

Knowledge, attitudes and practices towards hand hygiene among students of St. Paul and Paulins secondary school aged 18 years and above in Masaka city. A cross-sectional study.

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Abstract

Background: Proper hand hygiene is a fundamental practice for preventing infectious diseases, yet compliance remains inconsistent, especially in resource-limited settings. This study assessed the knowledge, attitudes, and practices (KAP) towards hand hygiene among students.

Methods: A cross-sectional study was conducted from June to November 2024. A sample of 96 students was determined using Slovin's formula and selected via stratified random sampling. Data were collected using a structured questionnaire and analyzed to generate descriptive statistics.

Results: From the total of 96 students, 56.3% of respondents were female, 47.9% were aged 21-23 years, and 71.9% were boarding students. Knowledge was high, with 87.5% aware of the importance of hand hygiene and 83.3% identifying soap and water as the most effective method. Attitudes were positive, with 62.5% strongly agreeing on its importance for health. However, practices were inconsistent. While 72.9% always washed hands after handling garbage, only 57.3% always did so after coughing or sneezing.

Conclusion: A disparity exists between high knowledge/positive attitudes and inconsistent practical application of hand hygiene, indicating that awareness alone is insufficient for behavioral change.

Recommendation: The school administration should enhance hand hygiene education through interactive training, improve access to and maintenance of handwashing facilities, and implement regular monitoring and evaluation to ensure sustained compliance.

Keywords: Knowledge, practice, Attitudes, Hand Hygiene, St. Paul And Paulins Secondary School , Masaka city.

Background

Globally, hand hygiene is recognized as a fundamental practice to prevent the transmission of infectious diseases, including respiratory and gastrointestinal infections. The COVID-19 pandemic has underscored the importance of proper hand hygiene, leading to increased awareness and implementation of handwashing practices worldwide (WHO, 2021). Despite this, compliance with hand hygiene practices remains inconsistent, particularly in low-resource settings where access to clean water and soap can be limited (MacLeod, et al. 2023).

Sub-Saharan Africa experiences a high burden of infectious diseases, partly due to poor hand hygiene practices. Efforts to improve hand hygiene in this region have included educational campaigns and the provision of handwashing facilities in schools and public places (WHO, 2021). However, cultural beliefs and practices can sometimes impede the adoption of proper hand hygiene behaviours (MacLeod, et al. 2023).

In East Africa, hand hygiene practices are gradually improving due to increased public health initiatives and educational programs. Countries like Kenya and Tanzania have implemented national hand hygiene campaigns, which have led to better awareness and practices among the

population (WHO, 2021). However, challenges such as water scarcity and economic constraints continue to affect the consistent practice of hand hygiene (MacLeod, et al. 2023).

Uganda has made significant strides in promoting hand hygiene, particularly in response to the COVID-19 pandemic. The government, in collaboration with international organizations, has launched several initiatives to improve hand hygiene practices in schools and communities (Berendes et al, 2022). Despite these efforts, there are still gaps in knowledge and practice, especially in rural areas where resources are limited (WHO, 2021).

In Masaka City, hand hygiene practices among students are influenced by various factors, including access to handwashing facilities, health education, and cultural attitudes towards hygiene. Schools like St. Paul and Paulins Secondary School have implemented hand hygiene programs to educate students about the importance of proper handwashing (Berendes et al, 2022). However, this study aimed to assess the knowledge, attitudes, and practices towards hand hygiene among students

Methodology

Study design

A cross-sectional descriptive design was used. This method was chosen because it allows for the collection of data at a single point in time, providing a snapshot of the current knowledge, attitudes, and practices regarding hand hygiene among the students.

Study area

The study was conducted at St. Paul and Paulins Secondary School in Masaka City for 6 months from June to November 2024.

Study population

The study population consisted of students aged 18 years and above attending St. Paul and Paulins Secondary School in Masaka City.

Sample size determination

The sample size of respondents for the research study was determined using the Solvin's formula.

Sampling technique

A stratified random sampling technique was used to ensure that different classes and demographic groups within the school are adequately represented. This method helps in obtaining a diverse and representative sample.

Sampling procedure

The sampling procedure involved dividing the student population into strata based on their grade level. From each stratum, a random sample was selected proportionate to the size of the stratum.

Data collection method

Data were collected using a structured questionnaire designed to assess knowledge, attitudes, and practices towards hand hygiene.

Data collection procedure

The data collection procedure involved administering the questionnaire to the selected students during their free periods. The questionnaires were self-administered, and students were provided with instructions on how to complete them.

Data collection tool

The primary data collection tool was a structured questionnaire, which included sections on demographic information, knowledge, attitudes, and practices related to hand hygiene.

Study variables

Independent Variables are knowledge, attitude and practices on hand hygiene while the dependent Variables are age and level of education towards.

Quality control

Quality control measures were implemented to ensure the reliability and validity of the data collected.

Pretesting of the Research Tool:

The research tool was pretested on a small sample of students from a different secondary school to identify and correct any issues with the questionnaire. Training of the Research Assistant:

The research assistant was trained on the objectives of the study, the data collection process, and how to address any questions or concerns from the participants.

Inclusion Criteria

Students aged 18 years and above who were enrolled at St. Paul and Paulins Secondary School and consented to participate in the study.

Exclusion Criteria

Students who were not available during the data collection period and those who were below 18 years

Data analysis

Quantitative data from the questionnaires was analysed using statistical software to generate descriptive statistics and identify correlations Results were presented in tables, graphs, and narrative forms.

Ethical consideration

A letter of introduction was obtained from the research committee of the International Paramedical Institute (IPI), granting permission to carry out the study at St. Paul and Paulins Secondary School in Masaka City. Informed consent was obtained from all participants, and their confidentiality and anonymity were assured throughout the study.

Results

Socio-demographics.

Table 1: socio-demographics of the respondents.

PARAMETER	CATEGORIES	FREQUENCY (n=96)	PERCENTAGE (%)
What is your age?	18-20 years	26	27.1
	21-23 years	46	47.9
	24 years and above	24	25.0
What is your gender?	Male	42	43.8
	Female	54	56.3
What is your class level?	Senior 5	40	41.7
	Senior 6	56	58.3
What is your residence type?	Boarding	69	71.9
	Day scholar	27	28.1
What is your primary source of Information about hand hygiene?	School	48	50.0
	Media	22	22.9
	Family	20	20.8
	Friends	6	6.3

Table 1 showed that the demographic data of the students surveyed at St. Paul and Paulins Secondary School in Masaka City reveals a diverse age distribution. The majority of the respondents fall within the 21-23 years age group, accounting for 47.9% of the sample.

Gender distribution among the respondents was slightly higher in females (56.3%) than in males 43.8%. Regarding class level, a larger proportion of the respondents are in Senior 6, comprising 58.3% of the sample, while the remaining 41.7% are in Senior 5. The majority of the respondents, 71.9%, reside in boarding facilities, while 28.1% are day scholars. When examining the primary sources of information about hand hygiene, slightly more than half of the respondents (50.0%) reported that school is their main source.

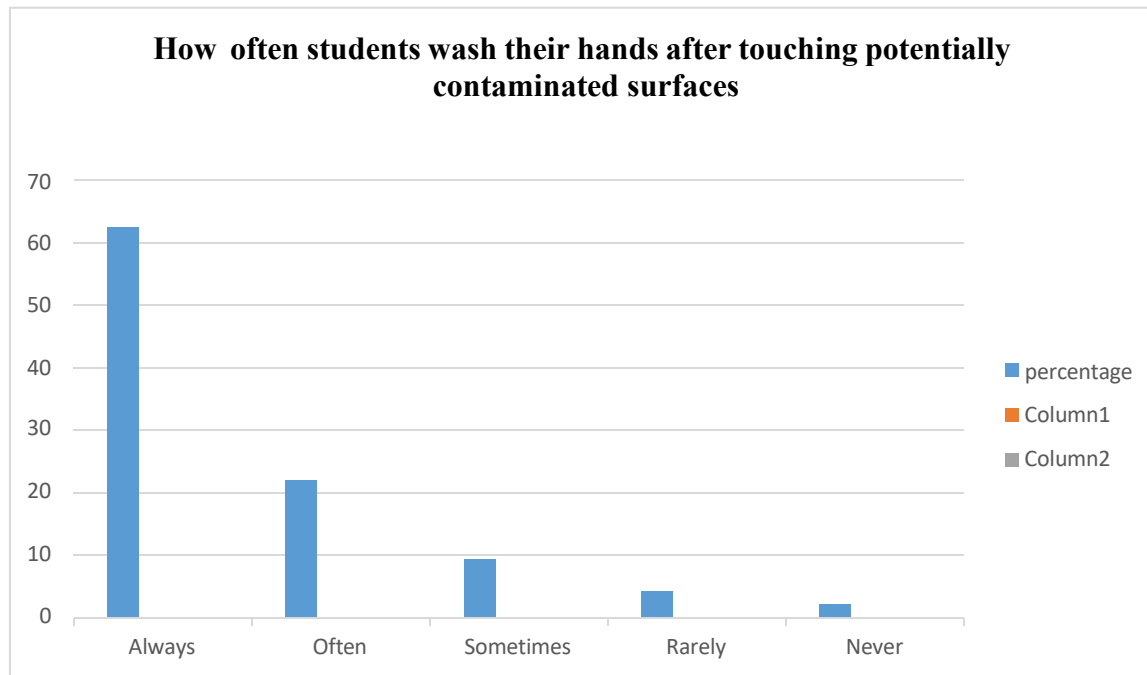
Table 2: The respondents knowledge.

PARAMETER	FINDING	FREQUENCY(n=96)	PERCENTAGE (%)
Do you know the importance of hand hygiene in preventing diseases?	Yes	90	87.5
	No	10	12.5
Which of the following is the most effective hand hygiene method?	Hand washing using soap and water.	80	83.3
	Hand sanitizer	20	16.7
Do you know the steps of proper hand washing?	Yes	60	68.8
	No	40	31.3

Table 2 showed that when it came to understanding the importance of hand hygiene in preventing diseases, 87.5% of respondents are aware, while 12.5% (10 respondents) are not.

Regarding the most effective hand hygiene method, 83.3% (80 respondents) believe that hand washing with soap and water is the best approach, whereas 16.7% (16 respondents) prefer hand sanitizer. Additionally, 68.8% (66 respondents) know the proper steps for hand washing, but 31.3% (30 respondents) still need to learn these crucial steps.

Figure 1: A bar graph showing the respondents view about how often they should wash their hands after touching potentially contaminated surfaces.



From figure 1, when asked on how often students wash their hands after touching potentially contaminated surfaces, the majority replied said “always”, followed by some students who said often and the least were those with never.

Table 3: The respondents’ attitude towards hand hygiene.

PARAMETER	CATEGORY	FREQUENCY	PERCENTAGE (%)
Do you believe hand hygiene is important for your health?	Strongly agree	60	62.5
	Agree	16	16.7
	Neutral	14	14.6
	Disagree	3	3.1
	Strongly disagree	3	3.1
How confident are you in your hand hygiene practices?	Very confident	50	52.1
	Confident	15	15.6
	Neutral	10	10.4
	Not confident	12	12.5
	Not confident at all	9	9.4
Do you feel that the school provides adequate facilities for hand hygiene?	Agree	18	18.8
	Neutral	12	12.5
	Disagree	13	13.5
	Strongly disagree	8	8.3

Table 3 revealed that the attitude towards hand hygiene is quite positive, with 62.5% respondents strongly agreeing that it is important for their health, however 3.1% respondents strongly disagree. Confidence in hand hygiene practices varies, with 52.1

respondents feeling very confident and 12.5% not confident at all. Regarding the adequacy of facilities provided by the school for hand hygiene, 46.9% respondents strongly agree, 8.3% strongly disagree.

Table 4 showing the respondent practices towards hand hygiene.

PARAMETER	CATEGORIES	FREQUENCY(n=96)	PERCENTAGE (%)
How often do you use hand sanitizer when soap and water are not available?	Always	44	45.8
	Often	31	32.3
	Sometimes	8	8.3
	Rarely	6	6.3
	Never	7	7.3
How often do you wash your hands after touching potentially contaminated surfaces?	Always	60	62.5
	Often	21	21.9
	Sometimes	9	9.4
	Rarely	4	4.2
	Never	2	2.1
Do you wash your hands after coughing or sneezing?	Always	55	57.3
	Often	25	26.0
	Sometimes	10	10.4
	Rarely	3	3.1
	Never	2	2.1
Do you wash your hands after handling garbage?	Always	70	72.9
	Often	15	15.6
	Sometimes	5	5.2
	Rarely	5	5.2
	Never	1	1.0
Do you wash your hands after handling animals or animal waste?	Always	65	67.7
	Often	15	15.6
	Sometimes	8	8.3
	Rarely	5	5.2
	Never	2	2.1

In reference to table 4, students were asked how often they used hand sanitizer when soap and water were not available, the majority 45.8% responded that they always used it, never with 7.3%.

Furthermore, students were asked if they washed hands after coughing or even sneezing and interestingly low percentages generally were obtained with 57.3% replying that they always wash them, then least percentages were obtained in rarely and never with 3.1% and 2.1% respectively.

Another question was if they washed hands after handling garbage, 72.9% always washed hands, followed by a greater difference seen in those who often washed hands, and least in never with just 1.0%.

Discussion

Knowledge level about hand hygiene among students aged 18 years and above at St. Paul and Paulins Secondary School in Masaka City.

The results indicated that 87.5 % of the students knew the importance of hand hygiene in preventing diseases, which aligns with (kramer & et al, 2017) who emphasized the critical role of hand hygiene in reducing infection rates.

The fact that 62.5% of students knew the steps of proper handwashing indicates a moderate level of knowledge, but there is room for improvement through targeted educational interventions (Curtis & et al, 2019).

Attitudes towards hand hygiene among the students aged 18 years and above at St. Paul and Paulins Secondary School in Masaka City

The results showed that 71.9% of the students strongly believed in the importance of hand hygiene for their health, which is consistent with the positive attitudes reported (Erasmus, 2019)

However, only 52.1% felt very confident in their hand hygiene practices, suggesting a gap between knowledge and confidence. As this was also previously noted about by other studies (pieteers & et al, 2023).

The fact that 57.3% of students believed educational programs on hand hygiene were effective indicates a positive reception to such initiatives, but the remaining 45.8% either disagreed or were neutral, highlighting the need for more engaging and comprehensive educational strategies (Curtis & et al, 2019).

Hand hygiene practices among the students aged 18 years and above at St. Paul and Paulins Secondary School in Masaka City.

The results indicated that 71.9% of the students always washed their hands after using the restroom, which is a positive practice but still leaves 45.8% who do not consistently follow this essential hygiene practice. This inconsistency could be due to time constraints and the availability of facilities, which is in line with other literature in the study as noted by (bloomfield & et al, 2018).

Similarly, 68.8% of students always washed their hands before meals, but 5.2% did not, indicating a need for more reinforcement of this practice. The use of soap every time hands are washed was reported by 87.5% of the students, which is encouraging, but the remaining 8.2% need to be educated on the importance of using soap as was also reported on by previous literature (Aiello & al, 2014).

The use of hand sanitizer when soap and water are not available was practiced by 50.0% of the students, reflecting a moderate level of adherence to alternative hand hygiene methods. The fact that 58.3% of students followed the recommended steps for proper handwashing indicates a good level of practice, but continuous education and reinforcement are necessary to improve this further (pittet & et al, 2018).

Conclusion

The study revealed that while there was a high level of awareness about the importance of hand hygiene among students, there are significant gaps in specific knowledge areas, attitudes, and practices. The findings suggest that targeted educational interventions, improvements in school facilities, and continuous reinforcement of hand hygiene practices are necessary to enhance overall compliance. Future research should focus on developing and evaluating innovative educational strategies and interventions to address the specific barriers to hand hygiene in school settings, particularly in low-resource environments (Dreibelbis, 2022).

Recommendation

To the school administration

Enhance Hand Hygiene Education: Implement interactive and practical training sessions to improve students' knowledge about hand hygiene.

Improve Access to Handwashing Facilities: Ensure that students have easy access to soap and water for regular handwashing.

Regular Monitoring and Evaluation: Conduct ongoing assessments to ensure sustained compliance with hand hygiene practices.

To the entire school

Despite high awareness and positive attitudes, significant gaps in knowledge and inconsistent practices indicate that current efforts are insufficient. Enhancing education through interactive training and improving access to handwashing facilities can lead to better hygiene practices.

Regular monitoring and evaluation are essential to maintain high standards of hand hygiene. Continuous assessment and adjustments can ensure students comply with hygiene protocols, helping to identify and address new barriers. These steps aim to create a sustainable hand hygiene program, reducing the spread of infectious diseases and promoting a healthier school environment.

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Abbreviations and Acronyms

CDC: Centres for Disease Control and Prevention

KAP: Knowledge, Attitudes, and Practices

MOH: Ministry of Health

UNICEF: United Nations International Children's Emergency Fund

UAHEB: Uganda Allied Examination Board

WHO: World Health Organization

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Author contributions: Eric Barekye was the corresponding author, Antony Mawanda was the research supervisor, and M. Magala Mayanja was the principle

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