not altered (Modammed, 2011; Olowoporoku, 2014; WHO, 2015). In another parlance, it is a system to maintain a healthy life and environment through decrease in the spread of diseases by adequate management of waste water, elimination of excreta from sight, proper handling of waste and waste treatment (Olowoporoku, 2014; WHO, 2018). These activities help to protect human bodies from illness, transmission of diseases or loss of life due to unclean surroundings (Rochester, 2005; Afon & Faniran, 2013). Health problems from

poor sanitation can be prevented only if people change their personal habits, or behaviours, about cleanliness. Thus adequate sanitation behaviour is a key development intervention as having access to it increases health, well-being and economic benefits (DARAMOLA, 2015).

As opined by EKONG (2015) and AREMU (2012) 30% of the burden of diseases in sub-Saharan Africa can be attributed to sanitation problems. The problems are also referred to as behavioural man-made environmental hazards which emanate from the living environment (OLOWOPOROKU, 2017a). Among the living environment where residents are prone to sanitation problems are students' residential areas. These are areas where accommodation for students is provided. Of particular concern in this study are residential areas available for students of public tertiary educational institutions. For instance, improper waste disposal by a student affects all students in the hostels; mosquitoes that breed in one place may bite students in another area; contamination of foodstuffs will affect all who consume them, not just the seller. This therefore implies that the occupancy of a student in the residential areas of tertiary education institutions is tantamount to a candle in the wind.

A meticulous examination of sanitation conditions has remained consistently poor in Nigerian universities for a long time (OMUDU & AKOSU, 2013; ADEGOKE & AGBOOLA, 2014; EIJEDI, 2015; ODUNSI, 2016). An observation of the on-campus residential environments of public tertiary educational institutions reveals the awful environmental condition that students reside in. The unkempt indoor and outdoor environment in student hostels attracts disease vectors (OMUDU & AKOSU, 2013; ODUNSI, 2016). This situation had aggravated as a result of failure of the numerous efforts to address the problem of sanitation in residential areas of Nigerian tertiary institutions. These efforts are, poor sanitation education and awareness, inadequate infrastructural facilities and services, incessant damage and breakdown of environmental amenities, improper disposal of solid waste, wastewater and excreta, poor personal hygiene and environmental indiscipline etc. which are contrary to the aim of sanitation.

Human health is directly threatened by severe environmental problems that arise in and around their place of living (RAHEEM ET AL., 2009). Causal and consequential complex web relationships exist between man and his environment. Numerous studies have established the fact that the incidence of many diseases is reduced when people have access to, and make regular use of adequate sanitary installations (HARVEY, 2008; FMHE, 2009; ACHEAMPONG, 2010; LUITH, 2011; MMON & MMON, 2011; MOHAMMED, 2011; NWAKWO, 2011; AREMU, 2012; DARMOLA & OLOWOPOROKU, 2016; OLOWOPOROKU, 2017). However, the provision of adequate sanitation facilities could at best be referred to as means to the end (proper sanitation practices). The attitude and behaviour of facility users determine the end. Therefore the quality of students' living environment is essential for the efficiency of the means.

Studies that have focused on sanitation practices emanating from living conditions in student milieu are countless. For instance, studies on adequacy of sanitation facilities include (EZRA ET AL., 2013; ABAREH, 2014; DUNMADE ET AL., 2014; OLATUNJI, 2014; DARAMOLA & ODUNSI, 2016), other studies have examined the health effects of sanitation behaviour (EZRA ET AL., 2013; EJEDI, 2015; ODUNSI, 2016). In all these studies, the focus had been on issues pertaining to provision and deficiencies of facilities. Studies that have examined sanitation habits in students' residential areas especially in Africa are quantitatively unimpressive. Adequate sanitation behaviour allows users knowledge to ensure the management of facilities and increase the likelihood that the facilities will be used sustainably. In order to achieve proper sanitation, good sanitation behaviour and availability of facilities must work in unison (IRC, 2006; DARAMOLA & OLOWOPOROKU, 2016). Thus the aim of this article was to examine students' sanitation behaviour in Obafemi Awolowo University. To achieve this, it assessed the socio-economic attributes of the students; the availability of sanitary facilities; and student sanitation habits.

2. Materials and method

The study area Obafemi Awolowo University (OAU) is a government-owned institution located in Ile-Ife, Osun State, Nigeria. It lies at latitude 7°28'55" N and longitude 4°33'38" E on the Greenwich meridian. The university was established in 1962 as the University of Ife before it was renamed in honour of Chief Obafemi Awolowo a former Premier of Western Region, Nigeria and its first chancellor. The university spans a total land area of 11.861 hectares. It comprises the central campus, the student residential area, the staff quarters and a teaching and research farm. The central campus comprises the lecture halls, laboratories, library and offices for lecturers, administrative units and service centres.

The institution is an organized milieu and responsible for the provision and maintenance of sanitary and environmental installations. There are

nine student halls of residence: four male hostels namely Angola, Awolowo, E.T.F. (Education Tax Fund) and Fajuyi halls; there are four for female students which are Akintola, Alumni, Moremi and Mozambique halls. Table 1 contains details of the halls.

Simple random sampling was used in the selection of two male and female hostels within the institution. The selected male halls were Awolowo hall, Fajuyi hall while the selected female halls were Moremi hall and Akintola hall. In Awolowo hall, there are sixteen blocks (eight three storey buildings and eight bungalow buildings known as an annexe). In Fajuyi hall, there are fifteen blocks (5 three-storeyed buildings and 10 bungalow buildings known as an annexe). In Moremi hall, there are eight three-storey buildings while in Akintola hall, there are four three storey buildings. All the three-storey residential blocks contained 10 rooms per floor while the annexe bungalow buildings also contained 10 rooms per block. Simple random sampling was used in selecting two rooms per floor in the three-storeyed buildings while two rooms were also selected in a block at each of the bungalow building. A total of 125 rooms were selected across the male halls and 76 rooms were selected female halls. The questionnaire was administered on a student in each of the rooms selected.

Table 1. Details of student halls on OAU campus

S/N	Hostel name	Gender	Year of commencement of operation	Total number of occupants
1	Angola Hall	Male	1979	1320
2	Awolowo Hall	Male	1967	1884
3	E. T. F. Hall	Male	2001	576
4	Fajuyi Hall	Male	1968	1746
5	Akintola Hall	Female	1975	600
6	Alumni Hall	Female	2002	416
7	Moremi Hall	Female	1973	1200
8	Mozambique Hall	Female	1980	1700
	Total			9458

3. Research findings

3.1. Socioeconomic attributes of respondents

This section discussed the results of socio-economic attributes of students as presented in Table 2. The variables considered include; age, academic level, mother and father's level of education. As identified by SCHULTZ ET AL. (2005) MAYER & FRANTZ (2004), DARAMOLA & OLOWOPOROKU (2016) and OLOWOPOROKU (2017b) age plays a significant role in environmental awareness. The age of the respondents was grouped into three age classes. In the male hostels, 51.4% of the respondents were between the ages of 16-21 years, 43.2% were between the ages of 22-27 years while the reaming respondents (5.4%) were above 25 years of age. In the female hostels, 60.5% of the respondents were between the ages of 16-21 years while 39.5% were between the ages of 22-27 years. The overall mean age was 21.5 years.

Also shown in Table 2 is the level of academic pursuit of students within the institution. Among the male respondents, 27.0%, 18.9% and 21.6% of the respondents were in their first year (100 level), second year (200 level) and third year (300 level) of their academic studies respectively while the proportion of male students in 400 level and 500 level were 16.2% and 16.2% respectively. In the female hostel 13.2%, 26.3% 21.1% and 15.8% of the students were in the first year (100 level), second year (200 level), third year (300 level) and fourth year (400 level) respectively while the remaining (23.7%) were in their fifth year of academic pursuit. The contribution of the educational status of parents is salient to their children environmental practices. Findings revealed that the majority (64.0%) of the parents of the students across the two genders attained tertiary education. Thus the students are expected to be knowledgeable about friendly environmental behaviours.

Table 2. Socioeconomic attribute of students

Attribute	Male hostels Frequency [%]	Female hostels Frequency [%]	Total Frequency [%]
Age			
16 – 21	65 (52.0%)	46 (60.5%)	111 (55.2%)
22 – 27	53 (43.4%)	30 (39.5%)	83 (41.3%)
Above 28	7 (5.6%)	0 (0.0%)	7 (3.5%)
Total	125 (100.0%)	76 (100.0%)	201 (100.0%)
Academic level			
100	34 (27.0%)	10 (13.2%)	44 (21.9%)
200	24 (18.9%)	20 (26.3%)	44 (21.9%)
300	27 (21.6%)	16 (21.1%)	43 (21.4%)
400	20 (16.2%)	12 (15.8%)	32 (15.9%)
500	20 (16.2%)	18 (23.7%)	38 (18.9%)
Total	125 (100.0%)	76 (100.0%)	201 (100.0%)
Parents' level of education			
No formal education	10 (8.1%)	6 (7.9%)	16 (7.9%)
Primary	7 (5.4%)	4 (5.3%)	11 (5.5%)
Secondary	20 (16.2%)	22 (28.9%)	44 (22.0%)
Tertiary	88 (70.3%)	44 (57.9%)	132 (65.6%)
Total	125 (100.0%)	76 (100.0%)	201 (100.0%)

3.2. Students' living conditions and access to sanitary facilities

Findings on students' living conditions and access to sanitation facilities across the two hostels are presented in Table 3. It is also imperative to consider the sanitary facilities available to students because the availability of facilities may influence their hygiene behaviour. Starting with the number of occupants in respondents' rooms, the number of allocated students per room in the institution was five. From the male hostels, 24.3% of the students' indicated that the number of students living in their rooms was between 6-10 students while 75.7% of the students indicated that the number of occupants in their rooms were more than 10. In the female hostels, 2.6% of the students indicated that the number of occupants in their rooms were not more five students, 55.3% indicated the number of occupants in their rooms was between 6-10 students while the remaining 42.1% indicated that the number of students occupying their rooms was above 10. Further findings revealed that the average number of male occupants residing in a room was nine students while amongst the females, the average number of students residing in a room was seven. The mean number of occupants per room is higher than the number of students officially allocated to the rooms. Thus the rooms are likely to be congested and thus the available facilities in the hostels will be overstretched.

On the quality of water supplied to hostels in the institution, majority (60.0%) of the students claimed the water is potable; impling the water is fit for use. Closely associated with the quality of water supplied are the findings on the daily consumption of water by the students. The initial quantitative data were categorized into three: 1-25 litres, 26-50 litres and 50 litres and above. Findings revealed that 36.0% of the respondents used less than 25 litres of water daily, 37.3% used between 26-30 litres daily while 26.7% of the students consumed above 50 litres of water daily. Findings on the average daily water used by the students across the hostels within the institution revealed that 29 litres were used in the male hostels and 38 litres were used in the female hostels. However, further analysis revealed that the majority of the students did not consume the benchmark of 50 litres needed to prepare meals, have enough for personal hygiene as stated by UNESCO (2006).

Table 3. Students' living condition and access to environmental amenities

Hostel attributes	Male hostels Frequency [%]	Female hostels Frequency [%]	Total Frequency [%]
Number of occupant in respondents rooms			
1 – 5	0 (0.0%)	2 (2.6%)	2 (1.0%)
6 – 10	30 (24.3%)	42 (55.3%)	72 (35.8%)
Above 10	95 (75.7%)	32 (42.1%)	127 (63.2%)
Total	125 (100.0%)	76 (100.0%)	201 (100.0%)
Quality of water supplied			
Potable	47 (37.8%)	32 (42.1%)	79 (39.3%)
Not potable	78 (62.2%)	44 (57.9%)	122 (60.7%)
Total	125 (100.0%)	76 (100.0%)	201 (100.0%)
Average quantity of water used daily (litres)			
>25	65 (51.4%)	16 (21.0%)	81 (40.3%)
26-50	30 (24.3%)	38 (50.0%)	68 (33.8%)
Above 50	30 (24.3%)	22 (22.9%)	52 (25.9%)
Total	125 (100.0%)	76 (100.0%)	201 (100.0%)
Number of rooms to toilet and bathrooms			
1 – 3	85 (67.6%)	68 (89.5%)	153 (76.1%)
Above 3	40 (32.4%)	8 (10.5%)	48 (23.9%)
Total	125 (100.0%)	76 (100.0%)	201 (100.0%)
Condition of toilet and bathrooms			
Bad	37 (29.7%)	20 (26.3%)	21 (28.0%)
Fair	61 (48.6%)	44 (57.9%)	40 (53.3%)
Good	27 (21.6%)	12 (15.8%)	14 (18.7%)
Total	125 (100.0%)	76 (100.0%)	201 (100.0%)
Type of waste storage facility in rooms			
Plastic basket	78 (62.2%)	62 (81.6%)	140 (69.6%)
Nylon bags	10 (8.1%)	2 (2.6%)	12 (6.0%)
Buckets	37 (29.7%)	12 (15.8%)	49 (24.4%)
Total	125 (100.0%)	76 (100.0%)	201 (100.0%)
Condition of waste storage facility in rooms			
Bad	30 (24.3%)	2 (2.6%)	32 (16.0%)
Fair	61 (48.6%)	40 (52.6%)	101 (50.2%)
Good	34 (27.0%)	34 (44.7%)	68 (33.8%)
Total	125 (100.0%)	76 (100.0%)	201 (100.0%)
Condition of drains			
Very Bad	3 (2.7%)	2 (2.6%)	5 (2.5%)
Bad	41 (32.4%)	6 (7.9%)	47 (23.4%)
Fair	47 (37.8%)	40 (52.6%)	97 (48.3%)
Good	34 (27.0%)	28 (36.8%)	62 (30.8%)
Total	125 (100.0%)	76 (100.0%)	201 (100.0%)

Investigations were also made into the number of rooms which had access to a toilet and bathroom across the hostels in the institution. The number of bathrooms and toilets available in the hostels are four per floor. Findings from the male hostels revealed that 67.6% of the toilets and bathrooms were accessible to three rooms while 32.4% of the students claimed a toilet and bathroom on their floor is accessible to more than three rooms. In the female hostels, a significant majority (81.6%) claimed three rooms had access to a toilet and bathroom while the remaining (10.5%) claimed more than three rooms make use of a toilet and bathroom. The average per capita use of toilet and bathrooms was determined using the average number of occupants per room across the hostels. It was revealed that the average per capita use of the toilets and bathrooms in male hostels was 27 persons while in the female hostel the average per capita use of toilets and bathrooms was 21 persons. Implying, sanitary facilities in student residential areas in the institution are likely to be overstretched.

On the condition of the toilets, 29.7% of the male respondents claimed their toilets and bathrooms are bad, 48.6% rated the toilets and bathrooms fair while 21.6% of the male respondents claimed the toilets and bathrooms in the hostels were good. In the female hostels, 26.3%, 57.9% and 15.8% of the respondents rated the toilets and bathrooms in their hostels bad, fair and good respectively. The poor condition of the toilets and bathrooms could be attributed to the high number of students using the facilities.

Findings into the type of waste storage facilities available in respondents' room across the hostels revealed that the majority (72.0%) of the waste storage facilities were plastic baskets, 5.3% were nylon bags and 22.7% were buckets. Further findings were made into the condition of waste storage facilities in respondents' room. In the male hostels, 24.3% of the students rated their waste storage container bad, 48.6% fair and 27.0% claimed their waste storage facility was good. Across the female hostels 2.6%, 52.6% and 44.7% rated the waste storage facility on their rooms bad, fair and good respectively. Findings into the conditions of drains as rated by students in the hostels across the institution revealed that 2.7% of the drains were very bad, 20.0% were bad, 45.3% were fair while 32.0% were rated good.

3.3. Students' hygiene behaviour

Information on sanitation habits of students is presented in Table 4. Findings revealed that 27.0% and 14.3% of the students in male hostels frequently and seldom use the toilet respectively while 10.8% make use of the toilet only when they are pressed and 24.4% of students do not use the toilets at all.

Among the females, 42.1% use the toilet frequently, 47.4% use the toilet seldom, 5.3% use the toilet only when they are pressed while 5.3% do not use the toilets at all. Students who do not make use of the available toilets will invariably engage in another environmentally unfriendly defecation method such as defecation in the bush, nylon open spaces etc. As regards findings on hand washing after defecation, findings revealed that amongst the male students 13.5% wash their hands very often after defecation, 29.7%, 10.8% and 13.5% respectively wash their hands often, occasionally and seldom while 32.5% of the students in the male hostel do not wash their hands after defecation. Findings from the female hostel revealed that 23.6%, 47.4% and 18.4% of the students wash their hands after defecation very often, often and occasionally respectively while 5.3% seldomly wash their hands after defecation and 2.6% do not wash their hands at all after defecation. The result of these findings confirmed the assertions of SOMJA (2013) and XIAO & MCRIGHT (2015), that women are more environmentally concerned than their male counterparts as a significant majority (71%) of the female students often wash their hands after defecation while less than half (43.2%) wash their hands after defecation.

Closely associated with students' toilet habits were findings on hand washing materials. Findings across the male hostels revealed that 16.0% of the students wash their hands with soap and water after using the toilet while the remaining (84.0%) wash their hands with water only after defecation. Across the female hostels 35.1% of the students wash their hands with soap and water after defecation while 69.4% wash their hands with water only after defecation. On flushing of the toilet after use, 26.6% of the students do not flush the toilet after use, 20.3% seldom flush the toilet after use, 7.8% occasionally flush the toilet after use, 18.7% of the students often flush the toilet after use while 28.1% of the students claimed they often flush the toilet after use. Further investigation on flushing of toilets revealed that the proportion of females that often flush the toilet are higher (63.9%) compared to males (25.0%).

Findings were made on respondents' alternative sanitary options when the toilet is in a bad condition. Investigation revealed that the most predominant means of defecation when the toilet is unkempt across the male hostels was to defecate in a nearby bush (35.6%), to defecate at the back of the hostel

building (22.2%) while defecating in open spaces in the dark and defecating on toilet floors accounted for 16.7% and 11.1% of the respondents respectively. Across the female hostels, the use of a potty, defecating in polythene bags, defecating behind the hostel building and defecating in open spaces in the dark were the predominant alternatives and they respectively accounted for 35.6%, 16.8%, 13.9% and 12.9% of the alternatives. These unhygienic means of defecation predispose the students to environmental hazards that could result in hazards such as odour within hostels, breeding of disease vectors, outbreak of disease such as cholera, dysentery and snake bites while defecating in bushes, among others.

Table 4. Sanitation behaviour of students

Behaviour	Male hostels Frequency [%]	Female hostels Frequency [%]	Total Frequency [%]
Frequency of usage of toilets			
Frequently	34 (27.0%)	32 (42.1%)	66 (32.8%)
Seldom	47 (37.8%)	36 (47.4%)	83 (41.4%)
Whenever pressed	14 (10.8%)	4 (5.3%)	18 (8.9%)
Not at all	30 (24.4%)	4 (5.3%)	34 (16.9%)
Total	125 (100.0%)	76 (100.0%)	201 (100.0%)
Washing of hands after defecation			
Very often	17 (13.5%)	19 (23.6%)	36 (18.0%)
Often	37 (29.7%)	36 (47.4%)	73 (36.2%)
Occasionally	13 (10.8%)	15 (18.4%)	28 (14.0%)
Seldom	17 (13.5%)	4 (5.3%)	21 (10.4%)
Not at all	41 (32.5%)	2 (2.6%)	43 (21.4%)
Total	125 (100.0%)	76 (100.0%)	201 (100.0%)
Hand washing materials			
Soap and water	13 (16.0%)	23 (35.1%)	36 (22.8%)
Water only	71 (84.0%)	51 (64.9%)	122 (77.2%)
Total	*84 (100.0%)	*74 (100.0%)	*158 (100.0%)
Flushing of toilets after use			
Very often	17 (17.9%)	25 (34.7%)	42 (25.1%)
Often	7 (7.1%)	20 (27.8%)	27 (16.2%)
Seldom	37 (39.3%)	4 (5.5%)	41 (24.5%)
Occasionally	7 (7.1%)	6 (8.3%)	13 (7.8%)
Not at all	27 (28.6%)	17 (23.7%)	44 (26.4%)
Total	*95 (100.0%)	*72 (100.0%)	*167 (100.0%)
Alternative when toilet is in bad condition			
Nearby bush	75 (35.6%)	16 (12.2%)	91 (26.6%)
In a nylon	21 (10.0%)	22 (16.8%)	43 (12.6%)
Toilet floor	23 (11.0%)	12 (9.2%)	35 (10.2%)
Behind hostel building	55 (26.1%)	18 (13.7%)	73 (21.3%)
Use of potty	0 (0.0%)	47 (35.9%)	47 (13.7%)
Open space in the dark	37 (17.5%)	16 (12.2%)	53 (15.6%)
Total	**211 (100.0%)	**131 (100.0%)	**342 (100.0%)

*These were less than the total number of questionnaire because some students do not engage in such activity **these were more than the total number of questionnaire as residents could engage in more than one alternative means

Closely associated with the type of toilet usage are the findings on the usage of the available bathrooms in the hostel as shown in Table 5. Findings across the male hostels revealed that 10.8%, 43.2%, 43.2% and 2.7% of the students use the bathroom very often, often, occasionally and seldom respectively while across the female hostels 5.6% and 39.5% of the students use the bathroom very often and often while the remaining 7.9% use the bathrooms occasionally. Further investigation revealed that female students patronise the bathrooms more than their male counterpart. This could be attributed to the preference of privacy by the female gender when cleaning their bodies. Information was gathered on the cleaning of rooms by students across the residential hostels. Findings revealed that 3.1%, 11.9% and 43.2% of the male students clean their rooms very often, often and occasionally respectively and 13.5% claimed they cleaned their room seldom while 5.4% do not clean their rooms at all. Among the female students 39.5% clean their rooms very often, 44.7% often, 13.2% seldom and 2.6% do not clean their rooms. The result of these findings confirmed earlier assertions that female are more environmentally conscious than their male counterparts.

Table 5. Sanitation behaviour of students

Behaviour	Male hostels Frequency [%]	Female hostels Frequency [%]	Total Frequency [%]
Use of bathroom			
Very often	13 (10.4%)	40 (52.6%)	53 (26.4%)
Often	54 (43.2%)	30 (39.5%)	84 (41.8%)
Occasionally	54 (43.2%)	6 (7.9%)	60 (29.8%)
Seldom	4 (3.2%)	0 (0.0%)	4 (2.0%)
Total	125 (100.0%)	76 (100.0%)	201 (100.0%)
Cleaning of students' room			
Very often	10 (8.1%)	30 (39.5%)	40 (24.00%)
Often	37 (29.7%)	34 (44.7%)	71 (35.3%)
Occasionally	54 (43.3%)	10 (13.2%)	64 (31.8%)
Seldom	17 (13.5%)	0 (0.0%)	17 (8.4%)
Not at all	7 (5.4%)	2 (2.6%)	9 (4.5%)
Total	125 (100.0%)	76 (100.0%)	201 (100.0%)

4. Conclusion and recommendations

This study assessed the sanitation behaviours of students in Obafemi Awolowo University Ile Ife, Nigeria. Findings were made of both genders of the students' residential hostels within the university community. The study established poor sanitation habits amongst the students of the institution. However, the investigation revealed that the female gender is more sanitary conscious in terms of usage of the available sanitary facilities within the halls of residence. This finding is consistent with the results of some earlier studies (SOMJA, 2013; XIAO & MCRIGHT, 2015) that the female gender is more environmentally concerned than their male counterparts. Also, findings revealed that the available sanitary facilities within the hostels were overstretched due to the high number of residents which is above the number of students allocated in the rooms. Therefore students of the institution are compelled to engage in environmentally unfriendly behaviours. These situations if not adequately addressed could make living in residential areas of tertiary institutions a candle in the wind.

Based on these findings, the following are recommended to improve students' sanitation behaviour in tertiary education institutions. Adequate sanitation behaviour depends on effective environmental literacy, there should be a mind-set reorientation of students about the harmful effects of poor sanitary behaviour. Thus, a campaign to raise students' awareness about adequate sanitation is essential in achieving success in environmental issues. This mind-set reorientation can be achieved through the introduction of sanitation inclined courses in the school curriculum, use of billboards and leaflets and also the formation of student groups who would engage students one on one especially in the male hostels on the need to be environmentally concerned. Sanitation education will no doubt

help in educating and reconditioning the minds and attitudes of students in consonance with the norms of their environment. There must be the provision of adequate sanitary facilities by the government (institution) to cater for the number of students residing within the residential accommodation. Also the institution should enforce existing sanitation regulations in order to sanction students who engage in environmentally unfriendly behaviours.

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