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Communicating Indigenous Health Knowledge in the Digital Age: Prospects and Challenges

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Abstract

This study on communicating indigenous health Knowledge in the digital age: Prospects and challenges set out to: ascertain the current methods used in communicating indigenous health knowledge in Nigeria; find out the challenges hindering the integration of indigenous health practises into digital health systems in Nigeria; examine the potentials of a digitised indigenous health knowledge in Nigeria and explore strategies for incorporating indigenous health knowledge into Nigeria's digital health system. The Diffusion of Innovations and Knowledge Gap theories provided the theoretical foundation for the study. It adopted a qualitative research approach with in-depth interviews as the method for data collection. According five seasoned practitioners across the medical fields were purposefully chosen for interviews. Findings show that even in the phase of digitisation, the primary method of communicating indigenous health knowledge is still informal verbal communication. In addition, poor regulatory framework, funding and lack of research are the major challenges militating against the digitisation of the sector. Whereas collaboration with non-governmental organisations, funding of research endeavours and development of digital apps to make the knowledge readily available are some of the strategies as well as recommendation that will help the sector to get fully digitalised and integrated into the mainstream health system.

Keywords: Communication, Indigenous Knowledge Systems, Digitisation, Nigeria's Health Sector, and National Development



Introduction

Nigeria as a developing country faces many development challenges. One of such challenges is palpable in the health sector. Nigeria's health sector is in dire need of emergency attention, from private individuals, corporate sectors, governmental and non-governmental organisations to salvage the ruins. Omoleke and Taleat (2017) highlight some contemporary issues and challenges of the health sector in Nigeria to include but not limited to: poor health policy formulation, lack of human and material resources, poor motivation of health workers, underfunding of the health sector, weak facilities/infrastructure, insecurity challenges, political and bureaucratic corruption, poor health sector budget, federal governments breach of agreements, inter professional conflicts and recklessness in the use of telemedicine. All these and more have contributed to the poor ratings of the Nigeria health sector and have also contributed to the damming statistics in family, reproductive and maternal health issues.

Before the colonisation of Africa in general and Nigeria in particular in the early 18th century, the people that occupied that territories known as Nigeria today, had a thriving healthcare system, driven by indigenous knowledge system. Advertently or inadvertently but definitely unfortunately, these indigenous knowledge systems, not limited to the health sector collapsed to the forces of imperialism. The local system tilted towards the Western ideologies in research, science, technology and innovations. After over 200 years of the slow but steady abandonment of the indigenous knowledge system in general and in health sector in particular, Nigeria is not faring better. Evidently and unarguably, it is faring worse than the primitive days. This observation drives this enquiry which sets out to explore avenues for incorporating indigenous health knowledge into Nigeria's digital health system for national development. In addition, the World Health Organisation (WHO) in 2015/2016 launched a fifteen year action plan called the Sustainable Development Goals (SDGs). The goals were seventeen in number covering areas such as poverty, hunger, inequality, and climate change and healthcare etc. The health goals were: first, "Ensure healthy lives and promote well-being for all at all ages". Second, "Achieve Universal Health Coverage (UHC) and third, ensure "Access to quality health care. No one must be left behind" (WHO, 2017). Ten years on from the launch and five years to the set date, Nigeria is still lagging behind and appears set to fail in achieving the set goals in the health sector. Whereas, WHO had encouraged countries to adopt and adapt the health-related SDG indicators through mechanisms that are cost-effective, appropriate, reasonable, and aligned with current and future national health systems performance monitoring or health sector monitoring and evaluations requirements (WHO, 2017). With this leverage in mind, this question becomes pertinent: How can communication facilitate the incorporation of Nigeria's indigenous health knowledge into its digital health system to achieve the SDGs and for national development?

Research Objectives

1. To ascertain the current methods used in communicating indigenous health knowledge in Nigeria.
2. To find out the challenges hindering the integration of indigenous health practices into digital health systems in Nigeria.
3. To examine the potentials of a digitised indigenous health knowledge in Nigeria.
4. To explore strategies for incorporating indigenous health knowledge into Nigeria's digital health system.

Theoretical Framework

This study is anchored on two Communication and Media Studies Theories: Diffusion of Innovations and Knowledge Gap. First, the Diffusion of Innovations Theory: This theory was developed by Everett Rogers (1962) and it explains how new ideas, practises, and technologies spread within a social system.



According to Rogers, diffusion occurs through communication channels over time, and members of society adopt innovations at different stages, ranging from innovators and early adopters to the late majority and laggards (Rogers, 2003). Within the context of indigenous health knowledge, digital platforms such as social media, podcasts, and blogs serve as communication channels that facilitate wider dissemination. Younger, digitally literate individuals often function as early adopters, promoting indigenous practices online and giving them visibility. However, barriers such as misinformation, cultural resistance, and lack of trust may hinder widespread adoption. Thus, the theory highlights both the prospects and the limitations of communicating indigenous health knowledge in the digital age.

The second theory is the Knowledge Gap Theory. It was introduced by Tichenor, Donohue, and Olien 1970. It is primarily focused on inequalities in access to information. The theory argues that as mass communication introduces new information into society, individuals with higher socio-economic status and education are more likely to acquire it more rapidly than those with fewer resources, thereby widening the knowledge gap (Tichenoret *al.*, 1970). In application to this study on indigenous health communication, this theory hypothesises that exposed and digitally knowledgeable urban population with Internet access can quickly engage with digitalised indigenous knowledge, while rural custodians, may be excluded due to poor infrastructure and digital illiteracy. This raises concerns of equity, authenticity, and sustainability in the digital transfer of traditional health wisdom.

The theories provide explanatory power for understanding both the opportunities and challenges associated with disseminating traditional health knowledge through digital platforms. This dual perspective allows for a balanced understanding of the prospects and challenges facing indigenous health communication in the digital era.

Method

The qualitative research method was adopted for this study while in-depth interview was used as the instrument for data gathering. Qualitative research often relies on inductive reasoning to generate broad themes or general rules from which hypotheses about a phenomenon or behaviour of interest are generated (Bazen, *et al.*, 2021). The population of the study was practising medical professionals in Akwa Ibom State. A semi-structured, interview session was carried out. The semi-structured interview guide was subjected to expert validation before the interviews were conducted. The expert assessment helped to establish the relevance and adequacy of the questions for addressing the research objectives. The trustworthiness of the study was further strengthened through careful documentation and systematic interpretation of the participants' responses. Four questions which centred on the research objectives were posed to the respondents. Five experienced and medical practitioners domiciled in Akwa Ibom State were interviewed. The selected interviewees are all registered in their respective professional bodies. Using the purposive research sampling technique, the five medical practitioners selected, spread across the core areas of medical practise. Part of what qualified them for selection and interview was the number of years they have spent on their jobs and the relevance of their practise to medical the field and the topic under study. Thematic analysis was used for the discussion of the garnered data. Thematic analysis is a qualitative research method that researchers use to systematically organise and analyse complex data sets. It is a search for themes that can capture the narratives available in the account of data sets. It involves the identification of themes through careful reading and re-reading of the transcribed data (Dawadi, 2020). To ease identification of the respondents in the next section, the respondents were identified with letters A, B, C, D and E in the following order:

Respondent A – Matron II (BSc. Nursing, Registered Nurse (RN), Registered Midwife, Registered Public Health Nurse) with 11 years of practise.



Respondent B –Medical Doctor with super-speciality in cardiorespiratory care and a PhD in Global Medicine as well as Doctor of Pharmacy degrees (Medical Laboratory Scientist, Health Strategist)10 years of practise.

Respondent C – Medical Doctor with a Master’s in Public Health – Epidemiology and a PhD in Occupational Health and Safety Environment with over 15 years of practise.

Respondent D –Doctor of Pharmacy with other degrees in Medical Laboratory Science and Chemistry with over 15 years of practise

Respondent E – Matron II (BSc. Nursing, Registered Nurse (RN), Registered Midwife, Registered Public Health Nurse) with 18 years of practise.

Informed consent was obtained from all five respondents before the interviews were conducted. The respondents were informed about the purpose of the study and voluntarily agreed to participate. Their permission was also obtained for the use of the information provided for academic purposes.

Findings

Current Methods Used in Communicating Indigenous Health Knowledge in Nigeria

Respondent A – Currently there are numerous methods used in communicating indigenous health knowledge in Nigeria. One of such is through oral traditions such as storytelling. Most of the things people know today were passed down from generation to generation via storytelling. Oral histories – histories of how people use different herbs, roots, bark of trees, venoms, oils etc. to treat one form of disease or the other. The second method is the sharing of knowledge physically by the traditional healers. This way, people consult the traditional healers to ask them about certain plants or certain ways of treating ailments traditionally, they share their wealth of knowledge.

Respondent B –What is now obtainable is the packaging of indigenous knowledge with specific dosage instructions; so there is now modernisation of indigenous knowledge into scientific medicine. Also there is something called medicine supplement otherwise known as nutricycles. Nutricycles are processes in which fruits and other active ingredients are used to produce medications. This gives room for portion control; it does not allow you to take more than the scientific dosage or below the scientific dosage. So the communication of indigenous medical knowledge today is being controlled by modernisation into scientific packaging.

Respondent C –These days, most people who are knowledgeable with indigenous health practises tend to collaborate with Non-Governmental Organisations to sell their wealth of knowledge. They collaborate with NGOs because these NGOs already have the avenues of reaching the larger public. Another current method of communicating indigenous knowledge in Nigeria is the social media, websites and health apps. This allows for wider dissemination and can attract younger audience because they are more technologically savvy and they are the ones using the technology so the older people can just pass their wealth of experience or knowledge through any of these digital media

Respondent D –Indigenous health knowledge has not gone extinct, the advances in orthodox medicine notwithstanding. There are certain things that have passed down to the young generation whether knowingly or unknowingly, directly or indirectly. Some of these things are existing side by side with modern medical practise. It is verbal and informal training. It is a common everyday experience. Though, sometimes, it may look advanced.

Respondent E –Oral communication is a major method used in sharing indigenous health knowledge in Nigeria, as elders and traditional healers pass information through storytelling, proverbs, and face-to-face



teaching. Folk media such as local drama, songs, and cultural festivals are also used to communicate traditional health practices, allowing people to learn through entertainment and community participation.

Challenges Hindering the Integration of Indigenous Health Practices into Digital Health Systems in Nigeria

Respondent A –The first thing is cultural differences. Indigenous practises are deeply rooted in culture and in the tradition of people. What is obtained in one community may not be obtainable in another. Some communities are convinced that chanting some verses and incantations can heal the sick. Whereas, this may not be obtainable in another society. Such disparity can lead to resistance from both the health practitioners and the community members who are accustomed to other traditional approaches. There is also infrastructure and technology barriers especially in the local communities. The Nigeria society faces significant infrastructure challenges which include inconsistent Internet access, poor power supply etc. These can hamper the effective use of digital health solutions that could incorporate indigenous practises.

Respondent B – A lot of the traditional medical practitioners are quite knowledgeable in what they are doing. But one of the challenges is that a majority of the traditional medical practitioners do not have a health standard or hygienic standard that should allow integration into the scientific medicine. The second challenge is lack of awareness. The lack of awareness means that the majority of the traditional medical practitioners do not know how to communicate or to spread the knowledge of how and what to do to meet up the standard of hygiene that is required from the scientific medications for it to be integrated.

Respondent C – There is limited awareness and many communities may not be aware of digital health technologies or may mistrust them especially if they perceive these technologies as Western imposition. There are certain ideas you bring to people, maybe the ones that are practiced by other cultures and they may pose as a threat to your indigenous community. Because they have limited awareness about what is practised in other places, so it will not be easy to incorporate such it into the health system in Nigeria. Another issue is data privacy and secrecy. Without doubt, people are so rich in knowledge about certain practises, but they tend to protect this information, maybe in a bid to make money from it by themselves. They do not want other people to have an idea of how these things are done. They tend to protect their data and information. Therefore, they may not want to share such ideas with the public.

Respondent D –The major challenge is lack of knowledge and the learning process. The point is, for some people who have already gotten used to, or addicted, to the primitive methods in the health sector, they do not want to change from that. The unlearning and relearning process is just simply because a lot of the people that have been taking those medications because of addictive properties which such medications contain.

Respondent E – There are policies and regulatory issues to grapple with. Before indigenous practises can meet the approval to be utilised, it has to go through rigorous researches. Therefore, it difficult for indigenous health knowledge to be integrated into the digital health system. Again, sometimes funding is a problem. Insufficient funding for initiatives that combine indigenous practices with digital health can limit innovation and implementation. There is the knowledge, but people do not have the appropriate funding to push to the knowledge beyond their geographies.

Potentials of a Digitised Indigenous Health Knowledge in Nigeria

Respondent A –Preservation of traditional knowledge is the first thing. If all the things known about indigenous practices are digitised, the knowledge will be preserved. Digitisation can help document and preserve indigenous medical practises, herbal remedies, and cultural health insights. However, if they are



not preserved, they will be lost over time. This also helps to maintain cultural heritage and facilitate intergenerational knowledge transfer. It will also improve access to healthcare information.

Respondent B – In the scientific the world, there is something called *ayovedic* medicine. *Ayovedic* medicine simply means traditional medicine. It is the most effective medicine in the world. All medicine is taken from *phyto* - plants. Plants are the origin of human medicine. In other words, *ayovedic* medicine or traditional medicine, can be digitalised and it could save a huge population, most especially people who have phobia in taking anything compounded to either syrup, compounded to either tablets, compounded to either injection. It provides more potency in its form and then it produces more efficacy when taken by mouth or when added to food. The main reason for medicine is to meet the need of healthcare by providing medical alternative without adding any preservative or without being in a form of substations.

Respondent C – There is community empowerment. When such knowledge is digitised, it empowers the community. A community will now be known for being able to treat some kinds of conditions using what they have. It brings such community to the limelight.

Respondent D – The benefits are enormous. Benefits are there to help preserve our culture and tradition and preserve our health. If this knowledge is inculcated into modern-day medicine, it will also help lifespan. It will complement the strength and weakness of contemporary medical practises and vice-versa.

Respondent E – Wider accessibility is a major potential of digitised indigenous health knowledge in Nigeria, as digital platforms can help preserve and share traditional medical practises with people across different regions and generations. Documentation and preservation through digital tools also ensure that valuable health information is safely stored, preventing it from being lost and allowing future research, innovation, and policy development in healthcare.

Strategies for Incorporating Indigenous Health Knowledge into Nigeria's Digital Health System

Respondent A – The first strategy is community engagement. This is where the local communities and indigenous knowledge gatekeepers are engaged. Collaborating with the governmental organisations and even NGOs can help. When partnership is established for training in traditional healers in digital health tools and information sharing system and then the traditional healers themselves could be trained to use some improved digital tools. For instance the traditional birth attendants can be trained to carry out deliveries in a more sterile environment, cleaner environment and a more health safety ways than just using herbs, crude instruments.

Respondent B – The first one will have to be collaboration. Collaboration will help the indigenous health practitioners to understand their importance and value. They will know so much about their potentials. The second thing that should happen is the willingness of the government to invest, because it is going to involve finance, education will take a whole lot and then it will have to be scientific. That is why the education is very important. Collaboration and education will top the charts. These will make the traditional medical practitioners to understand the need to synthesise with the scientific production.

Respondent C – There should be development of mobile health apps addressing issues of using traditional methods. Some medical conditions can require telemedicine that can connect traditional healers with health professionals to address patient needs holistically. Sometimes patients do not need English medications; all they need could be herbs. There should be policy advocacy that recognise and support the



integration of indigenous health knowledge into the formal health system. Development of framework to assess the impact of integrating indigenous health practises into the digital health system.

Respondent D –First of all, intensive education will be the bedrock; intensive enlightenment, advocacy. People need to be well enlightened and sensitised. The best thing is to inculcate those things. It is important to educate the people.

Respondent E – Collaboration with traditional healers is an important strategy, as engaging them in digital health projects helps to accurately document and integrate their practices. Government and institutional support through policies, funding, and training can also promote the inclusion of indigenous knowledge in digital platforms, ensuring credibility, accessibility, and cultural preservation.

Discussion

This discussion is principally based on the four research objectives of this study through thematic analysis.

From the data gathered, the respondents centred their responses on oral communication and traditions such as storytelling and folk media. In other words, it is largely done verbally and through informal trainings which requires physical presence. These points to the fact that the indigenous medical knowledge and sector in Nigeria is still grossly informal industry, lacking sophistication and digitisation. This sector arguably has remained primitive and untapped with huge potentials while the process of communicating indigenous health knowledge leaves much to be desired in the phase of digitisation. This is because embers of digitalisation has not fully permeated the fabrics of the indigenous health sector in Nigeria. This finding runs parallel with the diffusion of innovation theory which this study draws its strength from. The theory states that diffusion occurs through communication channels over time, and members of society adopt innovations at different stages, ranging from innovators and early adopters to the late majority and laggards (Rogers, 2003). Here, the innovation of the indigenous knowledge in the health sector has stagnated and not gone beyond the innovators and early adopters. This finding also corroborates Ebijuwa's (2015) submission that the commonest methods of preservation of indigenous knowledge used is storytelling as existing literature have largely concentrated on contemporary healthcare system and practise without recourse on the valuable aspect of the traditional knowledge being practiced by the practitioners of alternative healthcare.

There are many challenges bedevilling the integration of indigenous health practises into digital health systems in Nigeria. The predominant themes from the responses focused on poor policies and regulatory issues, cultural differences, funding and infrastructure and technology barriers which still relates to finance. In relation, Woods *et al.*, (2024) observe that the key challenges across the issues in the integration of indigenous knowledge in mainstream digital lifestyle, the health sector notwithstanding bothers on enhancing workforce education and support, increasing information communication technology capability, enabling interoperability, and catering healthcare delivery to rural settings which are fully represented in the identified themes. In addition, this finding also agree with Featherstone *et al.*, (2024) study in Australia which found that communities remain disproportionately excluded from digital health services due to limited Internet access, affordability challenges, and low digital literacy. More so, this position does tally with the second theory of this study, Knowledge Gap Theory. The theory raises serious concerns about equity, authenticity, and sustainability in the digital transfer of traditional health wisdom which are not unconnected to the themes mentioned above.

The responses from the interviewees centred on the themes of preservation of traditional health knowledge; improved access to healthcare information; holistic treatment options and improved patient outcomes as well as community empowerment. Hitherto, Ahmed (2025) alluded that digital health



innovations are reshaping global healthcare systems by enhancing access, efficiency, and quality of care as well as offering support for disease surveillance; enabling remote care, and improved clinical decision making. Similarly, Ihekwoaba *et al.* (2022) state that the organisation of indigenous knowledge into digital platforms will give permanent preservation and documentation of information resources. Adding that such will grant herbalists free assesses to utilise and document their medicine and other information for references. This position also agrees with Banjo's (2025) study which explored the integration of traditional medicine into Nigeria's digital health ecosystem, focusing on perspectives from patients, traditional medicine practitioners, and medical doctors.

There abound many strategies for the incorporation of indigenous health knowledge into Nigeria's digital health system. The themes from the respondents tilted towards community engagement, intensive enlightenment, collaboration with traditional healers, government and institutional support; development of protocols that acknowledge and include traditional health methods within the healthcare referral systems as well as development of mobile health apps. Similarly, Banjo (2025) in a study that explored the integration of traditional medicine into Nigeria's digital health ecosystem, focusing on perspectives from patients, traditional medicine practitioners recommended targeted training for traditional medical practitioners, robust regulatory frameworks, and collaborative efforts to bridge traditional and modern medical practices. This position is also shared by Egwudo *et al.* (2025), Ahmed *et al.* (2025) and Ikhoyameh *et al.* (2024) in related studies on integrating traditional medicine into the African healthcare system.

Conclusion and Recommendations

Indigenous health practises have the potentials to contribute significantly to the ongoing efforts by individuals, organisations, governments at all levels to address the crises in the Nigerian health sector and by extension, Africa. However, many factors seem to militate against the successful integration and adoption of these traditional health practises into the mainstream digital health system. Factors such as poor attitude to the practises, poor infrastructure, lack of funding to encourage research, weak regulatory framework and policies as well as lack of political will to ensure that this knowledge is sustain and promoted appears to be the order of the day. Whereas it is common knowledge that traditional medical knowledge can serve as cheaper alternative and complementary medicine to the English and orthodox medicine if the sector is funded and encouraged to thrive even in the phase of digitation. In addition, such investments will help to promote and sustain and Nigeria and Africa's cultural heritage for export and as well as for future generations. It will also serve as means of empowerment to these local communities while putting them on the world maps for ingenious medical solutions. It can also contribute significantly to Nigeria efforts to achieving the SDGs of the United Nations in the health sector while achieving a healthy workforce for her economy. Last, the study is limited by the availability of documented evidence on some indigenous health practices. Its findings should therefore be interpreted within the context of the Nigerian health system. Practitioners can use the findings to identify areas where indigenous and orthodox healthcare can complement each other. Researchers can also use the findings to guide further investigation into the safety and effectiveness of indigenous remedies. Policymakers should establish clear standards for recognising and monitoring indigenous health practices. Government should also provide incentives for evidence-based research and protect the intellectual property rights of indigenous knowledge holders.

Based on the findings above, the following recommendations are made:

1. Indigenous health knowledge should be sustained and treated as a big part of Nigeria's cultural heritage that require appropriate investment and attention by all authorities, organisations and individuals.
2. Sufficient funding and research endeavours should be encouraged to health fine-tune the grey areas in indigenous health sector to reposition it for optimum utilisation in the phase of digitation.



3. Health authorities should draw up, up-to-date policies that can facilitate a seamless integration of traditional medical practises into the digitalised health system.
4. Development of digital apps to make indigenous health knowledge readily available to interested citizens will also go a long way to enhance the communication, application and sustainability of Nigeria's traditional health knowledge for future generations.

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