



**Determining the level of knowledge regarding effective wound cleaning among nurses aged 22 years and above working at Rakai General Hospital, Rakai District.
A cross-sectional study.**

Esther Namaweje, Hasifa Nansereko, Immaculate Prosperia Naggulu, Jane Frank Nalubega
Mildmay Uganda School of Nursing and Midwifery*

Abstract

Background

Wound cleaning is a critical component of wound care that involves the removal of dead tissue, dirt, bacteria, and other contaminants to prevent infection and promote healing. The purpose of this study was to assess the knowledge of nurses aged 22 years and above regarding effective wound cleaning at Rakai General Hospital, Rakai District.

Methods

A descriptive cross-sectional study design employing a quantitative research method was used to collect data from 32 nurses at Rakai General Hospital who were sampled using a purposive sampling technique within a period of 3 days. Data was collected with a structured questionnaire, coded, analyzed using Microsoft Excel (2019) programs, and findings were presented in frequency tables, graphs, and pie-charts.

Results

Out of 32 respondents sampled, 20(62.5%) were females. 16(50%) of the respondents reported patient loads as a hindrance to effective cleaning of a wound, while a few 6(18.75%) mentioned limited supervision. Knowing how to use antiseptics was identified by 15(46.9%) of respondents as a factor that made wound cleaning safer, while frequent exposure to complex wounds was mentioned by 5(15.6%). 18(56.3%) indicated that regular in-service training plays a major role, whereas hospital rules were recognized by a minimal number of 5(15.6%). 22(68.75%) reported that workshops contribute significantly to improving knowledge, while infection team talks were mentioned by only 6.25% (n=2), making it the least selected option.

Conclusion

Although many nurses understood basic wound-care principles such as the use of saline, hand hygiene, and antiseptic application, gaps still existed due to high patient loads, limited documentation, and inconsistent refresher training.

Recommendation

The Management should provide regular in-service training and workshops focused on wound-care guidelines, aseptic techniques, and documentation skills to improve nurse competence and consistency.

Keywords: Knowledge and practices of nurses, Effective wound cleaning, Rakai General Hospital, Rakai District.

Submitted: December 02, 2025 **Accepted:** January 29, 2026 **Published:** March 01, 2026

Corresponding Author: Esther Namaweje

Mildmay Uganda School of Nursing and Midwifery

Background

Wound cleaning is a critical component of wound care that involves the removal of dead tissue, dirt, bacteria, and other contaminants to prevent infection and promote healing. (Cazander et al., 2020). Effective wound cleaning requires a combination of clinical knowledge and consistent practice

by nurses who are at the frontline of patient care, and helps in preventing infections, accelerating healing, and reducing hospital stays. (Lin et al., 2019). Across Sub-Saharan Africa, particularly in Nigeria, while 55% of nurses have general knowledge about wound cleaning, only 32% practice standard wound care procedures regularly due to factors



such as a shortage of sterilized equipment, use of non-recommended cleaning solutions, and absence of clinical guidelines at the ward level (Obilor et al., 2021). In Ethiopia, only 41% of nurses follow effective wound cleaning procedures, despite 60% claiming knowledge of basic wound care, which indicates a need for continuous professional development. (Gizaw et al., 2022).

In South Sudan, a study on wound management behavior among nurses in humanitarian settings found that less than 40% followed proper aseptic practices, which was mainly due to resource limitations and high patient-to-nurse ratios. (Khamsa et al., 2025). In Northeast Ethiopia, a study conducted by Fasil Tegegn et al. (2023) on wound care practices in public health facilities found that nurses aged 25–45 applied wound cleaning solutions like normal saline, sterile water, and diluted antiseptics correctly in 59% of observed cases owing to previous exposure to hands-on training. The aim of the study is to determine the level of knowledge regarding effective wound cleaning among nurses aged 22 years and above working at Rakai General Hospital, Rakai District.

Methodology

Study Design

This study utilized a descriptive cross-sectional study design, which employed quantitative methods of data collection. A cross-sectional design allowed for data collection at a specific point in time, providing a snapshot of the study population.

Study Setting

This study was conducted at Rakai General Hospital, a public health facility located in Rakai District, Central Uganda. The hospital serves as the main referral facility for lower-level health centers within the district and handles both inpatient and outpatient cases, including surgical, maternity, medical, and emergency services. It had an average bed capacity of 100 and employed over 170 health workers, including doctors, nurses, midwives, and clinical officers. Rakai General Hospital was chosen for this study because it managed a high number of wound-related cases, including post-surgical wounds, trauma injuries, and chronic wound care. The hospital provides a practical setting for assessing the knowledge and cleaning practices of nurses aged 25 to 50 years, who are actively involved in effective wound cleaning in various departments such as surgery, outpatient, and maternity. The medical and outpatient wards

received a high number of patients daily, and nurses were actively involved in cleaning and dressing various types of wounds, including traumatic injuries and chronic ulcers. These wards were adequately staffed with qualified nurses and midwives who work in shifts to ensure 24-hour service delivery. The selection of this facility was based on its moderate resource setting, diversity in wound types, and presence of both young and experienced nurses, which made it suitable for understanding gaps and strengths in effective wound cleaning practices. The hospital's geographical coordinates are approximately 0.7066°S, 31.4050°E.

Study Population and Rationale

The study focused on nurses working at Rakai General Hospital in Rakai District. These nurses were directly involved in effective wound cleaning in various hospital departments, including outpatient, surgical, and maternity wards.

Sample Size Determination

The sample size determination followed the guidelines provided by Krejcie and Morgan's table of 1970. According to the Rakai General Hospital Register, there were 35 nurses providing healthcare services and using Krejcie and Morgan's table of 1970, a Population sample of 35 gives an appropriate sample size of 32. The study, therefore, considered N to be 35, and so **N=35 and S=32** according to the table.

Sampling Procedure

This study used a purposive sampling technique to select participants. This method was chosen because it allowed the study to intentionally select nurses aged 25 to 50 years who were directly involved in wound care at Rakai General Hospital. These participants were considered most knowledgeable and experienced in effective wound cleaning practices, making them suitable for the objectives of the study. The study identified and approached eligible nurses based on their role and experience in wound care services. Recruitment continued daily while sampling 11 available respondents daily until the required sample size of 32 respondents was reached, ensuring that all participants met the study criteria.

Inclusion Criteria

The study included all nurses aged 22 years and above who were willing to participate in the study, provided informed



consent, and who were only Ugandans and those who were present with time to respond to the questions.

Exclusion criteria

The study excluded all nurses aged 22 years and above who were very busy on duty with no time to participate in the study, and those who had consented but were not present at the time of data collection.

Independent variables:

The independent variables were characteristics of the study that could be manipulated by the study, and in this case, this was: Knowledge level of nurses aged 22 years and above regarding effective wound cleaning.

Dependent variables:

The dependent variable was a characteristic that could be manipulated by the study in order to see what outcomes it brought. In this case, it was the effective wound cleaning.

Research Instruments

The study used a structured questionnaire. The questionnaire consisted of three sections, and these mainly included: socio-demographic data, knowledge, and practices of nurses aged 22 years and above regarding effective wound cleaning. Each section contained closed-ended questions to assess nurses' responses objectively.

Data Collection

After obtaining a letter from the Dean, School of Nursing Mildmay Uganda school of Nursing and Midwifery, the study went ahead to ask permission from the administration of Rakai General and explained the purpose of the study, then after being given the permission, the Director allowed the study to go and met nurses where she made a clear self-introduction and explained the purpose of the study to each respondent and data collection was done within 3 days sampling 11 participants each day. Verbal permission and consent were sought by the study from respondents, where the main purpose of the study was clearly explained to them, and confidentiality was ensured to ensure their cooperation. Each respondent, after consenting to take part in the study, was made comfortable in a separate corner in the facility premises to ensure that the information given is kept confidential and only accessed by the study.

Data Management

After collecting data, each questionnaire was checked for completeness and accuracy. The data collected was edited, coded, and cleaned before analysis. Accurate and filled questionnaires were kept in a safe place to ensure no access to other people; this was done with maximum confidentiality.

Data Analysis

Data collected was analyzed manually, after which the study entered data into the Microsoft Excel program (2019), and then findings were presented in the form of frequency tables, graphs, and pie-charts to support clear presentation and accurate interpretation of the study results.

Quality Control Validity

To ensure validity, the questionnaire was designed to align strictly with the study objectives, and this was done under the close supervision of my research supervisor. The questions were carefully designed to reflect the study's focus and ensured they measured what they were intended to measure. Validity in this study helped to generate accurate findings that supported effective interventions of the identified research problem.

Reliability

The questionnaires were pre-tested at Kyotera Hospital on 6 nurses before using them in the research study to ensure consistency and dependability of the research instruments and their ability to tap data that could answer the objectives of the study. It was then re-tested among 3 respondents to make final adjustments before the formal study, and to ensure they matched and the tool gives dependable results.

Ethical Considerations

After obtaining a letter from the Dean, School of Nursing Mildmay Uganda school of Nursing and Midwifery, the study went ahead to ask permission from the administration of Rakai General and explained the purpose of the study, then after being given the permission, the Director allowed the study to go and meet nurses where she made a clear self-introduction and explained the purpose of the study to each respondent and data collection was done within 3 days sampling 11 participants each day to come up with a total of 32 nurses. All respondents were provided with a written



informed consent after receiving a detailed description of the study. Eligible participants who consented in privacy and no

incentives were given. Anonymity of the respondents was ensured at all stages of data analysis.

Results

Demographic information of respondents.

Table 1: shows the demographic information of respondents

Variable	Response	Frequency(n=32)	Percentage (%)
Gender	Male	12	37.5
	Female	20	62.5
Age	25-30	16	50
	31-36	8	25
	37-42	6	18.75
	43 and above	2	6.25
marital status	Single	10	31.25
	Widowed	4	12.5
	Married	18	56.25
level of education	Certificate	20	62.5
	Diploma	9	28.1
	Bachelor's degree and above	3	9.4

Table 1: Results show that female participants were the majority, accounting for 20(62.5%), while males constituted 12(37.5%). Half of the respondents 16(50%) were between 25–30 years while smallest 2(6.25%) were 43 years and above. Majorities were married 18(56.25%) while widowed

participants made up 4(12.5%). Regarding the level of education, most 20(62.5%) respondents held a Certificate qualification, while a small proportion had a Bachelor's degree and above, making up 3(9.4%)

The level of knowledge towards effective wound cleaning among nurses aged 22 years and above working at Rakai General Hospital, Rakai District

Figure 1 Shows what hinders effective cleaning of a wound

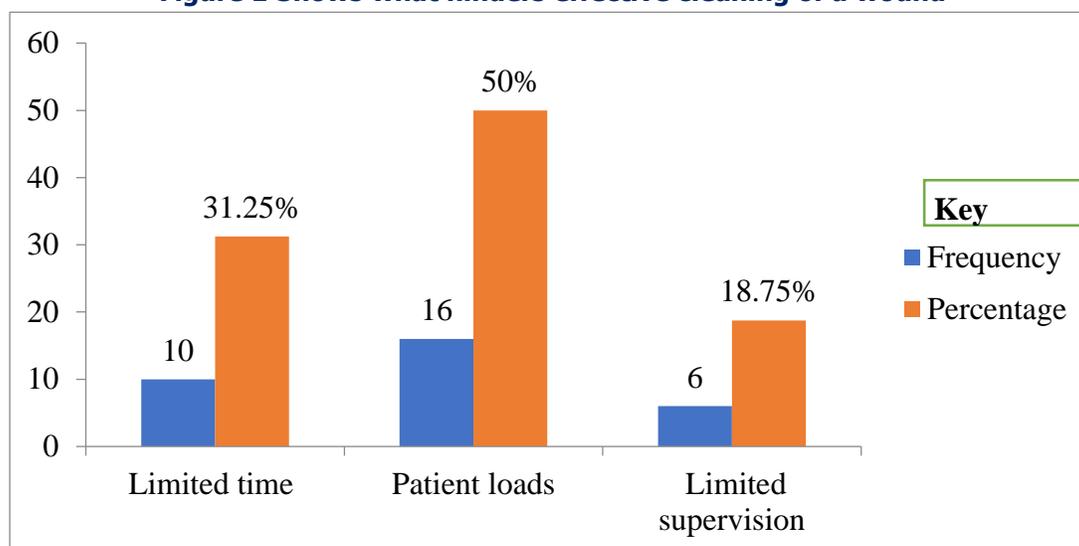


Figure 1 shows that half 16(50%) of the respondents reported patient loads as a hindrance to effective cleaning of a wound, while a few 6(18.75%) mentioned limited supervision.

Table 2 shows another level of knowledge towards effective wound cleaning

Variable	Response	Frequency(n=32)	Percentage (%)
What do respondents think makes wound cleaning safer	Frequent exposure to complex wounds	5	15.6
	Knowing how to use antiseptics	15	46.9
	knowing how to dress wounds	12	37.5
What guides respondents in ensuring effective wound cleaning	Regular in-service training	18	56.3
	WHO rules	9	28.1
	Hospital rules	5	15.6
What improves respondents' knowledge of wound cleaning	Mentorship	8	25
	Workshops	22	68.75
	Infection team talks	2	6.25

The findings in Table 2 show that knowing how to use antiseptics was identified by nearly half 15, 46.9%) of respondents as a factor that made wound cleaning safer, while frequent exposure to complex wounds was mentioned by 5(15.6%). Regarding what guides effective wound cleaning, more than half of the respondents, 18(56.3%), indicated that regular in-service training plays a major role, whereas hospital rules were recognized by a minimal number, 5(15.6%). In relation to what improves knowledge on wound cleaning, the majority, 22(68.75%), reported that

workshops contribute significantly to improving knowledge, while infection team talks were mentioned by only 6.25% (n=2), making it the least selected option.

Discussion

Half 16(50%) of the respondents reported patient loads as a hindrance to effective wound cleaning. This could be due to understaffing, leading to high nurse-to-patient ratios that



Student's Journal of Health Research Africa

e-ISSN: 2709-9997, p-ISSN: 3006-1059

Vol.7 No. 3 (2025): March 2026 Issue

<https://doi.org/10.51168/sjhrafrica.v7i3.2283>

Original Article

limit time for proper wound-care procedures. This agrees with the problem statement, which shows that nurses at Rakai Hospital have low levels of knowledge on effective wound cleaning, meaning that overcrowding may compromise adherence to wound-care standards. This is in line with a study done in Kuala Lumpur, Malaysia, by Osman et al. (2024), on wound dressing protocols, among ward nurses, where only 48% applied effective wound dressing correctly as a result of time constraints and high patient loads.

18(56.3%) of respondents received regular in-service training, which plays a major role. This might be due to continual updates in wound-care guidelines that require refresher training for nurses. This means that ongoing professional development is essential for maintaining optimal wound-care knowledge to solve the problem at Rakai Hospital. This is in line with a study carried out in Uganda on mentorship and wound assessment skills, reporting that 58% of nurses who had been mentored demonstrated higher knowledge and confidence due to structured guidance and practical coaching. (Kempango & Atuhaire, 2024).

(68.75%) reported that workshops contribute significantly to improving wound-cleaning knowledge. This was not in line with the problem statement of this study, and it might be due to workshops offering hands-on demonstrations and practical skills that nurses may not fully acquire during initial training. This points out that workshop-based learning enhances competency and confidence in wound management. This is in contrast to a similar study conducted in Ghana by Schmidt et al. (2020), which found that 75% of those with over 5 years' experience demonstrated better wound cleaning knowledge, mainly because of hands-on practice and frequent mentorship.

Study Limitations

The study relied on self-reported information, which introduced recall bias. Some nurses did not accurately report their wound-cleaning practices or knowledge levels, limiting the precision of the findings. Data was collected from one health facility, which reduced the generalizability of the results. The findings did not reflect wound-cleaning knowledge and practices of nurses in other hospitals or regions. The study was conducted in a busy clinical environment where nurses experienced high patient loads. This affected their ability to give detailed responses or demonstrate their actual wound-care practices.

Conclusion

Although many nurses understood basic wound-care principles such as the use of saline, hand hygiene, and antiseptic application, gaps still existed due to high patient loads, limited documentation, and inconsistent refresher training.

Recommendations

Management should provide regular in-service training and workshops focused on wound-care guidelines, aseptic techniques, and documentation skills to improve nurse competence and consistency. Management should address understaffing and ensure the timely supply of wound-care materials such as saline, sterile gloves, and dressing kits to reduce delays in wound management.

The Ministry should create updated, user-friendly wound-care guidelines and ensure they are available in all healthcare facilities. The Ministry should invest in simple electronic wound-documentation systems to improve follow-up, accuracy, and continuity of care.

Acknowledgement

I really want to thank God from the bottom of my heart as I express my sincere, deepest gratitude to his endless grace for enabling me to accomplish this research and this course. My sincere appreciation goes to my supervisor, Ms. Nansereko Hasifa, for the time she has given to my research through her technical support, guidance, and direction during the development of this research work. With great attitude, I acknowledge the tremendous efforts rendered to me by the staff and management of Mildmay Uganda School of Nursing and Midwifery, more especially the administration, during the course of my research process in order to achieve this great milestone. Big Ups and May the good lord of Heaven and Earth bless you exceedingly. I also appreciate the staff and management of Rakai General Hospital, Rakai District, for accepting me to conduct my research there. Lastly, the respondents who agreed to be part of this study, thank you so much. May God richly bless you all.

Source of funding

The study was not funded

Conflict of interest

The author did not declare any conflict of interest



Data availability

Data is available upon request

Author contribution

Esther Namaweje collected data and drafted the manuscript of the study

Hasifa Nansereko supervised the study

Immaculate Naggulu supervised the study

Jane Frank supervised the study

Author biography

Esther Namaweje is a student of a diploma in nursing at Mildmay Uganda School of Nursing and Midwifery.

Hasifa Nansereko is a Supervisor at Mildmay Uganda School of Nursing and Midwifery.

Immaculate Prosperia Naggulu is a Supervisor at Mildmay Uganda School of Nursing and Midwifery.

Jane Frank is a Supervisor at Mildmay Uganda School of Nursing and Midwifery.

References

1. Cazander, G., den Ottelander, B. K., Kamga, S., Doomen, M. C. H. A., Damen, T. H. C., & van Well, A. M. E. (2020). Importance of debriding and wound cleansing agents in wound healing. *Therapeutic Dressings and Wound Healing Applications*, 59-89. <https://doi.org/10.1002/9781119433316.ch4>
2. Fasil Tegegn, L., Andualem, F., Derbie Begashaw, T., Seid, J., & Temesgen, K. (2023). Multicentre cross-sectional study describing postoperative wound care practice in Northeast Ethiopia. *SAGE Open Nursing*, 9, 23779608231219136. <https://doi.org/10.1177/23779608231219136>
3. Gizaw, M. A., Negawo, M. K., Bala, E. T., & Daba, D. B. (2022). Knowledge, practice, and associated factors towards postoperative wound care among nurses working in public hospitals in Ethiopia: A multicenter cross-sectional study in low-resource setting areas. *Health Science Reports*, 5(4), e677. <https://doi.org/10.1002/hsr2.677>
4. Kempango, J., & Atuhaire, E. (2024). Assessment of Factors Associated With the Acquisition of Competencies among Undergraduate Nursing Students in Ugandan Universities. *Journal of Health, Medicine & Nursing*, 10(2). <https://doi.org/10.47604/jhmn.2448>
5. Khamsa, C. A., Isunju, J. B., Babibako, H. M., & Nuwuha, F. (2025). Adherence to standard infection prevention and control practices and factors associated among healthcare workers at Juba Teaching Hospital, Juba, South Sudan: A cross-sectional study. *Journal of Health, Population and Nutrition*, 44(1), 66. <https://doi.org/10.1186/s41043-025-00867-6>
<https://doi.org/10.1186/s41043-025-00807-4>
6. Lin, F., Gillespie, B. M., Chaboyer, W., Li, Y., Whitelock, K., Morley, N., Morrissey, S., O'Callaghan, F., & Marshall, A. P. (2019). Preventing surgical site infections: Facilitators and barriers to nurses' adherence to clinical practice guidelines-A qualitative study. *Journal of Clinical Nursing*, 28(9-10), 1643-1652. <https://doi.org/10.1111/jocn.14766>
7. Obilor, H. N., Omolara, A. B., & Omolara, A. O. (2021). A survey of nurses' wound assessment knowledge, attitude, and competence in Nigeria. *Wound Practice & Research: Journal of the Australian Wound Management Association*, 29(3), 140-147. <https://doi.org/10.33235/wpr.29.3.140-147>
8. Osman, R., Saleh, N. A. M., Maria, N. E., & Yusop, N. (2024). Evaluating Nurses' Knowledge, Attitudes, and Practices (KAP) in Modern Wound Care Techniques and Their Impact on Patient Healing Outcomes in Government Hospitals. *Semarak International Journal of Public Health and Primary Care*, 2(1), 28-44. <https://doi.org/10.37934/sjphpc.2.1.2844b>
9. Schmidt, F. M. Q., Firmino, F., Lenza, N. de F. B., & Santos, V. L. C. de G. (2020). The nursing team's knowledge of care for patients with fungating wounds. *Revista Brasileira de Enfermagem*, 73, e20170738. <https://doi.org/10.1590/0034-7167-2017-0738>



Student's Journal of Health Research Africa
e-ISSN: 2709-9997, p-ISSN: 3006-1059
Vol.7 No. 3 (2025): March 2026 Issue
<https://doi.org/10.51168/sjhrafrica.v7i3.2283>
Original Article

PUBLISHER DETAILS:

Student's Journal of Health Research (SJHR)

(ISSN 2709-9997) Online

(ISSN 3006-1059) Print

Category: Non-Governmental & Non-profit Organization

Email: studentsjournal2020@gmail.com

WhatsApp: +256 775 434 261

Location: Scholar's Summit Nakigalala, P. O. Box 701432,
Entebbe Uganda, East Africa

