



International Journal of Public Health and Nursing (IJPHN)

VOLUME 1 ISSUE 2 (2025)



PUBLISHED BY
E-PALLI PUBLISHERS, DELAWARE, USA

Assessing the Knowledge, Attitude, and Perception on Electronic System among Nurses: A Study Conducted at Pantang Hospital

Isaac Ayirebi^{1*}, Anabel Brown², Smith Osei Tanor³, Josephine Anita Tay⁴, Akosua Ansah Acheampomaa⁵

Article Information

Received: August 12, 2025

Accepted: September 16, 2025

Published: October 27, 2025

Keywords

Attitude, Electronic Health Records (EHR), Information Technology, Knowledge, Nurses, Perception

ABSTRACT

This study was conducted to assess the knowledge, attitudes, and perceptions of healthcare personnel regarding electronic systems at Pantang Hospital. The researchers employed a comprehensive literature review, gathering relevant data from academic journals, government reports, and international databases to inform the survey design. Data collection was carried out using a pretested questionnaire in English, ensuring credibility, validity, and reliability. The research adopted a cross-sectional study design and was set in Pantang Hospital, with a total of 30 respondents participating. The questionnaire collected information on the respondents' socio-demographic characteristics, their knowledge of electronic systems, their attitudes towards these health systems, and their perceptions of using electronic systems in the healthcare setting. The collected data were analysed and presented using tables, pie charts, and bar charts. The findings indicated that most nurses were more accustomed to paper-based systems and encountered difficulties using the electronic system, resulting in frequent errors. As a result, the researchers recommended continuous orientation and training to help healthcare personnel become proficient with the system and utilise it effectively.

INTRODUCTION

Information and communication technologies (ICTs), according to Gunton (2013), contain a number of efficient instruments for gathering, storing, processing, and exchanging health-related data. Information and communication technologies (ICTs) have the potential to enhance the quality, safety, and cost-effectiveness of healthcare services, according to Alvarez (2004) and Romanov (2020). The electronic system known as electronic health records (EHR) is one example of how ICTs are being used in the healthcare industry. This system is considered as the framework facilitating the integration of multiple technologies (such as electronic presumption and information management). By incorporating such evidence into routine clinical practices, this can serve to increase the absorption of evidence into clinical decisions, which could lead to a secure and effective healthcare system. The growth of the computer and the expansion of the internet, according to Myers (2002), Edworthy (2012), and Feliciano (2003), have had a favorable influence on the management of information, the prevention and treatment of disease, diagnosis, patient care, and teaching. The administration of electronic health records has significantly aided in the communication of information among medical practitioners, according to Oyunyade (2013), Oyibo (2013), Odunsanya (2022), and Bamgbala (2022). In keeping with the previous point, the use of electronic health records systems. The health care system's information focuses on using computers to automate processes and deliver high-quality patient care.

Software development is employed in the environment of electronic health information to provide efficient services. By implementing electronic data processing into the health care system, the hospital's medical staff may deliver services more effectively and efficiently while also reducing or eliminating human error. According to Chuadhry, Wang, Maglione, Morton, and Skekelle (2006), health information technology enables safe communication between consumers, providers, payers, and governmental and quality organizations. It also offers a holistic administration of health care delivery across computerized systems. The most promising tool for enhancing the overall quality, safety, and effectiveness of the health care system is increasingly thought to be electronic health information. According to Ajuwon's 2023 report, in Nigeria, which has a population of about 140 million, health professionals still have relatively little expertise of computers and information. Approximately 60% of the nursing and first clinical students at the university college hospital in Ibadan had used computers and the internet, but only 42% of them could actually operate a computer, according to scholars. This is because the majority of health professionals have little to no knowledge of computer and internet use. Ajuwon added that little is known on the awareness of and attitudes of healthcare professionals toward electronic health information management. Computers have been named as the key piece of equipment for running health information. The storage, processing, and information retrieval aspects of this multifaceted machine have all

¹ Catholic Health Service Trust, Ghana

² The Bank Hospital, Ghana

³ Korle Bu Teaching Hospital, Ghana

⁴ Emmanuel Eye Hospital, Ghana

⁵ Pharmaceutical Society, Ghana

* Corresponding author's e-mail: isaac.ayirebi21@gmail.com

been defined in various ways. An electrical device that can collect and store data, carry out arithmetic and logical operations, and generate output information from the processor is a computer, according to Shoddie (1993). It is controlled by instructions stored in its own memory unit. As a mechanical device with a high degree of accuracy and data processing speed, it also fits this definition.

Problem Statement

The healthcare system is given national importance under the American Recovery and Reinvestment Act (ARRA, 2009) and the HITECH Act that it is tied to (Burke *et al.*, 2010). A legal and financial framework for deploying health information technology (HIT) and encouraging meaningful use is provided by the HITECH Act (Burke *et al.*, 2010.)

Using electronic health records (EHR) technology to “improve quality, safety, efficiency, and reduce health disparities; engage patients and families; improve care and coordination, and population and public health; and maintain privacy and security of patient health information” (Murphy, 2010) is what is meant by “meaningful use” (Murphy, 2010). Although the EHR has many benefits, nurses have been slow to use the technology. A recent poll by Positioning Nursing in a Digital World (2014) discovered that a third of nurses haven’t been trained on an IT system (as quoted in Wright, 2014). Because of this lack of training, people are less likely to embrace an EHR (Wright, 2014). Lack of fundamental computer skills in nurses without a background in information technology was noted as a difficulty with the deployment of electronic systems. According to Furst *et al.*, up to 45% of nurses working today were employed before technology became widely available. The adoption of technology is thus hampered by a lack of training and/or preparedness with regard to computer abilities, which also results in cognitive and attitudinal hurdles (Courtney *et al.*, 2005; Furst *et al.*, 2013). Workflow may be significantly impacted by this. In order to effectively manage patient care on a daily basis, nurses must integrate information from various sources and coordinate the use of resources (Courtney *et al.*, 2005; Furst *et al.*, 2013). Therefore, this study contributes to efforts to evaluate.

Purpose of The Study

Examining the knowledge, attitudes, and perceptions of the medical staff at Pantang Hospital on the use of electronic medical records is the major goal of the study.

Objectives

To assess the knowledge of nurses regarding the use of electronic systems.

To assess the attitude of nurses towards the use of electronic systems.

To assess the perception of nurses in the use of electronic system.

Questions for Research

What are some barriers of electronic health systems information?

How do healthcare professionals feel about using technology?

How do medical professionals view electronic medical records in the industry?

What are some comparisons between the manual system of health information and the electronic system of health information?

LITERATURE REVIEW

Information Technology (IT) has improved health care delivery systems all over the world since the invention of the computer and the growth of the Internet, especially in the areas of disease control, diagnosis, patient management, and education. While interactive software and CD-ROMs have tremendously aided in the distribution of information among medical practitioners, their use is still quite limited in underdeveloped nations in Africa. The doctor can record and access patient clinical and sociodemographic data, test results, and create referral notes using a computer and IT. Delivering lab findings and preparing discharge summaries, clinic letters, and hospital financial statements are also made easier by it. The ability to get current information on various aspects of diseases, communicate with coworkers via videoconferencing, and improve cross-continental contact are all made possible by the Internet. Learning and research are also encouraged with free access to Medline, medical journals, textbooks, and the most recent news on medical achievements. We know very little about how students perceive and use technology, and we are unaware of any published studies on how Ghanaian healthcare professionals perceive and use IT.

In 2001, Edworthy examined the applications of telemedicine and concluded that developing nations might perhaps be more significantly impacted than industrialized ones. He pointed out that despite their unpredictable political situations and deplorable socioeconomic conditions, low bandwidth Internet was accessible even in extremely remote and relatively impoverished places like the satellite stations in Uzbekistan, Cambodia, and Kosovo. A tertiary institution will require an information-proficient workforce, especially in a developing nation like Nigeria. These personnel must be computer literate, trained in information management abilities, and motivated to use the well-designed clinical systems. Clinical informatics seeks to advance patient care by the thoughtful application of technology, with the goal of enhancing patient safety while also increasing the effectiveness and efficiency of care. Only if health care personnel are given basic IT and computing training will informatics in poor nations live up to its potential. This survey’s main focus is an assessment of baseline knowledge and usage habits of all people involved in the delivery of healthcare, which is necessary for designing such training.

Knowledge of Nurses Regarding the Use of Electronic Systems

Utilizing computers, according to Alwan, Awoke, and Tilahun (2015), entails using the computer and the Internet, maintaining and storing files, and retrieving, analyzing, and displaying the available data. Results from their study (Alwan *et al.*, 2015) showed that healthcare personnel' computer literacy and usage were usually poor, and significantly lower for public health professionals who work in PHC centers. However, this was attributed to the PHC facilities' weak infrastructure for information and communication technologies and limited access to computers.

Furthermore, Biruk, Yilma, Andualem, and Tilahun *et al.* (2014) made it abundantly clear that a lack of fundamental computer skills and software on the part of medical professionals appears to be one of the major reasons for failure when it comes to the implementation of EHR; it was determined that the general level of computer proficiency and EHR system utilization by medical professional were regarded as low. As a result, before investing in the expenses of implementation, it is important to comprehend the present knowledge and usage patterns of healthcare professionals with regard to EHR and computers (Alwan *et al.*, 2015).

Similar findings were made by Sukums, Mensah, Mpembeni, Kaltschmidt, Haefeli, and Blank who noted a lack of computer literacy among African rural health workers. They said that given that rural PHC institutions in sub-Saharan Africa are trailing behind in terms of health care technology use, it is crucial to offer enough training and assistance to ensure the successful adoption of EHR systems there.

Attitude of Nurses Towards the Use of Electronic System

The transformation of EHR is associated with many benefits. To start with, nurses no longer have to struggle trying to interpret an illegible physician handwriting or documentation which enhances the quality of nursing documentation (Johnson *et al.*, 2016). EHR usage has increased in a clinical setting. A poll by Harris *et al.* (2018) found that nurses generally had favorable sentiments toward the use of EHR in the clinical domain, yet they also noted that the use of electronic health records (HER) in healthcare could result in burnout. Therefore, this points to a hole that needs to be filled in order to determine whether there are links between the use of EHRs and burnout among all healthcare workers.

According to Kipturgo *et al.* (2014), the usage of electronic health tracking systems has significantly changed healthcare practice throughout the world. The introduction and effective usage of these systems are significantly influenced by a number of elements, with the attitude of the healthcare professionals serving as the cornerstone. In addition, Abu Raddaha *et al.* (2017) noted that nurses' attitudes toward the EHR system may influence how much of it they use. A positive attitude

starts when nurses believe the system meets their needs and facilitates nursing activities in practice, or when they favor the EHR system over the paper-based health record system. They found that practicing nurses in Oman had a high level of favorable attitudes toward using the EHR, which was influenced by their computer literacy, as a result of their examination into the interactions between opinions, perceptions, and attitudes regarding the EHR system. The nurses gave EHR systems a higher rating than the paper-based method, stating that it saved them time, was simple to use, and did not cause any problems. Similarly, Sukums *et al.* (2014) mentioned that positive attitudes are important regarding the use of an EHR system in health care, and that the willingness of healthcare workers to use such a system is greatly influenced by their perceptions of its value, clinical benefits, and ease of use, and the computer knowledge and skills among the healthcare workers. Consistent with Abu Raddaha *et al.*'s (2017) findings, an overwhelming majority of health workers (95.3%) had positive attitudes towards computer applications in healthcare, and they expected that computers could potentially improve patient care and simplify their work. It is important to promote and support these attitudes after the introduction of an EHR system in health care.

Perception of Nurses in the Use of Electronic Systems

According to Tubaishat (2017), it will be difficult to get nurses to use or master new system functionalities if they do not think using electronic systems in healthcare is beneficial or simple. According to the technology acceptance model idea of perceived usefulness and perceived ease of use, it was found that nurses saw a system as being more user-friendly when they thought it was more valuable to them. According to Alwan *et al.* (2015), one of the major challenges to successfully deploying EHR systems in the healthcare industry is the current skill level of health professionals. Alwan *et al.* (2015) showed that healthcare workers generally had low EHR usage habits, particularly those who work in PHC centers, based on the findings of their survey. Therefore, offering trainings and ongoing follow-ups are strategic steps to raise the possibility that EHR systems will be successfully adopted in those settings. Similar to this, Mills *et al.* (2014) proposed that if nurses and midwives received ongoing training addressing their perceptions of their expertise and abilities, particularly for those with little or no prior experience. Although healthcare systems around the world, including those in South Africa, have been geared toward the use of EHR with the intention of improving healthcare delivery, Mugomeri *et al.* (2016) noted that this will not be feasible if the healthcare professionals do not have basic computer skills or perceived skills for using EHR systems. The majority of nurses in Lesotho have poor computer literacy, which has an indirect impact on how proficient they feel themselves to be in using EHR, according to this study that evaluated the computer

literacy of nurses in Lesotho. Poor skills were attributed to things like the nurses' lack of computer experience and the length of time that had passed since they had their most recent certification. The planning of the training for these nurses should therefore take into account these considerations. The usage of EHR in healthcare, according to Farokhzadian *et al.* (2015), makes medical information accessible for use in best practices based on evidence. To support their clinical judgments, nurses must be able to find, access, and select relevant information. The use of EHR in healthcare effectively necessitates that nurses possess some basic computer capabilities. Farokhzadian *et al.* (2015) discovered that these nurses had low information seeking and retrieval skills, which inferred that they had poor computer and EHR use skills. So it was advised to receive training from a nursing school and find mentors to help with the development of these necessary abilities.

Manual System of Health Information Versus Electronic Health Information

The new system has decreased the workload in the administration of the bare minimum, compared to the typical burden and excessive labor of manual systems in the administration of health care information keeping. According to Sitting (2010), an electronic-based medical information system has many advantages over a paper-based one, including simultaneous remote patient data access, legible records, safer data storage, patient data confidentiality, flexible data layout, contains data processing, tailored paper, and always-up-to-date information. Multiple clinicians having simultaneous access to a patient's data is made possible by computer-based medical information systems, which benefits both the patient and the doctor treating them. Computerized medical records are far more readable than handwritten ones, which could lead to information being misinterpreted due to poor readability. The usage of paper-based medical information increases the chance of grammatical errors, erroneous data entries, and other record inaccuracies, according to Beverly (2010) in her essay titled "Paper versus Electronic Medical Records". Osedola (2009) added that because of the flaws in paper work, staff members discover an average of eight probable prescription errors each month. However, a computer-based or electronic information system is more reliable than the traditional paper record when there is a robust backup system in place for disaster recovery. This is because they can simply get data out when needed. This would be advantageous rather than having mountains of paperwork that might be easily lost. It was found that in a paper-based system, anyone could obtain the documentation, such as the receptionist passing documents onto the doctor, but if there was an electronic system, it could be restricted and monitored automatically in a study by Mole *et al.* (2010) on how important it is to have patient information confidentially hidden from people who should not be allowed to view them. This

can also raise a red flag for any irregularities that might indicate a legitimate information access. Furthermore, when using computer-based medical information, flexible data arrangement may be highly useful to clinicians. This is due to the fact that users may easily locate specifically targeted data thanks to a search system and several kinds (data can be seen in ascending and decreasing

Barriers of Electronic Health Information System

Electronic health information is a computerized used to capture, store and share information between health care providers in an organization which supports the delivery of patient health services. Despite the high expectations and activity in EHIS as principal pressure to enhance the standard, quality, continuity, safety, and effectiveness of healthcare worldwide, the adoption rate is incredibly low. Although the computer-based health information system has been linked to a number of benefits, it has also been linked to a number of drawbacks. The American Medical Association (AMA) claims that the following obstacles prevent the computer-based approach from working properly:

Cost: Given hospitals' and doctors' dropping patient loads, the high cost of electronic systems is frequently an unreasonable outlay. The costs of updating and maintaining the system's hardware and software are also included. There should be enough funding from support groups and governmental organizations to help in the acquisition of these costs.

Privacy: Patients and doctors have raised concern over unauthorized access to and use of sensitive health information after moving it online, which can make it more vulnerable. Online activities such as hackers tend to gain access to sensitive information by hacking into the servers.

Implementation: The bulk of the time, doctors, nurses, and other medical personnel are focused on providing direct patient care. These individuals lack the time to master new technologies, particularly when they are pricey. Additional worries include the possibility that medical professionals won't be able to successfully use computerized information.

MATERIALS AND METHODS

Design for Research

Descriptive survey, a method that comprises observation, interviewing, describing, and explaining situational elements, was employed in this study. In order to understand the attitudes, views, and knowledge of health professionals regarding electronic systems, a cross-sectional study was done. The dimension of the investigation was also explored using an exploratory study design.

Setting for Research

The research's study area was Pantang Hospital. The Pantang neighborhood is where the hospital is located. It is located in the Ga East Assembly of the Adenta East

District in the Greater Accra Region. The majority of the population is made up of young active people. Ga, Akan, and Ewe are the three main tribes. The Pantang Hospital is where the locals go for outpatient primary healthcare and medical services. The psychiatry department and the general medical department are the two divisions that make up Pantang Hospital. Both industries support patient care.

Target Population

According to statistics, about 186 staff of Pantang Hospital have access to the electronic system. However, the researchers targeted only 30 of these staff using a simple random technique

Summary of Sample Size and Sampling Method

A sample size of 30 healthcare professionals was selected. The researcher employed a straight forward random sample procedure to select health professionals who he believed had a good understanding of the study.

Sample Size

The choice of a sample size for the in-depth interview was guided by the need to obtain rich data. Thus, thirty nurses were purposively selected for the study with the concept of saturation in mind.

Data Gathering and Tools

The health professionals were questioned using pre-made questionnaires that had both open- and closed-ended inquiries. Some of the questions were read aloud by the research assistants, and their responses were then recorded appropriately.

Procedure for Data Collection

Information was gathered using the sample size. The

administration of Pantang Hospital was consulted for approval before to the study's execution. Each randomly selected respondent was identified, and the purpose of the study was stated. Respondents were requested to complete the hand-delivered questionnaires.

Reliability and Sustainability

After distribution, the usable surveys were retrieved, and their intended objectives were achieved. The questionnaires' uniformity and dependability were guaranteed. The reliability of the data was assessed using the pre-posttest method, and the validity of the data was examined by comparing them to prior studies that were relevant to the investigation. Following the pretest, some questionnaires were revised.

Ethical Consideration

Prior to conducting this study, respondents' consent was requested, and they were made aware of their right to withdraw at any point. The privacy of the information obtained and the dignity of the respondents were both guaranteed.

Respondent objectivity was upheld throughout the study's discussion and analysis. The study's respondents were thanked for their enthusiastic involvement.

Data Analysis

The research questions served as the foundation for the data analysis. The information was then organized according to the indicated research questions. Information under each was analyzed and described in accordance with how health professionals perceived, felt about, and knew about electronic systems. Tables and a pie chart were used to analyze the data.

RESULTS AND DISCUSSIONS

Table 1: Age

Age	Frequency	Percentage
22 - 31	1	3.3
32 - 41	16	53.3
42 - 51	10	33.3
52 and above	3	10
Total	30	100

The table above illustrates that most of the respondents were between the ages of(32-41) years making 53.3% followed by people between the ages of (42-51) forming 33.3%, people between (52+) years forming 10%, and lastly 3.3% of the respondents was between the ages of (22-31).

Table 2 below shows that most of the respondents were 22 which were female making (73.3%) and males were 8 making (26.7%).

Our survey indicates that 18 (60%) respondents agree that computer is powerful enabling tool, 10 (33.3%) strongly agree, 1 (3.3%) disagree and 1 (3.3%) strongly disagree

that computer is a powerful enabling tool.

The distribution indicates that 18 (60%) of the respondents agree that in healthcare, computer could save a lot of paperwork, 5(16.7%) disagree, 4(13.3%) strongly disagree and 3 (10%) strongly agree that in healthcare, computer could save a lot paperwork.

Our survey indicates that 15(50%) agree that computer will not be a powerful nursing tool until users put efforts into learning how to use it, 2(6.7%) of the respondents disagree, 4 (13.3%) strongly disagree and 9(30%) strongly agree to the question posed.

The distribution indicates that 20 (66.7%) agree that

Table 2: Gender

Gender	Frequency	Percentage
Male	8	26.7
Female	22	73.3
Total	30	100

Table 3: The Computer Is a Powerful Enabling Tool

Responses	Frequency	Percentage
Strongly	10	33.3
Agree	18	60
Strongly Disagree	1	3.3
Disagree	1	3.3
Total	30	100

Table 4: In Healthcare, Computer Could Save a Lot of Paperwork

Response	Frequency	Percentage
Strongly Agree	3	10
Agree	18	60
Strongly Disagree	4	13.3
Disagree	5	16.7
Total	30	100

Table 5: Computer Helps To Keep Up To Date with Nursing Issues, Knowledge and Research

Responses	Frequency	Percentage
Strongly Agree	9	30
Agree	15	50
Strongly Disagree	4	13.3
Disagree	2	6.7
Total	30	100

Table 6: Computer Can Be Used As a Tool for Staffing, Scheduling and Quality Control

Responses	Frequency	Percentage
Strongly Agree	2	6.7
Agree	20	66.7
Strongly Disagree	0	0
Disagree	8	26.7
Total	30	100

Table 7: I Would Enjoy Learning a Course Work Using a Computer Program

Responses	Frequency	Percentage
Strongly Agree	3	10
Agree	17	56.7
Strongly Agree	1	3.3
Disagree	9	30
Total	30	100

computer can be used as a tool for staffing, scheduling and quality control ,8(26.7%) disagree, 2(6.7%) strongly agree while none of the respondents strongly disagree to the question posed.

Our survey indicates that 17(56.7%) of the respondents agree that they will appreciate a learning course using a computer program, 9 (30%) disagree, 3 (10%) strongly agree and 1 (3.3%) strongly disagree to the question.

Table 8: Knowing About Applications of Computer Networks and Telecommunications in Nursing Can Be Challenging

Responses	Frequency	Percentage
Strongly Agree	1	3.3
Agree	13	43.3
Strongly Disagree	3	10
Disagree	13	43.3
Total	30	100

Table 9: Computer Knowledge And Usage Are Low Among Health Workers

Responses	Frequency	Percentage
Strongly Agree	10	33.3
Agree	13	43.3
Strongly Disagree	1	3.3
Disagree	6	20
	30	100

Our survey indicates that 13 (43.3%) of the respondents agree and disagree on knowing about applications of computer networks and telecommunications in nursing, 3 (10%) respondents strongly disagree, and only 1(3.3%) strongly agree to the question.

The study depicts that 10(33.3%) of the respondents

strongly agree that computer knowledge and usage are low among health workers, 13(43.3%) respondents agree, 1(3.3%) strongly disagree and 6(20%) of the respondents disagree to the question.

Attitudes of Nurses Towards Electronic System

Table 10: Have Frequent Problems with The Computers

Responses	Frequency	Percentage
Strongly Agree	3	10
Agree	18	60
Strongly Disagree	4	13.3
Disagree	5	16.7
Total	30	100

Table 11: Computers Are Frustrating To Use

Responses	Frequency	Percentage
Strongly Agree	2	6.7
Agree	10	33.3
Strongly Disagree	7	23.3
Disagree	11	36.7
Total	30	100

The distribution indicates that 18 (60%) of the respondents agree to have frequent problems with the computers 5(16.7%) disagree, 4 (13.3%) strongly disagree and 3 (10%) strongly agree to having frequent problems with the computers.

From the survey 11 (36.7%) of the respondents disagree that computers are frustrating use, 10(33.3%) agree, 7 (23.3%) strongly disagree and 2 (6.7%) strongly agree that computers are frustrating to use.

From the survey, 16 (53.3%) of the respondents agree that working with computers makes the work boring and tedious, 6 (20%) disagree and strongly agree while

2 (6.7%) strongly disagree that working with computers makes the work boring and tedious.

From the distribution 17 (56.7%) agree that it takes longer to chart on computer than on paper, 10(33.3%) of the respondents strongly agree, 2(6.7%) disagree and 1 (3.3%) strongly disagree that it takes longer to chart on computer than on paper.

From the survey, 9(30%) of the respondents strongly agree that computer in healthcare will create more work for nurses, 10(33.3%) agree, 8(26.7%) disagree and 3(10%) of respondents strongly disagree to the fact that computer in healthcare will create more work for nurses.

Table 12: Working with Computers Makes The Work Boring and Tedious

Responses	Frequency	Percentage
Strongly Agree	6	20
Agree	16	53.3
Strongly Disagree	2	6.7
Disagree	6	20
Total	30	100

Table 13: It Takes Longer to Document on Computer Than on Paper

Responses	Frequency	Percentage
Strongly Agree	10	33.3
Agree	17	56.7
Strongly Disagree	1	3.3
Disagree	2	6.7
Total	30	100

Table 14: Computers in Healthcare Will Create More Work for Nurses

Responses	Frequency	Percentage
Strongly Agree	9	30
Agree	10	33.3
Strongly Disagree	3	10
Disagree	8	26.7
Total	30	100

Table 15: Continuous Training of Health Workers Will Make Them Embrace Electronic System

Responses	Frequency	Percentage
Strongly Agree	10	33.3
Agree	12	40
Strongly Disagree	3	10
Disagree	5	16.7
Total	30	100

Table 16: Computer Programs Are too Complicated For Me to Learn

Responses	Frequency	Percentage
Strongly Agree	3	10
Agree	11	36.7
Strongly Disagree	6	20
Disagree	10	33.3
Total	30	100

From the table, 10(33.3%) of the respondents strongly agree that continues training of health workers will make them abrase with electronic system, 12(40%) of the respondents agree, 3(10%) strongly disagree and 5(16.7%) of the respondents disagree.

From the distribution 11 (36.7%) of the respondents agree that computers are too complicated for them to learn, 10 (33.3%) disagree, 6 (20%) strongly disagree and 3(10%) respondents strongly agree to the posed question.

Discussion of Results

The aim of this research was to assess the knowledge, attitude and perception on electronic system among nurses. The above statement was assessed by means of distributing questionnaires. As such, some specific aims of the study were; To investigate the knowledge of health nurses on electronic system in the healthcare sector, to find out the attitudes of nurses towards electronic system, to determine the perception on electronic system among nurses.

From our study it showed that the age level ranges from (22-31), (32-41), (42-51) and above 52 years. Most of the respondents aged between (32-41) years, followed by (42-51) years, then 52+ years whiles (22-31) recorded the least. All the respondents were well educated with various qualification attainment. Most of the respondents were recorded married with a few singles. Christians were the dominating religious group recorded per our study, followed by Islamic religion and the traditional religion respectively.

Findings from their study (Alwan *et al.*, 2015), indicated that computer knowledge and utilization were generally low among healthcare workers, and even lower for public health professionals who work in public health centers. These findings confirm to our study which asked in table 14 whether computer knowledge and usage are low among health workers, 23(76%) of the respondents reacted yes to the question whiles 7(23.3%) of the respondents said no. Data analyzed from our research depicts that health worker's attitudes toward electronic system within the health sector is averagely positive. This refutes a study by Abu Raddaha *et al.*'s (2017) which stated the findings of an overwhelming majority of health workers (95.3%) having positive attitudes towards computer applications in healthcare, and they expected that computers could potentially improve patient care and simplify their work. Research conducted by Mills *et al.* (2014) hypothesized that if continuous training was provided to nurses and midwives regarding their knowledge and perceived skills, especially for those with limited or no previous experience with the use of electronic system, this would increase the nurses use of these tools in their work environment. This confirms to our study where 22(73.3%) of the respondents agreed that persistent and continuous training of health workers will make them embrace the electronic system. This is also in line with a recent survey conducted by Positioning Nursing in a Digital World (2014) found that a third of nurses have not received training on an information technology system (Wright, 2014).

It can also be concluded from the study that, most of the respondents amounting to 96.7% agree that, it will be difficult for health workers to use electronic system if they don't see it to be easy. This confirms to our related literature review.

Conclusively, it will be further discussed from the study that, health workers perceive the usage of electronic system very boring and tedious. They emphasized on it taking more time to chart on the computer rather than on the paper.

Key Findings

- Averagely, health workers have a positive attitude towards electronic system.
- Computer knowledge and usage are low among health workers
- Continuous training of health workers will make them embrace electronic system

- Computers make work very boring and tedious in the health sector
- The usage of the electronic system makes it longer to Document on computer than on paper
- Health workers anticipate on enjoying to learn a course using computer programs
- Computers in healthcare will create more work for nurses.

CONCLUSION

It can be concluded from the study that, health worker's attitudes towards electronic system are averagely positive. It can also be concluded that, there is a low or inadequate knowledge on electronic system as well as it's usage among health workers.

Furthermore, it can be concluded that health workers perceive electronic system to be very boring and tedious in the health sector during care delivery.

Finally, it can be said that continues training of health workers will help them embrace the electronic system.

Recommendations

Based on the research findings and interviews, the following recommendations are made; Government and management of health care facilities must pay attention to nurses' needs,

1. Government and management of health care facilities must pay attention to nurses' needs, orient them about the benefits of using electronic system in the health care system, provide them with frequent training sessions to improve their computer skills and improve their practice on the selected software.
2. There is a need for more in-depth computer and software orientation, through the development of a standardized, efficient and effective training initiative for primary care physician, nurses and midwives. It is important to plan educational programs with health professional involvement, to meet informatics training needs.
3. Further studies should be encouraged in different health care setting utilizing more heterogeneous sample in order to facilitate both understanding of actual and perceived barriers, as well as facilitate comparing of the results and allow generalization.
4. Dissemination of information and research's findings should be done on line to improve its utilization.
5. Future research should investigate the day-to-day interactions between nurses and electronic system for the provision of quality care to patient.

REFERENCES

- Ajuwon, G. A (2003). *Computer and internet use by first year clinical and nursing students in Nigeria Teaching Hospital Med.*
- Alvarez, R. (2004). *The electronic health records: A leap forward in patients' safety.* New York: Prentice Hall.
- Berwick, D. (2003). Disseminating innovations in health care. *Journal of the American Medical Association,*

- 289(15), 1969-1975. <https://www.doi.org/10.1001/jama.289.15.1969>
- Blavin, F., Ramos, C., Shah, A., & Devers, K. (2013). *Final report: Lessons from the literature on electronic health record implementation*. A study funded by the Office of the National Coordinator for Health Information Technology of the U.S. Department of Health and Human Services. http://www.healthit.gov/sites/default/files/hit_lessons_learned_lit_review_final_08-01-2013.pdf
- Bredfeldt, C., Awad, E., Joseph, K., & Snyder, M. (2013). Training providers: Beyond the basics of electronic health records. *BMC Health Services Research*, 13(503), 1-8. <https://www.doi.org/10.1186/1472-6963-13-503>
- Burke, T., Stewart, A., & Cartwright-Smith, L. (2010). Meaningful use & Medicaid: Challenges for states and providers. *Legal Notes*, 2(3), 1-4. <http://www.rwjf.org/content/dam/web-assets/2010/11/meaningful-use--medicaid>
- Burns, N., & Grove, S. (2009). *The practice of nursing research: Appraisal, synthesis, and generation of evidence* (6th ed.). St. Louis, MO: Saunders, Elsevier.
- Courtney, K., Demiris, G., & Alexander, G. (2005). Information technology: Changing nursing processes at the point-of-care. *Nursing Administration Quarterly*, 29(4), 315-322. <http://web.a.ebscohost.com.ezp.waldenulibrary.org/ehost/pdfviewer/pdfviewer?vid=5&sid=a86ba1ab-7697-4e7a-9481-47209e853985%40sessionmgr4005&hid=4109>
- Gunton, T. A. (2013). *A dictionary of information technology and computer science*, 2nd edition, Manchester: Blackwell. Health information Managers Association of Nigeria (HIMAN) 2011.
- Johnson, S. & Zheng (2016). *Journal of the American Medical Association*, 388(2)
- Myers, M. R. (2003). *Electronic Health Information: An emerging health care technology*.
- Odunsanya, O. O, Bamgbala, O. A. (2002). *Computing and Information Technology Skills of Final Year Medical and Dental Students at the College of Medicine Lagos*.
- Ogunyade, T. O & Oyibo, W. A. (2003). Use of CD ROM by Medical Students of College of Medicine, University of Lagos, Nigeria. *Journal of Medicine*.
- Murphy, J. (2010). Nursing informatics. The journey to meaningful use of electronic health records. *Nursing Economics*, 28(4), 283-286. Retrieved from <http://web.a.ebscohost.com.ezp.waldenulibrary.org/ehost/pdfviewer/pdfviewer?vid=32&sid=a86ba1ab-7697-4e7a-9481-47209e853985%40sessionmgr4005&hid=4109>
- Romanov, R. J. (2002). The future of health care in Canada
- Wright, R. (2014). Be confident in a digital world. *Nursing Standard*, 28(20), 64-65. <http://web.a.ebscohost.com.ezp.waldenulibrary.org/ehost/pdfviewer/pdfviewer?vid=46&sid=a86ba1ab-7697-4e7a-948147209e853985%40sessionmgr4005&hid=4109>
- Zadvinskis, I., Chipps, E., & Yen, P. (2013). Exploring nurses' confirmed expectations regarding health IT: A phenomenological study. *International Journal of Medical Informatics*, 83, 89-98. [dx.doi.org/10.1016/j.ijmedinf.2013.11.001](https://doi.org/10.1016/j.ijmedinf.2013.11.001)