

ATTITUDE AND PRACTICES TOWARDS HAND WASHING AS A PREVENTIVE MEASURE FOR INFECTIONS AMONG STUDENTS OF KAMPALA SCHOOL OF HEALTH SCIENCES, WAKISO DISTRICT. A CROSS-SECTIONAL STUDY.

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Abstract

Background

The lack of WASH services in health facilities increases the risk of healthcare-associated infections and lowers patient satisfaction. The study aimed to identify the attitude and practices towards hand washing as a preventive measure for infections among students of Kampala school of health sciences, Wakiso district.

Methodology

A cross-sectional study design. The study population comprised registered students of Kampala School of Health Sciences, Wakiso district with a sample size of 50 respondents.

Results

(66%) noted that their rate of being at risk of acquiring infections as a result of omitting hand washing was high. (62%) preferred hands rub as the most convenient method of hand washing. (70%) were not satisfied with the facilities available for hand washing at school. (50%) agreed that they feel free to motivate a fellow student to always implement hand washing as a mechanism for infection prevention. (52%) reported that they regularly wash their hands. (50%) reported inadequate access to hand washing facilities at school as a reason as to why they irregularly wash their hands. (52%) reported that sometimes they receive formal sensitization on hand washing at school. (66%) reported that they use facial expressions while greeting their colleagues at school with handkerchiefs as the drying method after hand wash.

Conclusion

Attitudes towards hand washing among medical students were significantly worthy of impressing but certain displeasing practices such as adequate access to hand washing facilities noticed by the researcher need to be enriched for the effectiveness of infection prevention.

Recommendation

The school administration should carry out frequent training sessions and performance feedback to encourage students to follow correct hand hygiene practices. These interventions would help identify gaps in practices.

Keywords: Attitudes, Practices, Hand washing, Personal hygiene.

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Background of the study

Despite the importance of WASH, an estimated 51 % of health facilities across Sub-Saharan Africa have basic water services and 23 % have basic sanitation services. The lack of WASH services in health facilities increases the risk of healthcare-associated infections and lowers patient satisfaction with services leading to delays in care-seeking, hindering the provision of quality essential health services and the attainment of sustainable development goals (UNICEF, 2019). A systematic review and meta-analysis in

2020 that was done in Ethiopia by Haileyususs (et al, 2020), revealed that pooled proportion of hand washing practice among healthcare workers was 57.81%.

Hand hygiene among doctors and nurses in Ribat University Hospital revealed that 76.1% of them thought that hand rub acts more rapidly than hand washing using soap and water. Besides, 81.7% of HCWs admitted that they felt guilty if they did not perform hand hygiene and 72.8% felt frustrated when others did not clean their hands. Also, 21.0% of HCWs believed that new staff was not adequately trained in hand

hygiene and 69.2% reported that they did not find any difficulty in performing hand hygiene in the current hospital settings. Seventy-six-point one percent of HCWs also reported that when they were faced with medical emergencies it made hand hygiene difficult while 74.7% were reluctant to ask others to clean their hands. Fifty-three-point-three percent of the HCWs believed that sometimes they had more important things to do than hand hygiene (Muna et al, 2020).

In Eastern Province Schools, in Saudi Arabia, findings showed that, most students.

(87%) recognized that washing hands with water and soap at school is significant. Interestingly, 91.1% of students had been educated on how to wash their hands. Unfortunately, only 46% thought that hand washing prevents diseases, and approximately 40% thought it removes dirt, whereas 69% did not believe that hand washing could remove germs. Additionally, 82.7% of students recognized the significant impact of hand washing on personal hygiene), and 97% agreed that using soap and water is the best method to wash their hands (Munthir et al, 2021). At Muhimbili National Hospital, hand hygiene practices according to five moments of hand washing, showed that (68.9%) washed their hands before touching a patient, (87.6%) washed their hands before an aseptic procedure, (93.9%) washed their hands after being exposed to body fluids of a patient (82.4%) washed their hands after touching the patient (58.8%) washed their hands after touching patient's surroundings (Mtweve & Sangeda, 2022). The study aimed to identify the attitude and practices towards hand washing as a preventive measure for infections among students of Kampala school of health sciences, Wakiso district.

Methodology

Study design

A cross-sectional study design was employed. This design was preferred for this study because it considers issues for instant economy, rapid data collection, and the ability to understand the population from a selected sample.

Study area

Kampala School of Health Science is a private school located in Buloba, Semunyanya, Wakiso district approximately 25 km from Kampala district. The school was founded with a year-long development plan, which started in 2013 as a clinical school offering a diploma in clinical medicine and community health. The school started offering courses like a diploma in biomedical engineering, a diploma in HIV/AIDS counseling, a diploma in Public health, a certificate in pharmacy diploma in pharmacy, a diploma in medical records and health informatics, a certificate in medical records and health informatics, and other courses. Kampala School is accredited by Allied Health Professions.

Council, National council for higher education, and Uganda Business and Technical Examinations Board. The school has a total population of 537 comprising male and female students.

Study population

The study population was comprised of registered students of the Kampala School of Health Sciences, Wakiso district.

Sample size determination

Burton's formula (1965) was used to determine the sample size;

Sample size (n) = QR/O

Where; Q: Total number of days taken for data collection

R: Maximum number of respondents to be interviewed

O: Maximum time taken on each respondent per day

Q =5 days, R =10 respondents and O =1hour Therefore, n = (5×10) ÷1

$$n = 50 \div 1 \quad n = 50$$

Therefore, the sample size was 50 respondents.

Study variables

Dependent variable

The dependent variable was hand washing.

Independent variables

Knowledge of hand washing as a method of infection prevention was the independent variable.

Selection criteria

Inclusion criteria

An inclusion criterion was composed of students from various courses that are offered at Kampala School of Health Sciences voluntarily ready to consent and participate in the study.

Exclusion criteria

Students from various courses that are offered at Kampala School of Health Sciences who were not willing to take part in the study were excluded.

Sampling technique

A simple random sampling technique was used to select the study participants from the source population. This technique was preferred because it helped the researcher to get the statistical analysis related to sample distributions, hypothesis testing, and sample size.

Data collection tool

Data collection refers to the precise, systematic gathering of information relevant to the research purpose or the specific objectives, questions, or hypotheses of a study. Semi-structured self-administered questionnaires consisting of both closed and open-ended questions written in the English Language were used to collect quantitative data. The questionnaire was considered the most convenient way of collecting data from respondents because it is relatively a simple method of collecting data.

Pretesting of the questionnaire

The questionnaire was pre-tested at the Mengo School of Nursing and Midwifery among 15 respondents to fill it in a time relapse of one day to establish consistency in responses. The pre-tested instrument produced consistent scores and it was repeatedly measured under the same group of individuals. The pilot study was done to ensure that questions are not ambiguous to generate the desired information with minimum bias.

Data collection procedure

Before the commencement of data collection, an introductory letter was obtained from the principal seeking permission to conduct the study at KSHS. When permission was granted; research assistants were chosen and trained based on having training in health-related professions. Thereafter, the sampling procedure began with explaining the purpose of the study to respondents to obtain their consent from respective classes or hostels. Numerical numbers were written on papers with numbers 1 and 2 about the number of respondents needed per respective course or class, folded, and placed in a box. Those who picked number 1 were taken for the study. This procedure was repeated until the required sample for the study was attained.

Quality control

The researcher designed the data collection instruments, without providing the option for the names, to increase the confidentiality of respondents.

Data management

Frequency distribution and cross-tabulations were performed to detect controversy between variables. Data was revised for completeness.

Data analysis and presentation

Data was analyzed manually; using a scientific calculator, and systematically computed into frequency and percentages using Microsoft Excel to generate tables and figures for easy presentations.

Ethical considerations

Ethics is a system of moral values that is concerned with the degree to which research procedures adhere to professional, legal, and social obligations to the research participants. An introductory letter was obtained from the Kampala School of Health Sciences and addressed to the principal of the Kampala School of Health Sciences requesting permission to conduct the study; where permission was granted to conduct the study. Before enrolment, informed consent was obtained from the respondents under the inclusion criteria before collecting data from them. Anonymity and confidentiality were ensured by providing self-addressed envelopes with all questionnaires and requesting respondents not to write their names on the questionnaires. All these were done concerning human rights.

Results

Respondent's demographic data

Table 1: Shows the distribution of respondents according to demographic data. (N=50)

Response	Frequency(f)	Percentage (%)
Age		
18-22	30	60
23-26	15	30
30-33	5	10
Total	50	100
Gender		
Male	15	30
Female	35	70
Total	50	100
Course		
Diploma in clinical medicine and community health	9	18
Certificate in Pharmacy	27	54
Certificate in medical records	4	8
Diploma in biomedical engineering	2	4
Diploma in food science	1	2
Others	7	14
Total	50	100
Year of Study		
One	4	8
Two	29	58
Three	17	34
Total	50	100
Religion		
Born again	25	50
Catholic	8	16
Muslim	3	6
Others	14	28
Total	50	100
Tribe		
Muganda	13	26
Munyakole	16	32
Musoga	6	12
Others	15	30
Total	50	100

Table 1, shows more than half of the respondents (60%) were within the age bracket of 18-22 years whereas the least (10%) were within the age bracket of 30-33 years. (70%) were females whereas the minority (30%) were males. (54%) were certificate in pharmacy students whereas the least (2%) were diploma in food science students. (58%) were in year two whereas the least (8%) were in the first

year. (50%) were Born again by religion whereas the least (6%) were Muslim by religion. (32%) were Banyankole by tribe whereas the least (12%) were Basoga by tribe.

Attitude towards hand washing as a preventive measure for infections among students

Figure 1: Shows the distribution of respondents according to their rate of being at risk of acquiring infections as a result of omitting hand washing (N=50)

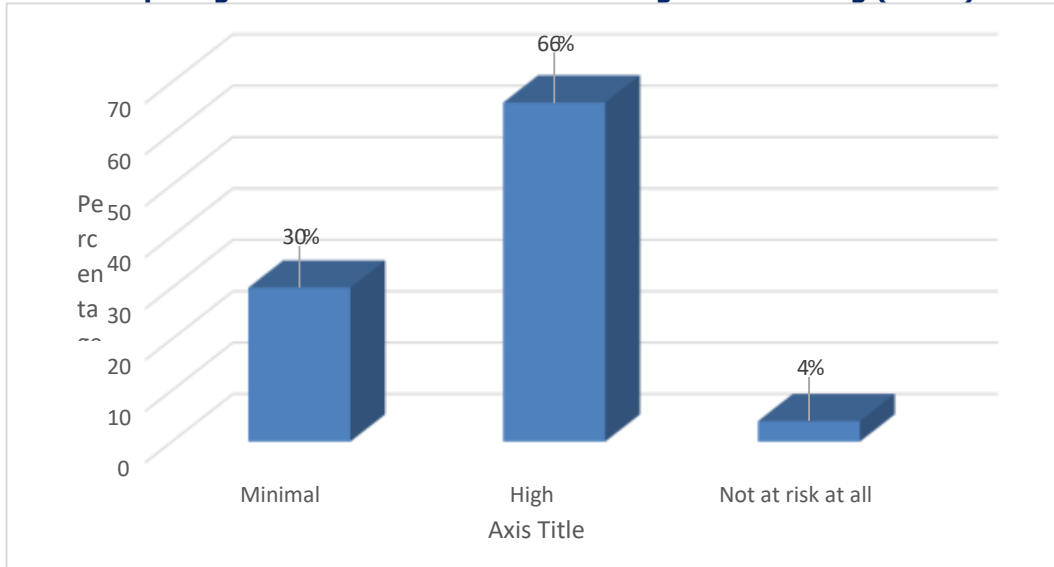


Figure 1, the majority of the respondents (66%) noted that their rate of being at risk of acquiring infections as a result of omitting hand washing was high whereas the minority (4%) they were not at risk of acquiring infections as a result of omitting hand washing.

Table 2: Shows the distribution of respondents according to their perception about how significant is hand washing on personal hygiene (N=50)

Response	Frequency (f)	Percentage (%)
Somehow beneficial	6	12
Very important	41	82
Not beneficial	3	6
Total	50	100

Table 2, shows (82%) agreed that hand washing is very important for personal hygiene whereas the minority (6%) were of the view that hand washing is not beneficial for personal hygiene.

Figure 2: Shows the distribution of respondents according to hand washing methods they feel more convenient with (N=50)

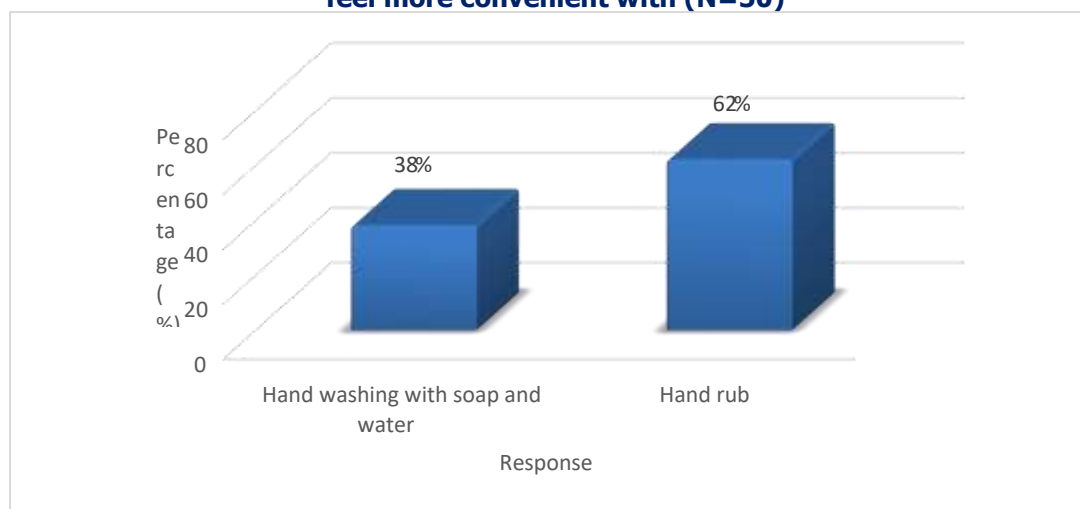


Figure 2, more than half of the respondents (62%) preferred hand rub as the most convenient method of hand washing whereas the minority (38%) preferred washing with soap and water.

Figure 3: Shows the distribution of respondents according to whether they are satisfied with the facilities available for hand washing at school (N=50)

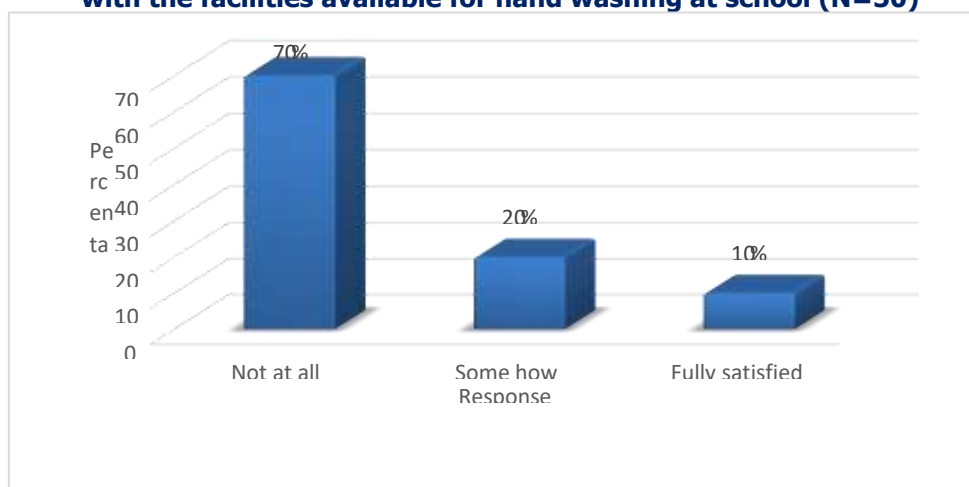


Figure 3, shows (70%) were not satisfied with the facilities available for hand washing at school whereas the minority (10%) were fully satisfied with the facilities available for hand washing at school.

Table 3: Shows the distribution of respondents according to whether they feel free to motivate their fellow students to always implement hand washing as a mechanism for infection prevention (N=50)

Response	Frequency (f)	Percentage (%)
Yes but to a notable few friends	18	36
Not willing at all	7	14
Yes, I would	25	50
Total	50	100

Table 3, shows (50%) agreed that they feel free to motivate a fellow student to always implement hand washing as a mechanism for infection prevention whereas

the least (14%) were not willing to motivate fellow students to always implement hand washing as a mechanism for infection prevention.

Practices towards hand washing as a preventive measure for infections among students

Table 4: Shows the distribution of respondents according to when they last had vaccines for common pathogens (N=50)

Response	Frequency (f)	Percentage (%)
Months back	17	32
Years back	27	54
I have never	6	12
Total	50	100

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Table 4, indicates (54%) had last been vaccinated for common pathogens years back whereas the least (12%) had never been vaccinated for common pathogens.

Figure 4: Shows the distribution of respondents according to how often they wash their hands N=50

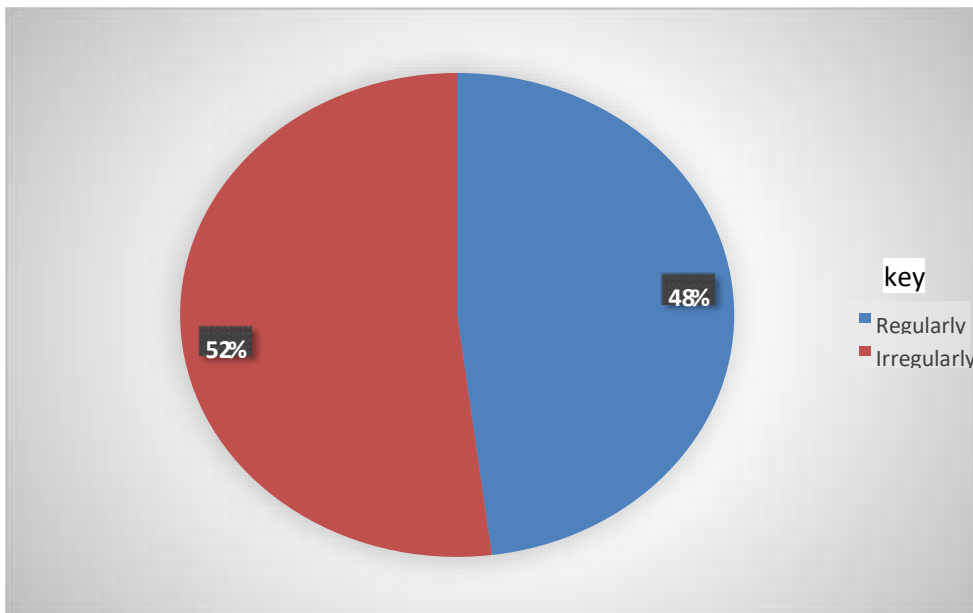


Figure 4, most of the respondents (52%) reported that they regularly wash their hands whereas the least (48%) reported that they irregularly wash their hands.

Figure 5: Shows the distribution of respondents according to the drying methods after hand washing do they use (N=50)

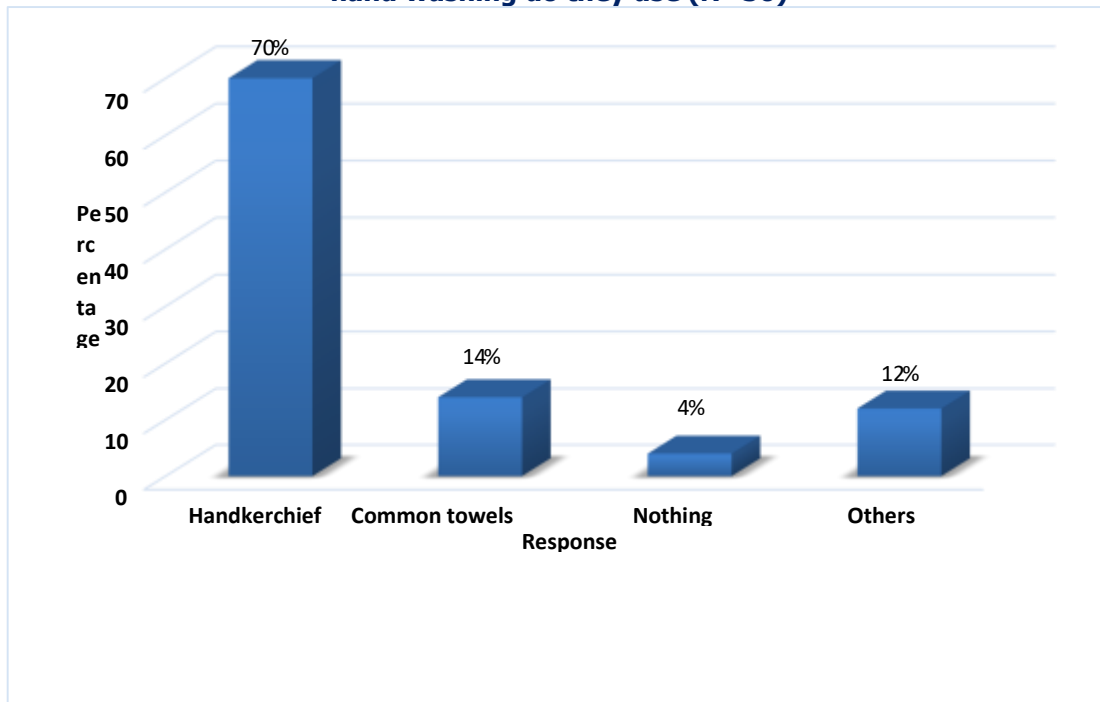


Figure 5, the majority (70%) reported that they use handkerchiefs as the drying method after hand washing whereas the minority (4%) use nothing.

Table 5: Shows the distribution of respondents according to the reasons why they irregularly wash their hands (N=24)

Response	Frequency (f)	Percentage (%)
Adequate access to hand washing facilities at school	12	50
Hand washing is not always necessary	1	4
Forgetfulness	3	13
Others	8	33
Total	24	100

Table 5, shows (50%) reported adequate access to hand washing facilities at school as a reason as to why they irregularly wash their hands whereas the least (2%) thought that hand washing is not always necessary.

Figure 6: Shows the distribution of respondents according to how often they receive formal sensitization on hand washing at school
 (N=50)

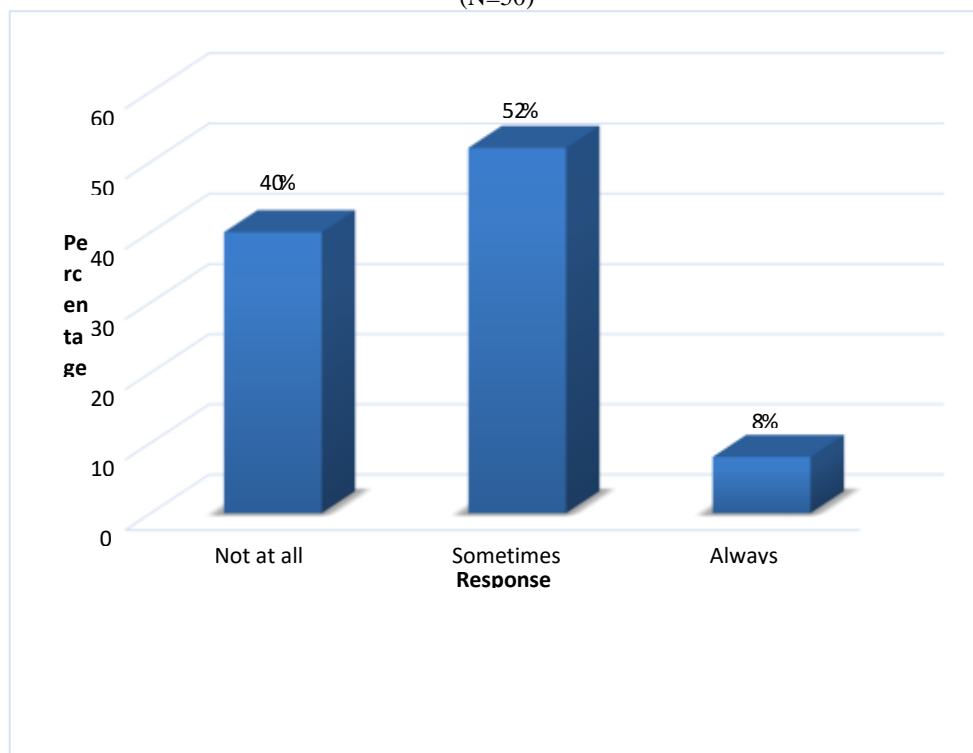


Figure 6, shows (52%) reported that sometimes they receive formal sensitization on hand washing at school whereas the least (8%) reported that they always receive formal sensitization on hand washing at school.

Table 6: Shows the distribution of respondents according to how they greet at school
 (N=50)

Response	Frequency (f)	Percentage (%)
Handshaking	11	12
Facial expression	33	66
Hugging	6	12
Total	50	100

Table 6, more than half of the respondents (66%) reported that they use facial expressions while greeting their colleagues at school handkerchief as the drying method after hand washing. In contrast, the least (12%) reported that they welcome their colleagues while hugging.

Discussion

Attitude towards hand washing as a preventive measure for infections among students

About findings that were obtained from 50 respondents, (66%) noted that their rate of being at risk of acquiring infections as a result of omitting hand washing was high. This could be a result of the fact that they were afraid of related outcomes that result from omitting hand washing since they are trained frontline workers who are at risk of nosocomial infections. Findings were in agreement with Muna et al (2020), where 78% strongly agreed that the

personal rate of being at risk of acquiring infections as a result of omitting hand washing was very high. Findings from the study revealed that the majority of the respondents (82%) agreed that hand washing is very important in personal hygiene. This implies that study participants were in favor of preventing infections. Recent findings were consistent with Mehdi et.al (2021), where 99.4% of respondents agreed that hand washing can be protective for health providers.

In addition, more than half of the respondents (62%) reported hand rub as the most convenient method of hand washing. This could be attributed to the fact that the method is easier compared to others. This is in disagreement with a study that was done in Eastern Province Schools, Saudi Arabia by Munthir et al (2021), where 97% of respondents agreed that using soap and water is the best method to wash their hands.

However, most respondents (70%) were not satisfied with the facilities available for hand washing at school. This notifies that at school hand washing facilities are not enough compared to the ratio of students. The study results were in disagreement with results obtained from Ariyaratne et al (2015), where (80%) of the students were more satisfied with the facilities available at school.

Results from the study also revealed that (50%) of the total sample agreed that they feel free to motivate a notable few fellow students to always implement hand washing as a mechanism for infection prevention. This indicates that an average number of study participants had perceived hand washing to be beneficial in the prevention of infections. The recent findings were in line with a study that was done in Khartoum State – Sudan on Khartoum State – Sudan by Ragda & Salah (2020), where (52.2%) of the participants were willing to influence their colleagues to perform hand washing.

Practices towards hand washing as a preventive measure for infections among students

From a sample of the participants, more than half of the respondents (54%) had last been vaccinated for common pathogens years back and therefore, this indicates low uptake of vaccination. The study results were consistent with Kemal et al, (2020), where (70%) of the participants had been vaccinated for common pathogens.

The study also revealed that most of the respondents (52%) regularly wash their hands. However, the study has yet to ascertain if at all they were implementing hand washing effectively. This is inconsistent with findings that were obtained from a study that was done by Mwesigye et al (2022), where 35% of the public group said they 'Always' wash their hands.

Findings from the study also showed that the majority of the respondents (70%) reported that they use handkerchiefs as the drying method after hand washing. This could probably be attributed to the accessibility and simplicity of the drying method. Current findings were in agreement with Imph et al (2020), where the highest number of participants used personal handkerchiefs (58%) as a drying method after hand washing.

However, half of the respondents (50%) reported adequate access to hand washing facilities at school as a reason as to why they irregularly wash their hands. This limits some students to effectively comply with hand washing. The study results were in line with Muna et al (2020), whose findings showed that the most common barrier among university students was a lack of soap and/or antiseptics as noted by 66.4%.

Interestingly, most of the respondents (52%) reported that sometimes they receive formal sensitization on hand washing at school. This implies that the school administration is somehow reluctant to orient students to comply with hand washing. The study findings differ from Ariyaratne et al (2015), where nursing (90 of 93, 96.7%) students received formal training in hand hygiene regularly.

In regards to methods that students use while greeting their colleagues at school, more than half of the respondents (66%) use facial expressions. This denotes that a substantial number of students were afraid of being

at risk of being exposed to infections. Study results were in line with Nuwagaba et al (2021), whose findings showed that participants who were greeted with only facial expressions (41.5%)

Conclusion

Attitudes towards hand washing among medical students were significantly worthy of impressing but certain displeasing practices such as adequate access to hand washing facilities noticed by the researcher need to be enriched for the effectiveness of infection prevention that may result from non-compliance of hand washing among medical students.

Recommendation

The school administration should carry out frequent training sessions and performance feedback to encourage students to follow correct hand hygiene practices. These interventions would help identify gaps in practices.

Also, there is a need for easy accessibility to proper hand hygiene facilities in school settings by the school administration to improve the compliance of students with hand washing.

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List of Abbreviations

COVID 19: Coronavirus Disease of 2019

FY: Financial Year

HAIs: Hospital Acquired Infections

HWS: Health Workers

KSHS: Kampala School of Health Sciences

MoH: Ministry of Health

UNICEF: United Nations Children's Fund

WHO: World Health Organization

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The study was not funded.

Conflict of interest

No conflict of interest was declared.

Author Biography

Spaceza Namurondo is a student diploma in clinical medicine and community health at Kampala School of Health Sciences.

Amiri Wereis a tutor at Kampala School of Health Sciences.

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