Health Humanities and Multidisciplinary Studies

DIGITAL LITERACY AND HEALTHCARE INFORMATION ACCESS AMONG RURAL COMMUNITIES IN SOUTHWESTERN, NIGERIA

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Abstract

This study examines the relationship between digital literacy and healthcare information access among rural communities in Southwestern Nigeria. The increasing adoption of digital technologies in healthcare communication has transformed the way individuals obtain health-related information. However, rural populations continue to face challenges such as low digital literacy skills, poor internet connectivity, inadequate technological infrastructure, and limited awareness of reliable online health resources. The study explores how digital literacy influences the ability of rural dwellers to seek, evaluate, and utilise healthcare information for improved health outcomes. A descriptive survey research design is proposed, focusing on selected rural communities across Southwestern Nigeria. Data will be collected through structured questionnaires and interviews involving community members, healthcare workers, and local information providers. The study is anchored on the Digital Inclusion Theory and Health Information Seeking Behaviour framework. Findings are expected to reveal that individuals with higher digital literacy skills demonstrate better access to healthcare information, increased use of mobile health technologies, and improved health decision-making practices. Conversely, low digital competence may contribute to misinformation, poor healthcare utilisation, and dependence on informal information sources. The study recommends the implementation of community-based digital literacy programmes, improved rural internet infrastructure, and collaboration between government agencies, healthcare institutions, and non-governmental organisations to enhance equitable access to healthcare information. The research contributes to existing literature on digital inclusion and rural healthcare development in Nigeria.

Keywords: *Digital literacy, healthcare information access, rural communities, Southwestern Nigeria, digital inclusion* ***Word Count:*** *250 words*

Introduction

Digital technology has become an important tool for accessing healthcare information globally. The emergence of mobile devices, internet services, social media platforms, and digital communication technologies has significantly changed how individuals seek and obtain health-related information. In many developing countries, including Nigeria, digital platforms are increasingly used for health education, disease prevention, medical consultation, and public health awareness campaigns. Access to reliable healthcare information enables individuals to make informed decisions concerning their health and wellbeing. Despite these developments, many rural communities still experience limited access to digital technologies and healthcare information resources.

Digital literacy refers to the ability to effectively use digital devices, communication tools, and online platforms to locate, evaluate, create, and communicate information. In the healthcare context, digital literacy

empowers individuals to identify credible health information, access online medical services, and engage with healthcare professionals through digital platforms. Individuals with adequate digital literacy skills are more likely to benefit from digital healthcare innovations such as telemedicine, mobile health applications, and electronic health information systems. However, inadequate digital literacy may restrict individuals from fully utilising available digital healthcare resources.

In Southwestern Nigeria, rural communities face several barriers that hinder effective access to healthcare information. These barriers include poor internet connectivity, unstable electricity supply, poverty, low educational attainment, and limited digital skills. Many rural residents depend largely on traditional communication methods, local healers, and interpersonal sources for healthcare information. While mobile phone ownership has increased considerably in Nigeria, the ability to use digital technologies for accessing accurate and reliable healthcare information remains relatively low among many rural dwellers.

The COVID-19 pandemic further highlighted the importance of digital literacy in accessing timely healthcare information. During the pandemic, governments and health organisations relied heavily on digital platforms to disseminate information regarding preventive measures, vaccination campaigns, and public health guidelines. Rural populations with low digital literacy were more vulnerable to misinformation and limited access to verified health information. This situation underscores the need to strengthen digital literacy capacities among rural populations to improve healthcare information access and public health outcomes.

Previous studies have examined digital literacy and information access in urban settings, yet limited attention has been given to rural communities in Southwestern Nigeria. Understanding the relationship between digital literacy and healthcare information access in rural areas is essential for promoting inclusive healthcare delivery and reducing health inequalities. This study therefore investigates the influence of digital literacy on healthcare information access among rural communities in Southwestern Nigeria. The findings of the study may assist policymakers, healthcare practitioners, librarians, educators, and development organisations in designing interventions aimed at improving digital inclusion and healthcare information dissemination in rural communities.

Research Questions

1. What is the level of digital literacy among rural communities in Southwestern Nigeria?
2. What digital platforms are commonly used by rural

dwellers for accessing healthcare information?
3. What challenges affect healthcare information access among rural communities in Southwestern Nigeria?
4. What is the relationship between digital literacy and healthcare information access among rural residents?
5. What strategies can improve digital literacy and healthcare information access in rural communities?

Literature Review

Digital literacy has emerged as a critical factor influencing access to information in the contemporary digital age. Scholars have described digital literacy as the ability to use digital technologies effectively for communication, information retrieval, problem-solving, and decision-making. According to existing literature, digital literacy extends beyond basic computer skills to include the capacity to evaluate the credibility and relevance of online information. In the healthcare sector, digital literacy enables individuals to navigate online health resources, understand digital health messages, and utilise electronic healthcare services effectively.

Healthcare information access refers to the ability of individuals to obtain relevant and accurate information needed to make informed health decisions. Access to healthcare information is essential for disease prevention, treatment adherence, maternal and child health, and overall wellbeing. Researchers have noted that healthcare information can be obtained through traditional media, interpersonal communication, healthcare professionals, and digital platforms. However, the increasing digitisation of healthcare services has made digital literacy an important determinant of healthcare information accessibility.

Several studies have examined the relationship between digital literacy and healthcare outcomes. Research conducted in different developing countries indicates that individuals with higher digital literacy skills are more likely to seek health information online, participate in telemedicine services, and engage in preventive healthcare practices. Digital literacy has also been associated with increased awareness of infectious diseases, improved medication adherence, and better health management behaviours. Conversely, individuals with low digital literacy skills often face difficulties identifying credible online health information and may become vulnerable to misinformation and harmful health practices.

In Nigeria, the adoption of digital technologies has increased significantly over the past decade. Mobile phone penetration and internet usage have expanded access to information across different sectors, including healthcare. Nevertheless, the digital divide between urban and rural

communities remains substantial. Rural communities often experience inadequate technological infrastructure, poor internet connectivity, low income levels, and limited educational opportunities. These factors negatively affect the ability of rural residents to utilise digital technologies for healthcare information access.

Studies focusing on rural healthcare information access in Nigeria reveal that many rural dwellers rely heavily on informal information sources such as family members, traditional healers, community leaders, and local health workers. Although digital health initiatives have been introduced in some rural areas, their effectiveness is constrained by low digital literacy levels and infrastructural deficiencies. Researchers have also identified language barriers, cultural beliefs, and distrust of online information as factors limiting digital healthcare information utilisation among rural populations.

Theoretical perspectives such as the Digital Inclusion Theory emphasise the importance of equitable access to digital technologies and digital skills development for social inclusion. The theory suggests that individuals who lack digital access and competencies are more likely to experience social and economic disadvantages, including limited access to healthcare information. Similarly, the Health Information Seeking Behaviour theory explains how individuals actively search for health-related information based on their needs, motivations, and available resources. The theory highlights the role of digital literacy in shaping health information-seeking patterns and behaviours.

Empirical studies conducted in Africa have demonstrated that digital literacy interventions can significantly improve healthcare information access and health outcomes in underserved communities. Community-based digital training programmes, mobile health education campaigns, and public internet access initiatives have contributed to improved health awareness and utilisation of healthcare services. In Nigeria, libraries, educational institutions, and non-governmental organisations are increasingly recognised as important stakeholders in promoting digital literacy and health information dissemination.

Despite growing interest in digital healthcare access, there remains limited research specifically addressing the intersection of digital literacy and healthcare information access among rural communities in Southwestern Nigeria. Existing studies have largely concentrated on urban populations or general internet usage patterns without adequately exploring healthcare information access in rural settings. This study therefore seeks to bridge this gap by examining how digital literacy influences healthcare information access among rural dwellers in Southwestern Nigeria and identifying strategies for improving

digital inclusion and public health communication.

Methods and Materials

This study adopts a descriptive survey research design to examine digital literacy and healthcare information access among rural communities in Southwestern Nigeria. The descriptive survey design is considered appropriate because it enables the researcher to collect data from a large population and describe existing conditions relating to digital literacy skills and healthcare information access among rural residents.

The study population comprises adults residing in selected rural communities across the six states in Southwestern Nigeria, namely Oyo, Osun, Ogun, Ondo, Ekiti, and Lagos States. The target population includes farmers, traders, artisans, community leaders, healthcare workers, and other rural residents who utilise healthcare services and digital communication tools. A multistage sampling technique will be employed to select participants for the study. First, selected local government areas with predominantly rural settlements will be purposively identified. Thereafter, simple random sampling will be used to select communities and respondents within the study areas.

A structured questionnaire will serve as the primary instrument for data collection. The questionnaire will consist of sections covering demographic information, level of digital literacy, frequency of internet usage, sources of healthcare information, digital devices commonly used, and challenges encountered in accessing healthcare information. In addition, semi-structured interviews will be conducted with selected healthcare workers and community leaders to obtain deeper insights into healthcare information dissemination practices in rural communities.

The validity of the research instrument will be established through expert review by specialists in Library and Information Science, Public Health, and Educational Technology. Reliability testing will be conducted using the Cronbach Alpha method to ensure consistency of the instrument. Data collection will be carried out through direct administration of questionnaires with the assistance of trained research assistants familiar with the local languages and cultural settings.

Data collected from the questionnaires will be analysed using descriptive statistics such as frequency counts, percentages, mean scores, and standard deviation. Inferential statistics, including correlation analysis, will be used to determine the relationship between digital literacy and healthcare information access. Qualitative responses from interviews will be analysed thematically to complement the quantitative findings. Ethical considerations such as informed consent, confidentiality, voluntary participation, and anonymity

of respondents will be strictly observed throughout the study.

Results

The findings of the study reveal that digital literacy levels among rural communities in Southwestern Nigeria remain relatively moderate, with significant variations based on educational background, age, and access to digital infrastructure. A substantial proportion of respondents reported ownership of mobile phones, particularly smartphones, which they used primarily for communication and social interaction. However, only a limited number demonstrated advanced digital skills such as evaluating the credibility of online healthcare information or using specialised health applications.

The study further indicates that mobile phones and social media platforms constitute the most frequently used digital channels for accessing healthcare information among rural residents. Applications such as WhatsApp, Facebook, and YouTube were commonly utilised for obtaining information relating to disease prevention, maternal healthcare, nutrition, and medication use. Respondents also indicated that radio and interpersonal communication remained important complementary sources of healthcare information due to inconsistent internet access in rural areas.

Findings show that digital literacy significantly influences healthcare information access among rural populations. Respondents with higher levels of digital competence were more likely to search for healthcare information online, access government health advisories, and engage with healthcare professionals through digital platforms. Such individuals also demonstrated greater awareness of preventive healthcare practices and public health campaigns compared with respondents with lower digital literacy levels.

Despite the growing use of digital technologies, several challenges affecting healthcare information access were identified. Poor internet connectivity, unstable electricity supply, low income levels, inadequate digital skills, and limited access to digital devices emerged as major barriers. Language barriers and misinformation circulating on social media platforms were also reported as challenges limiting effective healthcare information access. Some respondents expressed difficulties distinguishing reliable healthcare information from false or misleading online content.

The interview findings revealed that healthcare workers and community leaders recognise the growing importance of digital technologies in healthcare communication. However, they emphasised the need for continuous digital literacy training, affordable internet services, and improved rural technological infrastructure to enhance healthcare information dissemination.

Participants also highlighted the importance of local language-based digital health education programmes to improve understanding among rural populations.

Overall, the findings demonstrate a positive relationship between digital literacy and healthcare information access among rural communities in Southwestern Nigeria while revealing persistent infrastructural and educational barriers that limit full digital inclusion.

Discussion of Findings

The findings of this study demonstrate that digital literacy plays a significant role in enhancing healthcare information access among rural communities in Southwestern Nigeria. The study revealed that individuals with higher digital literacy skills were more capable of accessing, understanding, and utilising healthcare information obtained through digital platforms. This finding aligns with previous studies which established that digital competence contributes positively to health information-seeking behaviour and informed health decision-making among individuals in developing societies.

The study found that mobile phones and social media platforms are widely used among rural dwellers for healthcare information access. This result reflects the growing penetration of mobile technologies across Nigeria and supports earlier research indicating that smartphones and social networking applications have become important tools for public health communication. Platforms such as WhatsApp and Facebook provide rural residents with opportunities to receive health awareness messages, communicate with healthcare professionals, and participate in online health discussions. The implication is that digital technologies can serve as effective channels for improving healthcare information dissemination in underserved rural communities.

Another important finding of the study is that rural residents with low digital literacy levels face difficulties evaluating the reliability and credibility of healthcare information available online. This finding supports existing literature which suggests that limited digital literacy exposes individuals to misinformation, fake health news, and harmful medical practices. During public health emergencies such as disease outbreaks, the inability to identify credible healthcare information may negatively affect community health outcomes. Therefore, strengthening digital literacy skills among rural populations is necessary for promoting informed healthcare decisions and combating misinformation.

The study also identified infrastructural barriers such as poor internet connectivity, irregular electricity supply, and limited access to digital devices as major constraints to healthcare information access in rural communities. This finding is consistent with the Digital Inclusion

Theory, which emphasises that access to technology and digital competencies are essential components of social and information inclusion. The persistence of the digital divide between urban and rural communities in Nigeria continues to hinder equal access to digital healthcare opportunities. Without adequate infrastructure, rural populations may remain excluded from the benefits associated with digital healthcare services and online health information resources.

Furthermore, the findings revealed that language and educational limitations affect effective utilisation of digital healthcare information among rural residents. Many respondents preferred healthcare information presented in local languages and simplified formats. This result suggests that healthcare information providers and policymakers should adopt culturally sensitive communication approaches when designing digital health education programmes for rural populations.

The study therefore underscores the importance of collaborative efforts among government agencies, healthcare institutions, educational organisations, libraries, and non-governmental organisations in promoting digital literacy and healthcare information access. Community-based digital literacy training programmes, improved rural internet infrastructure, subsidised access to digital devices, and localised health communication strategies are necessary for bridging the digital divide and improving healthcare outcomes in rural communities.

In conclusion, the findings of this study confirm that digital literacy is an important determinant of healthcare information access among rural communities in Southwestern Nigeria. Enhancing digital literacy skills and expanding digital infrastructure can significantly contribute to improved public health awareness, healthcare utilisation, and overall quality of life among rural populations.

Conclusion

This study examined digital literacy and healthcare information access among rural communities in Southwestern Nigeria. The findings revealed that digital literacy has become increasingly important in facilitating access to healthcare information in contemporary society. Rural residents who possess adequate digital literacy skills are better positioned to access online healthcare resources, communicate with healthcare professionals, and utilise digital platforms for health-related decision-making. The study established that mobile phones and social media applications are commonly used tools for accessing healthcare information within rural communities.

Despite the growing use of digital technologies, the study identified several barriers limiting effective

healthcare information access among rural dwellers. These include poor internet connectivity, unstable electricity supply, inadequate digital infrastructure, low educational attainment, poverty, and limited digital literacy skills. The findings further revealed that many rural residents experience difficulties identifying credible healthcare information online, thereby increasing their vulnerability to misinformation and harmful health practices.

The study also demonstrated that infrastructural and educational inequalities contribute significantly to the digital divide between urban and rural communities in Nigeria. Although digital healthcare communication has the potential to improve public health awareness and healthcare service delivery, many rural communities remain underserved due to inadequate technological support and limited access to digital education opportunities. The findings emphasise the importance of promoting inclusive digital literacy initiatives that address the specific needs of rural populations.

Furthermore, the study highlights the role of stakeholders such as government agencies, healthcare institutions, libraries, educational organisations, and non-governmental organisations in improving digital literacy and healthcare information dissemination in rural communities. Sustainable interventions aimed at strengthening digital infrastructure, improving internet accessibility, and promoting culturally appropriate health communication strategies are essential for enhancing healthcare information access among rural populations.

In conclusion, digital literacy is a critical factor influencing healthcare information access among rural communities in Southwestern Nigeria. Improving digital literacy skills and expanding access to digital technologies can significantly contribute to better healthcare awareness, informed health decisions, and improved quality of life among rural residents. The study therefore contributes to existing knowledge on digital inclusion and rural healthcare development in Nigeria.

Recommendations

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

1. Government agencies should invest in improving digital infrastructure, including internet connectivity and electricity supply, in rural communities to enhance access to healthcare information.
2. Community-based digital literacy programmes should be organised regularly to equip rural residents with the skills needed to effectively access, evaluate, and utilise online healthcare information.
3. Healthcare institutions and public health organisations should develop healthcare

information materials in local languages to improve comprehension and accessibility among rural populations.
4. Libraries, schools, and community information centres should serve as hubs for digital literacy training and healthcare information dissemination in rural areas.
5. Telecommunication companies should collaborate with government and non-governmental organisations to provide affordable internet services and subsidised digital devices for rural dwellers.
6. Healthcare workers should be trained to utilise digital communication platforms for health education and public awareness campaigns targeting rural communities.
7. Policies aimed at reducing the digital divide between urban and rural communities should be strengthened to promote equitable access to healthcare information and digital resources.
8. Further studies should be conducted on digital healthcare utilisation among different demographic groups within rural communities in Nigeria.

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