

Awareness, Adoption, and Wellbeing Impact of AI-Driven Health Communication Tools among Indigenous Language Speakers in Nigeria

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ABSTRACT

The improvement in primary healthcare delivery in Nigeria through the use of advanced technologies holds significant potential for improved healthcare access, and improved well-being, especially in bridging health information gaps, among underserved populations. This study investigated the level of awareness, adoption, and potential well-being impact of AI-driven health communication tools among indigenous language speakers in Nigeria. The study used a cross-sectional quantitative survey technique to collect data among 436 indigenous language speakers in Nigeria who have access to or have interacted with AI-driven health communication tools. A stratified random sampling approach was used to ensure representation across major indigenous language groups (e.g., Yoruba, Hausa, and Igbo). Two patterns of statistical procedures were adopted, namely, the descriptive and inferential analyses. The descriptive segment used frequencies, distribution, means and graphs, while the inferential deployed binary logistic regression to test for significant factors influencing AI-tool's adoption. The result shows a low level of awareness in rural areas that could be attributed to low digital literacy and limited internet access. However, among those exposed to AI tools, there is growing trust and perceived usefulness in accessing health information and remote care. The significant determinants identified are trust in AI systems and internet access. The study highlighted a positive correlation between AI tool usage and improved health-seeking behaviour and well-being ($\beta = 1.671$, $p = 0.011$, OR = 5.317, 95CI (1.55-3.75)). This implies that for every one-unit increase in AI-tool usage, the odds of improved wellbeing increase by a factor of approximately 5.317. The study underscores the need for inclusive digital health innovation policies that prioritize linguistic and cultural diversities, based on its findings.

Keywords: Indigenous languages, health communication, digital health, wellbeing, technology adoption, artificial intelligence