

KNOWLEDGE OF HEALTH WORKERS TOWARDS UTILIZATION OF ELECTRONIC MEDICAL RECORDS SYSTEM AT HENROB HOSPITAL ZANA IN WAKISO DISTRICT. A CROSS-SECTIONAL STUDY.

*Crispin. T. Nuwe Mukama., Nakafu Teopista, Immaculate Prosperia Naggulu, Jane Frank Nalubega**
Mildmay Uganda School of Nursing and Midwifery.

Page | 1

Abstract

Background.

Electronic medical records systems have transformed healthcare delivery, enhanced patient care, and streamlined clinical workflow. However, effective utilization of the electronic medical records systems remains challenging due to issues, data security concerns, and user satisfaction. This study assessed the knowledge of health workers towards the utilization of the electronic medical records system at Henrob Hospital Zana in the Wakiso district.

Methodology.

A descriptive cross-sectional quantitative study was used with 68 respondents selected through convenient sampling. Data was collected using a semi-structured, self-administered questionnaire, and data was manually tallied using Microsoft Excel, generating frequency tables, graphs, and pie charts.

Results

(54.4%) of the study participants, the majority of the participants were certificate holders (42.6%). 54.4% reported that they knew what EMR stood for, 60.2% reported that they knew the primary purpose of EMR, and 75% reported that they didn't know the difference between EMR and EHR.

Conclusion.

The majority of the participants had a fair Knowledge of Electronic Medical Records and their benefits.

Recommendations.

Ministry of Health and other responsible stakeholders, including the health workers at Henrob Hospital Zana, should strive hard to educate all health workers about the use of the Electronic Medical records system.

Keywords: Electronic Medical Records (EMR), Health Workers' Knowledge,, EMR Utilization, Henrob Hospital Zana, Wakiso District.

Submitted: 2025-01-10 **Accepted:** 2025-02-20 **Published:** 2025-03-01

Corresponding Author: Jane Frank Nalubega

Email: janecll.nalubega@gmail.com

Mildmay Uganda School of Nursing and Midwifery.

Background

The introduction of Electronic medical records systems is to improve patient care and management. This has been underutilized by health workers in Uganda, and this has gradually affected patient care and management. Globally, about 30.1% (n=211) of patients have been affected by the underutilization of electronic medical records systems, and at least 27.1% of patients are given wrong diagnoses due to a gap in the utilization of electronic health management systems in most health facilities. (Daniel *et al.*, 2020).

The EMR system, particularly the EAFYA system, was introduced at Henrob Hospital in 2022 to improve patient care and management, both outpatient and inpatient. However, Despite introducing the EMR system at Henrob Hospital, there has been underutilization of the EMR system in the management of patients' health data. At outpatient, patients delay receiving laboratory results, and drug prescriptions at the pharmacy whereas at inpatient, there is less information on the medical history of the patient's diagnosis, and nursing

care plans are not documented for most patients, delays in discharge as the patient cannot be billed without being discharged in the system. All this affects delivery in patient care and management, leaving patients unsatisfied.

Public health facilities use different EMR systems; some of the EMR systems used include the Jeeva, Afya Care, and CTC2 databases (Peltola, 2019). A study conducted in Tanzania on paper-based HMIS data use in decision-making revealed that about 56.9% of the facilities had functional HMIS, 18% of the facilities had used their data for planning and services improvement, 26.3% had disseminated data, and about 9.1% of the facilities had proper medical records. The level of the facility was associated with the use of data, with hospitals and health centers showing higher use (German CC, 2023).

Currently, there has been no research study conducted at the facility about EMR utilization, therefore, this study set out to investigate the knowledge, attitude, and practices of health

workers towards the utilization of the electronic medical records system at Henrob Hospital Zana.

Methodology

Study design and rationale.

The study was a cross-sectional quantitative design in nature. The quantitative design research was used because it aided in rapid data collection and allowed a snap interaction with a few respondents at a certain point in time, thus allowing conclusions about phenomena across a wide population to be drawn.

Study setting and rationale.

The research was conducted from Henrob Hospital Zana, a private profit organization. It is located in Zana town, 200m off Entebbe Road in the Wakiso district of the Central region of Uganda, with a total bed capacity of 32 beds. The facility has both inpatient and outpatient departments, an active operating theatre, a high dependency unit, and more specialized in gynecological conditions. Henrob Hospital is one of a few facilities in Uganda with an Electronic medical records system in place and is also where the researcher works. The researcher, therefore, finds it easy and convenient to collect data.

Study population.

The study population consisted of medical workers at Henrob Hospital Zana. Henrob Hospital has a total of 82 medical staff.

Sample size determination.

The sample size is the size of the population selected to participate in the study, and it was determined by using (Ovie, 2023)

N

$$n = 1 + N(e)^2$$

Where n is the sample size, N is the population size (full-time medical staff at Henrob hospital=82), e is the level of precision ($\pm 5\%$)

82

$$n = 1 + 82(0.05)^2$$

$$n = 68.049$$

Therefore, 68 respondents were included in the study.

Sampling procedure

A manageable representative sample of respondents was obtained using a convenient sampling method. In this method, participants who were present and accessible by the researcher were requested to participate. The sampling method was also easy to use.

Inclusion criteria

All health workers at Henrob Hospital who were present during the time of data collection and consented to participate in the study

Exclusion criteria

All non-medical employees and health workers who were not available during data collection and those who declined to participate in the study.

Definition of Variables.

Independent variables.

The research study defined the following independent variables

Knowledge: it was defined as knowing how to use a computer in their daily activities and being able to recognize the importance of using the system in their daily professional activities

Dependent variable

Electronic medical records system: The utilization of electronic medical records system by health workers at Henrob Hospital, Zana.

Research instruments

A well-structured, self-administered questionnaire consisting of open and closed-ended questions was used as a tool for gathering information. The questionnaire was divided into four sections: demographics, knowledge, attitude, and practice.

Data collection procedures

The researcher, with an introductory letter from the school approved by the Hospital administration, visited Henrob Hospital and presented the letter to various departmental heads in charge, introduced herself to the participants, and presented the consent form to the participants. Participants who agreed to participate were briefed and asked to provide written consent by signing or fingerprinting. For those who refused to participate, the interview did not proceed.

After obtaining a written consent form, the researcher entered the questionnaire's serial number and the date of the interview; the participants were then required to independently fill the questionnaires from the first up to the last question. Upon completion by every participant, the questionnaires were immediately handed over to the researcher. The process of data collection was continued until every effort to contact every study participant in the sample was exhausted. The researcher ensured that the data filled in by participants was correct and checked that the questionnaires were filled out before leaving the study site. All questionnaires were kept safe by the researcher until the time for analysis.

Data management

The questionnaires were collected from every participant and kept under lock and key, and only the researcher and the assistant were able to get access to them.

Data analysis.

The collected data was summarized on paper using a pen, tallied, analyzed using the Microsoft Excel program, and then presented in the form of tables, pie charts, and graphs.

Results

Social Demographic data distribution

Table 1: Showing Gender distribution

GENDER	FREQUENCY	PERCENTAGE (%)
MALES	31	45.5
FEMALES	37	54.4
TOTAL	N=68	100

Table 1: shows that, out of 68 respondents that were enrolled into the study, Females were the most participants with (n=37) 54.4% compared to their male counterparts (n=31) 45.5%.

Figure 1: showing gender distribution by gender.

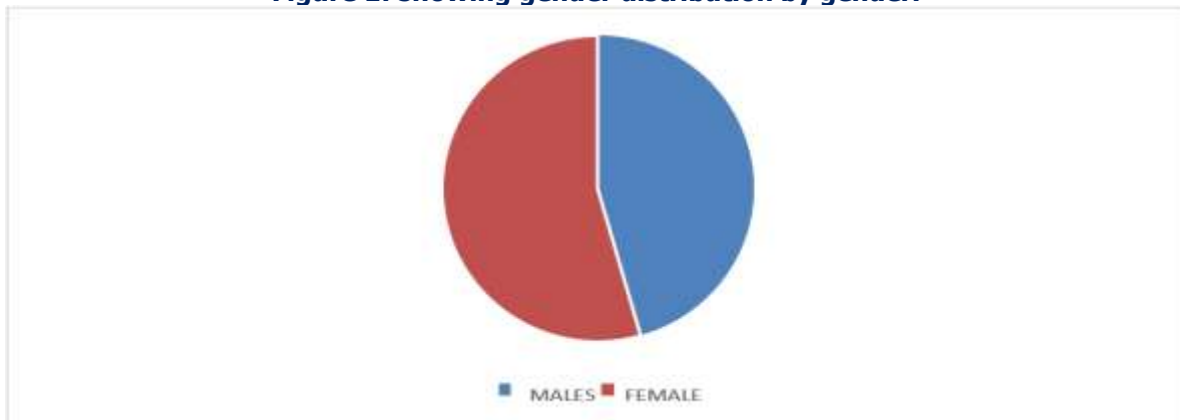


Table 2: showing Age bracket distribution.

AGE BRACKET	FREQUENCY	PERCENTAGE (%)
18-25	13	19.3
25-35	31	45.5
>35	24	35.2
TOTAL	N=68	100

Table 2 shows that respondents with 25-35 years were most registered with (n=31) 45.5%, followed by >35 years (n=24) 35.2% and least among 18-25 years (n=13) 19.3%.

Figure 2: showing Age bracket distribution.

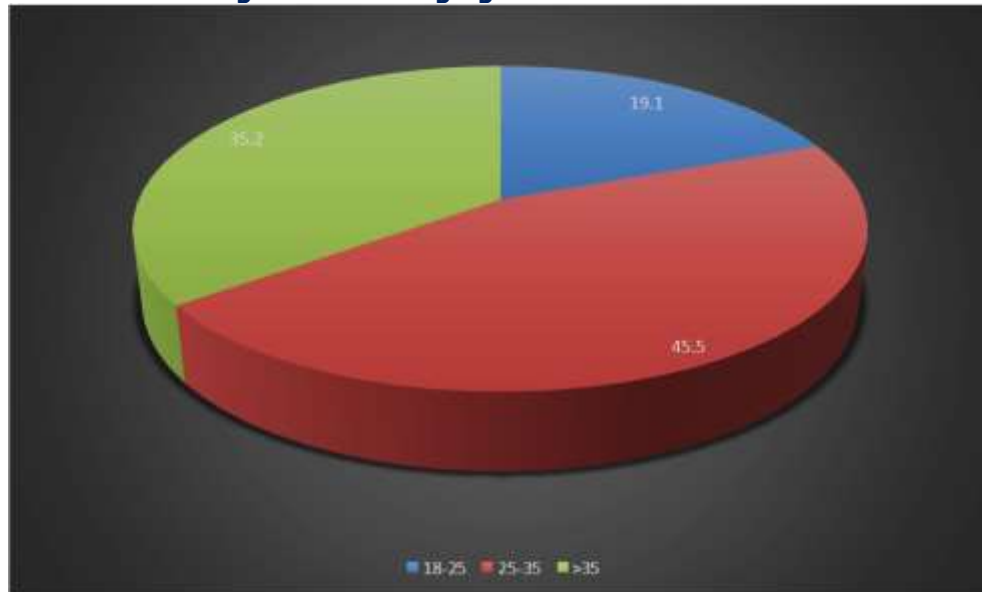


Table 3: Showing professional distribution

PROFESSIONAL	FREQUENCY	PERCENTAGE (%)
DOCTOR	16	23.4
NURSE	24	35.5
LABORATORY TECHNICIAN	06	8.8
MIDWIVES	16	23.5
RADIOGRAPHER	06	8.8
TOTAL	N=68	100

Table 3 indicates that nurses were the most participants with (n=24) 35.2%, followed by doctors (n=16) 23.4%, followed by midwives (n=16) 23.4%, Laboratory technicians (n=6) 8.8%, and least among Radiologists (n=6) 8.8%.

Figure 3: showing professional distribution

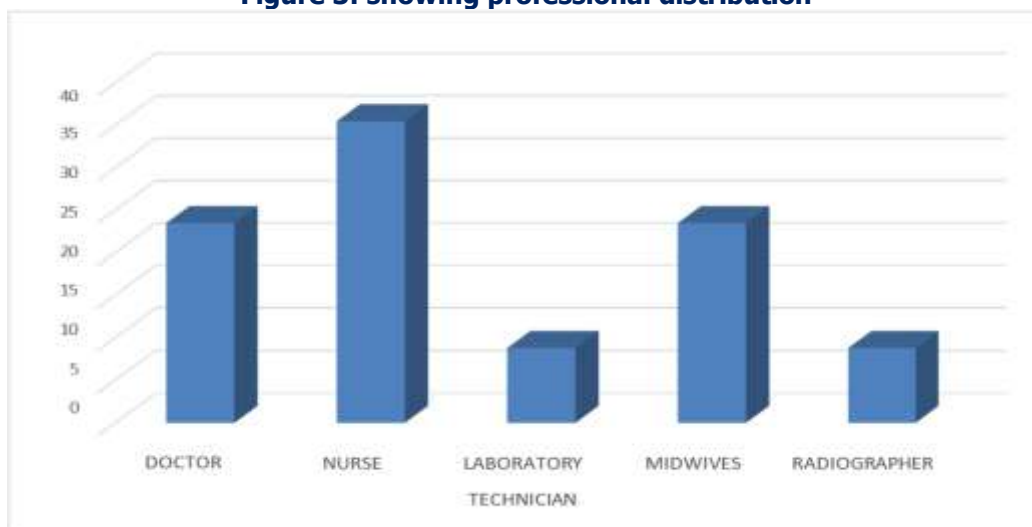
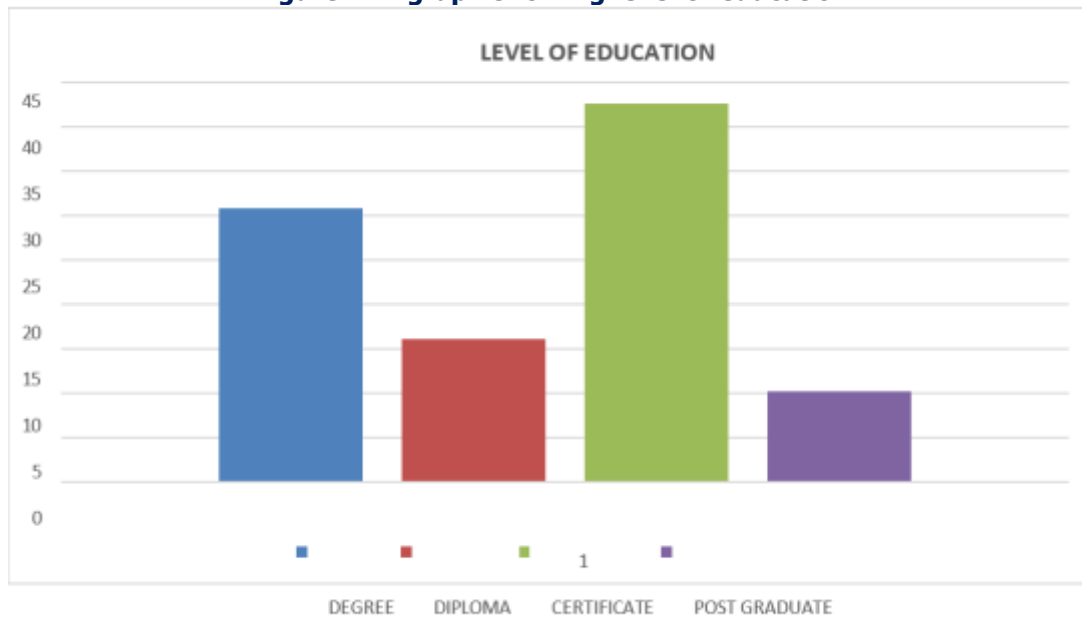


Table 4: Showing level of education

LEVEL OF EDUCATION	FREQUENCY	PERCENTAGE (%)
DEGREE	21	30.8
DIPLOMA	11	16.5
CERTIFICATE	29	42.6
POST GRADUATE	07	10.1
TOTAL	N=68	100

Table 4 indicates that the most participants in the study were certificate holders (n=29) 42.6%, followed by degree holders (n=21) 30.8%, diploma holders (n=11) 16.1%, and least were post graduates (n=7) 10.1%

Figure 4: A graph showing level of education



Knowledge towards utilization of electronic medical records system.

Table 5: Showing knowledge towards utilization of electronic medical records system

Do you know what EMR stands for?	Response	Frequency (n)	Percentage (%)
	YES	37	54.4
	NO	28	41.1
	NOT SURE	3	4.4
	TOTAL	N=68	100

Figure 5: showing knowledge on utilization on electronic medical records system

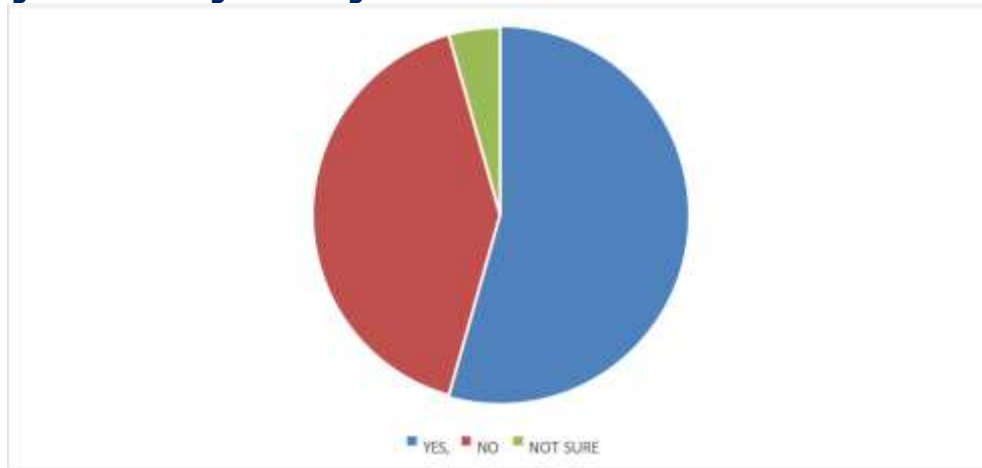


Figure 5 indicates that those who knew what EMR stood for were (n=37) 54.4%, (n=28) 41.1% didn't know what EMR stood for, and (n=3) 4.4% were not sure of what it was.

Table 6: Showing those that knew the primary purpose of EMR in patient care.

	Response	Frequency	Percentage (%)
Do you know the primary purpose of EMR in patient care?	YES	41	60.2
	NO	21	30.8
	NOT SURE	6	8.8
	TOTAL	N=68	100

Figure 6: A graph showing respondents' responses on whether they knew the primary purpose of EMR in patient care.

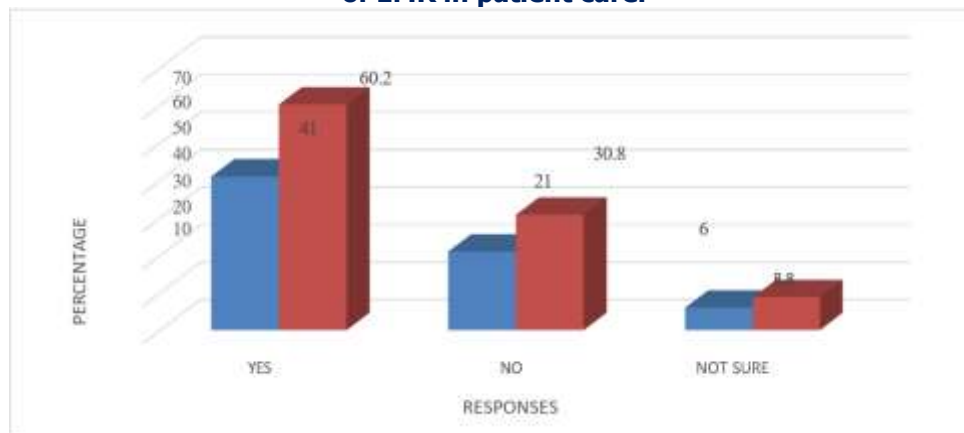


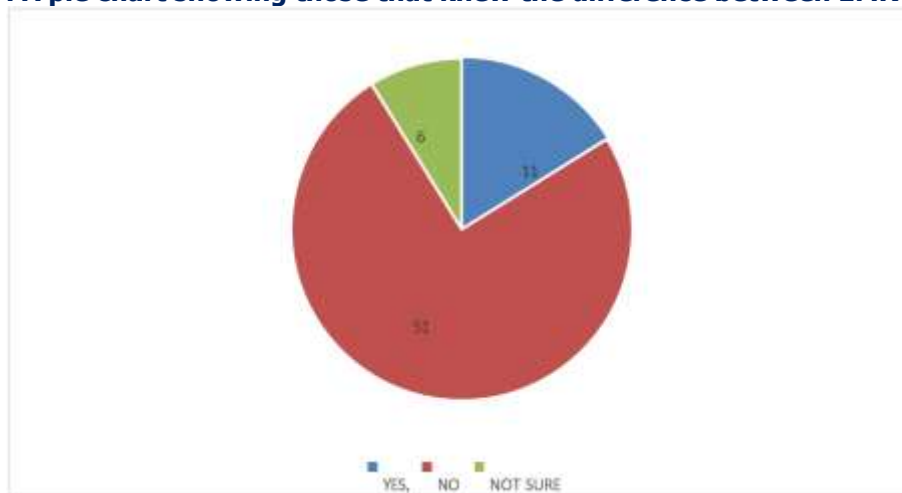
Figure 6 shows that those who knew the primary purpose were (n=41) 60.2%, (n=21) 30.8%, and (n=6) 8.8%.

Table 7: Showing those that knew the difference between EMR and EHR.

Question	Response	Frequency	Percentage (%)
Do you know the difference between EMR and EHR?	YES	11	16.1
	NO	51	75
	NOT SURE	6	8.8
	TOTAL	N=68	100

Table 7 indicates that those who knew the difference between EMR and EHR were (n=11)16.1%, (n=51) 75% didn't know, and (n=6) 8.8% were not sure.

Figure 7: A pie chart showing those that knew the difference between EMR and EHR.



Discussion of results.

Knowledge of utilization of electronic medical records system

According to the study findings, when respondents were asked if they knew about EMRS, it was revealed that out of 68 participants that were enrolled in the study majority (n=37) 54% knew what EMRs were, (n=28) 41% didn't know and least (n=3) 4.4% were not sure. This showed that the majority of the respondents had prior knowledge about EMRs. This is in agreement with a study done by Tolulope O. Afolaranml (2020) that indicated that in his study, the majority of 82% of the Respondents were aware of the system while 73.2% would correctly define electronic medical records system. This could be because every new employee was briefed and oriented about the electronic medical systems. (Omellas *et al.*, 2023)

In addition, according to Omellas *et al.* (2023), the overall level of knowledge was found to be good among the majority 60.2% of the participants. However, this varied along the category of health workers, with pharmacists having good knowledge, having a social media account, a

smartphone, digital literacy, sex, and perceived usefulness positively associated with knowledge of electronic medical records systems. This is because having a smartphone increases access to

EMRs anywhere, anytime, also having a social media help disseminate accurate health information to promote health awareness, also males are more knowledgeable about computer technology than women hence having more knowledge of EMRs than females which continues to agree with the researcher's study findings.

Findings also revealed that those with technology gadgets like phones (n=6)8.8%, and computers(n=7) 10.2% were more willing to use the electronic medical records system and had more knowledge about Electronic medical records system compared to those without. These findings are in agreement with a study in Ethiopia done by (*Implementation of Inclusive Education Practices for Children with Disabilities and Other Special Needs in Uganda*, n.d.), which indicated that there is a positive relationship between the level of knowledge and the willingness to use the electronic medical records system, health professionals who

had good knowledge on electronic medical records system were more likely willing to use the system as compared to those with poor knowledge.

This could be because people familiar with technology gadgets have more knowledge of computer usage and, hence, have more knowledge and willingness to use the EMRs.

Another study by (Biruk et al., 2014), disagrees with the study findings where the majority of the study participants 432(71.3%) and 331(54.6%) had good knowledge and attitude for EMR system, respectively gender, attitude, knowledge, and computer literacy were significantly associated with the readiness for EMRs.

Conclusion.

The majority of the participants had a fair Knowledge of Electronic Medical Records and their benefits.

Recommendations.

Ministry of Health and other responsible stakeholders, including the health workers at Henrob Hospital Zana, should strive hard to educate all health workers about the use of the Electronic Medical Records system.

Acknowledgment.

My sincere appreciation also goes to my academic supervisor Nakafu Teopista for the guidance, encouragement, and support towards this study, not forgetting my family for their support and advice rendered to me during my studies.

I am also greatly indebted to them because of their contribution in the form of support and advice towards this work.

List of abbreviations.

CPR: Computer-based patient records

EDI: Electronic data interchange

EHR: Electronic Health Records

EMR: Electronic Medical Records

HIS: Health information system

ICT: Information Communication Technology

MOH: Ministry of Health

SPSS: Statistical Package for Social Scientists

WHO: World Health Organization.

Source of funding.

There is no source of funding.

Conflict of interest.

The authors declare no conflict of interest.

Availability of data.

Data used in this study is available upon request from the corresponding author.

Authors contribution

CTNM designed the study, conducted data collection, cleaned and analyzed data, and drafted the manuscript, and NT supervised all stages of the study from the conceptualization of the topic to manuscript writing.

Ethical approval.

Permission was sought from the school administration, which later provided the researcher with an introductory letter upon submission and approval of the research proposal. The letter was then presented to the hospital administration to seek approval for data collection within the hospital premises. The researcher then asked for consent from the participants after a brief introduction. The participants were made aware of their rights during the process, including withdrawing from the exercise at any time.

Informed consent.

Participants gave written consent after being briefed on the purpose of the study; those who consented were enrolled to participate in the study and also were free to withdraw from the study at any time if they wished so. Confidentiality was guaranteed by ensuring that no participant details were recorded or shared, thereby safeguarding their privacy to the fullest extent.

Authors biography.

Crispin. T. Nuwe Mukama is a student with a diploma in nursing extension at Mildmay Uganda School of Nursing and Midwifery.

Nakafu Teopista is a research supervisor at Mildmay Uganda School of Nursing and Midwifery.

References.

1. Daniel, O. N.(2020). A security Framework for Electronic Medical Records. Int. J Sci Res. Comput.Sci.Eng. Inf. Technol, 6(3), 01-11. <https://doi.org/10.32628/CSEIT20634>
2. Electronic medical record use and associated factors among healthcare professionals at public health facilities in Dire Dawa, eastern Ethiopia 2022 Front Digital Health <https://doi.org/10.3389/fdgth.2022.935945>
3. German CC, K. E. (2023). The use of data for planning and service improvement in Tanzanian primary healthcare facilities. Experience from star rating assessment. , 144-60.
4. Omellas, R.K. (2023). Improving Staff Readiness

- For Integration Of An Electric Health Record System (Doctoral Dissertation)
5. Tolulope O. Afolaranml, z. l. (2020). Knowledge of electronic medical records system among frontline health care workers in Jos University Teaching Hospital, Plateau State Nigeria. HHS Public ACC, 8. <https://doi.org/10.18203/2320-6012.ijrms20204867>
 6. Biruk, S., Yilma, T., Andualem, M., & Tilahun, B. (2014). Health Professionals' readiness to implement electronic medical record system at three hospitals in Ethiopia: A cross-sectional study. BMC Medical Informatics and Decision Making, 14, 115. <https://doi.org/10.1186/s12911-014-0115-5>
 7. Implementation of Inclusive Education Practices for Children with Disabilities and Other Special Needs in Uganda. (n.d.). ResearchGate. Retrieved February 3, 2025, from https://www.researchgate.net/publication/349280444_Implementation_of_Inclusive_Education_Practices_for_Children_with_Disabilities_and_Other_Special_Needs_in_Uganda
 8. Ovie, O. (2023, November 15). Taro Yamane Formula: Overview, Merits, and 3 Examples to Determine Sample Size. <https://onovisinfo.com/taro-yamane-formula-overview-merits-and-examples/>
 9. Peltola, L. (2019, September 2). Making sense of the relationship between social media influencers on Instagram and the consumers who follow them. <https://www.semanticscholar.org/paper/Making-sense-of-the-relationship-between-social-on-Peltola/bd5dcc30844e90469b4dcca657ce4fe2fc3e842b>

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

