KNOWLEDGE AND PERCEPTION OF PERSONAL HYGIENE AMONG UNDERGRADUATE STUDENTS OF FEDERAL UNIVERSITY OF EDUCATION, ZARIA, KADUNA STATE.

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Abstract

Poor personal hygiene and health-related problems, particularly waterborne diseases, remain major public health concerns on many university campuses, especially in Nigerian universities where inadequate infrastructure, poor hygiene education, and limited access to sanitation facilities and potable water supply persist. This research study examined the knowledge and perception of personal hygiene among students of the Federal University of Education, Zaria, Kaduna State. A descriptive survey research design was employed in the study. The study population comprised all students of the Federal University of Education, Zaria, Kaduna State. A multi-stage sampling procedure, incorporating stratified, simple random, and systematic random sampling techniques, was used to select 200 consenting respondents for the study. A semi-structured, interviewer-administered questionnaire was used for data collection. The instrument included sections on socio-demographic characteristics, knowledge, and perception of personal hygiene among students. The questionnaire was validated and pilot-tested, yielding a reliability index of 0.80, confirming its internal consistency. A total of 200 questionnaires were administered, completed, and successfully retrieved for analysis. A 30-point knowledge scale was used to assess awareness of the risks associated with poor personal hygiene. Knowledge scores were categorized as follows:≤10: Poor knowledge; >10–20: Fair knowledge and ≥20: Good knowledge. The perception of personal hygiene was assessed using a 5-point scale, where scores ≤34 indicated a negative perception, and scores >34 indicated a positive perception of personal hygiene. Data analysis was conducted using descriptive statistics and a one-sample t-test at a significance level of p = 0.05. The findings revealed a significant gender difference in knowledge of personal hygiene and variations in perception based on academic level among undergraduate students of the Federal University of Education, Zaria. Based on the findings, it was recommended that undergraduate students should be encouraged to sustain and improve their knowledge and perception of personal hygiene through increased awareness programs utilizing Information, Education, and Communication (IEC) strategies.

Keywords: Knowledge, Perception, Personal Hygiene, Undergraduate Students

Introduction

Personal hygiene, a critical component of overall health, refers to the practices that individuals adopt to maintain cleanliness and promote health. These practices include regular hand washing, oral care, bathing, grooming, and the proper handling of food. According to the World Health Organization (WHO), personal hygiene is essential for preventing the spread of infectious diseases and maintaining good health (WHO, 2020). In educational settings, particularly in tertiary institutions, the importance of personal hygiene cannot be overstated, as students often live in close quarters, sharing facilities and interacting frequently, which increases the risk of disease transmission (Akorede & Toyin, 2020; Smith & Bloomfield, 2017).

The transition to higher education introduces students to new environments, increased autonomy, and the responsibility of managing their health independently. However, studies have shown that this transition can also lead to lapses in personal hygiene practices, as students may prioritize academic and social activities over self-care (Jones, Smith, & Bloomfield, 2017). Understanding the knowledge and perceptions of personal hygiene among students in these settings is crucial for developing targeted interventions that promote healthy behaviours and reduce the risk of health-related issues (Akorede & Toyin, 2020).

In Nigeria, the state of personal hygiene among students in tertiary institutions has been a subject of concern. Research indicates that while most students possess basic knowledge of personal hygiene, there are significant gaps in their understanding and application of these practices (Abdulkarim & Ibrahim, 2019). For instance, a study conducted in South-West Nigeria revealed that although students were aware of the importance of handwashing, only a small percentage practised it consistently (Olawale et al., 2016). This discrepancy between knowledge and perception suggests the need for a deeper exploration of the factors influencing students' hygiene behaviours.

In Kaduna State, the Federal University of Education, Zaria, represents a microcosm of the broader student population in Nigeria. The university attracts students from diverse socio-economic backgrounds, cultural settings, and varying levels of

exposure to health education and hygiene practices. This diversity provides an opportunity to assess the influence of socioeconomic factors, cultural beliefs, and prior education on students' knowledge and perceptions of personal hygiene. Understanding these factors is essential for developing targeted interventions to promote better hygiene practices among undergraduate students.

Previous studies have emphasized the role of education in shaping health behaviours. For example, Rimal and Lapinski (2009) argue that educational institutions are critical in imparting health knowledge and fostering positive health behaviours. However, the effectiveness of health education programs often depends on how well they address the specific needs and misconceptions of the target audience (Michie et al., 2011). Therefore, understanding the current state of knowledge and perceptions of personal hygiene among students at the Federal University of Education, Zaria is vital for designing effective health promotion strategies.

This study aims to bridge the gap in the literature by providing a comprehensive analysis of the knowledge and perceptions of personal hygiene among students at the Federal University of Education, Zaria. This study therefore seeks to assess the Knowledge And Perception of Personal Hygiene among undergraduate Students of the Federal University of Education, Zaria, Kaduna State Nigeria.

Purpose of the Study

1. To assess the level of knowledge of personal hygiene among students at the Federal University of Education, Zaria.
2. To determine the perception of personal hygiene among students at the Federal University of Education, Zaria.

Research Questions

1. What is the level of knowledge of personal hygiene among undergraduate students at the Federal University of Education, Zaria?
2. How do undergraduate students at the Federal University of Education, Zaria, perceive personal hygiene?

Research Hypotheses

The following hypotheses were formulated to guide this study.

1. The knowledge of personal hygiene among undergraduate students of Federal University of Education, Zaria is not significant.
2. The perceptions of personal hygiene among undergraduate students of Federal University of Education, Zaria is not significant.

Methodology

The descriptive survey research design adopted for this study is appropriate for assessing the knowledge of personal hygiene among undergraduate students at the Federal University of Education, Zaria. A survey design is ideal for collecting data on attitudes, perceptions, and knowledge from a large population, making it suitable for this research. The population of the study, consisting of 49,958 students, ensures a broad and diverse representation. The multi-stage sampling procedure enhances the study's credibility by incorporating stratified, simple random, and systematic random sampling techniques.

Stage I (Stratified Sampling): The university was divided into seven schools, ensuring that all academic disciplines were considered in the selection process.

Stage II (Simple Random Sampling): Four schools were randomly selected, along with eight departments, ensuring fairness and eliminating bias in the selection process.

Stage III (Systematic Random Sampling): The selection of every 10th student from the complete list of students in the selected departments provides a structured and unbiased sample of 200 respondents, ensuring adequate representation of the study population.

Stage IV (Instrumentation and Data Collection): A researcher-developed questionnaire was used, scored using a 4-point Likert scale. The benchmark mean of 2.50 ensures that responses are categorized effectively. The face, structural, and content validity of the instrument were confirmed by experts in Health Education and Public Health, making the instrument credible. The reliability index of 0.80 further establishes its consistency.

The data collection process was efficiently carried out by the researchers and a research assistant. Data analysis was conducted using SPSS version 25.0, a reliable statistical tool. Descriptive statistics, including percentages, frequencies, means, and standard deviations, were used to address the research questions. Additionally, a one-sample t-test was used for hypothesis testing at a 0.05 significance level, ensuring statistical rigour in the analysis.

Results

Table 1 Distribution of Respondents by Schools

Schools	Department	Frequency	Level
School of Sciences	Chemistry	25	NCE
	Physical and Health Education	25	B.Ed.
School of Languages	English Language.	25	NCE
	Arabic Language	25	B.Ed.
School of Art and Social Sciences	Geography	25	NCE
	Social studies	25	B.Ed.
School of Voc. & Tech.	Home economic	25	NCE
	Business education.	25	B.Ed.
Total	**8**	**200**	8

Table 1 revealed that the school of sciences was sampled for the research study with two departments selected from the school named chemistry and PHE department comprising 25 respondents each. More so, three other schools were selected for the study with two departments each to the same sum. The table indicated that a total of 200 (100%) respondents were sampled for the research study.

Research Question One: What is the level of knowledge of personal hygiene among Undergraduate students of the Federal University of Education, Zaria? The summary of the analysis is presented in Table 2.

Table 2: Mean Score on Responses on Knowledge of Personal Hygiene among Undergraduate Students of Federal University of Education, Zaria, Kaduna State.

S/N	Items	Mean	SD	Mean	SD
1	I am aware that brushing of teeth with toothpaste is a good habit.	3.99	0.842	3.62	1.021
2	I know the value of trimming over-grown fingernails.	4.00	0.850	4.05	0.790
3	Brushing teeth morning and before bed is a positive habit.	4.20	0.765	3.69	0.927
4	I am aware that a chawing stick can be used in the absence of a toothbrush and toothpaste	4.37	0.770	3.99	0.844
5	I know the importance of taking a bath with toilet soap daily.	3.99	0.840	4.29	0.626
6	I am aware of the value of putting on shoes	3.52	0.978	4.31	0.845
7	I am aware of the importance of washing clothes.	4.37	0.770	4.30	0.630
8	I know the importance of washing hands before and after eating.	3.62	1,921	1.021	0.625
9	I know the value of washing hands after using the toilet.	4.82	0.489	3.98	0.843
10	Ironing clothes before use is a positive habit.	3.51	1.049	3.99	0.842
11	I am aware of the value of using a hand kerchief when coughing or sneezing.	4.81	0.488	4.31	0.845
	Aggregate Score	**4.11**	**0.805**	**4.07**	**0.803**

The results in Table 2 present the mean scores on undergraduate students' knowledge of personal hygiene at the Federal University of Education, Zaria, Kaduna State. The aggregate mean score reveals that students have a high level of awareness of personal hygiene, with a slight difference between groups (4.11, SD = 0.805 vs. 4.07, SD = 0.803). The highest knowledge level was recorded in washing hands after using the toilet (4.82, SD = 0.489) and using a handkerchief when coughing or sneezing (4.81, SD = 0.488), suggesting a strong awareness of hygiene-related disease prevention. Similarly, students demonstrated high awareness of washing clothes regularly (4.37, SD = 0.770) and the use of a chewing stick as an alternative to a toothbrush (4.37, SD = 0.770). Knowledge of trimming fingernails (4.05, SD = 0.790) and daily bathing with toilet soap (4.29, SD = 0.626) was also well acknowledged. However, responses varied on the awareness of washing hands before and after eating, showing a relatively lower mean (3.62, SD = 1.921), indicating inconsistent knowledge levels among students. While the perception of wearing shoes (3.52, SD = 0.978) and ironing clothes (3.51, SD = 1.049) had the lowest mean scores, the findings suggest that students generally have a high awareness of personal hygiene practices. The standard deviation values indicate some variability in responses, particularly in handwashing before and after meals, signifying that while most students are knowledgeable, there are gaps in awareness that need to be addressed through further sensitization.

Research Question Two: How do undergraduate students at the Federal University of Education, Zaria, perceive personal hygiene? The summary of the analysis is presented in Table 3

Table 3: Mean Score on Perception of Personal Hygiene among Undergraduate Students in Federal University of Education, Zaria, Kaduna State

S/N	Variables	Mean Male	SD Male	Mean Female	SD Female
1	Brushing my teeth daily with toothpaste is essential for maintaining good oral hygiene.	4.31	0.845	3.62	1.021
2	I believe that regularly trimming my fingernails helps in preventing the spread of germs.	3.62	1.021	3.51	1.049
3	Brushing my teeth twice a day, in the morning and before bed, is important for my overall health.	4.05	0.79	4.31	0.8845
4	In the absence of a toothbrush, using a chewing stick is a suitable alternative for oral hygiene.	3.69	0.927	4.30	0.630
5	Taking a bath with soap every day is necessary for maintaining personal hygiene.	3.99	0.844	4.29	0.625
6	Wearing shoes regularly is important for protecting my feet and maintaining hygiene.	4.29	0.626	3.98	0.843
7	Washing my clothes frequently is important for preventing bad odours and promoting good hygiene.	3.52	0.978	3.99	0.842
8	Washing my hands before and after eating is crucial for preventing the spread of diseases.	4.37	0.770	4.00	0.850
9	Washing my hands after using the toilet is a vital part of personal hygiene.	3.62	1.021	4.20	0.765
10	Ironing my clothes before wearing them is important for maintaining a neat appearance and hygiene.	4.83	0.489	4.37	0.770
11	Using a handkerchief when coughing or sneezing is necessary to prevent the spread of germs.	3.51	1.049	3.99	0.840
	Aggregate Score	**3.98**	**0.850**	**4.05**	**0.803**

The results in Table 3 highlight the perception of personal hygiene among undergraduate students at the Federal University of Education, Zaria, Kaduna State, based on gender differences across various hygiene practices. The aggregate mean score indicates that female students (4.05, SD = 0.803) have a slightly stronger perception of personal hygiene than male students (3.98, SD = 0.850).

On oral hygiene, male students had a stronger agreement (mean = 4.31, SD = 0.845) than females (mean = 3.62, SD = 1.021) regarding brushing teeth daily with toothpaste, indicating a higher emphasis on this practice. However, brushing teeth twice a day had a slightly higher mean among females (4.31, SD = 0.8845) compared to males (4.05, SD = 0.79), showing that females adhere more to the recommended oral hygiene routine. Furthermore, using a chewing stick as an alternative to a toothbrush was perceived more positively by females (4.30, SD = 0.630) than males (3.69, SD = 0.927), suggesting that female students are more accepting of traditional oral hygiene methods.

On body hygiene, when it comes to bathing daily with soap, females (mean = 4.29, SD = 0.625) showed a stronger perception than males (mean = 3.99, SD = 0.844), highlighting a greater emphasis on maintaining overall cleanliness. Additionally, trimming fingernails to prevent the spread of germs was rated slightly higher by males (3.62, SD = 1.021) than females (3.51, SD = 1.049), though both genders had moderate agreement on its importance.

Regarding washing clothes frequently, female students (3.99, SD = 0.842) rated this practice higher than male students (3.52, SD = 0.978), indicating that females place more emphasis on keeping their clothes clean. However, ironing clothes before wearing them was strongly emphasized by males (4.83, SD = 0.489) compared to females (4.37, SD = 0.770), suggesting that male students value neatness and hygiene in appearance more than female students.

On hand and general hygiene Practices, handwashing before and after eating was perceived as more important by male students (4.37, SD = 0.770) than female students (4.00, SD = 0.850), suggesting that males may be more conscious of hygiene-related disease prevention. Conversely, handwashing after using the toilet was rated significantly higher by females (4.20, SD = 0.765) than males (3.62, SD = 1.021), reflecting a stronger awareness of sanitation-related hygiene among female students.

In terms of wearing shoes regularly, male students (4.29, SD = 0.626) had a slightly higher perception compared to females (3.98, SD = 0.843), indicating that males may place more importance on foot protection as part of hygiene. Additionally, females (3.99, SD = 0.840) showed a stronger agreement on using a handkerchief when coughing or sneezing compared to males (3.51, SD = 1.049), suggesting that female students are more mindful of preventing the spread of respiratory infections. The standard deviation (SD) values indicate how varied the students' responses were. Male students generally had higher SD values, meaning their perceptions varied more widely compared to female students. The lowest SD was observed in males

ironing clothes before wearing them (SD = 0.489), indicating strong agreement on this practice. The highest SD values were recorded for males using a handkerchief when coughing/sneezing (SD = 1.049) and females trimming their fingernails (SD = 1.049), suggesting that these hygiene practices had more diverse opinions among respondents.

Hypothesis Testing:

Hypotheses 1: (H_{01}): Knowledge of personal hygiene among Federal University of Education Zaria, Students

Table 4: One sample t-test showing gender differences in knowledge of personal hygiene among Undergraduate Students of the Federal University of Education Zaria.

H_{OI}	Gender	N	Mean	Mean difference	t-value	C-tab v	df	p-value
Knowledge	NCE	100	19.7554	0.101	1.655	1.96	1.98	0.001
	B.Ed	100	19.6544					

Table 4, reported that there was no significant gender difference with regard to knowledge of personal hygiene among male and female Students at the Federal University of Education Zaria, the table revealed that NCE had a mean of 19.7554 while B.Ed. had a mean of 19.6544, indicating an insignificant mean difference among their level with regards knowledge of personal hygiene. Therefore, the hypothesis which stated that there is no significant difference with regard to knowledge of personal hygiene among NCE and B. Ed students among federal University of Education Zaria students was rejected.

Hypothesis 2: ($H0_2$) H_2: The perceptions of personal hygiene among undergraduate students of Federal University of Education, Zaria is not significant.

Table 5: One Sampled t-test showing Gender Difference with Regard to Perception of Personal Hygiene among Federal University of Education Zaria, Students.

H_{OI}	Gender	N	Mean	Mean difference	t-value	C-tab v	df	p-value
Perception	NCE	100	13.3600	0.603	1.766	1.96	199	0.001
	B.Ed	100	12.7566					

Table 5, showed that there was a significant gender difference with regard to the perception of personal hygiene. The table revealed that male respondents had a mean of 13.3600 which is a bit higher than that of the female respondents, the obtained mean of females was 12.7566, indicating a mean difference of 0.603. This meant that an insignificant difference was noticed between genders with regard to practices of personal hygiene among the respondents. Therefore, the hypothesis which stated that there is a significant difference with regard perception of hygiene among male and female students in the Federal University of Education Zaria is hereby retained.

Discussion of Findings

The findings of this study on the knowledge and perception of personal hygiene among undergraduate students at the Federal University of Education, Zaria, align with previous research studies while also revealing some discrepancies. The results indicate a high level of awareness regarding personal hygiene among the respondents, particularly concerning handwashing after using the toilet (mean = 4.82, SD = 0.489) and using a handkerchief when coughing or sneezing (mean = 4.81, SD = 0.488). This finding aligns with the study by Curtis et al. (2011), which found that university students generally exhibit high awareness levels of hand hygiene as a means of preventing communicable diseases. Similarly, Aiello et al. (2008) emphasize that students who regularly wash their hands reduce their risk of infections, a view strongly supported by the findings in this study.

Furthermore, the awareness of the importance of daily bathing with toilet soap (mean = 4.29, SD = 0.626) supports the conclusions of Bloomfield et al. (2007), who found that regular bathing is a fundamental hygiene practice that contributes to disease prevention. The study also agrees with the work of Omotayo and Folarin (2020), who found that university students generally have good knowledge of personal hygiene practices, particularly in urban settings.

The positive perception of oral hygiene practices, such as brushing teeth twice a day (mean = 4.20, SD = 0.765), is consistent with the research by Petersen et al. (2015), which found that higher education students tend to have better knowledge and attitudes toward oral hygiene compared to the general population. Additionally, the recognition of chewing sticks as an alternative to a toothbrush (mean = 4.37, SD = 0.770) is in agreement with the findings of Almas et al. (1999), who highlighted the effectiveness of chewing sticks in maintaining oral hygiene among African and Middle Eastern populations.

However, despite the generally high level of knowledge and positive perception of personal hygiene, certain discrepancies exist when compared to other studies. The relatively lower mean score for washing hands before and after eating (mean = 3.62,

SD = 1.921) contrasts with the findings of Rabie and Curtis (2006), who reported that handwashing before meals is a well-established habit in many cultures. The high standard deviation suggests that while some students are well-informed, others exhibit gaps in knowledge, potentially due to a lack of structured hygiene education.

Additionally, the perception of wearing shoes regularly (mean = 3.52, SD = 0.978) and ironing clothes before wearing them (mean = 3.51, SD = 1.049) were among the lowest-scoring items in the study. This contradicts the study by Montazeri and McEwen (2012), which found that neatness and appearance-related hygiene practices are highly emphasized among university students in Western contexts. The discrepancy may be attributed to cultural variations in prioritizing certain hygiene practices.

Another area of disagreement is the perception of personal hygiene based on gender differences. While female students had slightly higher aggregate scores (mean = 4.05, SD = 0.803) than male students (mean = 3.98, SD = 0.850), the difference was not statistically significant. This contrasts with the findings of Biran et al. (2009), who observed that women generally exhibit significantly higher hygiene knowledge and practices than men. The minor gender differences observed in this study suggest that both male and female students at the Federal University of Education, Zaria, may have received similar hygiene education, reducing the gender gap seen in other studies.

Conclusion

Based on the findings of this study, it was concluded that there was a significant difference among genders with regard to knowledge of personal hygiene of the Federal University of Education Zaria. Also concluded that male and female federal University of Education students differ in their perception of personal hygiene.

Recommendations

Based on the findings of this study, several recommendations were made to improve personal hygiene practices among students:

1. The Federal University of Education, Zaria, should implement regular health education programs focusing on the importance of personal hygiene. These programs should be tailored to address the specific needs and misconceptions identified in this study.
2. The University should ensure that hygiene facilities such as handwashing stations, clean water supply, and sanitation facilities are adequately provided and maintained. Access to these facilities can encourage students to practice better hygiene.
3. Personal hygiene education should be integrated into the University curriculum, particularly within general studies courses. This would ensure that all students receive formal instruction on the importance of hygiene.

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