KNOWLEDGE AND ATTITUDE OF MALE UNDERGRADUATES TO PERSONAL HYGIENE AND INFECTION CONTROL PRACTICES IN BABCOCK UNIVERSITY, ILISAN-REMO, OGUN STATE, NIGERIA

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Abstract

This study assessed the level of knowledge of personal hygiene and infections control practices of male undergraduate students in Ilisan Remo, Ogun State.The study adopted the descriptive cross-sectional survey design with a total of 358 participants.The study adopted a purposive and convenience sampling method in which male undergraduate students in the University were used for the study due to the accessibility and proximity of the students to the researchers. A self-developed structured questionnaire was the instrument used for data collection from 358 participants which were randomly selected for the study. The finding is that many of the participants are within the age group of 15-19 years (52.0%), while majority are single (98.3%). The percentage of the students who are knowledgeable about personal hygiene practices is 99.2% and infection disease is 96.3%. This implies that participants have good knowledge on personal hygiene practices. This study also finds that the attitude of the respondents toward personal hygiene practice is averagely good (66.8%). Based on the findings of the study, it is recommended that institutions should include health education programmes in the school curriculum in different faculties and also try different methods to maximize infection prevention and to encourage people to promote good personal hygiene practices.

Key words: *Personal hygiene, Infectious disease, Undergraduate student*

Introduction

Hygiene is more than just being clean; it is defined as the many practices that help people to stay healthy. Practicing good personal hygiene is important for two reasons. First, it helps prevent people from catching and spreading illness and disease. Second, it helps people feel good about themselves and their bodies (Rank, 2009). A contaminated household, environment and risky hygiene practices account for almost 30% of the total burden of disease in developing countries (Mara, Lane, Scott & Trouba, 2010). Within this group, 75% of all life years lost are due to the lack of good water supply and sanitation and the prevalence of risky hygiene behaviour (Mara, Lane, Scott & Trouba, 2010). These circumstances and practices have serious health consequences and also represent large economic losses and negative publicity for countries.

Acceptance of the germ theory, however, meant that cleaning oneself is not enough; fully preventing disease transmission requires clean water, careful waste disposal, and improving the health of the poor (Centers for Disease Control and Prevention, 2012). However, the urban sanitation coverage is 75% and the rural sanitation coverage is only 20% (Patrick, 2007). Access to sanitary system, garbage disposal and toilets is lowest among the poorest population and is better in the richer quintiles of the population. There is a huge gap in access to sanitary facilities available to the poorest population and the national average (Winrock International, and World Bank 2007).

According to Gerald (2005), 2.2 million people in developing countries like Africa die annually due to diahorrea disease which is attributed to unsafe water supply and poor hygiene. Cholera has been endemic in Nigeria since 2009 and there have been regular outbreaks. According to Tulchinsky & Varavikova (2014), large measles outbreaks are reported by the Democratic Republic of the Congo, with over 103,000 cases, Nigeria, with 17,428 cases, and Zambia, with 5,397 cases, and Ethiopia, with 2,902 cases. Governments traditionally give priority to treating diseases that have become manifest through immunization of people against diseases. However, improvements in water supply, sanitation and hygiene are the effective measures against infectious diseases because with safe behavioral and appropriate facilities, people reduce their risk of becoming exposed to diseases.

Government's attempts to prevent exposure to infectious diseases focus mostly on improving the quantity and quality of drinking water, but the greatest health effects come not from just the quality of drinking water supply. It is by ensuring that pathogens cannot reach the environment through the unsafe disposal of excreta or are washed off through greater personal cleanliness. Promoting better excreta disposal and hygiene habits are the most important measure to improve health and reduce human suffering and financial loss. Most technical and hygiene education programmes do not have the measurable improvement of human practices as their prime objective. The inhabitants of less developed countries must contend with an inadequate public health infrastructure, lack of education programmes, and economic limitations in obtaining hygiene products. Therefore, less developed countries carry a greater burden of morbidity and mortality from infectious illnesses (Allison & Elaine, 2002). Infectious diseases kill more people worldwide than any other single cause. Infectious diseases are caused by germs. Germs are tiny living things that are found

everywhere in air, soil and water. You can get infected by touching, eating, drinking or breathing something that contains a germ. Germs can also spread through animal and insect bites, kissing and sexual contact. Vaccines, proper hand washing and medicines can help prevent infections. There are four main kinds of germs they are: Bacteria, Viruses, Fungi, Protozoa (Centers for Disease Control and Prevention, 2012).

Since December 2013 till September 2014, the outbreak of Ebola virus disease in West Africa is a major deadly disease due to lack of regular practices of personal hygiene. World Health Organization & UNICEF (2012) reported 5,347 cases of Ebola virus disease (EVD), including 2,630 deaths, in Guinea, Liberia, Nigeria and Sierra Leone. This was the first outbreak of Ebola virus disease in West Africa and it was unprecedented in size and geographical distribution, affecting densely populated urban areas. Three-hundred and eighteen of the cases occurred among healthcare workers, resulting in 151 deaths. The outbreak continued to increase rapidly and the reported figures were believed to be underestimation of the real magnitude.

Lack of resources, namely soap and water, as well as inadequate sanitation facilities may be two of the main reasons why children do not wash their hands (Oswald et al, 2008). Overall in rural Ethiopia, only 8% have access to adequate sanitation facilities (WHO, 2009). In the rural Amhara region of the country, only 21% of latrines had hand washing facilities, none of which contained soap, and less than 4% of households had access to adequate sanitation facilities (O'Loughlin, 2006)). In addition to having proper resources and facilities, hygiene practices are heavily influenced by students' knowledge and attitudes towards hygiene. In a study conducted in Senegal, reasons given for not washing hands included stubbornness (not wanting to follow what adults say), laziness, the rush to go to breaks, the time it takes away from playing, and the dirt and smell of the toilets.

Despite these negative attitudes towards hand washing, many children practice good hand washing behaviour. Based on the PPPHW study conducted in sub-Saharan Africa, motivating factors behind proper hand washing included avoidance of disgust (i.e. avoid dirt and smell of defecation), nurture (i.e. teach children to wash hands so they stay healthy), status (i.e. clean people are more accepted), affiliation (i.e. cleanliness is associated with better socio-economic status), attraction (i.e. cleaner people are more attractive), comfort (i.e. hands feel and smell fresh), and fear (i.e. avoid the risk of disease) (Scott, Curtis, Rabie & NG-A, 2007). A study conducted by the United Nations Children's Fund (UNICEF) and the Ethiopian Ministry of Health found that study participants in rural Ethiopia had poor status regarding knowledge, attitudes, and practices (KAP) of hygiene (Kumie & Ali, 2005). Approximately 60% of children surveyed did not know about the possible transmission of diseases through human waste (Kumie & Ali, 2005). Simple hygienic measures such as washing hands with soap were poorly practiced, especially, in rural areas (Kumie & Ali, 2005). Past reviews about personal hygiene indicated that perception strongly influences one's hand washing beliefs and practices. Personal hygiene practice plays an important role in preventing spread of infectious diseases such as, respiratory infections, helminthiasis, skin infections, eye infections, food borne diseases, new pathogens as in epidemics among male undergraduate students. Understanding the level of knowledge and practices related to

personal hygiene in order to prevent infectious diseases among male undergraduate students is needed to plan and design behavioural interventions. It is against this background that this study assessed the knowledge and practices of personal hygiene practices among male undergraduate students, with a view to providing useful data for appropriate action by the relevant authorities.

Research Questions

1. What is the level of knowledge about personal hygiene practices among male undergraduate students in Ilisan Remo?
2. What is the attitude of male undergraduate students towards personal hygiene practices?
3. How often is the personal hygiene practice carried out among male undergraduate students?

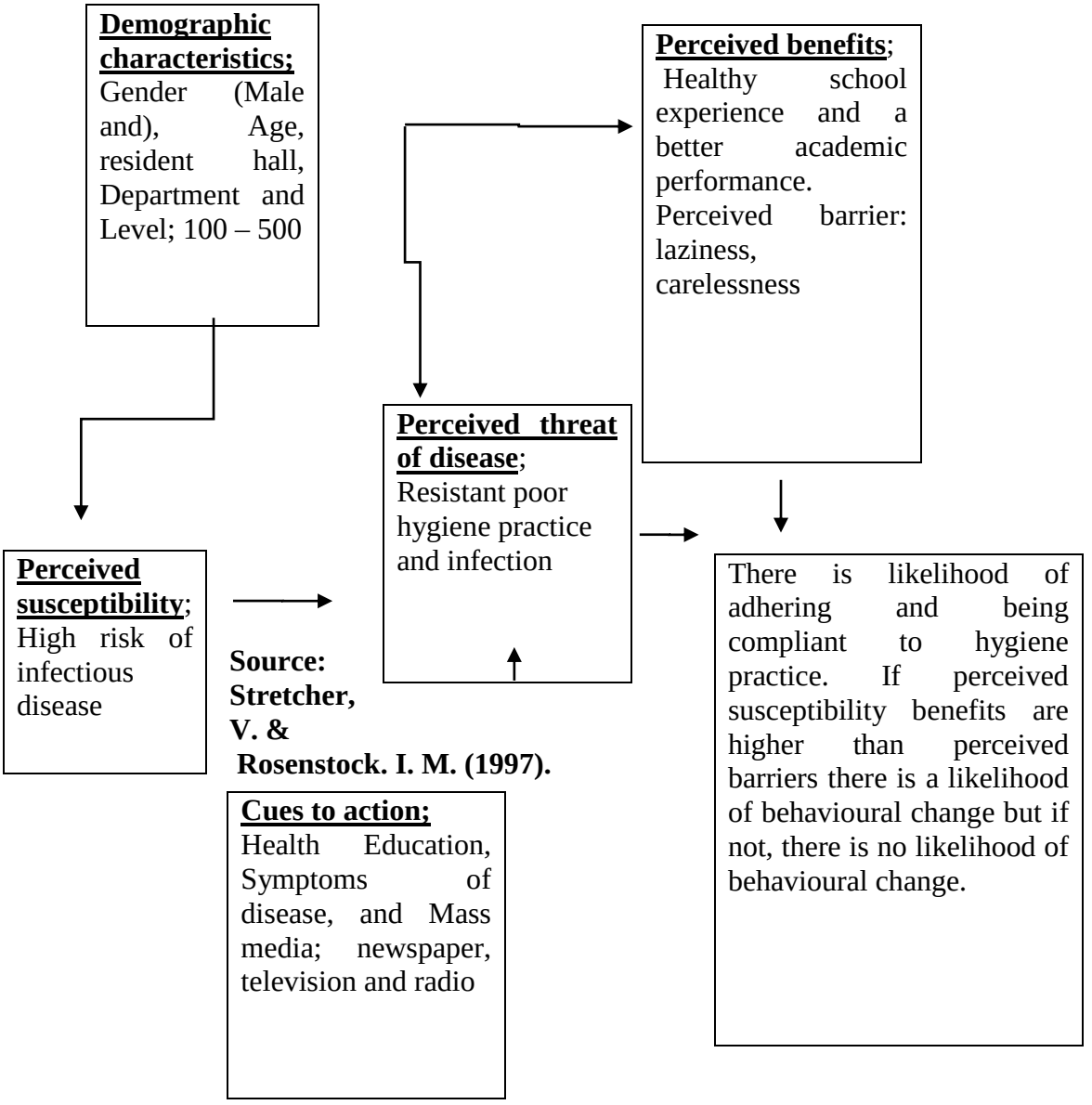
Theoretical framework

The Health belief model (HBM) framework of Stretcher and Rosenstock (1997) is a conceptual framework that was used to understand health behaviour and possible reasons for adherence with recommended health action. This model provided appropriate guidelines for the study, allowing the researcher to understand and address reasons for adherence to personal hygiene practice and infection control. In this model, the starting point is the individual perceptions regarding perceived susceptibility with high risk of infectious disease as parameter. The modifying factors were demographic characteristics regarding their gender (male), age (years), ethnicity (Hausa, Igbo, Yoruba), religion and hall of resident. Perceived threat of disease: resistant to poor hygiene practice and infection. Cues to action; health education, symptoms of disease, and Mass media; newspaper, television and radio.

Likelihood of action regarding perceived benefits: healthy schooling experience, and a better academic performance and result versus perceived barriers; laziness and carelessness. Likelihood of taking recommended preventive health action depends on if perceived benefits are higher than perceived barriers, there is a likelihood of behavioural change, but if not, there is no likelihood of behavioural change.

Theoretical and conceptual framework

INDIVIDUAL PERCEPTIONS MODIFYING FACTORS LIKELIHOOD OF ACTION



Methodology

This study adopted the descriptive cross-sectional survey method that was used to assess male undergraduate students' knowledge of personal hygiene and infection control practices. It was also to examine male undergraduate students' attitude towards personal hygiene and how often personal hygiene was carried out. Babcock University was purposely selected from other schools in Ilisan Remo for this study. The total population size of male undergraduate students was 3400 in 2017, the sample size was determined from this figure, using the Yaro Yamane formula (1967). Therefore, the minimum sample size was calculated to be 358. Therefore, a total of 358 participants were sampled for this study.

This study adopted a purposive and convenience sampling method in which male undergraduate students in Babcock University were used for the study due to the accessibility and proximity of the students to the researcher.The research instrument employed for this study was a well-structured questionnaire designed by the researchers to elicit responses from the respondents concerning knowledge of personal hygiene and infection control practices, attitude towards personal hygiene, and how often is personal hygiene carried out using, Strongly agree, Agree, Disagree, Strongly Disagree scale. The questionnaire was divided into four sections A - D.

Section A - explored the demographic data of the participants which included age, gender, marital status, class, religion, tribe of the participants and hall of residence.

Section B - examined the knowledge of participants on personal hygiene, medium of the knowledge, meaning and important of personal hygiene.

Section C - evaluated participants' attitude and disposition towards personal hygiene and what participants felt about hygienic practices.

Section D - examined how often the participants observed personal hygiene.

The questionnaire was administered to male undergraduate students in the selected school. One school was used as the study site. The instrument employed for this study was a well-structured questionnaire. The primary sources of data were basically through the administration of the questionnaire. A total of 380 questionnaires were administered instead of 358 questionnaires so as to check for losses due to attrition. Finally, 358 questionnaires were valid for analysis after checking for poor responses. It should be noted that not all the categories of responses is up to 100 percent due to none responses (NA) of some respondents.

Simple percentages and frequency were used to analyze the data. Tables and other inferences were made from the data collected. The items on the questionnaire were classified based on the responses given by the respondents and coded for easy usage of the statistical package for social sciences (SPSS).

Results

Research question 1

What is the level of knowledge about personal hygiene practices among male undergraduate students in Ilisan Remo?

TABLE 1 Respondents' level of knowledge about personal hygiene

Variable	YES		NO	
	F	%	F	%
Have you ever heard about personal hygiene?	355	99.2	3	0.8
I have knowledge on infectious disease	347	96.9	11	3.1
Improper hygiene can import faeces into drinking water	287	79.3	74	20.7
Are you aware that infection could be contagious?	351	98.0	7	2.0
Personal hygiene entails washing and drying my hands only	32	8.9	326	91.1
Shaving of the private part is also part of hygiene practices	348	97.2	10	2.8
Infectious diseases result from improper personal hygiene	351	98.0	7	2.0
Cleaning of room and its area is not important in hygiene Practices	8	2.2	350	97.8

Table 2 revealed that 99.2 % have heard about personal hygiene while 0.8% had no knowledge. Many also have the knowledge on infectious diseases 96.9 % and more than half of the respondents 79.3% acknowledge that personal hygiene can prevent being infected with diseases. More respondents 97.2% are of the belief that shaving of the private part is also part of the hygiene practises. And more than half also believe that infectious disease results from improper personal hygiene 98.0%. 2.2 % of the respondents have the knowledge that cleaning of the room and its area is important while 97.8% believe that cleaning of the room and its area is not important in personal hygiene practices.

Research question 2

What is the attitude of male undergraduate students towards personal hygiene practices?

Table 2: Respondents' attitude towards personal hygiene

Variable	**SA F**	**%**	**A F**	**%**	**D F**	**%**	**SD F**	**%**
Learning more about personal hygiene is important to me.	239	66.8	107	29.9	6	1.7	5	1.4
Cleaning of the environment prevent infectious disease.	241	67.3	107	29.9	5	1.4	5	1.4
Having multiply sex partners make you to be infected with disease.	140	39.1	122	34.1	61	17.0	35	9.8
I can share my towel, razor, toothpaste and other personal items with myroommate.	6	1.7	11	3.1	84	23.5	257	71.8
Using hand sanitizer reduces the risk of infectious disease.	165	46.1	160	44.7	27	7.5	6	1.7
I need to wash my hand after visiting the toilet.	269	75.1	83	23.2	4	1.1	1	0.3
It's not necessary to wash my hand before eating.	38	10.6	47	13.1	114	31.8	159	44.4
It is necessary to wash fruit and vegetable before eating.	260	72.6	80	22.3	6	1.7	12	3.4
I can contact infectious disease through sharing my towel, razor, toothpaste and other items with my roommate	250	69.8	78	21.8	12	3.4	18	5.0

According to Table 3, majority of the respondents 66.8% are aware that learning more about personal hygiene is important. Most of the respondents, 67.3% recognize that cleaning of the environment prevents infectious disease. 39.1% of the respondents strongly agree to the fact that having multiply sex partners exposes someone to infectious diseases. Majority of the respondents 71.8% strongly disagree with sharing of the towel, razor, toothpaste and other personal items with roommate while 46.1% of the respondents claim that the use of hand sanitizers reduces the risk of infectious diseases. More than half of the respondents 75.1% see the need to wash hands after visiting the toilet. 44.4 % of the respondents strongly disagree to the fact that it is not necessary to wash hands before eating. About 72.6% of the respondents claim that it is necessary to wash fruits and vegetable before eating. Majority of the respondents (69.8 %) strongly agree that they can contact infectious disease through sharing towel, razor, toothpaste and other items with roommates.

Research question 3

How often is the personal hygiene practice carried out among male undergraduate students?

Table 3: Respondents' regularity towards personal hygiene practice

Variable	**SA F**	**%**	**A F**	**%**	**D F**	**%**	**SD F**	**%**
Taking bath regularly is one of hygiene practices.	299	83.5	57	15.9	1	0.3	1	0.3
Washing my hands regularly keep me away from infection.	129	36.0	198	55.3	26	7.3	5	1.4
It is advisable to change my bed sheet monthly.	130	36.3	123	34.4	62	17.3	43	12.0
My responsibilities as student are to keep my body clean regularly.	186	52.0	143	39.9	18	5.0	11	3.1
It is advisable to wear underwear or colt (3) three times before washing them.	23	6.4	55	15.4	148	41.3	132	36.9
Staying a whole day without bathing may cause body odor.	189	52.8	121	33.8	38	10.6	10	2.8
The best time to brush your teeth is after every meal.	104	29.1	125	34.9	86	24.0	41	11.5

Similarly from Table 4, many of the respondents (83.5%) strongly agree to taking of bath regularly as one of hygiene practices. Most of the respondents 55.3% agree to the fact that washing of the hands regularly keeps infections away. Majority of the respondents agree to changing of bed sheets monthly, 36.3 % strongly agree to changing of bed sheets regularly. More than half of the respondents (52.0%) take the responsibility of keeping their body clean regularly. 41.3% of the respondents strongly disagree to wearing colt or underwear three times before washing them. Most of the respondents (52.8%) strongly agree that staying a whole day without bathing may cause body odor while 34.9% of the respondents agree that the best time to brush the teeth is after every meal.

Discussion

From the study, it was observed that 99.2 % have heard about personal hygiene while 0.8% had no knowledge. Many also had the knowledge on infectious diseases 96.9 %. Chinnock, Nandi & Clarke (2005) found that there is a lower level of awareness of infectious disease because of the lack of education among people in the lower economic group. They did not know how to prevent the spread of disease and even if they were taught how to do it, they did not have access to basic sanitation facilities like clean toilets, which made it hard for them to practice the hygiene required to stop the spread of infectious diseases. More than half of the respondents (79.3%) acknowledged that personal hygiene could prevent someone from being infected with diseases. More respondents (97.2%) were of the belief that shaving of the private part is also part of the hygiene practices. And more than half, (98.0%) also believed that infectious disease results from improper personal hygiene. Department of Public Health Australian (2010) also stated that it is less likely that germs and parasites will get inside the body if people have good personal hygiene habits. Personal hygiene involves those practices performed by an individual to care for one's bodily health and well-being, through cleanliness. Motivation for personal hygiene practice includes reduction of personal illness, healing from personal illness, optimal health and sense of well-being, social acceptance and prevention of spread of illness to others and that in some cultures removal of body hair is considered proper hygiene. 2.2 % of the respondents had the knowledge that cleaning of the room and its area is important while 97.8% believed that cleaning of the room and its area is not important. Most respondents 67.3% recognized that cleaning of the environment prevents infectious disease. WHO (2014) found that individuals, home and community poor practice of hygiene results to vector-borne diseases such as malaria which is also considered to be water-borne since transmission is associated with factors such as rainfall. 46.1% of the respondents claimed that the use of hand sanitizers reduces the risk of infectious diseases. This corresponds to the finding that frequent hand-washing is one of the best ways to avoid getting sick and spreading illness. Hand-washing requires only soap and water or an alcohol-based hand sanitizer (Mayo Clinic, 2014). More than half of the respondents (75.1%) agreed to washing hands after visiting the toilet which is in consonant with the findings of Raji, Buna, & Nilambar (2011) that hygiene practice in a rural area village of Morag district of NEPAL showed that 65% of the respondents used soap with water after defecation, 31% used water alone and 4% used ash/soil with water for hand washing.

About 72.6% of the respondents claimed that it is necessary to wash fruits and vegetable before eating. Research indicates that 44% of reported outbreaks of food borne diseases can be attributed to inappropriate consumer food-handling and preparation practices in the home and community (Langiano et al, 2012). Majority of the respondents (69.8 %) strongly agreed that they can contract infectious disease through sharing towel, razor, toothpaste and other items with roommate. 44.4 % of the respondents strongly disagreed that it is not necessary to wash hands before eating. Most of the respondents (55.3%) agreed that washing of the hands regularly keeps infections away. It has been found that hands are the common primary mode of transmission of many infectious diseases, particularly, among those living close proximity to one another such as in school community, college dormitories, and camp dormitories. Schools have significant predisposing factors for microbial cross-contamination and transmission.

Close environments, doorknobs and dirty rooms, clothes, bed sheets, poor body hygiene and other inanimate objects serving as resting grounds for microbes, and contaminated hands serving as vehicles of transmission contribute to increased infection rates among these groups (WHO & UNICEF, 2012). Similarly from the study, many of the respondents (83.5%) strongly agreed to taking bath regularly as one of hygiene practices. Washing and bathing are the most important ways to maintain good health and protecting ourselves from infections, illnesses and ailments (Jo Johnson, 2013). Majority of the respondents (36.3 %) strongly agreed to need to changing of bed sheets monthly. More than half of the respondents (52.0%) believed the responsibility of keeping their body clean regularly. 41.3% of the respondents strongly disagreed to wearing colt or underwear three times before washing them.

According to Beume (2008), other practices that are generally considered proper hygiene include bathing regularly, washing hands regularly and especially before handling food, washing scalp hair, keeping hair short or removing hair, wearing clean clothing, brushing of teeth regularly, cutting finger nails, besides other practices. Most of the respondents (52.8%) strongly agreed that staying a whole day without bathing may cause body odor. Jo Johnson, (2013) states that the main purpose of washing is to remove dirt and odors.

34.9% of the respondents agreed that the best time to brush the teeth is after every meal. This is similar to the findings in Delta Dental (2012) that showed that bacteria in the mouth build up over time and mix with food particles and white blood cells to form a transparent, sticky film called plaque. The acids in the plaque break down the tooth enamel, weakening it, and allowing cavities to form. If no brushing and flossing regularly, this plaque hardens and forms tartar, a hard, yellow substance that can only be removed by specialists.

Conclusion

In summary, personal hygiene practices remain important in infection control. It is important to encourage and improve students' attitude towards hygiene practices.

Recommendation

To ensure proper personal hygiene practices among students, the institutions should evaluate the practice to know where they are lacking and develop a plan to implement those practices.

Institutions should include health education programmes in the school curriculum in different faculties and also try different methods to prevent infection and to

encourage people to promote good personal hygiene practices.
Institutions should provide all the students' needs to maintain good personal hygiene.
Students should show positive attitude towards personal hygiene practices which will help them reduce all forms of odor and help in control of some infectious diseases.
Finally, hall administrators should ensure that there is good and adequate supervision of the rooms daily to ensure they are clean and well arranged.

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