

THE HEALTH WORKER'S ATTITUDE TO THE USE ELECTRONIC HEALTH RECORDS ON QUALITY IMPROVEMENT OF HEALTH CARE WORKERS IN FEDERAL UNIVERSITY TEACHING HOSPITAL OWERRI

Edith Ugochi Ekechukwu, C.C.N. Vincent¹, Nkiru Okoroafor¹, Emmanuel Ifeanyi Obeagu^{*2}, Adanma Nwagwu Solomon¹, Anthonia Emesowum¹, Josephine Egbuchelem¹ and Clementina Ezenwuba¹

¹Department of Nursing Science, Faculty of Health Sciences, Imo State University, Owerri, Imo State, Nigeria.

²Department of Biomedical and Laboratory Science, Africa University, Zimbabwe.



*Corresponding Author: Emmanuel Ifeanyi Obeagu

Department of Biomedical and Laboratory Science, Africa University, Zimbabwe.

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ABSTRACT

This study explored the perception of the impacts and barriers (challenges) to the use of Electronic Health Records (EHR) on healthcare workers' quality improvement at FUTHO Owerri, Imo State. The research aimed to investigate five key objectives and test five hypotheses using a mixed-method design, incorporating both quantitative and qualitative approaches. The Technology Acceptance Model (TAM) was applied to guide the study. A cross-sectional descriptive design was used for the quantitative component, while a focus group discussion was conducted for qualitative insights. Data were analyzed using frequency counts, percentages, chi-square tests, and descriptive statistics, including ANOVA and regression analysis, with significance determined at the 5% level. Qualitative data were coded and analyzed using NVivo software to identify key themes and barriers related to EHR usage. Results indicated that healthcare workers had a positive attitude towards EHR use, recognizing its role in improving quality. The study recommended that hospital management focus on making quality improvement a reality by increasing the adoption of EHRs, emphasizing better training and support for healthcare workers.

KEYWORDS: health workers, attitude, health records, quality improvement.

INTRODUCTION

The integration of Electronic Health Records (EHRs) has become a cornerstone in modern healthcare systems, promising improvements in patient care through enhanced data management, communication, and workflow efficiencies.^[1] EHRs are designed to facilitate real-time access to patient information, streamline clinical processes, and support evidence-based decision-making.^[2] Despite these potential benefits, the actual impact of EHRs on quality improvement efforts is a subject of considerable debate, influenced by a range of factors including system design, implementation practices, and user experience.^[3]

Health records are an integral aspect of any Hospital Management System. With newer innovations in technology, there has been a shift in the way of recording health information. Medical records which used to be managed using various paper charts have now become easier to organize and maintain, thereby increasing the efficiency of medical staff. The Electronic Health Records (EHR) System is becoming a high-tech medical management technology developed for the economic or emerging economic countries. In a national health

system, the EHR integrates the Electronic Medical Records (EMR) in all collaborating hospitals through different networks. EHR gives healthcare professionals a way to share and manage patient data quickly and effectively. Due to the mass storage of confidential patient data, healthcare organizations are considered as one of the most targeted sectors by intruders.^[4]

Electronic Medical Records (EMRs) were computerized medical information systems to capture, store, process, and display patient information in the application of information and communication technology (ICT). The EMR systems are used for the proper care of patient information (computer-based systems for entry, storage, presentation, retrieval, and printing of information contained in a medical record). This electronic medical system technology has many benefits, such as legibility and completeness of medical information and documentation, immediate access to information anywhere at any time, a large clinical database, and decision-support techniques with some limitations. A study conducted in China revealed that satisfaction with EMR was 70.7%. But from the study in the Saudi government hospital, physicians indicated that 40% were

satisfied with the EMR system.^[5] The main purpose of this study is to ascertain the health workers' attitude to the use of EHR on quality improvement of health care workers in Federal University Teaching Hospital Owerri Imo State.

RESEARCH METHODOLOGY

Research Design: A mixed-method approach/design was used which allowed for a more holistic view of the research problem.

Study Area: The area of the study was Federal University Teaching Hospital Owerri, Imo state.

Population of study: The population for the study consists of 326 healthcare workers (Doctors, Nurse, Pharmacist and laboratory technician) that were from four departments of Federal University Teaching Hospital Owerri Imo state. The target population comprised of healthcare workers in these units under study from January to June 2024. The target population of health workers at the four units is only a fraction of the federal university teaching hospital community.

Inclusion Criteria: the participants that was included in this study are.

- Those who are willing to participate
- Healthcare workers who work with any type of electronic health records in their units/wards

Exclusion Criteria

- Those who are not willing to participate
- Healthcare workers who do not work with any electronic health records in their units/wards

Sample Size Determination/Sampling Technique: The sample size for the study was 180 healthcare workers in Federal University Teaching Hospital Owerri Imo State. This size was calculated using the Power Analysis for finite population correction.

Instruments for data collection: For quantitative data collection, the researcher used a self-structured questionnaire called health workers satisfaction with the use of electronic health record systems (HSEHRS). The HSEHRS consists of two sections. Section A is made up of demographic characteristics of the respondents. Section B: consist of question items based on the objectives and research questions of the study.

For qualitative instrument, a focused group discussion (FGD) guide was be used to interview the healthcare workers who use Electronic health record systems to generate a range of perspectives and facilitate in-depth discussions on specific research objective two (assess the perception of the impact of Electronic Health Records use on the quality improvement) and three (identify the perceived barriers and facilitating factors to the effective electronic health record use). Data gathering will use in-depth interview, the audio-taped interview clues. The focused group discussion will be lasting for a minimum of 60minutes. The research assistants were attentive to

the discussion and also using a voice recorder which was recorded verbatim in the words of the respondents.

Method of Data Collection: Survey unstructured in-depth interviews and focus group discussion, self-report and field notes were used. The administration of the questionnaire (the quantitative instrument) was aided by five (5) graduates with previous research experience who were selected and instructed on the purpose, objectives and method of data collection and recording. Following ethical approval of FUTH Owerri, respondents were included in line with the quotas determined in accordance with the stratified random sampling method, the questionnaires were administered face-to-face by the researcher and the research assistants with a completion time frame of between 60 -120 minutes. The questionnaires were collected back on the spot by the researcher and research assistants each day and the unanswered questionnaires were left at the counters and on-call rooms and at nurses station for those who could not be reached. Since it was an institutional study, the researchers tried to reach as many departments and healthcare workers as possible and the study was continued until the complete number of respondents were included. The interview was conducted in a private room in the hospital wards. The interview sessions were written down in a paper to aid free answers of the identified issues while simultaneously being recorded with a voice recorder. The FGD with the stakeholders of the wards were to discuss their experiences and challenges in adopting/ usage of EHRs.

Method of Data Analysis: For quantitative analysis, data was entered and analyzed on personal computer using the Statistical Package for Social Sciences (SPSS version 21.0). Results will be analyzed using percentages and to be presented in tables for the respondents demographic data. Data collected at 4 point likert scale was used to find the mean score of the values in some sections of the questionnaires. Chi square was used to test for association/relationship between the use of EHR and their mean score of the responses of the HCW. T test was used to determine the relationship between impeding factors and the level of utilization of EHR by HCW. Descriptive statistics used were, ANOVA, regression analysis and correlation analysis. All tests were performed at 5% level of significance and probability value (p) was used to interpret significance. For qualitative data, qualitative analysis software (Nvivo) was used for coding and identifying themes and patterns. Exploratory data analysis such as the construction of distribution tables was used for the initial analysis; a content analysis which is concerned with analyzing textual data (e.g., interview) to identify themes within the context of the interview was used. Then a thematic analysis of the focus group discussion to identify categorizes the impacts and barriers to the use of EHRs.

Ethical Considerations: Participation in the study was voluntary. Participants were free to discontinue

responding to the questionnaire or interview at any time. Verbal explanations about the study were made privately before obtaining written consent from each participant. Information collected in the study were kept strictly confidential, concealed, and it was used strictly for the purposes of this study alone. There was not any known risk for participating in the study. No incentives were provided for the participants. However, the intended contribution of the study to the health system in the hospitals was explained to participants. The study was

reviewed and approved by the Federal University Teaching Hospital Owerri Research and Ethics Committee (FUTHREC). In summary, the study was guided by the following codes of conduct.

- Respect for human dignity
- Informed consent of the participants
- Veracity/credibility
- Confidentiality
- Non-maleficence

RESULTS

Table 1: Socio-demographic characteristics of the study participants.

Characteristics	Frequency (f)	Percentage (%)
Age	28	15.6
18 -28	77	42.8
29 – 38	49	27.2
39 – 48	26	14.4
49 & above	180	100
Gender	159	88.3
Male	21	11.7
Female	180	100
Education Level	23	12.8
OND	74	41.1
First Degree	44	24.4
MSC	39	21.7
PhD	180	100
Job Description	39	21.7
Doctor	111	61.7
Nurses	18	10
Pharmacists	12	6.7
Lab Scientist	180	100
Year if Experiences	27	15
<5 years	53	29.4
5 – 10 years	55	30.6
10 – 15 years	45	25
>15 above	180	100

Table 2: Mean and standard deviation response scores on the health workers attitudes towards the use of EHR for their quality improvement.

S/N	OCCUPATION	Medical Doctors	Nurses	Pharmacists	Lab Scientist		AV	Remark
	ITEMS	\bar{X} SD	\bar{X} SD	\bar{X} SD	\bar{X} SD	\bar{X}	SD	
1.	Electronic medical records will make patient management and follow up easier	3.2 .36	3.2 .46	3.5 .52	3.4 .50	3.27	.446	Accept
2.	EMR when introduced aids faster patient care	3.5 .50	3.5 .50	3.6 .50	3.3 .48	3.48	.501	✓
3.	Healthcare workers prefer EMR than the paper based type	3.3 .47	3.4 .48	3.5 .52	3.4 .51	3.36	.482	✓
4.	Electronic Health Records should be introduced into the healthcare system in Nigeria	3.5 .50	3.5 .50	3.6 .51	3.3 .58	3.48	.512	✓
5.	Training healthcare workers on EMR should be mandatory	3.4 .48	3.4 .49	3.5 .52	3.4 .60	3.38	.499	✓
6.	Healthcare workers should not be bothered about using EMR	3.5 .51	3.5 .50	3.5 .52	3.4 .51	3.48	.501	✓
7.	Healthcare workers should resist	3.4 .50	3.5 .52	3.3 .47	3.5 .60	3.47	.522	✓

	the introduction of EMR							
8.	EMR is detrimental to healthcare in the long run	3.4 .63	3.5 .50	3.6 .52	3.4 .60	3.46	.553	✓
9.	You are satisfied with the training provided for the use of EHR system	3.5 .50	3.5 .52	3.5 .52	3.4 .60	3.45	.521	✓
10.	You EHR easy to navigate	3.5 .51	3.4 .52	3.4 .67	3.4 .51	3.44	.520	✓
11.	You are satisfied with the integration of EHR system with the other healthcare technologies	3.5 .51	3.4 .50	3.5 .52	3.4 .50	3.44	.498	✓
	Grand Mean	3.41 .157	3.44 .166	3.47 .134	3.41 .188	3.43	.164	Accept

Table 2 Shows mean and standard deviation responses on the health care workers attitudes towards the use of EHR for their quality improvement in Federal University Teaching Hospital Owerri, Items 1-6 have mean scores 3.27, 3.48, 3.36, 3.48, 3.38 and 3.48 with their corresponding standard deviations of .446, .501, .482, .512, .499 and .501 respectively. Furthermore items 7-11 have mean scores 3.47, 3.46, 3.45, 3.44, 3.44 and 3.43 with their corresponding SD of .522, .533, .521, .520 and .498 respectively. However, the grand mean of 3.43 clearly indicates acceptance. By implication there is a high level of attitude of healthcare workers towards the use of EHR for quality improvements in FUTH, Owerri.

DISCUSSION

The finding reveals that respondents agreed that the attitude of healthcare workers towards the use of EHR for quality improvement in FUTH Owerri is high. This finding was supported by the statistically analyzed hypothesis whose result showed that there was no significant difference in the mean responses of healthcare workers on their perceived attitude towards the use of EHR in FUTH Owerri. It is worthy of note that for all the item statements to have received acceptance does not mean that no respondent rejected the items but looking at the average scores which leaned towards the positive side which is greater than the criterion mean of 2.50 respectively. This study findings is however similar to that of Adamu et al., (2023) who conducted a study on Electronic Health Records and patients satisfaction in public hospitals in Nigeria and found out that strong positive and statistically significant relationship exists between direct function and operation efficiency and operational efficiency has strong, positive and significant moderating effect on the relationship between EHR systems and patients' satisfaction.

CONCLUSION

By implication there is a high level of attitude of healthcare workers towards the use of EHR for quality improvements in FUTH, Owerri.

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