Leveraging ICT for improved quality services in secondary healthcare facilities in Nigeria: Evidence from Kogi State

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ABSTRACT

This study focused on investigating the relationship between Information and Communication Technology (ICT) and the provision of high-quality healthcare services. The research employed a survey research design and concentrated on secondary healthcare facilities within the state. A total of 273 healthcare personnel were randomly selected from these facilities using a simple random sampling technique. Data was collected through a well-structured questionnaire. The secondary information was provided through the Kogi State Strategic Health Development Plan, textbooks, journal articles, conference papers, theses, and the internet. The gathered information was analysed using descriptive statistics and linear regression. Data on respondents' demographic characteristics and ICT utilisation were presented using simple percentages in tables. The findings of the study demonstrated that the adoption of ICT significantly influences the delivery of quality healthcare services in secondary healthcare facilities. Specifically, the utilisation of ICT can enhance patient safety by facilitating comprehension of medical information, enabling online treatment evaluations, monitoring patient progress, and predicting potential medical complications. Based on the results, it can be concluded that improving ICT adoption is crucial for enhancing and sustaining the provision of quality healthcare services. Therefore, the study recommends that the management of secondary healthcare facilities should prioritise efforts to enhance ICT adoption within their operations. The practical implication of the study is that incorporating ICT in healthcare practices can contribute to more informed decision-making and proactive measures, ultimately fostering a safer and more effective healthcare environment in secondary healthcare facilities.

Keywords: *Efficiency, Healthcare delivery, Healthcare facilities, ICT, Knowledge, Quality healthcare service, Skills.*

Highlights of this paper
- The paper focused on how adopting ICT can enhance improved health service quality.
- The paper unveiled necessary knowledge and skills needed to utilize ICT.
- The paper revealed the significance of ICT in the health sector.

1. INTRODUCTION

The utilization of Information and Communication Technology (ICT) in the healthcare sector has not been effectively harnessed to accommodate the evolving nature of healthcare services and promote transparency. It is anticipated that there will be a significant increase in the adoption of ICT for healthcare delivery. Ogundaini, de la Harpe, and McLean (2021) have contended that Nigeria and South Africa rank among the top five Sub-Saharan African countries in terms of innovative technology development. It is worth noting, however, that ICT remains underutilized in areas such as queuing reduction, card collection, payment, and other electronic health (ehealth) services. In Kogi State, Nigeria, there is a pressing need for the swift implementation of ICT in healthcare delivery. Despite efforts to ensure equitable access to high-quality and affordable healthcare services, the extent to which ICT is optimally embraced in Kogi State remains questionable.

Public healthcare facilities in Kogi State continue to rely on traditional methods for providing healthcare services. Outdated filing systems and conventional check-up queues persist, with doctors giving priority attention to certain patients (Al Owad, Islam, Samaranayake, & Karim, 2022). Considering the administrative challenges faced by secondary healthcare facilities in Kogi State, the importance of ICT in enhancing efficiency, effectiveness, and transparency cannot be overstated. In light of the aforementioned discussion, this study focuses specifically on the secondary healthcare facilities in Kogi State. The use of user-friendly telecommunications equipment such as smartphones and tablets has become increasingly prevalent, effectively bridging the communication gap (Jia, Komeily, Wang, & Srinivasan, 2019; Li et al., 2022). Consequently, it is imperative for secondary healthcare facilities to adopt ICT in an optimal manner, enabling easier access to health-related information and ensuring a more comfortable experience for patients in Kogi State. By embracing ICT, patients will benefit from improved health outcomes in relation to the value of money spent on healthcare services.

2. LITERATURE REVIEW

Modern ICT has become an essential tool for delivering public services, emphasizing the need to establish a conceptual definition of Information and Communication Technology for this study (Yang, 2015). The concept of ICT has been utilized across various disciplines to address diverse research issues. ICT is a concept that involves the collection, storage, retrieval, processing, evaluation, and transmission of information (Tolorunleke, Haruna, & Jordan, 2022).

Before the 20th century, secondary healthcare organizations in Kogi State relied on conventional means of operation. However, due to the government's control over capital equipment, no significant progress or outcomes were achieved (Adamu et al., 2021). The print media was the primary medium for information distribution, gaining some vibrancy early on (Abakporo, 2012). The National Broadcasting Commission (NBC) and the Nigeria Communication Commission (NCC) were established before the advent of ICT (Abakporo, 2012). Both commissions were formed in 1992, with the NBC starting to license private operations in 1993 and experiencing some success, while the NCC couldn't operate independently until 1997. Only a few wireless companies had licenses to offer telephone services, primarily in Lagos.

However, during the later years, the use of computers in Nigeria was still considered peripheral and more of a status symbol than a necessity (Abakporo, 2012). The computers that made their way into the country were outdated

models, discarded by developed countries, making Nigeria a dumping ground for obsolete technologies (Olise, Anigbogu, Edoko, & Okoli, 2014). This situation was prevalent in the entire Nigerian technology sector, where most technological tools and assets were outdated or operated by foreign expatriates. The potential of ICT as an enabler and key driver of the economy was recognized during the Obasanjo administration with the licensing of GSM operations in the country (Abakporo, 2012). Another initiative was the establishment of the national policy on ICT in March 2001, highlighting the importance of ICT to the economy. The government, through the Ministry of Science and Technology, also set up the National IT Development Agency (NITDA) to implement the policy (Suleiman, 2016). In today's healthcare landscape, the pivotal role of ICT cannot be ignored. The Figure 1 shows few of the ICT used by healthcare professionals.
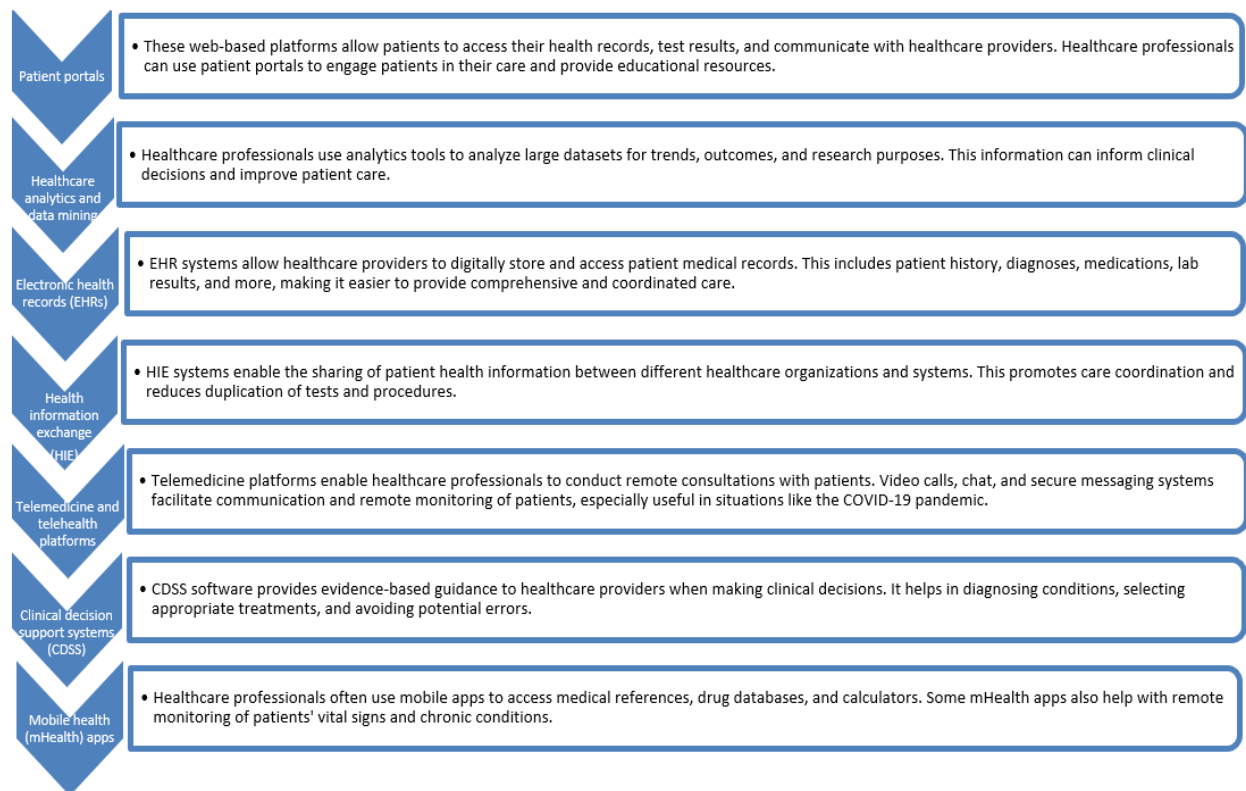

Figure 1. ICT used by healthcare professionals.

During the COVID-19 pandemic, ICT systems were reconfigured to maintain social connections, provide distributed health services, respond to patients' needs, and offer virtual education while ensuring physical distancing. ICT has been instrumental in making healthcare service delivery more effective and efficient in secondary healthcare facilities. Adopting ICT enables doctors in these facilities to easily provide treatment and care to patients across different parts of Kogi State. Through ICT, doctors can consistently track patients' medical history, diagnostic results, and overall health status. They can communicate with patients, suggest medical assessments, and prescribe medication.

The value of investing in information and communication technology is underpinned by rapidly advancing science and technology developments, economic volatility, and uncertainty. ICT empowers secondary healthcare facilities to proactively adapt to changes, making it an integral and pivotal part of their activities and processes (Essays, 2018). This raises the question of the necessity of investing in ICT. Secondary healthcare facilities can benefit

greatly from adopting ICT, and the success of this investment lies in utilizing ICT in a way that aligns with the strategic and operational goals of these facilities in Kogi State.

The introduction of web-based technologies in secondary healthcare facilities, driven by global pressure from ICT, has created a new platform that challenges existing norms, making the regulation of health practices and systems a major task (Baridam & Govender, 2019). As the government holds a wealth of data on various topics, it becomes crucial for them to proactively make this data available to citizens while also promoting local capacity growth in secondary healthcare facilities.

ICT can help curb inefficiency and maladministration in secondary healthcare facilities. By optimizing internal healthcare processes, enabling faster and more informed decision-making, and facilitating real-time transaction processing, ICT enhances the efficiency of these facilities. ICT can gradually reduce costs in secondary healthcare facilities by improving information-related tasks and introducing innovations in healthcare processes and organizational structures (Abakporo, 2012). The collection and storage of data lead to reduced overhead expenses, while doctors and nurses can save time spent on manual labor, allowing them to focus on quality healthcare delivery and ensuring optimal resource utilization in secondary healthcare institutions.

Furthermore, the importance of ICT in secondary healthcare institutions is justified by its potential to reduce corruption, promote transparency, and foster accountability. Compiling a database of biometric information, such as fingerprints, age, appointment details, promotion records, and predicted years of service, can help eliminate ghost employees from secondary healthcare facilities in Nigeria (Apulu, 2012). Interest services like email can be utilized to authenticate the validity of circulars issued by specific offices. Applying ICT to administrative tasks in secondary healthcare facilities increases government efficiency. ICT can ultimately enhance the delivery of quality services, strengthen the management of secondary healthcare facilities, expand the scope of diagnoses and comprehensive health services, and improve administrative functions.

3. THEORETICAL REVIEW

The Technology Acceptance Model (TAM) is a well-established theoretical framework that provides valuable insights into how healthcare providers (neurologists, internists, residents, nurses, trained technicians and others) accept and use technology. When applied to the healthcare context, TAM can shed light on why and how healthcare professionals and patients adopt and utilize Information and Communication Technology (ICT) tools to enhance healthcare services in secondary facilities (Alanazi, 2020; Saengchai, Pattanapongthorn, & Jermsittiparsert, 2019).

TAM views perceived usefulness as a crucial determinant of technology adoption. In the secondary healthcare facilities of Kogi State Nigeria, ICT is opined to have effect on healthcare services. ICT systems enables efficient and accurate management of patient records, including medical histories, treatment plans, and test results (Bae et al., 2020; Pai, Ganiga, & Pai, 2021). This streamlines the administrative tasks and ensures healthcare professionals have quick access to vital patient information, leading to more informed decision-making and improved patient care.

Advanced diagnostic technologies, which are frequently enabled by ICT, can improve the accuracy and rapidity of diagnoses. When healthcare professionals see these technologies as beneficial for enhancing diagnostic precision, they are more likely to adopt them. ICT facilitates telemedicine services, allowing healthcare professionals to remotely assess and treat patients (Anthony, 2020; Bokolo, 2021; Haleem, Javaid, Singh, & Suman, 2021). In Nigeria with minute access to healthcare, telemedicine can be a lifeline. When healthcare professionals recognize the value of telemedicine in Nigeria, particularly in Kogi State, in extending their reach and providing timely care, they are more likely to embrace it.

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Another critical factor highlighted by TAM is the perceived ease of use of technology. In the healthcare system of Kogi State, this translates to how user-friendly and accessible ICT systems are for healthcare professionals in the secondary healthcare facilities. When ICT systems are designed with the end-users in mind and are easy to integrate into their daily routines, healthcare professionals are more likely to adopt them (Iyanna, Kaur, Ractham, Talwar, & Islam, 2022; Zaman et al., 2022). ICT tools with intuitive interfaces and unambiguous functionalities are more likely to adopt it. If healthcare professionals can easily use diagnostic software, electronic health records, or telemedicine platforms, they are less likely to encounter resistance during implementation.

The Technology Adoption Model stresses that attitudes, shaped by perceived utility and usability, play a significant role in technology adoption. When healthcare professionals develop favourable attitudes toward the use of ICT in healthcare, they become proactive advocates for these instruments. They are more likely to actively incorporate opportunities to use ICT to enhance healthcare services into their practice. Organizations in the healthcare industry can identify and support "champions" who have a positive attitude toward ICT. These individuals can facilitate the adoption process, inspire their coworkers, and demonstrate the advantages of these technologies.

4. MATERIALS AND METHODS

4.1. Research Design

For this study, survey research design was adopted. The choice of the design was backed up with the strategy to cover many secondary healthcare facilities in Kogi State. The survey research design was adopted for this study because it is convenient and had the cheapest cost implication for collection of large data.

4.2. Population of the Study

There are many primary, secondary and tertiary health facilities that attract research attention relative to ICT adoption and healthcare service delivery in Kogi State. This study however premised on the secondary health facilities. The number of targeted secondary health facilities in Kogi State is 53. The study's target was on personnel (neurologists, internists, residents, nurses, trained technicians and others). Thus, the population of the study was 530 personnel.

4.3. Sampling Technique

A simple random sample technique was used to pick 273 medical personnel from selected secondary health facilities in Kogi State. With the goal of preventing any unfair bias in the selection process and ensuring equitable participation chances for all members of the population, this approach attempted to provide broad representation across age, gender, marital status, and work experience. At 273, the overall sample size remained constant.

4.4. Sample Size of the Study

Given the total population to be 530, the research adopted Salant and Dillman (1994) method for the finite population. The formula is stated below:

$$N_s = \frac{N_p\,(p)(1-p)}{(N_p-1)\left(\frac{B}{C}\right)^2 + (p)(1-p)}$$

Where: Ns= completed sample size required; Np= Sample population; P= proportion expected to answer in a certain way (50% or 0.5 is most conservative); B= acceptable level of sampling error (0.05 = +5%; 0.03 = + 3%); C=

Z statistic associated with the confidence interval (1.645=90% confidence level; 1.960=95% confidence level; 2.576=99% confidence level).

Therefore;

$$N_s = \frac{530\,(0.5)(1-0.5)}{(530-1)\left(\frac{0.05}{1.96}\right)^2 + (0.5)(1-0.5)}$$

Where:

Ns= 272.577822250524 (Approximately 273).

Np= 936.

P= 50% or 0.5.

B= 0.05 or $\pm$5%.

C= 1.960.

4.5. Sources of Data Collection

The primary data were obtained through well-structured questionnaire. The secondary information was provided through Kogi State Strategic Health Development Plan, textbooks, journal articles, conference papers, thesis and internet.

4.6. Method of Data Analysis

The collected data were presented and analysed through a frequency distribution table. Descriptive statistics were employed to succinctly summarise and depict the data in a straightforward and comprehensible manner. Additionally, regression analysis was utilised to generate inferential statistics, guiding the formulation of conclusions. The specified model is presented below:

$$QHD = f(X_1 \ldots X_n) \quad (1)$$

Where,

QHD = Dependent variable (Quality Healthcare Service Delivery).

f = a function to be specified.

X = a vector of explanatory variable that pertain to ICT adoption.

In specific form, Equation 1 translates into Equation 2 thus:

$$QHD = a + \beta_1 ICN_1 + e \quad (2)$$

Where,

a = Constant.

QHD = Quality Healthcare Service Delivery.

ICN = ICT adoption.

β_1, is regression coefficients.

e = residual or stochastic term.

Table 1. Questionnaire administration.

Questionnaires	Frequency	Percentage
Administered	273	100
Retrieved	229	83.88
Un-retrieved	44	16.12

5. RESULTS

Table 1 shows that out of the administered questionnaires; only 229 copies (83.88%) were retrieved; and 44 copies were not retrieved. Thus, subsequent analyses were based on the data retrieved from the 229 copies.

Table 2. Demographic characteristics of participants.

Category	Variables	Frequency	Percentage
Gender	Male	135	59.0
	Female	94	41.0
Marital status	Single	84	36.7
	Married	32	14.0
	Widow	58	25.3
	Separated	36	15.7
	Divorced	19	8.3
Experience	1-3 years	25	10.9
	4-6 years	41	17.9
	7-9 years	39	17.0
	10-12 years	35	15.3
	13-15 years	28	12.2
	16-18 years	34	14.8
	19 years & above	27	11.8

Table 2 shows that 135 participants (59%) were the male gender; and 94 participants (41%) were the female gender. The implication is that there is more dominance of the male than the female personnel (among neurologists, internists, residents, nurses, trained technicians and others) in the secondary health facilities in Kogi State.

Table 2 shows that 84 participants (36.7%) were single; 32 participants (14%) were married; 58 participants (25.3%) were widows; 36 participants (15.7%) were separated; and 19 participants (8.3%) were divorcees.

Table 2 shows that 25 participants (10.9%) had 1 to 3 years of work experience; 41 participants (17.9%) had 4 to 6 years of work experience; 39 participants (17.0%) had 7 to 9 years of work experience; 35 participants (15.3%) had 10 to 12 years of work experience; 28 participants (12.2%) had 13 to 15 years of work experience; 34 participants (14.8%) had 16 to 18 years of work experience; and 27 participants (11.8%) had above 19 years of work experience.

Table 3 shows that 3 participants (1.0%) demonstrated expert proficiency in word processing; 29 participants (9.7%) showcased advanced proficiency; 46 participants (15.4%) possessed intermediate proficiency; 143 participants (47.8%) were categorized as novices in word processing; and 78 participants (26.1%) had no knowledge of word processing. 9 participants (3.0%) were considered experts in using spreadsheets; 38 participants (12.7%) displayed advanced proficiency; 31 participants (10.4%) had intermediate proficiency; 146 participants (48.8%) were categorized as spreadsheet novices; and 75 participants (25.1%) had no knowledge of spreadsheets.

Table 3. ICT knowledge and skills.

	N	Expert proficiency	Advanced proficiency (%)	Intermediate proficiency	Novice n (%)	No knowledge n (%)
Word processing	229	3(1.0%)	29(9.7%)	46(15.4%)	143(47.8%)	78(26.1%)
Spread sheet	229	9(3.0%)	38(12.7%)	31(10.4%)	146(48.8%)	75(25.1%)
PowerPoint presentation	229	7(2.3%)	36(12.0%)	47(15.7%)	119(39.8%)	90(30.1%)
Database management	229	17(5.7%)	61(20.4%)	83(27.8%)	75(25.1%)	63(21.1%)
Database design using microsoft access	229	61(20.4%)	61(20.4%)	61(20.4%)	61(20.4%)	55(18.4%)
Internet search	229	121(40.5%)	93(31.1%)	24(8.0%)	29(9.7%)	32(10.7%)
Electronic mailing	229	53(17.7%)	124(41.5%)	25(8.4%)	81(27.1%)	16(5.4%)
Computer file management	229	22(7.4%)	46(15.4%)	45(15.1%)	113(37.8%)	73(24.4%)
Setting up computer system and install software	229	16(5.4%)	34(11.4%)	50(16.7%)	95(31.8%)	104(34.8%)

7 participants (2.3%) were experts in creating PowerPoint presentations; 36 participants (12.0%) demonstrated advanced proficiency; 47 participants (15.7%) had intermediate proficiency; 119 participants (39.8%) were categorized as novices in PowerPoint; and 90 participants (30.1%) had no knowledge of PowerPoint presentations.

17 participants (5.7%) were experts in database management; 61 participants (20.4%) had advanced proficiency; 83 participants (27.8%) showcased intermediate proficiency; 75 participants (25.1%) were categorized as novices in database management; and 63 participants (21.1%) had no knowledge of database management.

Each proficiency level (expert, advanced, intermediate) had 61 participants (20.4% each); 61 participants (20.4%) were novices in database design using Microsoft Access; and 55 participants (18.4%) had no knowledge of this aspect.

121 participants (40.5%) were experts in conducting internet searches; 93 participants (31.1%) had advanced proficiency; 24 participants (8.0%) demonstrated intermediate proficiency; 29 participants (9.7%) were categorized as novices in internet search; and 32 participants (10.7%) had no knowledge of internet searching.

53 participants (17.7%) were experts in electronic mailing; 124 participants (41.5%) demonstrated advanced proficiency in sending emails; 25 participants (8.4%) had intermediate proficiency; 81 participants (27.1%) were categorized as novices in electronic mailing; and 16 participants (5.4%) had no knowledge of sending emails.

22 participants (7.4%) were experts in managing computer files; 46 participants (15.4%) showcased advanced proficiency; 45 participants (15.1%) demonstrated intermediate proficiency; 113 participants (37.8%) were categorized as novices in file management; and 73 participants (24.4%) had no knowledge of computer file management.

Table 4. ICT utilization.

	N	VGE n (%)	GE n (%)	ME n (%)	LE n (%)	VLE n (%)
Have been utilizing a computer for over three years.	229	7(2.3%)	25(8.4%)	46(15.4%)	145(48.5%)	76(25.4%)
Possess email.	229	46(15.4%)	57(19.1%)	65(21.7%)	92(30.8%)	39(13.0%)
Have employed a computer on more than three occasions within the past month.	229	35(11.7%)	56(18.7%)	54(18.1%)	104(34.8%)	50(16.7%)
Have been accessing the Internet for over three years.	229	44(14.7%)	55(18.4%)	62(20.7%)	100(33.4%)	38(12.7%)
Have used social media.	229	38(12.7%)	60(20.1%)	55(18.4%)	98(32.8%)	48(16.1%)
Possess a laptop computer.	229	39(13.0%)	66(22.1%)	64(21.4%)	92(30.8%)	38(12.7%)

Note: VGE- Very great extent; GE- Great extent; ME- Moderate extent; LE- Low extent; VLE- Very low extent.

16 participants (5.4%) were experts in setting up computer systems and installing software; 34 participants (11.4%) demonstrated advanced proficiency; 50 participants (16.7%) had intermediate proficiency; 95 participants (31.8%) were categorized as novices in this aspect; and 104 participants (34.8%) had no knowledge of setting up computer systems and installing software.

Table 4 provides information about the extent of ICT utilization among a group of 229 participants. The table presents various activities and their corresponding utilization levels, which are categorized into different levels of extent. 7 participants (2.3%) utilized a computer to a very great extent; 25 participants (8.4%) used a computer to a great extent; 46 participants (15.4%) employed a computer to a moderate extent; 145 participants (48.5%) had a low extent of computer utilization; and 76 participants (25.4%) had a very low extent of computer utilization.

46 participants (15.4%) used email to a very great extent; 57 participants (19.1%) utilized email to a great extent; 65 participants (21.7%) employed email to a moderate extent; 92 participants (30.8%) had a low extent of email utilization; and 39 participants (13.0%) had a very low extent of email utilization.

35 participants (11.7%) used a computer frequently to a very great extent; 56 participants (18.7%) used a computer frequently to a great extent; 54 participants (18.1%) used a computer frequently to a moderate extent; 104 participants (34.8%) had a low extent of frequent computer utilization; and 50 participants (16.7%) had a very low extent of frequent computer utilization.

44 participants (14.7%) accessed the Internet to a very great extent; 55 participants (18.4%) accessed the Internet to a great extent; 62 participants (20.7%) accessed the Internet to a moderate extent; 100 participants (33.4%) had a low extent of Internet access; and 38 participants (12.7%) had a very low extent of Internet access.

38 participants (12.7%) used social media to a very great extent; 60 participants (20.1%) used social media to a great extent; 55 participants (18.4%) used social media to a moderate extent; 98 participants (32.8%) had a low extent of social media utilization; and 48 participants (16.1%) had a very low extent of social media utilization.

39 participants (13.0%) possessed a laptop computer to a very great extent; 66 participants (22.1%) possessed a laptop computer to a great extent; 64 participants (21.4%) possessed a laptop computer to a moderate extent; 92 participants (30.8%) had a low extent of laptop computer possession; and 38 participants (12.7%) had a very low extent of laptop computer possession.

Table 5. Regression results on influence of ICT adoption on quality healthcare service delivery in the secondary healthcare facilities in Kogi State.

Quality healthcare service	Coef.	Std. err.	T	P>|t|	[95% conf. interval]	
ICT adoption	0.902	0.029	31.37	0.000	0.845	0.958
_cons	0.033	0.088	0.37	0.713	-0.142	0.207
Source	SS	Df	MS	Number of obs.	=	229
Model	548.537	1	548.537	F(1, 227)	=	983.77
Residual	126.572	227	0.558	Prob > F	=	0.000
Total	675.109	228	2.961	R-squared	=	0.813
				Adj R-squared	=	0.812
				Root MSE	=	0.747

Table 5, which has an R2-value of 0.813, provides a scientific explanation for the impact of ICT adoption on the provision of high-quality healthcare services in secondary healthcare institutions in Kogi State. 81.3% of the variances in the quality of healthcare services provided in these facilities may be attributed to ICT adoption, according to this result. Additionally, it implies that other variables may account for 18.7% of the variations in healthcare service quality. A population-representative value of 0.812 is obtained by adjusting the R2 value to account for positive bias. The regression model is statistically significant at a level less than 0.01 according to the Prob> F statistic, which also shows a degree of freedom of 983.77. The model shows significant goodness of fit with an F-value of 675.109, providing evidence against the null hypothesis because the P-value is less than 0.001. The standard deviation of the error component is represented by the square root of the mean square residual ($\sqrt{0.558}$), another name for the root MSE (0.747).

The coefficient (= 0.902) illustrates the linear link between the adoption of ICT and the delivery of high-quality healthcare services in Kogi State's secondary healthcare facilities. The result demonstrates that there is a theoretical connection between ICT adoption and the delivery of high-quality healthcare services. This indicates that the secondary healthcare facilities in Kogi State will experience a direct proportional change in the delivery of high-quality healthcare services as a result of a 90.2% change in ICT adoption. That is, increased ICT adoption will result in higher-quality healthcare services being delivered in Kogi State's secondary healthcare facilities.

6. DISCUSSION

According to the study, ICT adoption significantly enhances the delivery of high-quality healthcare services in Kogi State's secondary healthcare facilities. This result supports Yang (2015) assumption that the use of ICT enhances healthcare service delivery and creates value in public health institutions. On the other hand, a study by Baridam and Govender (2019) revealed low rates of ICT use in healthcare delivery, highlighting the need for supportive policies. Building on their findings, the current study provides empirical evidence that ICT adoption has a significant impact on the quality of healthcare service delivery.

Furthermore, it adds to Adiele (2017) investigation into ICT approaches to improve service quality, which indicates that e-governance has a major effect on output. This study establishes a positive linear relationship between ICT adoption and the delivery of high-quality healthcare services at secondary healthcare institutions in Kogi State, in contrast to Adiele's departure from the primary research purpose. While and Dewsbury (2011) charted the growth of ICT in the healthcare industry, highlighting the rise of telehealth as a vital component of contemporary healthcare delivery, the results of this study support the idea that there is a positive linear relationship between ICT adoption and the delivery of high-quality healthcare services in Kogi State's secondary healthcare facilities. The study's findings imply that these facilities will provide better healthcare services as a result of a rise in ICT adoption.

7. CONCLUSION AND RECOMMENDATIONS

ICT can improve patient safety by making medical matters easy to understand, enabling online treatment evaluations, tracking patient 's progress, and anticipating future medical mishaps. ICT is considered as a tool that is generally advantageous for users and professionals. ICT has increased the accessibility of information, and as a result, patients say they feel more at ease using healthcare services. Today, hospitals rely on ICT to revolutionize the healthcare industry as a whole. Given that professionals have the right communication channel, treating and caring for patients who are situated far from health facilities becomes easy, especially during this COVID-19 era.

The study unveiled research outcome that the adoption of ICT can significantly influence the provision of high-quality healthcare services in secondary healthcare facilities in Kogi State. The empirical evidence of this study uncovered a positive theoretical relationship between the adoption of ICT and the provision of high-quality healthcare in secondary healthcare facilities in Kogi State. According to the study's findings, Kogi State's secondary healthcare facilities can provide higher-quality healthcare services as a result of increasing ICT adoption. The study recommends that the management of secondary healthcare facilities should strive to improve ICT adoption in order to enhance and sustain quality healthcare service delivery in Kogi State.

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