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STUDY ON KNOWLEDGE ATTITUDE AND PRACTICES OF HEALTH WORKERS TOWARDS HAND WASHING AT LACOR HEALTH CENTER III OPIT. A DESCRIPTIVE CROSS-SECTIONAL STUDY.

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Abstract

Background.

Purpose: The purpose was to assess the knowledge, attitude, and practices of health workers toward hand washing at Lacor Health Center III Opit.

Objectives: To evaluate the level of knowledge of health workers about hand washing at Lacor Health Center III Opit. To establish the attitude of health workers towards hand washing at Lacor Health Center III Opit. To assess the practices of health workers towards hand washing at Lacor Health Center III Opit

Methodology:

A descriptive cross-sectional study design was used in the collection of data because the design allowed data to be collected at one point in time

Results:

On average 81.2% of the respondents had good knowledge of hand washing and 18.2 of the health workers had little knowledge of hand washing. The majority of the health workers on average 78.4% had a positive attitude towards hand washing and 21.6% of the respondents had a negative attitude towards hand washing. The majority of the health workers on average 72.75% contrarily had poor practices towards hand washing while only 27.25% of the respondents had good practices towards hand washing

Conclusion:

In conclusion, many of the health workers had good knowledge and positive attitude toward hand washing respectively. However, given the vast knowledge and positive attitude, the majority did not apply the knowledge in practicing hand washing. This meant that HAI was still high since few HWs practiced hand washing.

Recommendations:

Hand washing at Lacor Health Center III Opit should be put as a goal in the year planner so that the rate of HAIS goes down. Still, several hand washing facilities like soap, water tanks, water sources, detergents, and others have to be put in place at the facility to enable the process of hand washing.

Keywords: Hand washing, hand hygiene, knowledge of hand hygiene, attitude on hand hygiene, practices on hand hygiene., Submitted: 2023-04-13 Accepted: 2023-07-29

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1. Background.

Hand washing refers to the process of rubbing together all the surfaces and crevices of the hands using soap or any other chemical and water, where hand washing should be carried out after arriving at work, before leaving work, between client contacts, after removing gloves, when hands are visibly soiled, before eating, after urination and defecation, before and after performing invasive procedures, after contact with body fluids, and after handling contaminated equipment (Suoud, 2018).

Globally, a study in the University of Granada, Spain among medical and nursing students reveals that a significantly lower percentage of students always or almost performed hand hygiene before contact with the patient or invasive procedure in comparison to the percentage complying after contact with secretions or with the patient. (Cambil et al., 2020) In addition, a study at a University in German reveals a total of 10315 five moments for hand washing observed, where the mean hand hygiene compliance rates increased from 75.1% to 88.6% with an estimated increase of about 4.5%. (Hoffman et al., 2019). In Bangladesh, out of 400 primary school children undergoing analysis, 89% of students had good knowledge and 71.6% of students had good practice regarding hand washing. (Syeda et al., 2020)

In Africa, the incidence of HAIs in Sub-Saharan Africa is 20 times in developing countries than in developed countries (lrehovbude, Okoye, 2020). A study in Lagos, Nigeria reveals that less than two-thirds (64.0%) of the respondents had good knowledge where almost all (99.5%) had positive attitudes while about 71% had good practice of hand washing. The same study states that forgetfulness (49.8%) and laziness (33.8%) were the major reasons for not practicing hand washing at home as opposed to the unavailability of soap (50%) and lack of nearby water supply (46.2%) in schools. (Oluwole, Ajayi, Olufunlayo, 2020). Furthermore in Africa, a study in Khartoum shows that many students, 95% knew the proper way of hand washing with soap and water, 96% knew the appropriate time for hand washing, 65% knew the advantages of hand washing and 88.2% knew diseases related to the practice of not washing hands. Still, 21% got information from relatives, 94.8% had a positive attitude towards using soap and water for hand washing, 70.3% washed their hands with soap and water at appropriate times, and 39.5% practice hand washing at varied times. (Hussein, Salith, Adam, Khattab, Burma, 2021).

In East Africa, a study in Kenya shows that compliance with hand-washing practices is 54% among health workers with a disproportionate behavior gap. (Kamau, 2018) Similarly, a study in Rwanda reported that 60.9% of the participants had a positive attitude while only 40.2% had adequate practice and 59.8% had inadequate practice. (Nshimirimana, 2019). In addition, a study in Tanzania shows that out of 726 nurses, 76.4% had a good level of knowledge of hand hygiene since the majority of them 88.3% had received IPC training. About 42.0% reported hand as effortless while the majority 81.1% practiced hand washing more than hand rubbing routinely. (Silago et al., 2022)

In Uganda, a study conducted revealed that only 88(24.5%) of participants had adequate knowledge of hand washing, 32.8% of the students at the University had adequate knowledge compared to 6.3% of the Katanga residents, while the majority 336(93.6%) participants had a good attitude towards hand washing. More so, students at University had better knowledge of hand hygiene while the slum residents had a bit better attitude towards washing. (Nuwagaba et al., 2021) Still in Uganda, a study at Mulago shows that a high proportion of 91(80.53%) of respondents had adequate knowledge of hand washing with most of them 110(97.55%) knowing that hand washing is important and reduces chances of spreading infections. Moreso, 80(70.80%) had a positive attitude with 99(87.61%) saying hand with is not regularly talked about at the wards and 84(74.34%) were uncomfortable reminding their neighbors about hand washing. (Nabukalu, 2020)

All in all, this study recommends that interven-

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tion efforts should address the infrastructure gaps that negatively impact the availability of these hand-washing boosting factors, particularly access to water if improvement is to be achieved. Furthermore, the study would spark the training of HWs about the importance and proper practice together with an increased positive attitude towards hand washing along with improving hand sanitizer options may improve patients' safety.

1.1. General objective.

To assess the knowledge, attitude, and practices of health workers towards hand washing at Lacor Health Center III Opit.

1.2. Specific objectives.

- To evaluate the level of knowledge of health workers towards hand washing at Lacor Health Center III Opit.
- To establish the attitude of health workers towards hand washing at Lacor Health Center III Opit.
- To assess the practices done by health workers about hand washing at Lacor Health Center III Opit.

2. METHODOLOGY.

2.1. Study design.

A descriptive cross-section study design was used in the collection of data because the design allowed data to be collected at one point in time and because it ran for a short period.

2.2. Study area.

The study took place at Lacor Health Center III Opit located in Omoro town in Omoro District. It had a catchment area of about 20000 people. Data were collected from December 2022 to February 2023.

2.3. Study population.

The study included health workers, for example, nurses, doctors, midwives, clinical officers, and laboratory technicians at Lacor Health Center III Opit.

2.4. Sample size determination.

The sample size was got from the formula by Kish Leislie

Where n represented the sample size

Z-represented standard normal deviation corresponding to a 95% confidence interval which is 1.96

P-represented proportional characteristics of the target population, because there was no reasonable estimate of the study population, it is presumed at 50% or 0.5%.

q- Represented 1-p (i.e., 100-0.5) which will also be 50% (0.5).

d- Represented the precision margin of error for the study, a margin of 0.138% was used to increase the margin of accuracy.

Hence the sample size n was, n = 1.96X1.96X0.5X0.5/ (0.138)2

0.9604/0.019044 = 50

Sample size,

n = 50 respondents.

2.5. Sampling technique.

A Convenient non-probability sampling technique was used so that respondents were accessed when they were available and free.

2.6. Sampling Procedure.

All the facility staff from all departments that is OPD, IPD, maternity, ART, and other sectors accessed under their consent randomly by selecting from the available subjects who were accessible at that time following the convenience criteria.

2.7. Data Collection Methods.

A self-administered semi-structured questionnaire and a checklist were used to collect information on the knowledge, attitude, and practices of health workers towards hand washing.

2.8. Data collection tools.

The questionnaire was used to collect quantitative data from the respondents. The questionnaire comprised closed-ended questions. The questionnaire consisted of 2 sections that were, section A which contained questions on the respondent's demographic characteristics, section B

contained questions on respondent's knowledge, attitude, and practices of health workers towards hand washing.

2.9. Data Collection Procedure.

The procedure of data collection was explained to the selected respondents and consent was obtained. Questionnaires were provided to respondents by the researcher, questions were interpreted by those who were unable to understand them. Thereafter respondents were thanked for their participation and cooperation. A checklist was used by the researcher to observe the practices that were done by Health workers towards hand washing.

2.10. Study variables.

The dependent variable was hand washing, Independent variables were the knowledge, attitude, and practices towards hand washing.

2.11. Quality control.

Quality control measures were put into consideration which ensured the reliability of data which was written in English and interpreted and translated into the local language. Still, enough time was allocated for data collection during the study which ensured the accuracy of the results. Filled questionnaires were checked for completeness. In the inclusion criteria, the study included all midwives, clinical officers, and nurses at Lacor Health Center III Opit who were present and consented to participate in the study. In the exclusion criteria, the study excluded all midwives, clinical officers, doctors, and nurses who were absent and those who did not consent to participate in the study.

2.12. Data analysis and presentation.

Data was summarized on papers; tallied, and analyzed using SPSS and was presented in the form of frequency tables, and graphs which addressed each study objective.

2.13. Ethical consideration.

The researcher got the introductory letter from Medicare Health Professionals' College and took it to the in charge of Lacor Health Center III Opit introduced the researcher to the staff members and sought their consent. Confidentiality, dignity, and respect of all participants were observed throughout the study. Participants were assured of no harm if they did not want to participate in the study. Proper consent in writing was obtained from the study participants before questionnaires are issued.

3. PRESENTATION OF STUDY RESULTS.

3.1. Description of the sample.

The study population was health workers at Lacor Health Center III Opit. The minimum sample size that was required was 50 which contributed to the study.

3.2. Demographic characteristics of the health workers.

Source: primary data, (2022)

According to table 1, by age 15 (30%) were between 18-24 years of age, 30 (60%) were between 25-35 years, and 5 (10%) were above 35 years.

On the level of education, majority 30 (60%) attended secondary school and the rest, 20 (40%) attended tertiary school level.

According to the results, majority 25 (50%) were Catholics, followed by 14 (28%) who were Anglicans, Muslims were 3 (6%), Pentecostal were 6 (17%) and other religions had 2 (4%) of respondents.

By position at work, there were no medical officer, 1 (2%) was a clinical officer, majority 44 (88%) was made by nurses/midwives, laboratory technicians were 2 (4%) and 3 (6%) were constituted by other positions at work.

Majority of the health workers 15 (30%) were mainly deployed in the OPD section, 8 (16%) were in the maternity section, in the laboratory section, 2 (4%) that were deployed and there were no one in the theatre since the facility had no theatre, the MCH had 4 (8%) of the respondents while the ART clinic had 8 (16%) of the health workers.

Table 1: **showing demographic data of the respondents.**

Variable	Frequency	Percentage (%)
Age of respondent (years)		
<18	0	0
18-24	15	30
25-35	30	60
>35	5	10
Level of education		
Primary	0	0
Secondary	30	60
Tertiary	20	40
Religion		
Catholic	25	50
Anglican	14	28
Muslim	3	6
Pentecostal	6	12
Position at work		
Medical officer	0	0
Clinical officer	1	2
Nurse/midwife	44	88
Lab technician	2	4
Department		
Maternity	8	16
OPD	15	30
Medical ward	13	26
Laboratory	2	4
Theatre	0	0
MCH	4	8
ART clinic	8	16

3.3. Knowledge of health workers towards hand washing.

Source: primary data (2022)

According to the table 2, majority of the health workers 44(88%) had good knowledge about hand washing techniques and 6(12%) had little knowledge towards hand washing techniques.

Majority of the health workers 36(72%) had good knowledge about when hand washing should be carried out and 14(28%) had little knowledge about when hand washing should be carried out.

Source: primary data (2022)

According to the table 3, majority of the health workers 48(96%) had good knowledge about the benefits of hand washing and the minority 2(4%) had little knowledge about the benefits of hand washing.

Majority of the health workers 45(90%) had good knowledge about the dangers that come without hand washing and 5(10%) had little knowledge.

Source: primary data (2022)

According to the figure 1, many of the health workers 30(60%) wanted other health workers to have the knowledge about hand washing while 20(40%) did not want other health workers to have knowledge about hand washing.

3.4. Attitude of health workers towards hand washing .

Source: primary data (2022)

Table 2: **Showing health workers knowledge towards hand washing techniques and when hand washing should be carried out N=50**

Variable	Fre-quency	Percentage (%)
Whether they knew the various techniques of hand washing		
Yes	44	88
No	6	12
Whether they knew when hand washing should be carried out		
Yes	36	72
No	14	28

Table 3: **Showing health workers knowledge towards the beneftts of hand washing and the dangers that come without hand washing N=50**

Whether they knew the beneftts of hand washing		
Yes	48	96
No	2	4
Whether they knew the dangers that come without hand washing		
Yes	45	90
No	5	10

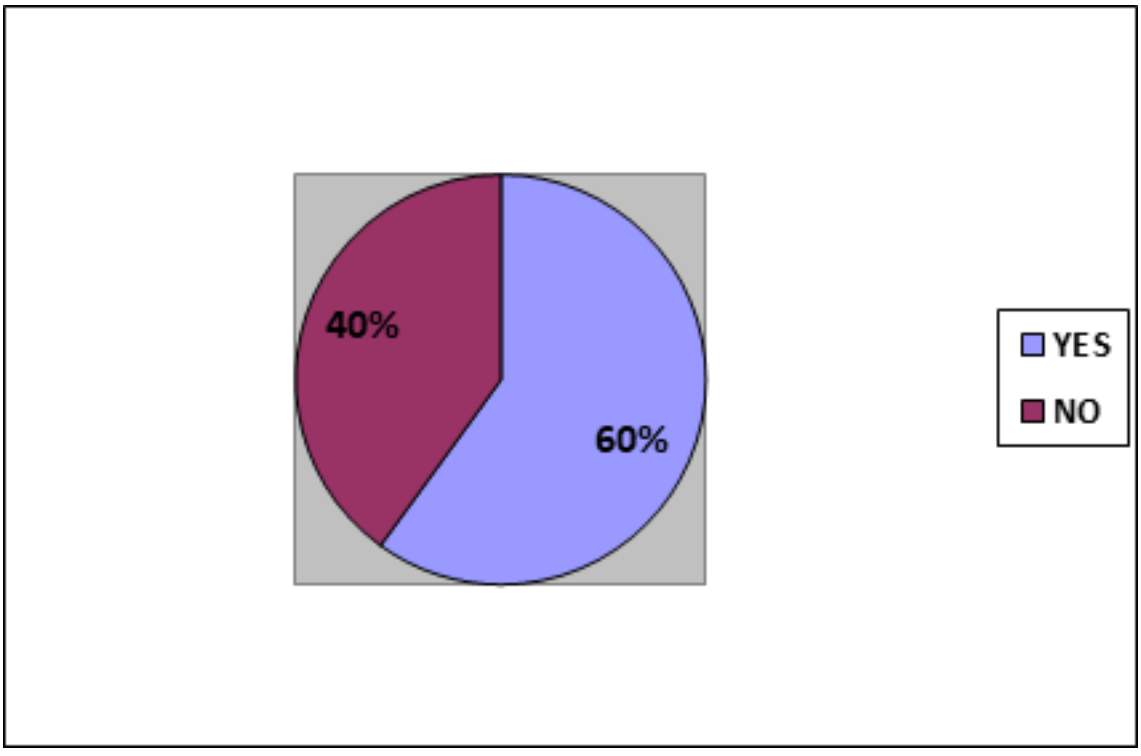

Figure 1: **Showing whether health workers thought that other health workers should know about hand washing N=50**

Table 4: Showing the health workers attitudes towards recommending colleagues to carry out hand washing and if they thought hand washing was important **N = 50**

Variable	Frequency	Percentage (%)
Health worker recommending colleagues to carry out hand washing		
Yes	31	62
No	19	38
Whether they thought hand washing was important		
Yes	50	100
No	0	0

According to the table 4, majority of the health workers 31(62%) had positive attitude towards recommending other HWs to carry out hand washing and 19(38%) had negative attitude towards recommending other HWs.

All the HWs had a positive attitude that hand washing was important and no health worker had a negative attitude.

Source: primary data, (2022

According to the figure 2, majority of the HWs 26(52%) had a negative attitude towards hand washing experience and 24(48%) had a positive attitude towards hand washing experience.

Most of the health workers 39(78%) had a positive attitude towards emphasis of hand washing and 11(22%) had a negative attitude towards emphasis of hand washing.

Source: primary data (2022)

According to table 5, all HWs, 50(100%) had a positive attitude that staying without hand washing would cause infections and no health worker had a negative attitude.

3.5. Practices of health workers towards hand washing.

According to the figure 3, majority of the HWs 30(60%) had poor practices towards hand washing before and after procedures and 20(40%) had good practices.

Majority of the HWs 36(72%) had poor practices towards the right procedures of hand washing and 14(28%) had good practices.

Source: primary data, (2022)

According to Figure 4, the majority of the HW 44(88%) knew what was needed for proper hand washing and only 6(12%) did not know what was needed.

Most of the HWs 26(52%) believed that their fellow HWs had poor practices towards hand washing and 24(48%) believed that other HWs had good hand washing practices.

4. Discussion.

4.1. Knowledge of health workers towards hand washing.

The majority, 44 (88%) had good knowledge of the procedure of hand washing and only 6 (12%) of the health workers had poor knowledge. This meant that the health workers had vast knowledge of hand-washing techniques. This agrees with the study carried out in nursing homes in Germany, which found that the nurses and the nursing managers knew effective hand hygiene procedures (Hammerschmidt, Manser, 2019).

Most of HWs 36(72%) had good knowledge of when to wash their hands and 14 (28%) of them had poor knowledge. This meant that many HWs had good knowledge of when to wash their hands. (Suoud, 2018)

The majority of HWs, 48(96%) had good knowledge about the benefits that come with hand washing and 2(4%) had little knowledge. This meant that health workers had good knowledge about the benefits of hand washing. This agrees with the study that was carried out in Khartoum

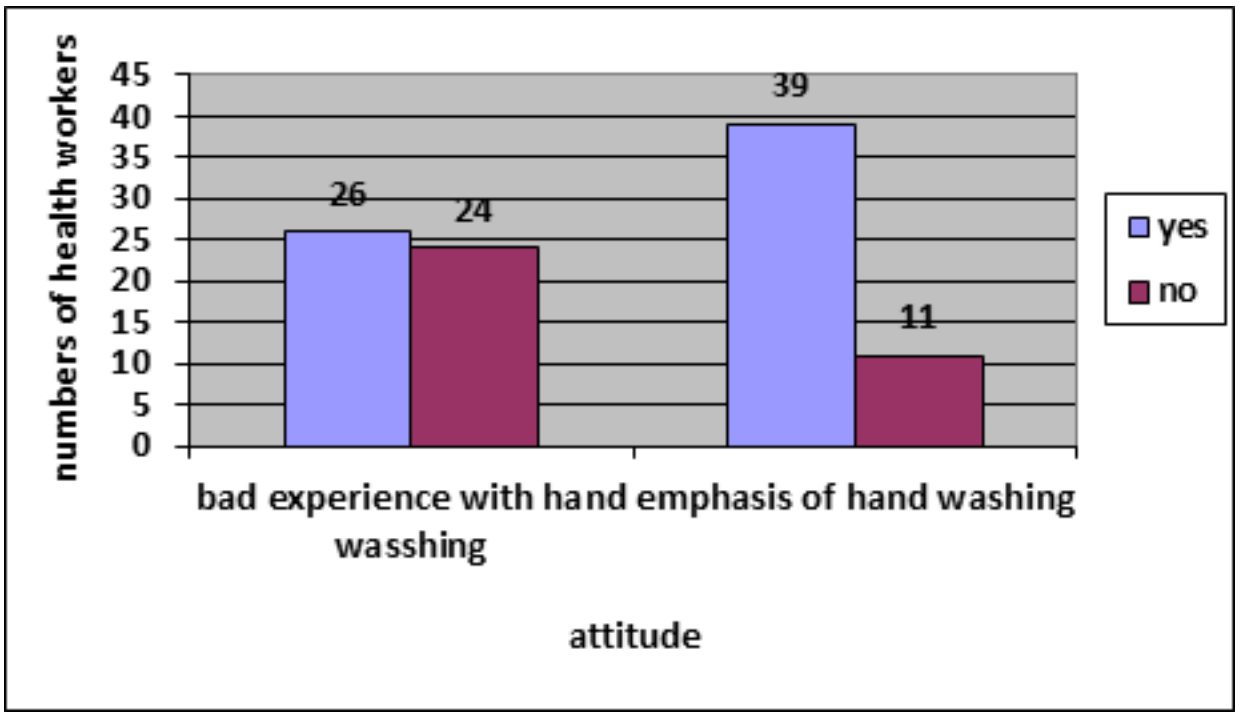

Figure 2: Showing experience of health workers towards hand washing and its emphasis

Table 5: Showing whether HWs thought staying without hand washing would cause infections N=50

Variable	frequency	Percentage
Whether infections are caused by not hand washing		
Yes	50	100
No	0	0

state in Sudan where the majority of the respondents, 99.3% had good knowledge and 239(54.8%) were fairly knowledgeable. (Ragda, Salah, 2020).

For most of the HWs, 45(90%) had good knowledge of the dangers of not performing hand washing and 5(10%) had little knowledge. The results meant that health workers knew the dangers that come when hand washing is not performed. This study agrees with the study in Saudi Arabia which showed that the majority 254(56.1%) had correct knowledge about hand-related transmission of infections, and 124(27.4%) had correct knowledge of the microorganisms causing health-related problems. The difference in the percentage was because the variables were the hand-related transmission of the infections and the microorganisms that caused the health-related problems. (Barkaman et al, 2019)

Majority of the HWs, 30(60%) wanted other health workers to know about hand washing and 20(40%) did not want others to know. This meant most health workers knew hand washing. The results agree with the study in Saudi Arabia where female students were better equipped with the knowledge than males concerning the hand hygiene required before abdominal palpation. (Barkaman et al, 2019).

4.2. The attitude of health workers towards hand washing.

The majority of HWs, 31(62%) had positive attitudes and 19(38%) had negative attitudes on recommending their colleagues to carry out hand washing. This meant that HWs were positive towards hand washing. The results agree with the study in Saudi Arabia where the female students had a greater positive attitude towards

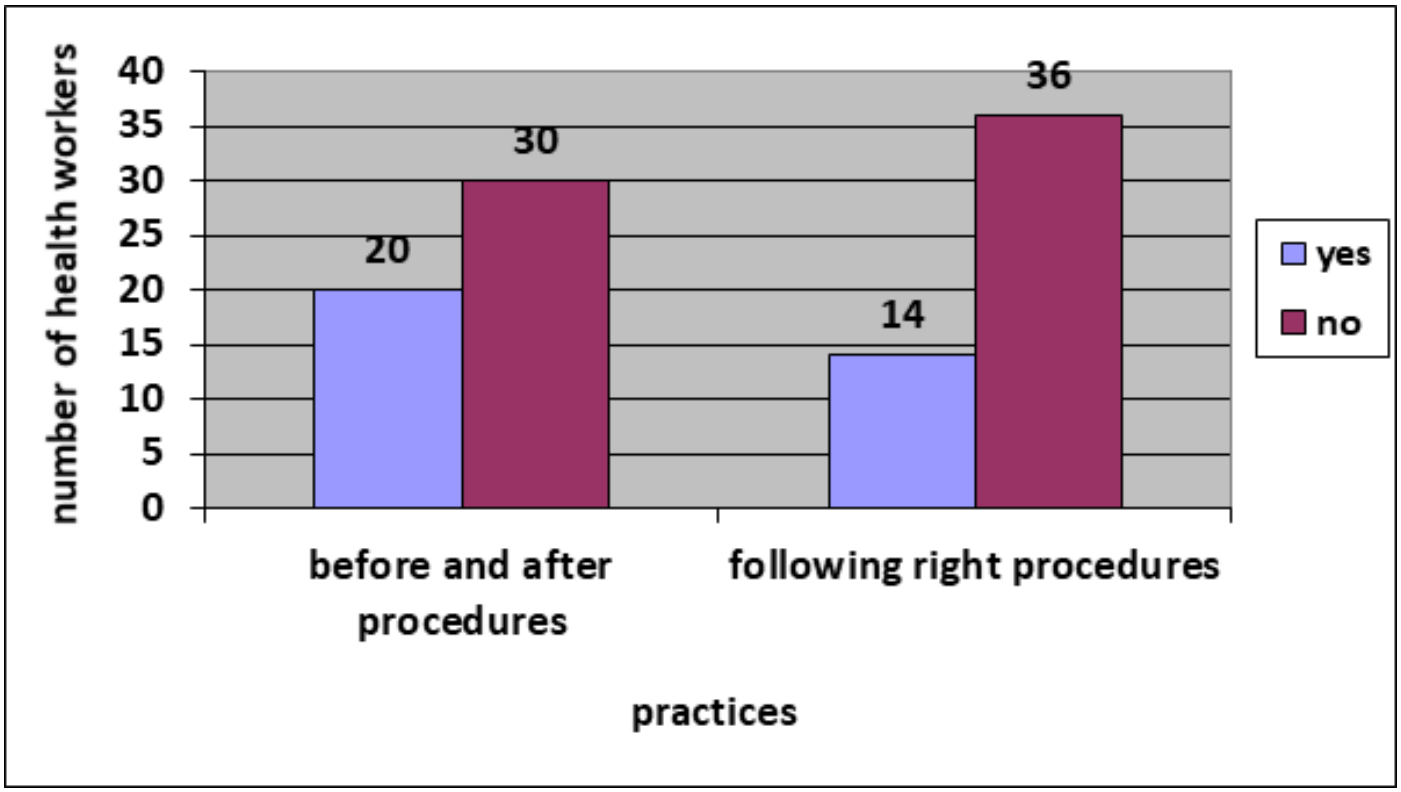

Figure 3: Bar graph showing HWs practices before and after procedures and the rightful procedures of hand washing. N = 50

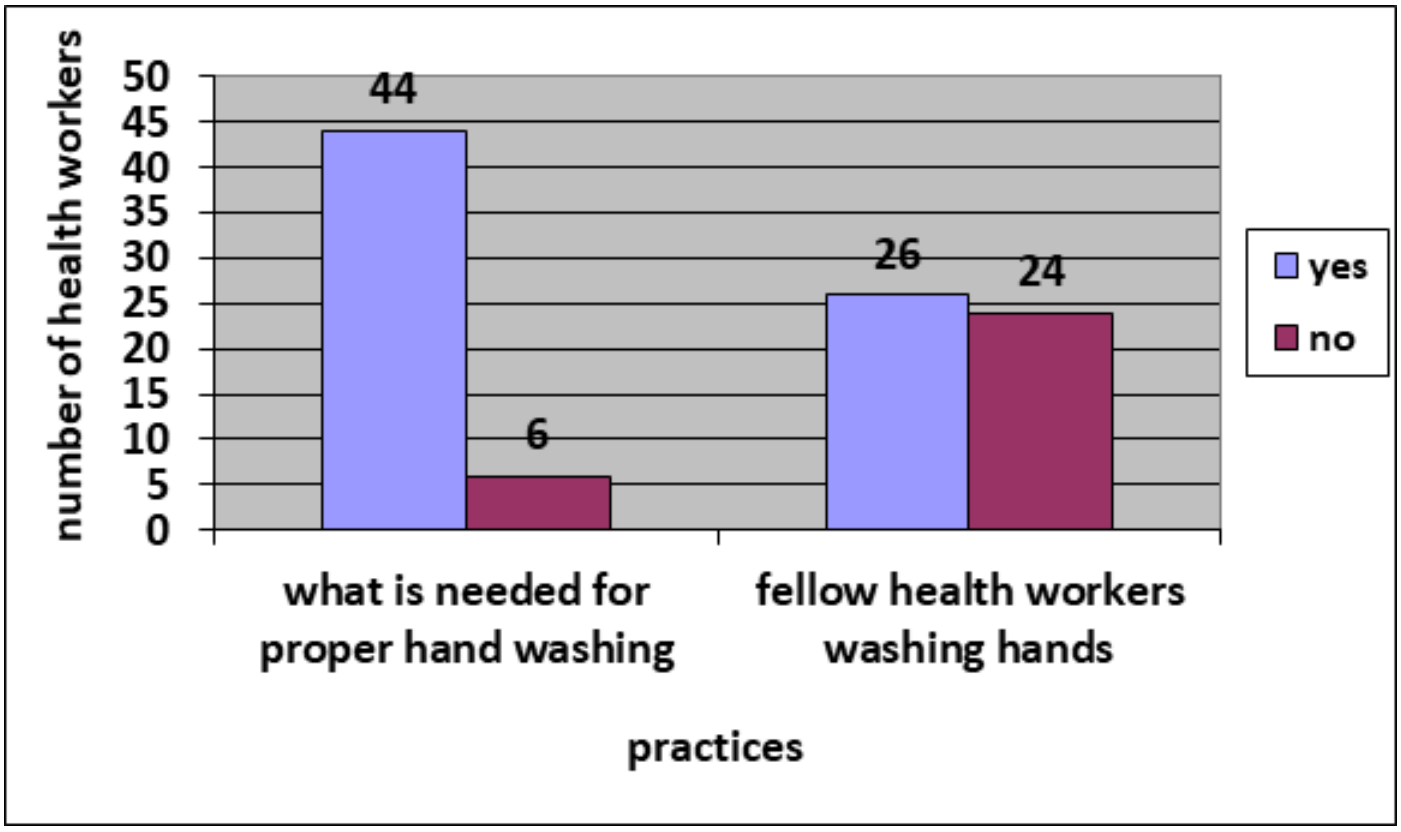

Figure 4: A bar graph showing what is needed for proper hand washing by the HWs **N=50**

hand washing than males, stating that the positive attitudes of students could play a major role in stopping health workers associated infections (Bakarman, 2019).

Of all the HWs, 50(100%) had a positive attitude that hand washing was important and no HW had a negative attitude about it. This meant that the majority of the HWs were positive towards hand washing. This study agrees with the one carried out in a psychiatric hospital where 194(99.5%) of the respondents had a positive attitude that hand washing is protective, 176(90.3%) of respondents believed that administrative orders can improve hand washing, 169(86.7%) agreed that hospital infections can be brought down by hand washing compared to other methods and 148(75.9%) showed improved hand washing through role models. The 100% the researcher got differs from the 99.5% got at the psychiatric hospital because three variables were assessed at the hospital unlike the other one where two variables were used (Bimerew, Muhawenimana, 2022).

4.3. Practices of health workers towards hand washing.

Majority of health workers 30(60%) had poor practice of hand washing before and after procedures and a few, 20(40%) had good practice of hand washing. This meant HWs had poor practices of hand washing before and after procedures. This agrees with the study carried out on the hand hygiene day in Europe where according to Miranda, a nurse, stipulated that hand hygiene at the hospital is done at every point in patient care. (WHO, 2022) However, the actual percentage of the HW was not mentioned to compare with the researcher's findings.

Of most of the HWs, 36(72%) did not follow the right procedure of hand washing while 14(28%) had good practice. This meant HWs had poor practices of hand washing following the right procedures. This is in agreement with the study in Dubti Referral Hospital, Dubti Afar, Northwest Ethiopia which revealed that out of 91 respondents, 51(56.0%) who were the majority had poor hand washing practice and 40(43.0%) had a good hand washing practice. (Suoud, 2018)

Most of the health workers, 26(52%) agreed that their fellow HWs had good practices towards hand washing and 24(48%) said that their fellow HWs had poor practices of HW. This agrees with the study in Dubai Referral Hospital where the majority 51(56.0%) had poor hand washing practices and 40(43.0%) had a good hand washing practices, and the poor practice was prominent even though the knowledge was known by the HWs. (Suoud, 2018)

5. Conclusions.

The results showed that most of the health workers had extensive knowledge of hand washing. This entity of knowledge was encountered in the areas such as when to carry out hand washing, techniques of hand washing, and the different procedures to be performed during hand washing. However, despite the possession of vast knowledge, it was found that some health workers are always reluctant to apply the knowledge they have in the fight against HAIs which puts the lives of patients at risk. Therefore, the rate at which patients suffer from HAIs was attributed greatly to the rate at which HWs evade hand washing rather than the knowledge they have.

There was the majority of health workers that had positive attitudes towards hand washing. This was evidenced by the fact that the majority if not all the studies showed a greater percentage having positive attitudes towards hand washing. The rest of the HWs that exhibited negative attitudes were under a compulsion that the effectiveness of hand washing in fighting HAIs was of less significance and others believed that it was difficult to cope with and time-wasting.

The majority of the HW had poor practices of hand washing though the greatest number had good hand washing practices. The smaller percentage had poor hand washing practices which was attributed majorly to the workload in the health sector, few hand washing facilities, and the lack of motivation for the HWs to carry out hand washing.

All in all, stopping the transmission of HAIs was a group task rather than an individual achievement. The health workers needed a greater force of coordination amongst themselves to protect patients from HAIs. This meant they had to have excellent knowledge, positive attitudes, and good practices towards hand washing for the betterment of the patients and ease of treatment of the patients.

6. Study limitations.

The researcher had inadequate time which was a big problem since a lot of work had to be done. As a result, the researcher had to squeeze everything to be completed within the short time frame no matter the outcome.

7. Recommendations.

Lacor health center III Opit as a health facility should put up continuous medical education to emphasize the fighting of HAIs through hand washing. This in the overall run would improve the knowledge, attitude, and practices of the staff towards hand washing.

The facility as a whole should put up quite several hand washing equipment such as water tanks, water sources, and soap or detergents. All this equipment would help improve the HW's practices towards hand washing.

A team of HWs who should spearhead hand washing would play a great role if were to be selected at the facility. They would act by pinning hand washing moments a procedure in almost all places in the health facility.

The management committee of Lacor should put the eradication of HAIs as a goal in their financial planning whenever they meet.

8. Acknowledgment.

I extend my sincere thanks to my Almighty God for his provision of my education. In the same spirit, I appreciate the support from my family that put in a lot of effort, and my friends; Okema, Vincent, and Fahad, who guided me in the process. Furthermore, I appreciate the staff of Lacor Health Center III; Joyce, Charles, Jovanna, Tonny, and others who contributed a lot to my report-making. Lastly, I sincerely thank my research supervisor Madam Daisy N Kiyingi for her tireless efforts towards my research.

9. List of Abbreviations And Acronyms.

ART : Antiretroviral therapy
HAIs : Health care associated infections
HCWs : Health care workers
HW : Health Workers
ICU : Intensive care unit
IPD : Inpatient department
LAB : Laboratory
MCH : Maternal child health
OPD : Outpatient department
SNV : Stitching Nederlandse Vrijwilligers
SPSS : Statistical package for the social sciences
UNICEF : united Nations children's fund
WHO : World health organization

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