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Perceptions, Facilitators and Barriers to the Adoption of Artificial Intelligence in Healthcare Services in the Limbe and Bonassama Health Districts of Cameroon: A Qualitative Study Among Community Health Workers

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Abstract

Background: The integration of Artificial Intelligence (AI) into the healthcare systems has gained global attention, offering enhancements in diagnostics, treatment planning and improving the efficiency of healthcare providers. Community Health Workers (CHWs), who serve as important links between healthcare systems and communities, play an important role in implementing health interventions. This study explored the perceptions, facilitators and barriers regarding the adoption of AI in healthcare services in the Limbe and Bonassama Health Districts.

Methods: A qualitative study carried out in Limbe and Bonassama Health Districts among CHWs. Ethical clearance was obtained, and a purposive sampling technique was used to recruit a total of 18 CHWs. Two focused group discussions were conducted, one in Limbe Health District and one in Bonassama Health District. Data from focused group discussions were transcribed, coded, and thematically analyzed using Dedoose software.

Results: A total of 18 CHWs took part in this study, 8 males and 10 females, the age ranged from 26 to 63 years. CHWs expressed mixed perceptions and concerns, while some viewed AI positively, others expressed skepticism. Positive perceptions included; AI could reduce cost, save time, suggest dietary plan for patients with specific medical conditions, and help doctors in decision making. However, there were negative perceptions; AI could bring unemployment, laziness, and may result in errors. The barriers to AI adoption in healthcare were; lack of access to internet, cost of internet and technology, lack of knowledge, and resistance to learning AI technology. Facilitators identified were; educational campaigns and training programs.

Conclusion: CHWs expressed both positive (reduce cost, save time, improved decision making) and negative (job displacement, laziness) perceptions regarding the adoption of AI in healthcare. This study emphasizes the need for targeted educational interventions and community-based involvement to foster trust and collaboration in the adoption of AI for healthcare, ensuring that the benefits are widely accessible.

Keywords: Community Health Workers; Perception; Artificial Intelligence; Healthcare Services; Facilitators and barriers

Background

The integration of AI into the healthcare systems has gained global attention, offering enhancements in diagnostics, treatment planning, and

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administrative efficiency [1]. In high-income countries, AI applications have been successfully implemented across various healthcare domains, leading to improved patient outcomes and streamlined operations which has improved health outcomes thereby strengthening the healthcare system [2]. This is different in most low- and middle-income countries (LMICs), including Cameroon, where the adoption of AI presents both opportunities and challenges, particularly in resource-constrained settings where healthcare infrastructure may be limited and shortage of trained specialist [3]. CHWs are very important in delivering primary healthcare services in LMICs, often serving as the first point of contact for patients in remote and underserved areas. Their responsibilities encompass health education, disease prevention, and basic curative care (WHO, 2018) [4]. According to the World Health Organization (WHO), CHWs are "Health care providers who live in the community they serve and receive lower levels of formal education and training than professional health care workers such as nurses and doctors. This human resource group has enormous potential to extend health care services to vulnerable populations, such as communities living in remote areas and historically marginalized people, to meet unmet health needs in a culturally appropriate manner, improve access to services, address inequities in health status and improve health system performance and efficiency [5]. Integrating AI into the workflows of CHWs could increase their capacity to deliver timely and accurate health interventions. CHWs who serve as an important link between healthcare systems and communities, playing important roles in implementing health interventions, particularly in underserved areas [6]. However, despite the benefits of AI in healthcare, several barriers hinder the effective adoption of AI in healthcare settings within LMICs. A systematic review identified key obstacles, including limited infrastructure, inadequate training, and resistance to change among healthcare workers [3]. Specifically, the lack of digital literacy and insufficient exposure to AI technologies among CHWs can really prevent the integration of AI tools into their daily practices. Moreover, concerns about data privacy, ethical considerations, and the potential for job displacement contribute to the hesitancy in embracing AI solutions [7]. Ensuring that AI applications are culturally sensitive and contextually relevant is essential to gain the trust of both healthcare providers and the communities they serve [8]. To understand the factors influencing the adoption of AI in healthcare, the Technology Acceptance Model (TAM) provides a useful theoretical framework. According to TAM, perceived ease of use and perceived usefulness are the primary factors influencing individuals' intention to adopt new technologies [9]. In the context of LMICs, these factors are particularly relevant because they highlight how the perceived benefits and simplicity of AI tools can encourage or hinder adoption among CHWs. Additionally, social influence and facilitating conditions such as infrastructure, training, and access to resources plays an important role in determining whether AI technologies are successfully adopted in healthcare systems [10]. In Cameroon, while digital health interventions are expanding, little is known about how CHWs perceive the use of AI for healthcare delivery. Understanding their perspectives, as well as the facilitators and barriers to AI adoption, is essential for the successful and ethical integration of AI technologies in the country's health system. This study explored the perceptions and concerns of CHWs in the Limbe and Bonassama Health Districts regarding the adoption of AI in healthcare services.

Materials and Methods

Study design and setting

This study involved the use of a qualitative design to explore the perceptions and concerns of CHWs regarding the adoption of AI in healthcare services. The study was conducted in two selected health districts in Cameroon: Limbe Health District (Southwest Region) and Bonassama Health District (Littoral Region) carried out from March 2024 to April 2024.

Study population

The study population consisted of CHWs aged 21 years and above who were providing primary healthcare services in their respective districts at the time of data collection. CHWs were considered suitable participants due to their frontline role in community health service delivery. CHWs who were ill or unable to participate in focus group discussions at the time of data collection were excluded from the study.

Sampling technique

A purposive sampling technique was used to select participants who were most likely to provide rich and relevant insights into the study objectives. A total of 18 CHWs participated in the study. Two Focus Group Discussions (FGDs) were conducted, one in Limbe Health District with 9 participants (conducted in English), and one in Bonassama Health District with 9 participants (conducted in French).

Data Collection tools and Procedures

Data were collected using a FGD guide developed based on literature which was comprised of three main sections: Perceptions and concerns about AI in healthcare, Barriers to AI adoption, and Facilitators to AI adoption. Each FGD was audio-recorded with participants informed consent. We ensured that discussions remained on topic and that all participants had the opportunity to speak.

Data Management and Analysis

All audio recordings from the FGDs were transcribed verbatim, with the French discussion translated into English for consistency. Transcripts were imported into Dedoose

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software for qualitative analysis. A thematic analysis approach was employed to code the data. Codes were developed inductively from repeated readings of the transcripts and organized into broader categories that reflected emerging themes and subthemes. These themes were then interpreted across both FGDs to ensure consistency and richness of the findings. The thematic analysis helped identify the key perceptions, barriers, and facilitators to AI adoption in healthcare as perceived by the CHWs.

Ethical Considerations

Ethical clearance for the study was obtained from the Institutional Review Board (IRB) of the Faculty of Health Sciences, University of Buea (2024/2349-01/UB/SG/IRB/FHS). Administrative authorization was granted by the Regional Delegations of Public Health for the South West and Littoral Regions, and further local permissions were obtained from the heads of the selected health districts and health areas. Informed consent was obtained from all participants prior to data collection.

Results

A total of 18 CHW participated in two FGDs, one held in Limbe Health District and the other in Bonassama Health District. Participants included 8 males and 10 females, with ages ranging from 26 to 63 years. Through thematic analysis of the transcripts, four major themes emerged: positive perceptions of AI in healthcare, negative concerns, barriers to AI adoption, facilitators to AI adoption, and community involvement and engagement.

Community perceptions and concerns about AI in healthcare services

The CHWs expressed a wide range of views on the use of AI in healthcare delivery. Some viewed AI as a powerful tool with the potential to enhance healthcare services, while others were more cautious, raising concerns about job displacement, errors in diagnosis, and issues related to literacy and access. These perceptions were organized into two main subthemes: positive perceptions and negative concerns.

Positive perceptions

Many participants were optimistic about the potential benefits of AI, particularly in improving healthcare delivery. They discussed the many ways AI could assist healthcare workers and patients by reducing travel time, improving diagnostic accuracy, and supporting doctors in decision-making processes. These positive perceptions were particularly prominent when participants discussed AI's potential to improve healthcare access and efficiency, especially in underserved areas.

Fast access to diagnostic information

One of the key benefits highlighted was how AI could enable patients to self-assess their symptoms and receive immediate results. This would reduce the need for unnecessary hospital visits, allowing healthcare professionals to focus on more critical cases and alleviating congestion in health facilities. "You can diagnose yourself, and you will have your report in real-time and on-site in a few minutes. That way, it will relieve a lot of congestion in hospitals… You get your diagnosis, and if it's not serious, you can follow instructions from home. Only in more serious cases would you go to the hospital. This would really change the way people get care." (CHW, Bonassama).

Supporting doctors in decision making

Another commonly mentioned benefit was AI's role as a supportive tool for doctors. Several participants acknowledged that AI could help doctors double-check their decisions, particularly in high-pressure situations. They emphasized that AI should not be viewed as a replacement for healthcare professionals but rather as an assistant, offering an additional layer of support in clinical decision-making. "I also think that artificial intelligence can improve (help) by stimulating confidence among doctors because if I remember, there is a machine that already allows operations to be carried out. This application once again allows and reassures doctors in the event of doubt or trauma that they can make the best decisions when they have to act on the patient." (CHW, Bonassama).

Providing dietary guidance for chronic and minor conditions

Participants also highlighted AI's potential to provide personalized health advice, particularly for managing chronic conditions such as diabetes. They envisioned AI helping patients to manage their health on a daily basis, providing guidance on diet and lifestyle modifications, which would reduce reliance on healthcare providers for routine advice.

"Let me give an example, if you are sick of diabetes, you can use AI to draw up a diet plan for yourself, what you can eat and cannot eat. Also, if you are having indigestion, you can use the AI; it can recommend fruits and so on you can blend to help you clear up the indigestion. It's not just for serious things, it can help us manage everyday things better." (CHW, Limbe).

Early identification of illness and referral to care

Many participants emphasized AI's role in early disease detection and guiding patients to appropriate care. By detecting symptoms early, AI could encourage people to seek medical help sooner, potentially preventing the escalation of illnesses. "I think it's a good thing because even being at home, and as soon as you have the symptoms of an illness, for example, I have a headache, I have such a symptom and if it gets worse, it (AI) can already point you towards an illness.

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So, it (AI) can tell you that you are suffering from this but now if it is serious, it (AI) can get you closer to this doctor to be able to undergo a treatment." (CHW, Bonassama).

Saving time and reducing the need for travel

The issue of long travel times and the logistical challenges of accessing healthcare facilities was another major theme. Many participants felt that AI could help reduce the need for travel, especially for routine check-ups or minor health concerns. This would not only save time but also reduce the financial burden associated with traveling to health facilities, which is a significant challenge in rural areas. "Reduces travels and transport… we will not have to transport ourselves and save time, we will save as much." (CHW, Bonassama).

Negative concerns

Despite the positive perceptions, several concerns were voiced by the participants. These concerns primarily focused on the potential risks of AI, such as job displacement, over-reliance on technology, and the potential for inaccurate diagnoses.

Fear of job loss for health workers

Some participants expressed concerns that the introduction of AI could lead to unemployment among healthcare workers, particularly nurses and others. Participants feared that AI could be seen as a threat to their jobs, especially in an already competitive and underfunded healthcare system. "The more we bring AI, the more we will create unemployment… there are nurses who continue to emerge, go to school… I find this as laziness." (CHW, Bonassama).

Concern about accuracy and missing clinical judgment

Some participants expressed worries that AI might lead to inaccurate diagnoses, particularly if patients relied too heavily on AI tools without seeking professional medical advice. They emphasized that AI tools might lack the understanding that human doctors bring to clinical judgment. "If I go to the computer (AI) and I ask it a number of questions and I discover that I have a cancer of the lungs, am I going to treat myself? You understand I will need a doctor and secondly the diagnosis produced by the machine may not be accurate because there are some factors that the doctor will require which I wouldn't know about and I wouldn't ask about. The computer will only lead me to the conclusion that I have this kind of condition." (CHW, Limbe).

Risk of misinformation and misinterpretation by lay users

Participants also worried that AI might be misused or misinterpreted by individuals who lack the necessary education or digital literacy. They cautioned that people might misinterpret the AI-generated results, leading to unnecessary panic or incorrect actions. "There are people who try to diagnose certain illnesses and sometimes they run into trouble, trouble and assume that they have serious health conditions which they don't have. So I think it is a tool for the trained, educated professionals as far as health is concerned." (CHW, Limbe).

Facilitators to AI adoption

Several facilitators were identified that could enhance the adoption of AI in healthcare. Participants highlighted the importance of education, training, and gradual introduction to AI technologies.

Sensitization campaigns and user training

A key facilitator identified by participants was the need for educational campaigns and training programs. By educating both healthcare workers and the broader community about the benefits and uses of AI, resistance could be reduced, and acceptance increased. "We must start to raise awareness… carry out campaigns to inform the population, if the population already knows how to use AI, it will be easy to manage. So training on ease of use of the AI, that's what could make it easier to use the application." (CHW, Bonassama).

The need for patient, step-by-step introduction

Several participants suggested that AI should be introduced gradually, ensuring that people become familiar with it before it is fully integrated into healthcare systems. This step-by-step approach would help build trust and ease any fears or concerns about the technology. "We must go step by step until, we are sure. Those (developed countries) who are where they are today, they took out time the to inform, to bring each one of them to understand the good work." (CHW, Bonassama).

Community involvement and engagement

Participants also suggested that AI adoption could be facilitated through community involvement. CHWs, who are trusted figures within the community, could play a critical role in educating the population and guiding them in using AI tools. Additionally, government support, particularly in increasing access to technology and smartphones, would be essential for broader adoption. "We have a board which is called the community health workers, if this community health worker can be brought in educate them about this AI, very important, so they can be trained then go and train the community about the AI." (CHW, Limbe). "The government should do everything they can to make sure that, emm, mobile phone technology, ipad technology and computer technology is available to the community." (CHW, Limbe).

Barriers to adoption of AI

The participants identified several barriers to the adoption

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of AI in healthcare, many of which were related to the limitations of the local infrastructure and the challenges faced by healthcare workers in resource-constrained settings.

Poor internet access and financial constraints

One of the most frequently mentioned barriers was the lack of reliable internet access. Many participants pointed out that in many areas, internet connectivity is unstable or absent, which would severely limit the effectiveness of AI tools that require a consistent internet connection. The high cost of internet access was also a significant concern.

"It would be difficult to use AI because, in certain areas there is not yet the internet. And you all know that Cameroon is not a country that is equipped with capacity. The internet connection is an obstacle… the means too because some also require money to use, which we pay monthly and financially." (CHW, Bonassama).

Difficulty for people who cannot read

Low literacy levels, particularly among older adults or individuals with limited formal education, were also identified as a major barrier to the adoption of AI. For AI to be effective, users need to be able to read and interpret instructions or health advice, which could be a significant hurdle for those with limited literacy. "I think it's good except for someone that does not know how to read. If you don't know how to read it can disturb you." (CHW, Limbe).

Mistrust and skepticism toward science and technology

Some participants expressed skepticism about the use of AI, particularly in communities where there is mistrust of new technologies. This distrust can hinder the acceptance and adoption of AI tools, especially if the community does not understand the benefits of AI or views it with suspicion. "There are some members in our community who are hostile to scientific information… they believe that it's 419 [fraud]." (CHW, Limbe).

Discussion

Positive perceptions and concerns about the adoption of AI for healthcare services in this study included; AI could reduce cost, saved time and help doctors in decision making, these results are consistent with studies carried out by Ayomidei and colleagues and Adigwe and colleagues [11,12]. Participants perceived that AI can reduce costs which aligns with global trends and especially in Sub Saharrah Africa where there is limited availability of resources. AI can automate routine tasks, such as appointment scheduling and data entry, freeing up healthcare professionals to focus on patient care, also AI-driven solutions could alleviate staff shortages and reduce patient waiting time. AI can analyze patient data and aid doctors in making more informed decisions. However, participants brought out negative perceptions and concerns, expressing worries about job displacement, potential for laziness, and the possibility of errors [13,14]. Participants expressed concerns that those without formal education might be left behind in accessing and utilizing AI-driven healthcare services which is regard as problem in developing countries [15]. Regarding barriers to adoption of AI for healthcare services, participants identified a lack of internet access, the cost of internet and technology, limited knowledge about AI, and resistance to adopting new technologies as key obstacles, which in line with studies carried in South Africa, that reported good percentage of Africa's population are unconnected and not having access to the internet [16]. The adoption of AI requires adequate availability of wireless network connectivity. These findings show the need to address the digital divide, improve internet infrastructure, provide accessible and affordable technology, and develop targeted education and training programs to empower communities to engage with AI in healthcare. Several facilitators were brought like, educational campaigns and training programs could facilitate the adoption of AI in the community [17]. This points to the need for targeted initiatives that educate communities about the benefits of AI, provide hands-on training, and address concerns related to its use. By increasing awareness and building capacity, these efforts could foster greater acceptance and utilization of AI-driven healthcare solutions, ultimately leading to improved access and efficiency of healthcare services. In order to make AI more accessible to the community members, participants advocated for leveraging community health workers to educate community members about AI, recognizing their trusted position within communities [18]. They also suggested government initiatives to increase smartphone availability, recognizing the crucial role of mobile technology in accessing AI-powered healthcare services. This calls for a collaborative effort involving local communities, healthcare providers, and policymakers to bridge the knowledge gap and empower individuals with the knowledge and tools to benefit from AI in healthcare [19]. CHWs suggested that if they were properly trained on AI tools, they could educate the community and serve as trusted facilitators of adoption. Also, findings from this study reinforce the view that community involvement must be participatory and continuous, not a onetime sensitization event. Training CHWs not only increases uptake but also ensures that communities are guided by familiar and trusted individuals thereby reducing resistance, misinformation, and fear often associated with new technologies [20]. Participants recommended local language campaigns and use of traditional leaders. These approaches are supported by international guidelines on community-centered digital health integration (WHO, 2023) [21].

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Conclusion

CHWs expressed mixed perceptions on the adoption of AI for healthcare services, many saw benefits like saving time, reduced workload and improved decision making, while others raised concerns about job loss, inaccuracy, and laziness. Lack of access to internet, cost of internet and technology, lack of knowledge, and resistance to technology were identified as barriers, and educational campaigns, simplified tools, and CHW led training could facilitate the adoption of AI in the community. These findings show that there is a need to engage CHWs and healthcare providers to foster collaboration, trust, and cooperation in the adoption of AI in healthcare.

Recommendations

Develop a collaborative approach to AI implementation that involves CHWs as active participants in the design and testing of AI tools in healthcare and also clarify misconceptions. Invest in infrastructure improvements to increase access to the internet and affordable technology within the communities and designing AI tools that are simple and offline-friendly.

List of abbreviations

AI - Artificial Intelligence

CHWs - Community Health Workers

FGDs - Focus Group Discussions

LMICs - Low- and Middle-Income Countries

TAM - Technology Acceptance Model

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Authors contribution

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References

1. Alowais SA, Alghamdi SS, Alsuhebany N, et al. Revolutionizing healthcare: the role of artificial intelligence in clinical practice. BMC Medical Education 23 (2023): 689.
2. Topol EJ. High-performance medicine: the convergence of human and artificial intelligence. Nat Med 25 (2019): 44-56.
3. Ahmed MI, Spooner B, Isherwood J, et al. A Systematic Review of the Barriers to the Implementation of Artificial Intelligence in Healthcare. Cureus.15(10):e46454.
4. World Health Organization (WHO. WHO guidelines on health policy and system support to optimize community health worker programmes. In: WHO guidelines on health policy and system support to optimize community health worker programmes (2018): 1-116.
5. Idriss-Wheeler D, Ormel I, Assefa M, et al. Engaging

Community Health Workers (CHWs) in Africa: Lessons from the Canadian Red Cross supported programs. PLOS Glob Public Health 4 (2024): e0002799.

6. Van Iseghem T, Jacobs I, Vanden Bossche D, et al. The role of community health workers in primary healthcare in the WHO-EU region: a scoping review. Int J Equity Health 22 (2023): 134.
7. Matta I. The Ethical Implications of AI and Job Displacement. Sogeti Labs. 2024. https://labs.sogeti.com/the-ethical-implications-of-ai-and-job-displacement (2025).
8. Blessing M. Ethical considerations in AI deployment: A cross-cultural perspective (2024): 1-8.
9. Alsyouf A, Lutfi A, Alsubahi N, et al. The use of a technology acceptance model (TAM) to predict patients' usage of a personal health record system: the role of security, privacy, and usability. International journal of environmental research and public health 20 (2023): 13-47.
10. Lee AT, Ramasamy RK, Subbarao A. Understanding psychosocial barriers to healthcare technology adoption: A review of TAM technology acceptance model and unified theory of acceptance and use of technology and UTAUT frameworks (2025).
11. Owoyemi A, Owoyemi J, Osiyemi A, Boyd A. Artificial Intelligence for Healthcare in Africa. Front Digit Health 2 (2020).
12. Adigwe OP, Onavbavba G, Sanyaolu SE. Exploring the matrix: knowledge, perceptions and prospects of artificial intelligence and machine learning in Nigerian healthcare. Front Artif Intell 6 (2024): 1293297.
13. Davenport T, Kalakota R. The potential for artificial intelligence in healthcare. Future Healthc J 6 (2019): 94-98.
14. Arakpogun EO, Elsahn Z, Olan F, et al. Artificial intelligence in Africa: Challenges and opportunities. The fourth industrial revolution: Implementation of artificial intelligence for growing business success (2021): 375-388.
15. Almeida F, Morais J. Non-formal education as a response to social problems in developing countries. E-Learning and Digital Media 22 (2025): 122-138.
16. Ade-Ibijola A, Okonkwo C. Artificial Intelligence in Africa: Emerging Challenges. In: Eke DO, Wakunuma K, Akintoye S, editors. Responsible AI in Africa: Challenges and Opportunities.Cham. Springer International Publishing (2023): 101-117.
17. Alshahrani MKS, Alrobaiy FRA, Almalki MAS, et al. The Role of Awareness in Community Health Development: A Systematic Review. Journal of Ecohumanism 3 (2024): 5138-5148.
18. Igwama GT, Nwankwo EI, Emeihe EV, et alThe role of community health workers in implementing AI-based health solutions in rural areas. International Journal of Biology and Pharmacy Research Updates 4 (2024): 01-17.
19. Vishwanatha JK, Christian A, Sambamoorthi U, et al. Community perspectives on AI/ML and health equity: AIM-AHEAD nationwide stakeholder listening sessions. PLOS Digit Health 2 (2023): e0000288.
20. Schleiff MJ, Aitken I, Alam MA, et al. Community health workers at the dawn of a new era: 6. Recruitment, training, and continuing education. Health Research Policy and Systems 19 (2021): 113.
21. World Health Organization. Community engagement: a health promotion guide for universal health coverage in the hands of the people. In: Community engagement: a health promotion guide for universal health coverage in the hands of the people (2020).

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