academicresearch Journals

Vol. 9(4), pp. 149-157, April 2021 DOI: 10.14662/IJALIS2021.120 Copy © right 2021 Author(s) retain the copyright of this article ISSN: 2360-7858 http://www.academicresearchjournals.org/IJALIS/Index.htm

International Journal of Academic Library and Information Science

Full Length Research

Institutional support and use of electronic health records by medical doctors in teaching hospitals in South-West, Nigeria

¹Ogundele Oluseye Abiodun, ²Dr. Ikonne, C.N. and ³Dr. Madukoma, E

¹Department of Information Resource Management, Babcock University, Ilishan Remo, Ogun State, Nigeria ²Department of Information Resource Management, Babcock University, Ilishan Remo, Ogun State, Nigeria ³Department of Information Resource Management, Babcock University, Ilishan Remo, Ogun State, Nigeria

Accepted 20 April 2021

The study evaluated the influence of Institutional support on the use of electronic health records by medical doctors in teaching hospitals in South-West, Nigeria. The study adopted a survey design with a study population of 3,381 medical doctors (excluding medical doctors on internship and National Youth Service). Sample size is the number that is selected or drawn from the population for a study. A sample size of 345 was determined for this study using krejcie and Morgan (1970) formula. A structured and validated questionnaire was used for data collection. Data was analyzed using the SPSS software, frequency distribution and percentages. The findings revealed that the finding revealed that medical doctors regard the types of institutional supports to be infrastructure and training in teaching hospitals in South-West, Nigeria. In addition, Infrastructural support is considered more important in the teaching hospitals than trainings by medical doctors in teaching hospitals in South-West, Nigeria. The study also concludes that Institutional support are indispensable factors that can improve the use of electronic health records among medical doctors in teaching hospitals in South-West, Nigeria. The findings have also shown that there is relationship between the empirical, theoretical and statistical evidences between the variables of interest. This study has generally revealed that Medical doctors' use of EHR was low in all aspects. In view of this, there is the need to intensify and propagate the adoption and use of EHRs by medical doctors in Nigeria. This would save cost, space and time of the doctors and also facilitate effective and efficient health care delivery service in Nigeria.

Keywords: Institutional support, electronic health records, use of electronic health records, medical doctors and teaching hospitals.

Cite This Article As: Ogundele, O.A., Ikonne, C.N., Madukoma, E (2021). Institutional support and use of electronic health records by medical doctors in teaching hospitals in South-West, Nigeria. Inter. J. Acad. Lib. Info. Sci. 9(4): 149-157

INTRODUCTION

Teaching hospitals are established with intent of facilitating the provision of qualitative and tertiary healthcare to general populace. One more important function of a teaching hospital is to coordinate relevant medical researches. Hence, there is a need for correct and timely documentation of the aforementioned interwoven functions. One of the functions that is very crucial in the teaching hospitals is in the area of the management of health of records of patients. Without proper management of patients' health records, clinical decisions might be hard and difficult. It is on this note that professionals (people) in the health industry began to think of adopting the digitisation of patients' medical records. To achieve an optimal coordination and effective healthcare service delivery in teaching hospitals and to expand in the healthcare industry, Barrow (2017) states that new digital technologies are always developed so as to support the clinical practice that will bring many advantages into the healthcare sector. One of these digital technologies is the electronic health records (EHR) which is used interchangeably as electronic health records (EHR) system and electronic medical records (EMR).

Nematollahi, Moosavi, Lazem, Aslani, Kafashi, and Garavand (2017) describe electronic health records (EHR) as a computerised health information system that detailed patient provides information such as demographics, encounter summaries, medical history, allergies, intolerances, and lab test histories. EHR system is a digital version of a patient's paper chart. It gathers, creates, and stores the health record electronically; with facilities for tracking patient demographics, medical histories, medications, test results and other types of patient-specific clinical information, as well as the costs associated with the services provided. The National Alliance for Health Information technology [NAHTI] (2011) view electronic medical record (EMR) systems as an electronic record of health-related information of a person which can be created, gathered, managed, and consulted by authorized clinicians and staff within one health care organisation. For Devkota and Devkota (2013), an electronic health record (EHR) has to do with the digital collection and retrieval of a patient's medical records like "evidence-based recommendations for specific medical conditions; records of appointments and other reminders; billing records; advanced directives, living wills and health powers of attorney; and multi-media (e.g. video, audio) files", (p.181). In their discussion about electronic health records, Waithera, Muhia and Songole (2017) also state that it is an electronic record of health-related information of an individual that can be created, gathered, managed which can be consulted by authorised clinicians and staff within one health care organisation.

Prior to the electronic health record (EHR), a patient's medical records consisted of handwritten notes, typed reports, and test results stored in a paper file system. Menachemi and Collum (2011) state that EHR systems have the capability to transform the health care system from a mostly paper-based industry to one that utilises clinical and other information that can assist providers in delivering higher quality of care to their patients. Based on this, hospitals or health records to a system that stores health information electronically and employs computer-aided decision support systems to better improve the safety, quality, and efficiency of health care. According to

Cowie, Blomster, Curtis, Duclaux and Ford (2017), and Scott, Stein, Thomas and Kaur (2018), EHR has been considered as an instrumental or a key factor for improving healthcare quality and safety.

Using EHR as has been observed by Turley, Porter, Garrido, Gerwig, Young, Radler, and Shaber (2011) also helps in the elimination of tons of paper records and also x-ray films. It could reduce the in-person visits for simpler problems, reduce paper use, transportation fuel, water consumption and also some toxic chemicals, which could in turn help in reducing the environmental footprint. Klein (2007) states that the use of EHR enables doctors to easily review laboratory results and also the prescription along with the important statistics and a chart history. For instance, in a study conducted by Fairley, Vodstrcil, Huffam and Hocking (2013), it was found that were 5% more consultations per hour were seen by doctors in the EMR period compared to the paper medical record period. It was also revealed that doctors and nurses preferred the EMR system. Kukafka, Ancker, Chelico, Khan, and Mortot (2007) in Moghaddasi, Hosseini, Asadi, and Ganjali, (2011, p. 52) note that:

electronic health record (EHR) system is created with the goals of improving patient care through improving the availability of information at the point of need, improving the efficiency and effectiveness of health and health care service, improving billing procedures, reducing the frequency of lost records or data, and minimizing medication errors. Electronic health record systems can incorporate clinically useful features such as electronic alerts, guideline reminders, and automatic monitoring of quality of care indicators

From the foregoing, it can be concluded that use of EHR holds many promises as are evidenced in some of the following roles it plays: decreasing morbidity and mortality rates, improving continuity of care, increasing efficiencies, reducing adverse drug reactions, and decreasing the cost of health care.

However, despite these benefits in the use of EHR, preliminary investigations by the researcher and literature reviewed have revealed that the widespread use or adoption of EHR is perceived to be low (Devkota & Devkota, 2013). In Nigeria, Adedeji, Irinoye, Ikono and Komolafe (2018) and Agbese (2018) in their studies have also observed that the use of EHR is quite low in the teaching and tertiary hospitals. According to Vitari and Ologeanu-Taddei (2018), and Murray, Lo, Pullack, Donelan and Turner (2003), the low use of the EHR system is attributed to increased time medical doctors are required to spend in dealing with patients' cases. Roches, Campbell, and Rao (2008) point out that financial barrier are viewed as having the greatest impact on decisions about the adoption (use) of electronic health records. McFarlan (2005) noted the issue of system failures which created safety issues and frustrations. For Ameri, Khajouei and Ghasemi-Nejad (2017), the most

important barriers are technical, professional and attitude-behavioral barriers. Berihun, Atnafu, and Sitotaw, (2020) add that in the developing countries, EMR system adoption and utilisation for medical practice are still inconsistent and that the healthcare institutions who started utilisation it have also failed to sustain it. Since many factors have been seen as obstacle inhibiting the use of EHR, it is on this bases that the research ponders whether Information and Communication Technology (ICT) competence of the medical doctors could play a role in the use of EHR.

The term Information and Communication Technology (ICT) is commonly used to describe the combination of computer and communication technologies used for information storage and dissemination. In the UNESCO training module for ICT as cited by David (2017). information communication technologies are described as the technologies that enable society to create, collect, consolidates, communicate, manage and process information in multimedia and various digital formats for different purposes. ICT could also be referred to as the generic term that covers the acquisition, processing, storage and dissemination of information using technologies such as such as personal computer, CD-ROM, cable TV, cellular phones and the internet. It involves the application of computers and communication technology in the task of information handling and information flow from the generation to the utilisation levels. Therefore, ICT are those tools and technologies that facilitates the easy creation and use of information. knowledge and ideas in all spheres of human endeavor. The United Nations, in a report, corroborated the fact that ICTs have the capacities of contributing to health education, knowledge sharing, health monitoring, health statistics gathering and achieving the millennium developmental goals (UNDP, 2003 in Afolovan & Ovekunle).

Institutional support (IS) has to do with an employee's perception that the institution values his/ her contribution to the success of the organisation and cares or have concern about his needs and well-being. Ovovwevotu (2018) points out that institutional support (IS), organisational support (OS) and perceived organisational support (POS) are used inter-changeably in the literature. Hence, these constructs will be used interchangeably in this study. According to Falola, Adeniji, Adeveve, Igbinnoba and Atolagbe (2020), institutional support has to do with the organisational active encouragements in the form of policies, regulations, monetary and nonmonetary help that propel employees to perform their responsibilities in a very effective and productive manner. IS also refers to an employee's perception or belief that the institution values his or her contribution to the success of the organization and cares or have concern about his needs. It has to do with the role an organizational plays towards its employees to show the

extent to which the institution values their contributions and cares about their well-being.

Eisenberger, Huntington, Hutchison, and Sowa (1986), Rhoades and Eisenberger, (2002) in Abou-Moghli (2015) refer to organisational support (OS) as to the extent to which employees deem that their organization values their contribution and cares about their well-being. Organizational support can generate a felt obligation to care about the organisation's welfare and to help the organization accomplish its goal (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001). The importance of institutional support cannot be over emphasised, and based on this, Krishnan and Mary (2012) opine that in order to meet socio-emotional needs and to assess the benefits of increased work effort, employees form a general perception concerning the extent to which the institution values their contributions and cares about their well-being. In the context of this study, institutional support (IS) is described as the roles of the management of the teaching hospitals in South-West Nigeria regarding the provision of infrastructures needed by the medical doctors and training (on the job or off the job training) of medical doctors. It also has to do with the perceptions of the medical doctors' beliefs that the existing infrastructures could support their use of EHR. Lanier, Dao, Hudelson, Cerutti and Noëlle Perron (2017) cited Saunders (2008) who noted that availability of infrastructure like computer and Internet facilities, technical know-how (literacy) as well as skills needed for information resources retrieval play essential role in the use of any technological innovation.

Availability of infrastructure entails the extent to which electricity supply, computer, internet and some basic networking resources are put in place to support the use of EHR by medical doctors in teaching hospitals. It also involves rules, standards, storage and processing equipment, communication and support facilities, and existence of proper hardware and software (Moghaddasi, Hosseini, Asadi, & Ganjali, 2011). The use of intranet and internet connections using Integrated Service Digital Network (ISDN) and broadband network will facilitate the use of EHR applications. Ghani, Bali, Naguib, Marshall, and Wickramasinghe (2008) also note that a widespread telecommunications network infrastructure capability provides many advantages for implementing EHR systems across healthcare facilities in the world.

Training is another index that could be employed to measure the institutional support of EHR use by medical doctors. Generally, training refers to instructions in operating technical and mechanical machine/equipment. Training here is defined as means to which medical doctors acquire the needed skills in the operation and use of electronic health records in patient care. Training is an organised activity aimed at imparting information and/or instruction to improve the recipient's performance or to help him/her in attaining a required level of knowledge or skills. It usually has specific goals of improving one's capability, capacity, productivity and performance. Training could serve as an excellent tool to communicate the initiatives behind technology implementation, to help users understand the benefits that EHR can bring and eventually to improve the satisfaction of the end-users. According to Loria

(2019), training ranges from web-based training, remote phone training, classroom training, EHR functionalities, case-based, role-based, process-based, mock-clinic to on the-job training. Investing in training – on the job and off the job - is crucial for the purpose of avoiding setbacks, errors, employee turnover and other general frustrations while facilitating a smooth transition from paper to electronic system in the teaching hospitals. Therefore, medical doctors need to be constantly engaged and exposed to training in the use of electronic health records for the purpose of facilitating effective health care service delivery.

Healthcare is one the most complex and fast-moving industries that exists. New digital technologies of which EHR is being developed, with the potential to support the clinical practice that would bring many advantages into the healthcare sector. EMR have long been considered as a key factor for improving healthcare quality and safety, reducing adverse events for patients, decreasing costs, optimizing processes, improving clinical research and obtaining best clinical performance (Cowie, Blomster, Curtis, Duclaux, Ford et al, (2017); Scott, Stein., Thomas, & Kaur, 2017). The use of EHR is necessary as it offers many benefits. In the hospitals, it has been shown that both physicians and nurses expect many benefits from the use of EMR. This is because it is perceived that EMR have a positive impact on quality, efficiency and effectiveness of care; handover communication between healthcare workers; teaching, tutoring and research activities (De Benedicts, Lettieri, Gastaldi, Masella, Urgu, & Tartaglini, 2020).

On the other hand, it has been established by scholars like Ladan, Wharrad and Windle (2018); Lopez, Omizo and Whealin (2018) of the low use of EHR. In Nigeria, Adedeji, Irinoye, Ikono and Komolafe (2018) and Agbese (2018) have also observed that the use of EHR is quite low in the teaching and tertiary hospitals. In the teaching hospitals in South-West Nigeria which is the context of this study, preliminary observations have also revealed that the use of EHR by medical doctors is low. Therefore, this research study is designed to find out if ICT competence and institutional factors will have any influence on the use of the electronic health records by medical doctors in teaching hospitals in South-West Nigeria.

Statement of Problem

Electronic health record (EHR) is a computerised

health information system that provides detailed information such as patient demographics, encounter summaries, medical history, allergies, intolerances, and lab test histories. It is a digital version of a patient's paper chart that gathers, creates, and stores the health record electronically and facilities for easy tracking of medical histories, medications, test results and other types of patient-specific clinical information, as well as the costs associated with the services provided. The system is also developed as means of preventing medical errors, facilitating improved communication, provide more readily access and assistance with monitoring and report writing of patient data. The use of electronic health records (EHR) involves the integration of various tools such as emergency information, test ordering. electronic prescription, decision support systems, digital imagery and telemedicine that is designed to improve the uptake of evidence into clinical decisions. The benefits are also so numerous and some of these are evidenced in the following: better documentation, enhance within-facility health care coordination, reduces staff time spent on specific paper-based administrative tasks, reduces number of duplicate diagnostic tests ordered and improve patient safety, health outcomes and decreasing the cost of health care.

However, in spite of the fact that the use of EHR is very beneficial, preliminary investigations by the researcher and literature reviewed have revealed that the use of EHR is low and difficult (Devkota & Devkota, 2013), Ameri, Khajouei & Ghasemi-Nejad, 2017). In Nigeria, Adedeji, Irinoye, Ikono and Komolafe (2018) and Agbese (2018) observed that the use of EHR is quite low in the teaching and tertiary hospitals due to poor knowledge of database management and statistical analysis package. Some of the reasons noted for the low use of EHR are financial barriers (Roches, Campbell, & Rao, 2008); system failures (McFarlan, 2005); technical, professional, attitude-behavioral barriers and standardization barriers Khajouei & Ghasemi-Nejad, 2017); (Ameri, and inconsistency and failure to sustain the use (Berihun, Atnafu, & Sitotaw, 2020).

Organizational support is the extent to which employees deem that their organization values their contribution and cares about their well-being (Rhoades and Eisenberger 2002) in Abou-Moghli, 2015). It refers to the role an organizational plays towards its employees to show the extent to which the institution values their contributions and cares about their well-being. Therefore, in order for the medical doctors in the teaching hospital in South-West Nigeria to effectively use EHR, it is assumed that they must be adequate institutional support in the form of infrastructure and training are very crucial. These would encourage the medical doctors to perform their job by making use of EHR. In view of this, this study sought to investigate institutional support on the use of electronic health records by medical doctors in teaching hospitals in South-West, Nigeria.

Objective of The Study

The broad objective of the study was to investigate the influence of institutional support on electronic health records use by medical doctors in teaching hospitals in South-West, Nigeria.

1. find out the types of institutional support for the medical doctors in teaching hospitals in South-West, Nigeria,

2. determine the influence of institutional support on electronic health records use by medical doctors in teaching hospitals in South-West, Nigeria,

Research questions

The following research question were answered in the study:

1. What are the level of institutional support for the medical doctors in teaching hospitals in South-West, Nigeria?

Hypotheses

In this study, the following null hypotheses was tested at 0.05 level of significance:

 H_{02} Institutional support has no significant influence on electronic health records use by medical doctors in teaching hospitals in South-West, Nigeria.

METHODOLOGY

This study utilised a research design of survey type. Population of this study comprised the medical doctors in teaching hospitals in South-West region of Nigeria. There are twelve (12) teaching hospitals located in five States of South-West geo-political zones of Nigeria. The hospitals have a total number of 3,381 medical doctors (excluding medical doctors on internship and National Youth Service). Thus, the population for this study comprises of 3,381 medical doctors under the employment of university teaching hospitals in Nigeria. A sample size of 345 was determined for this study using krejcie and Morgan (1970) formula. Questionnaire was use as instrument for data collection, the data gathered were collated and analyzed using descriptive and inferential statistics.

Analysis of Research Questions

Research Question one: What are the types of institutional support for the medical doctors in teaching hospitals in South-West, Nigeria?

| Types of Institutional Support: Please tick appropriately the types of institutional support for the medical doctors: | Strongly Disagree (1) | Disagree (2) | Agree (3) | Strongly Agree (4) | Mean | Std. Dev. |
|---|-----------------------------|-----------------|-----------|--------------------------|------|--------------|
| Infrastructure | | | | | 2.55 | 0.71 |
| There is a central support unit in my hospital to help with technical problems | 41(12.8) | 61(19.1) | 162(50.5) | 56(17.6) | 2.62 | 0.90 |
| There is available EHR computer system support for patient management in my hospital | 37(11.6) | 81(25.3) | 143(44.6) | 59(18.5) | 2.6 | 0.90 |
| There is availability of constant electricity to power ICT equipment | 56(17.6) | 69(21.5) | 120(37.4) | 75(23.5) | 2.58 | 1.02 |
| There is specialised patient records software in my hospital | 45(13.9) | 87(27.1) | 143(44.4) | 47(14.6) | 2.6 | 0.90 |
| There is availability of personal computer installed in my hospital for EHR support | 42(13.0) | 101(31.5) | 129(40.3) | 49(15.1) | 2.58 | 0.90 |
| Internet connectivity in my hospital is strong | 47(14.7) | 113(35.1) | 130(40.4) | 31(9.8) | 2.45 | 0.86 |
| There are line thermal xprinters installed on the EHR network for maximal support | 66(20.7) | 101(31.6) | 114(35.6) | 39(12.0) | 2.39 | 0.95 |

Table 1. Types of institutional support for the medical doctors in teaching hospitals

Table 1. Continuation

| Training | | | | | 2.20 | 0.92 |
|---|----------|-----------|-----------|----------|------|------|
| The on-the-job training on patient's records documentation is assisting me in spending less time in keeping patient information | 59(18.3) | 88(27.4) | 125(39.0) | 49(15.4) | 2.51 | 0.96 |
| One of the on-the-job training I received for better patient care recording is clinical data assessment | 60(18.7) | 125(39.0) | 94(29.3) | 42(13.1) | 2.33 | 0.93 |
| The off-the-job training on patient record management I had received is helping me as a doctor in decision support in my hospital | 77(24.1) | 101(31.4) | 102(31.9) | 40(12.6) | 2.28 | 0.98 |
| The on the job training on the use of EHRs helped me in taking some decision relating to new clinical information system | 82(25.5) | 101(31.5) | 92(28.6) | 46(14.5) | 2.2 | 1.00 |
| I had received troubleshooting training on functionalities like patients' alerts and warnings | 78(24.2) | 116(36.1) | 92(28.8) | 35(10.9) | 2.18 | 0.95 |
| I have received training on discharge documents preparation using EHR system | 74(23.0) | 132(41.0) | 75(23.5) | 40(12.5) | 2.02 | 0.95 |
| I have received specialized training on capturing clinical data | 96(29.8) | 95(29.6) | 91(28.5) | 39(12.1) | 1.87 | 1.00 |
| Average Weighted Mean | | | | | 2.37 | 0.68 |

Decision Rule: If mean is 1.0 to 1.74 = Strongly Disagree; 1.75 to 2.49 = Disagree; 2.50 to 3.24 = Agree; 3.25 to 4.0 = Strongly Agree.

Criterion Mean = 2.5

Respondents were asked to indicate the types of institutional support for the medical doctors. The result in Table 1 revealed that medical doctors regards the types of institutional supports to be infrastructure (average mean= 2.55) and training (average mean= 2.20) in teaching hospitals in South-West, Nigeria. This result also indicate that, infrastructural support is considered more important in the teaching hospitals investigated than trainings among medical doctors. This result suggests that, the teaching hospitals have not given serious attention to issues related to trainings, installation of line thermal xprinters on EHR for medical support and internet connectivity, which all attracted low scores on the rating scale. Hence, administrators in teaching hospitals in South-West, Nigeria must take deliberate actions and steps towards addressing these issues.

Test of Hypotheses

 Table 2. Influence of institutional support on electronic health records use

| Variables | Beta (β) | Т | Sig. | R^2 | <i>Adj.</i> R ² | F | Р |
|------------------------------|---------------|-------------|------|-------|----------------------------|---------|-------|
| | | | | | | | |
| | | | | | | | |
| (Constant) | | 12.360 | .000 | 0.697 | 0.696 | 788.173 | 0.000 |
| Institutional support | .835 | 28.074 | .000 | | | | |
| Dependent Variable: Elec | tronic health | records use | • | | | | |
| Predictor: Institutional sup | port | | | | | | |
| DF(F-Statistic) = 1,320 | | | | | | | |
| DF (T-Statistic) = 319 | | | | | | | |
| 0 <u><u> </u></u> | 1. 000 | | | | | | |

Source: Field Survey Results 2021

The result relating to hypothesis two is presented in Table 2. The independent variable (institutional support) was regressed against the dependent variable (electronic health records use) using simple linear regression analysis. The result revealed that institutional support ($R^2 = 0.697$, β =0.835, t (319) = 28.074, p < 0.05) has positive and significant influence on electronic health records use

by medical doctors in teaching hospitals in South-West, Nigeria (F (1, 320) = 788.173). The null hypothesis (H_{02}) is therefore rejected. Institutional support accounted for 83.5% of the change in electronic health records use among medical doctors in teaching hospitals in South-West, Nigeria. This result suggests that the availability of institutional factors play a major role in facilitating effective use of EHRs among medical practitioners. Hence, when teaching hospitals fails to provide enabling institutional support for medical personnel on the job, their abilities to utilise electronic health records would be diminished. Therefore, organisational plans, policies and practices that can improve organisational support of medical doctors' should be implemented in teaching hospitals in South-West, Nigeria. However, it was important to identify the institutional support (indicators) that can enhance electronic health records use by medical doctors in teaching hospitals in South-West, Nigeria. So, the next analysis in Table 4.10a was done to achieve this purpose.

DISCUSSION OF FINDINGS

This study examined the institutional support and electronic health records use by medical doctors with reference to teaching hospitals in South-West, Nigeria. This section reports the findings of this study and discusses the findings in line with previous scholarly literatures. The research questions and hypotheses drawn for the study were intended at examining the influence of ICT competence and institutional support on electronic health records use by medical doctors with reference to teaching hospitals in South-West, Nigeria.

Research Question One

Research question three examined the types of institutional support for the medical doctors in teaching hospitals in South-West, Nigeria. The result revealed that medical doctors regard the types of institutional supports to be infrastructure and training in teaching hospitals in South-West, Nigeria. However, this result also indicate that infrastructural support is considered more important in the teaching hospitals investigated than trainings among medical doctors. In support of this study, the findings of Sarah (2010) argued that healthcare is a complex industry with physician practices embedded in various institutional networks to the extent that most medical practices cannot operate independently. Similarly, the research work of Morton and Wiedenbeck (2010) corroborated that physicians are mainly satisfied with the use of the EHR while some express concerns about the negative impact of the EHRs use on the physician-patient interaction owing to a number of factors such as training, infrastructure among others. On the other hand, findings of researches carried out by Bredfedlt et al. (2013) concluded that training on electronic health records can influence provider's willingness and ability to use EHR effectively. In this case, training could help provider to understand how the system can be leveraged and in clinical practice and introduce features and functionality with which providers

may not be familiar. Also in support of this finding, Bajwa's et al. (2019) study showed that infrastructure entails the type of support or help provided by top management as well as co-workers of hospitals to physicians to aid them in accepting, adopting and adapting to the use of emerging technology in their work practices.

Hypothesis One

Hypothesis two revealed that institutional support has positive and significant influence on electronic health records use by medical doctors in teaching hospitals in South-West Nigeria.

Institutional support (infrastructure and training) were regressed against electronic health records use in the study. This finding supports the report of Lanier et al (2017) who examined the influence of pre-post intervention study with family medicine residents and discovered an increased in the use of signposting and EHRs after training. Similarly, corroborating this study, Chinomona and Moloi (2014) investigated the role played by institutional support in the commitment, satisfaction and performance of teachers in South Africa and concluded that institutional support has a positive influence on institutional commitment, job satisfaction and employee performance. The study further agrees with Dastagir et al. (2011) whose result demonstrated that intensive 3-day off-site physician peer-led proficiency training program had effect on experienced users of EHR. This study also corroborates the findings of Gesulga, Berjame, Moquiala and Galido (2017) in reviewing the barriers to electronic health record system implementation and information systems resources identified people resource (user resistance and lack of skills) and procedure resource (concern for return on investment and lack of administrative and policy support) as the primary barriers to overcome while implementing EHR.

CONCLUSION

The study demonstrates institutional support are critical factors for enhancing the use of electronic health records among medical doctors in teaching hospitals in South-West, Nigeria. Quite a number of medical doctors demonstrated competence in the use of EHR with low level of use due to poor knowledge of the database management. Although, many medical doctors do not regard electronic health records use for purpose of retrieving patient records, promoting efficiency in care provision, coordination of facility health care or in reducing number of duplicate diagnostic tests ordered, rather, they make use of it for different reasons. The study demonstrated a positive and significant influence of

the independent variables (Institutional support) on electronic health records use by medical doctors in teaching hospitals in South-West, Nigeria. The study also concludes that Institutional support is indispensable factors that can improve the use of electronic health records among medical doctors in teaching hospitals in South-West, Nigeria. The findings have also shown that there is relationship between the empirical, theoretical and statistical evidences between the variables of interest. This study has generally revealed that Medical doctors' use of EHR was low in all aspects. In view of this, there is the need to intensify and propagate the adoption and use of EHRs by medical doctors in Nigeria. This would save cost, space and time of the doctors and also facilitate effective and efficient health care delivery service in Nigeria.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. The study found that medical doctors considered infrastructural support to be more important than training in the teaching hospitals investigated. This therefore, suggest the need for the parent institution and funding agencies to support hospital management in terms of subvention and funding as a means of addressing the infrastructure requirements for the deployment of the EHR.

2. Since the results of this study indicated that the Institutional support had significant influence on the use of electronic health records by medical, concerted efforts by the hospital management should be taken to improve on training and funding of medical doctors towards EHR use for purpose of retrieving of patient records on regular clinical visit, promoting efficiency in care provision, coordination of facility health care, obtaining specialized patient information, reducing staff time spent on specific paper-based administrative tasks and reducing number of duplicate diagnostic tests ordered.

REFERENCES

- Abbas, A. D., Abubakar, A. M., Omeiza, B., and Minozar, K. (2013). Information-seeking behaviour and computer literacy among resident doctors in Maiduguri, Nigeria. *Annals of African Medicine*. 12(2), 115-119.
- Abou-Moghli, A. (2015). The role of organizational support in improving employees' performance. *International Business Research*, Vol. 8, No. 2.
- Adedeji, P., Irinoye, O., Ikono, R., and Komolafe, A. (2018). Factors influencing the use of electronic health records among nurses in a teaching hospital in Nigeria,

Journal of Health Informatics in Developing Countries, 12(2),1-20.

- Armstrong, M. (2014). A Handbook of Personnel Management Practice, reproduced in Personnel in Practice, *Currie, Donald: Blackwell Business (Oxford, UK)*.
- Ayandale, O. S. (2018). Electronic medical record system as a central tool for quality healthcare services, 10,147-157.
- Bajwa, N. K., Singh, H. and De, K. K. (2019). Impact of EHR technology implementation on physicians' job satisfaction. *International Journal of Applied Management and Technology*, 18(1),111–125.
- Barlow, J. (2017). Managing innovation in healthcare world, *Scientific Publishing Europe.* London.
- Beaudry, A. and Pinsonneault, A. (2010). The other side of acceptance: studying the direct and indirect effects of emotions on information technology use, *MIS Quarterly*, (34: 4) pp.689-710.
- Bem, D. J., and Allen, A. (1974). On predicting some of the people some of the time: the search for crosssituational consistencies in behaviour. *Psychological Review* 8 (6), 506–520
- Devaraj, S. and Kohli, R. (2017). Information Technology Payoff in the Healthcare Industry: A Longitudinal Study, *Journal of Management Information Systems*, Vol. 16, No. 4, pp. 41-67.
- Devkota, B., Lamia, J., Pommer, N., Smith, J. and Whitman, B. (2011). The impact of training on the use of electronic health records. *Training on the use of EHR*, 9 (3), 140-147.
- Devkota, B. and Devkota, A. (2013). Electronic health records: advantages of use and barriers to adoption. *Health Renaissance, 11(3):181-184.*
- Dimaggio, P. and Powell, W. (2015). The Iron Cage Revisited: Institutional Direct and Indirect Effects of Emotions on Information Technology Use," *Management Information System Quarterly* (34:4), pp. 689-710.
- Kane, L. and Chesanow, N. (2014). Medscape Electronic Health Records Report. *Journal of Health Information Management*, 19(10): 23-26.
- Kenya Ministries of Health (2010). Standards and guidelines for electronic medical record systems in Kenya. Nairobi: Kenya Ministries of Health.
- Ketikidis, P., Dimitrovski, T., Lazuras, L.and Bath, P. A. (2012). Acceptance of health information technology in health professionals: An application of the revised technology acceptance model, *Health Informatics Journal* 18(2), 124-134.
- Khwima E., Msiska, M., Kumitawa, A., and Kumwenda,
 B. (2017). Factors affecting the utilization of electronic medical records system in Malawian central hospitals. *Malawi Medical Journal* 29 (3), 247–253.
- Kierkegaard, (2012). Medical data breaches: Notification delayed is notification denied. *Computer Law and*

Security Review. 28.2: 163–183.

- Kifle, M., (2008) A telemedicine transfer model for sub Saharan Africa. *Proceedings of the 41st Hawaii International Conference in System Science.*
- Lee, T. T. (2018). Nursing information: Users' experiences of a system in Taiwan one year after its implementation. *Journal of Clinical Nursing*; 17(6):763.
- Lopez, C. A., Omizo, R. K., and Whealin, J. M. (2018). Impact of a tailored training on advanced electronic medical records use for providers in a Veterans Health Administration Medical System, *JAMIA Open*, 1(2), 142–146.
- Lundberg, C., Warren, J., Brokel, J., Bulechek, G., Butcher, H., and Dochterman, O. (2014). Selecting a Standardized Terminology for the Electronic Health Record that Reveals the Impact of Nursing on Patient Care. *Online Journal of Nursing Informatics (OJNI)*. 12(2). Available from: http::ojni.org/12_2/lundberg.pdf.
- Ma, C. C., Kuo, K. M., and Alexander, J. W. (2016).A survey-based study of factors that motivate nurses to protect the privacy of electronic medical records, *BMC Medical Informatics and Decision Making*, 16(13), 1-11.
- Miller, R. H. and Sim, I. (2016). Physicians' use of electronic medical records: Barriers and solutions, pursuit of quality, 116-126.
- Mohamamad, A. and Yunus, A. M. (2017). Technology acceptance in healthcare service: a case of medical. *International Journal of Academic Research in Business and Social Sciences*, 7(11), 863-87.

- Morton, M. E., and Wiedenbeck S. (2010). EHR acceptance factors in ambulatory care: a survey of physician perceptions, *Perspect Health Information Management*,7:1.
- Odekunle, F. F. (2016). Current roles and applications of electronic health record in the healthcare system, *International Journal of Medical Research and Health Sciences*, 5(12), 48-51.
- Ojo, A. I., and Popoola, S. O. (2015). Some correlates of electronic health information management system success in Nigerian teaching hospitals. *Biomedical Informatics Insights*, 7 1–9 Available at:10.4137/Bii.s20229.
- Olaniyi, O. M., Omotosho, A., Robert, J., and Oke, A. O. (2013). Development of an electronic medical image archiving system for health care in Nigeria. *International Journal of Computer and Information Technology* 2(4), 705-711.
- Olasina, G., (2014) Predictors of legislators ICT acceptance and use in the performance of legislative functions at the Nigerian National Assembly PhD thesis submitted to the Department of the Information Studies in the University of Kwazulu-Natal Pirtermariburg
- Onifade, D. O. and Popoola, S. O. (2015). Cognitive styles, information needs and utilization of library information resources as predictors of teaching effectiveness of educators in library and information science school in Nigeria, *Information and Knowledge Management*, (5)(8), 46-60.