

An Investigation Into the Health Workers Perceptions on the Adoption of Chatbots in Medical Treatment: A Case of Bulawayo Hospital

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The European Conference on Aging & Gerontology 2024
Official Conference Proceedings

Abstract

The utilisation of chatbots in medical treatment has demonstrated significant potential and advantages, with numerous healthcare facilities incorporating this technology into their patient care strategies. Nonetheless, there exists a scarcity of literature focusing on the perspectives of healthcare professionals regarding the incorporation of Artificial Intelligent Chatbots in diagnosing patients' illnesses and delivering medical care, particularly within hospitals in developing countries. Consequently, there is a pressing necessity to comprehend the perceptions of healthcare workers concerning the utilization of chatbots in medical care within the distinctive context of a developing nation. Grounded in the Unified Theory of Acceptance and Use of Technology (UTAUT), this investigation delves into healthcare workers' perceptions of the implementation of chatbots in medical care. Drawing upon qualitative data from a singular hospital case in Bulawayo, Zimbabwe, a developing country in Southern Africa, this study reveals that the effectiveness of chatbots in medical care is impacted by perceived usability, social values and facilitating conditions. These discoveries contribute to the existing knowledge by offering comprehensive insights into healthcare workers' viewpoints on chatbots in medical care. Such crucial findings are valuable for policymakers and key stakeholders in hospitals, aiding them in making well-informed decisions regarding the integration of innovative technologies within the critical domain of medical care. The advancement of technologies like chatbots relies on a thorough understanding of healthcare workers' perceptions and anticipations, thereby enabling hospitals to reap benefits from such advancements and similar innovations.

Keywords: Chatbots, Artificial Intelligence, Medical Treatment, Perceptions, Patient Care, Unified Theory of Acceptance and Use of Technology (UTAUT)

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1. Introduction

Chatbots are dialogue systems that serve as intelligent mediators, capable of engaging in genuine conversations with humans (Parviainen & Rantala, 2022). They are commonly referred to be computer apps that simulate human interactions with the use of natural language processing and machine learning (Shahsavari & Choudhury, 2023). The utilisation of chatbots in the medical domain has demonstrated significant promise and advantages, as some hospitals have included this technology in their patient care methods. Chatbots have been developed as conversational systems that employ different levels of intelligence to help understand user inquiries (Cis & Capstone, 2021). In the medical field, these previous systems have demonstrated their potential to offer solutions based on pre-established labels derived from training data, a continuous service, and readily accessible data. Therefore, they enhance health literacy and promote awareness (Shahsavari & Choudhury, 2023). Chatbots have been realised in the educational sector Dube et al. (2024) however, in the health space there is limited scholarly literature about the perspectives of healthcare professionals regarding the use of chatbots in medical treatment inside the hospitals of underdeveloped countries. The incorporation of emerging technologies, such as Quantified Self devices and chatbots, within the healthcare sector has garnered increasing attention from researchers. A previous research endeavor delved into the determinants affecting the acceptance of QS technology for monitoring diabetes (Ndlovu et al., 2024) and put forth a framework for steering the creation of Quantified Self-centered interventions for chronic disease management (Mutunhu et al., 2024) thus offering valuable insights into the capacity of technology-driven remedies to improve medical care and patient self-management. Correspondingly, recent research has scrutinised the possibilities presented by conversational AI platforms like chatbots in augmenting healthcare provision and patient involvement (Shahsavari & Choudhury, 2023). Building upon this groundwork, the current investigation aims to explore the perspectives of healthcare practitioners on the integration of AI chatbots, with Mpilo Central Hospital being the primary focus of the study. Being a prominent referral hospital in the Matabeleland area, the hospital faces difficulties in providing high-quality healthcare services. The issues encompass extended patient waiting lists and a scarcity of medical personnel (Nyakutombwa et al., 2021). Mpilo Central Hospital is now facing issues as its infrastructure is unable to cope with the increasing patient load. Originally established in 1958 to accommodate 250,000 people, the hospital today serves over one million patients without any substantial changes to its equipment. Therefore, doing research in a setting with limited resources offers useful insights into the contextual elements that impact the adoption of chatbots (Laranjo et al., 2018).

1.1 Aim and Objectives

This research aimed to investigate the healthcare workers; perceptions of the adoption of chatbots in medical treatment.

Objectives :

- To establish opinions of healthcare workers on the use of chatbots for medical treatment
- To assess the factors that influence the adoption of chatbots in medical treatment
- To identify challenges faced by healthcare workers in adopting chatbots to assist in medical treatment

2. Literature Review

This section analyses previous literature on Chatbots in healthcare.

a) Implementation Challenges

Literature has suggested that the integration of chatbots into the healthcare environment has faced several hurdles. The primary obstacle has been recognised as the imperative for chatbots to successfully interact and resolve intricate issues (Parvianian et al., 2021). Chatbots have demonstrated a restricted knowledge base in situations that necessitate human expertise. Another obstacle is guaranteeing the safety and security of patient data while utilizing chatbots for medical therapy. The reference is from a study conducted by Salimi and Shahir in 2020. Healthcare workers exhibited reluctance to use chatbots due to concerns over the preservation of patient confidentiality (Nardazinky et al., 2019). Chatbots suffer from a lack of standardization in their development, making it difficult to regulate and ensure the reliability and correctness of medical information provided during therapy (Abd alrazaq et al., 2020). Integrating chatbots into existing healthcare systems might be particularly challenging because of constraints on technological resources and opposition to change among medical practitioners (Yunus et al., 2024). Addressing the aforementioned problems will optimize the advantages of chatbots to enhance healthcare delivery.

b) Benefits of Adoption of Chatbots in Healthcare

The incorporation of technology in the healthcare sector has garnered significant attention in recent studies, particularly with the emergence of innovations like the Internet of Things (IoT) which exhibit potential in the management of chronic diseases, as exemplified in a prior investigation (Mutunhu et al., 2022). In contrast to IoT devices that furnish immediate data, chatbots present a promising avenue for engaging with patients and providing assistance, underscoring the complementary functions of these technological solutions in the provision of healthcare services. Existing literature demonstrates the advantageous outcomes of employing chatbots in the medical field. Chatbots have enhanced accessibility and support for health care information by providing a 24/7 service (Shahsavari & Choudhury, 2023). Furthermore, this has enhanced patient involvement and heightened their contentment. Adopting chatbots in healthcare has been found to result in increased efficiency, according to Parviainen et al. (2021). Chatbots can execute administrative tasks, such as booking appointments, allowing healthcare practitioners to allocate more time towards addressing the intricate requirements of patients. Chatbots are highly advantageous in the monitoring of chronic illnesses due to their ability to offer personalized assistance and reminders (Zhou et al., 2019). Thus, using chatbots in healthcare will offer a favorable chance to improve patient care outcomes and delivery.

c) Healthcare Provider Perspectives

Overall, the findings reflect a positive outlook on AI chatbots in the healthcare sector among the participants. The chatbots' contributions to enhancing healthcare services are recognised for their provision of personalized assistance, assistance in diagnosing conditions, and facilitation of access to medical information. This mindset exhibits a proactive attitude towards embracing and utilizing technology to improve patient outcomes and operational efficiency in healthcare settings. Adamopoulou and Moussiades (2020) found that healthcare practitioners are familiar with most medical chatbots, including Alexa.

3. Methodology

A qualitative study was undertaken to acquire a comprehensive grasp of the perspectives of healthcare professionals on the implementation of chatbots in medical care. A purposive sample cohort of 10 healthcare professionals was selected from Mpilo Central Hospital in Bulawayo, which is one of the major institutions in the area offering a comprehensive range of medical services (Manzira, 2021). The researcher employed purposive sampling to pick individuals who were actively engaged in decision-making and had prior expertise in interacting with chatbots (Coy, 2019). Open-ended Interviews were used as the method for gathering data in this study. These interviews were performed either in person or online, depending on the participants' preferences. A comprehensive interview guide was developed, encompassing many aspects such as respondents' knowledge of chatbots, their attitudes towards using chatbots in patient care, perceived advantages and obstacles, and suggestions for effective implementation. The researcher utilised the UTAUT model to create these questions, using its four primary constructs: performance expectancy, social impact, effort expectancy, and enabling circumstances. The likelihood of accepting technology is influenced by these factors, and the impact of predictors is mitigated by gender, age, voluntariness of usage, and experience (Thomas et al., 2013). Therefore, the researcher utilised these structures in the study, allowing for the capture of crucial information.

The data obtained from the interviews was analysed using the thematic analysis methodology. This method was employed to find repeating patterns, themes, and insights. The interviews were transcribed verbatim.

4. Results

4.1 Demographic Data of Respondents

Table 1: Demographics of Respondents.

Participant	Age	Marital status	Speciality	Profession	Workplace
P1	28	Single	Junior Doctor	Doctor	Mpilo
P3	48	Married	Gynaecologist		Mpilo, Private Surgery
P6	48	Married	Paediatrics	Doctor	Mpilo, Private surgery, Mater Dei, Corporate 24
P7	36	Married	General practitioner	Doctor	Mpilo
P8	45	Divorced	Dentist	Doctor	Mpilo
P9	40	Single	General practitioner	Doctor	Mpilo
P10	40	Married	General practitioner	Doctor	Mpilo, Private Surgery
P2	37	Married	Paediatrics	Doctor	Mpilo, Private Surgery
P4	45	Married	General practitioner	Doctor	Mpilo, Private Surgery
P5	38	Married	General practitioner	Doctor	Mpilo, Private Surgery

Based on the information presented in Table 1, Participants' ages ranged from 28 to 48 years old, with most falling between 36 to 48 years old. This suggested a relatively experienced group of medical professionals. The majority of participants seven out of ten are married, indicating a stable demographic pattern in terms of family commitments and potentially differing perspectives compared to single individuals. Information on the number of children was not consistently provided for by all participants, but marital status suggested that many likely have children, impacting their lifestyle and decision-making. All participants are healthcare professionals, predominantly doctors, with one dentist. This ensures a homogeneous group in terms of their background and expertise in medical practice. Specialties include Gynaecology, Paediatrics, General Practice, and Dentistry. This diversity indicates varied clinical perspectives and experiences among the participants. Participants work primarily at Mpilo Central Hospital, with several also involved in private surgeries and other medical facilities such as Mater Dei and Corporate 24. This suggested exposure to different health-care settings and potentially varying patient populations. The participants represent a diverse range of medical specialties and practice settings, enhancing the richness of perspectives in the study.

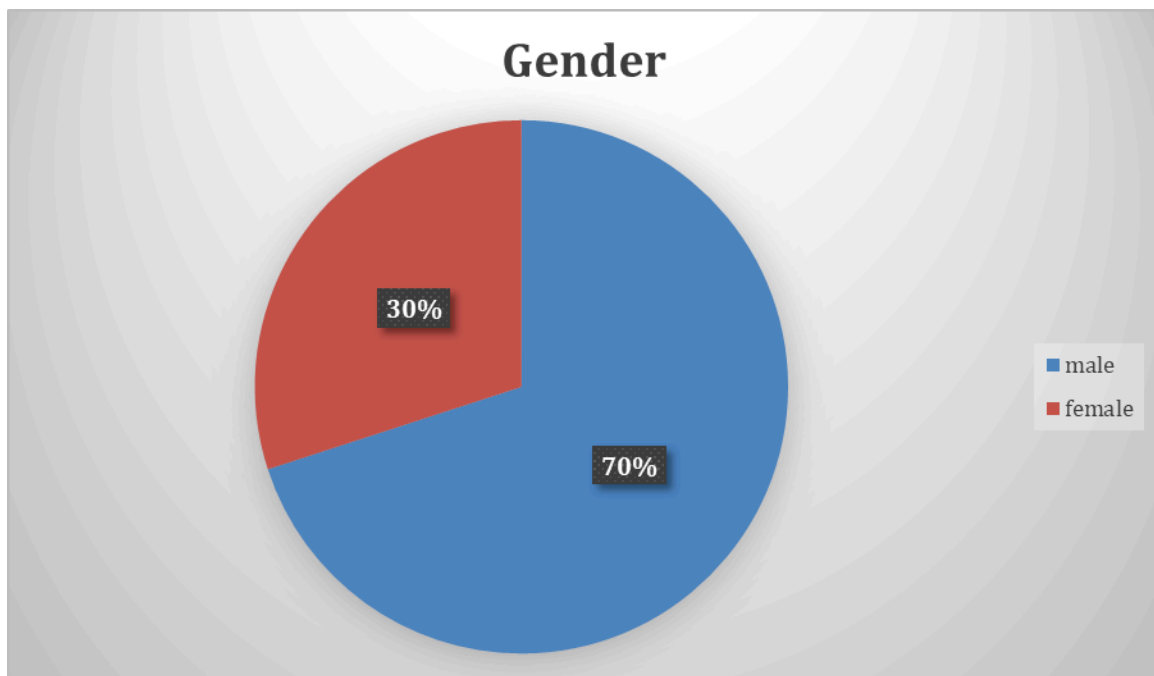


Figure 1: Gender of Respondents.

According to Figure 1, three females participated in the interviews while on the other hand seven male participants were interviewed.

The findings derived from the empirical data collected during the research process were divided into sections corresponding to each research objective:

4.2 Objective 1 - Opinions of Healthcare Workers

This section presents the diverse viewpoints and perspectives expressed by healthcare professionals regarding the adoption of chatbots for medical treatment. It explores themes such as perceived benefits, concerns, and expectations towards integrating chatbots into healthcare delivery. The themes that relate to the opinions of participants include the use of

the latest medical applications, familiarity with chatbots, multiple benefits of chatbots in medical treatment, and proficiency in skills and learning use of chatbots.

Theme 1: Use of the Latest Medical Applications

Participants highlighted the use of the latest healthcare application utilised at Mpilo Central Hospital, providing access to current medical findings and recommendations.

Participant 4 (P4): *"Yes. There is an application that we use at Mpilo and it is compulsory and it's called UpToDate. It is a health care application that is dedicated to providing modern medical findings and recommendations on medical practices."*

Participant 6 (P6): *"Yes. There is an application that we use at Mpilo that is recommended by the hospital and it's called UpToDate. It is a healthcare application that is dedicated to providing information on what is happening in the medical field. Provides information on the latest inventions that can be used to care for patients. It also provides suggested ions on medical solutions."*

The findings suggested reflecting a positive acknowledgment of the role of technology in health care, specifically in enabling healthcare professionals at Mpilo Central Hospital to access and utilise the latest medical information efficiently.

Theme 2: Familiarity With Chatbots

The participants demonstrated familiarity with AI chatbots such as Florence, Ada, and Alexa, and highlighted their roles in medication reminders, symptom diagnosis, and general information assistance.

Participant 4 (P4): *"I know of Florence who is a personal nurse who works on Facebook and reminds patients to take their medication. There is also another one called Ada which is a diagnostic tool for checking symptoms. And there is ChatGPT that everyone talks about."*

Participant 6 (P6): *"I know of Alexa which was designed to be a personal assistant that provides general information. There is also Ada which is used for diagnosis. It checks for symptoms and suggests what the problem is."*

In general, the results emphasize a favorable perspective on AI chatbots in the field of healthcare among the participants. They acknowledge the chatbots' contributions to improving healthcare services by providing individualized help, aiding in diagnosis, and granting access to medical information. This consciousness demonstrates a proactive approach to embracing and exploiting technology to enhance patient outcomes and operational efficiency in healthcare environments. According to the research conducted by Adamopoulou and Moussiades (2020), healthcare professionals are now well-acquainted with the majority of chatbots, such as Alexa, that are used for medical purposes.

Theme 3: Multiple Benefits of Chatbots in Medical Treatment

Participants outlined the multiple benefits of chatbots including quick access to medical information, convenience for patients, and cost-effectiveness compared to traditional health care services.

Participant 4 (P4): *"Chatbots provide medical information and advice for minor conditions. They are convenient as patients can use them in the comfort of their homes and they are also cheaper compared to frequent visits to the doctor or even hiring a nurse for home-based care."*

Participant 6 (P6): *"They are fast as they provide solutions instantly. At times our work comes with a lot of pressure so having an application that helps with information on the go to make decisions makes our work very easy, which is what these chatbots do."*

Findings reflect a favourable view among participants regarding the benefits of chatbots in health care. They see chatbots not only as tools for quick and convenient access to medical information but also as cost-effective solutions that can enhance patient care and operational efficiency in healthcare delivery. This recognition underscores a growing acceptance of digital health technologies and their potential to transform healthcare practices by making them more accessible, efficient, and patient-centered.

Theme 4: Proficiency in Skills and Learning in Using Chatbots

Participants described their proficiency in using chatbots as average, learning primarily through colleagues or self-exploration, highlighting the straightforward nature of these tools.

Participant 4 (P4): *"I can say I am average because a colleague of mine is the one that taught me how to use the chatbots but I discovered there is nothing complicated about using these chatbots."*

Participant 6 (P6): *"I can say I am average because a colleague of mine is the one that taught me how to use the chatbots but I discovered there is nothing complicated about using these chatbots."*

Findings suggested that participants described their proficiency in using chatbots as average, learning primarily through colleagues or self-exploration, highlighting the straightforward nature of these tools.

The majority of participants recognised the potential of AI chatbots in health care, primarily for providing quick access to medical information, assisting in decision-making processes, and improving efficiency in patient care. They appreciate the convenience and cost-effectiveness of chatbots, especially in contexts where immediate information and decisions are necessary. Their familiarity with specific chatbot applications like Ada and their ease of use suggested a positive outlook toward integrating these technologies into medical practice in Bulawayo.

These summaries and verbatim responses collectively illustrated the participants' opinions on medical applications and AI chatbots, emphasizing their integration into medical practice, familiarity among healthcare professionals, perceived benefits, and ease of use.

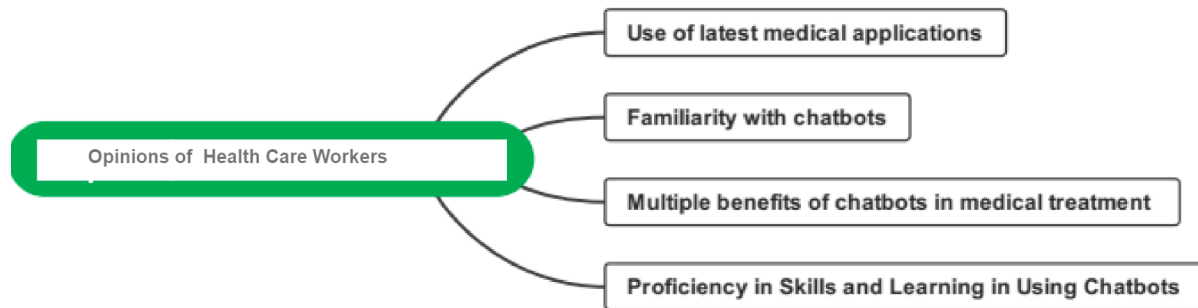


Figure 2: Summary of themes of opinions of healthcare workers

4.3 Objective 2 - Factors Influencing Adoption

Here, the focus shifts to the examination of key factors influencing the adoption of chatbots in medical settings. Factors identified through the research are discussed in detail, highlighting their significance in shaping healthcare workers' readiness to embrace this technology.

a) Perceived Usability

In terms of perceived usability, the sub-themes were very skilled use of chatbots and learning process and installation challenges.

Theme 1: Very Skilled Use of Chatbots and Learning Process

This theme refers to participants' self-assessed proficiency in using chatbots and the methods they employed to acquire these skills, whether through self-teaching or assistance from others. Results showed that participants were very skilled in the use of chatbots in the learning process.

P3: *"I can say well skilled. I self-taught myself on how to use them without the assistance of anyone."*

P5: *"I can say very skilled because there is nothing complicated about using chatbots. Anyone can use chatbots you don't need any training."*

P7: *"I can say well skilled, I taught myself how to use them and they are quite simple to use."*

The findings underscore participants' proficiency, ease of learning, and positive experiences with chatbots, indicating their readiness to utilise these tools in various aspects of medical practice and beyond.

Theme 2: Installation Challenges

This theme involves the difficulties participants encountered when installing chatbot applications, such as technical issues or subscription requirements, and how they resolved these challenges. Results showed that participants faced installation challenges such as technical issues and subscription requirements.

P3: "For the ChatGPT, I was required to pay premiums to have full utility of the application so I ended up not installing it."

P7: "The challenge I faced with ChatGPT was the requirement to pay a subscription fee to use it so I did not follow through with installing it."

These findings emphasise the real-world obstacles participants encountered during the installation of chatbots, underscoring the importance of addressing technical issues and subscription requirements to optimize usability and adoption in healthcare and other fields.

b) Social Values

With regards to social values, sub-themes are community and colleague reactions and expectations as well as experiences.

Theme 1: Community and Colleague Reactions

This theme describes the perceptions and attitudes of the broader community and colleagues toward the use of chatbots in medical treatment, including skepticism, acceptance, or concerns about accuracy and reliability. Results showed that most participants had mixed feelings such as skepticism, concerns, and acceptance of chatbots in medical treatment.

P6: "Many people seem skeptical about seriously relying on chatbots for medical treatment. They have fear of the accuracy of information provided."

P7: "People find it difficult to accept information from chatbots because they worry that it may not originate from reputable or trustworthy sources."

Findings show the diverse range of attitudes participants hold towards chatbots in medical treatment, encompassing scepticism, concerns, and acceptance. This complexity reflects the need for careful consideration of ethical, practical, and technical aspects in the development and deployment of AI-driven technologies in health care. The majority of medical personnel accepted the use of chatbots with slight reservations whilst the older participants had a negative attitude towards their use among their peers. The results suggested that social influences have contributed to the use of AI chatbots.

Theme 2: Expectations and Experiences

This theme encompasses participants' initial anticipations when first using chatbots and whether these expectations were met, along with any specific encounters or observations that influenced their ongoing usage. The results showed that participants had doubts and different experiences about the use of chatbots.

P3: *"When I first started using these chatbots I just wanted to see whether these applications work if they give the correct information."*

P5: *"I started using chatbots with the expectation that they would make work easier and if they lived up to the hype that everyone was talking about."*

The findings highlight the nuanced perspectives participants have towards chatbots, ranging from doubts and scepticism to varying degrees of acceptance and optimism. Understanding these diverse experiences is essential for developing chatbot technologies that align with healthcare professionals' needs and expectations while addressing their concerns effectively. The results indicated that medical students expressed concerns about their usability in practice despite the hype given about their benefits. In the same study, some also showed high expectations and acceptance for use in administrative purposes.

c) Facilitating Conditions

In terms of facilitating conditions, there are enjoyment, voluntary use, privacy, and security concerns as identified themes:

Theme 1: Enjoyment and Voluntary Use

This theme reflects participants' subjective satisfaction or lack thereof in using chatbots, and whether their usage is based on personal preference or driven by external factors like professional requirements or patient expectations. Results showed that participants enjoyed and voluntarily used chatbots in medical practice.

P5: *"Yes, so far so good."*

P6: *"I can't say I enjoy. But it's alright."*

Findings suggested that participants not only found chatbots enjoyable to use but also voluntarily incorporated them into their medical practice, indicating perceived utility and positive user experience. This positive reception is crucial for the continued adoption and integration of AI technologies like chatbots in healthcare settings.

Theme 2: Privacy and Security Concerns

This theme focused on participants' apprehensions regarding the confidentiality and security of data handled by chatbots, including uncertainties about data sources and potential risks associated with information storage and usage. Findings showed that participants had privacy and security concerns about the use of chatbots in medical practice.

P3: *"I don't trust chatbots as there is a third party involved and their source of information is not known."*

P7: *"Well, we do not know where these chatbots derive their information or where they keep it. So security is an issue when it comes to these chatbots."*

Findings reveal that while participants recognise the potential benefits of chatbots in medical practice, their concerns about privacy and security remain significant barriers that need to be addressed to foster greater acceptance and integration of AI technologies in healthcare.

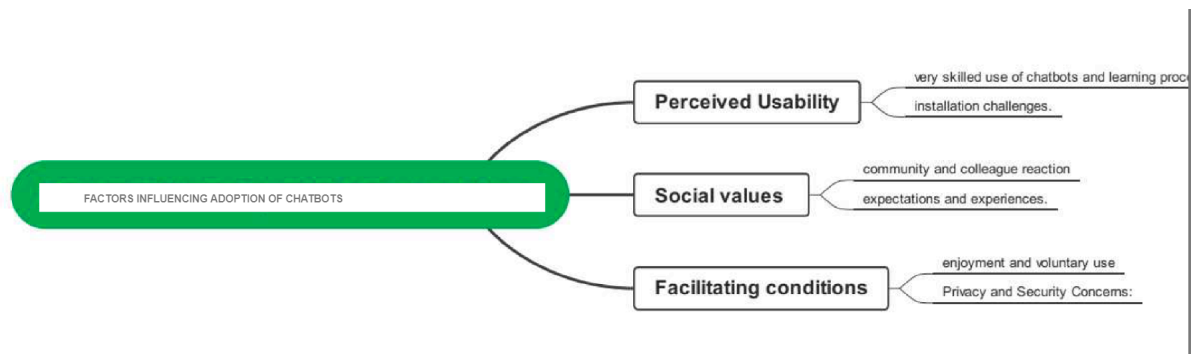


Figure 3: Summary of themes of factors influencing adoption of chatbots

4.4 Challenges in the Adoption of Chatbots

The final section examines the challenges faced by healthcare professionals when adopting chatbots for medical treatment. It synthesizes qualitative data to delineate barriers, constraints, and ethical dilemmas encountered in the process of integrating chatbots into clinical practice. Based on the responses provided by participants regarding challenges encountered when using chatbots in healthcare practice.

Theme 1: Limitations in Handling Complex Cases

Participant P10: *Chatbots struggle to handle complex cases and cannot provide emotional support, which is crucial in patient care. They cannot substitute for the human experience necessary in such situations.*

Participant P7: *Echoes a similar sentiment that chatbots cannot adequately address questions or issues that require human experience or nuanced understanding beyond factual information.*

Participant P3: *Notes that chatbots have limitations in handling complex cases and can give incorrect answers when faced with questions that are not straightforward or require context.*

Theme 2: Limitations in Medical Decision-Making

Participant P5: *Specifically mentions the Ada chatbot's inability to perform complex diagnoses or provide treatment plans such as issuing prescriptions. This limitation hinders its utility in more advanced medical scenarios.*

Theme 3: Response Delays and Inaccuracy

Participant P9: *Highlights challenges with chatbots getting overwhelmed or delayed in responding, especially during periods of high demand. This can result in annoyance and reduced effectiveness in providing timely information.*

Chatbots' inherent limitations—inability to manage complexity, medical decision support limitations, and operational issues—are the main challenges in healthcare. The results showed that Chatbots struggle with complex situations that need human discernment, emotional understanding, or delicate decision-making beyond information retrieval. Certain chatbots cannot dispense drugs or perform complex medical diagnoses or treatment plans. Participants often notice operational issues like answer delays and errors that might influence these systems' therapeutic usefulness. These issues demonstrate chatbot technology's limits in healthcare and provide ways to improve their integration and use alongside human healthcare professionals.

Theme 4: Installation Challenges

Participant P8: *Didn't use ChatGPT due to the requirement of a subscription fee. Meta AI, integrated with WhatsApp, posed no installation challenges since WhatsApp was already on the phone.*

Participant P7: *Encountered no installation issues with Pi, as it came integrated with WhatsApp. However, noted that Pi can get overwhelmed with commands, leading to delays in responses. Did not install ChatGPT due to the subscription fee requirement.*

Participant P10 (at 4:05): *Installed applications from the Google Play Store without significant issues. ChatGPT required a subscription fee for full functionality, which deterred installation. Meta AI was embedded in WhatsApp, hence no separate installation was needed.*

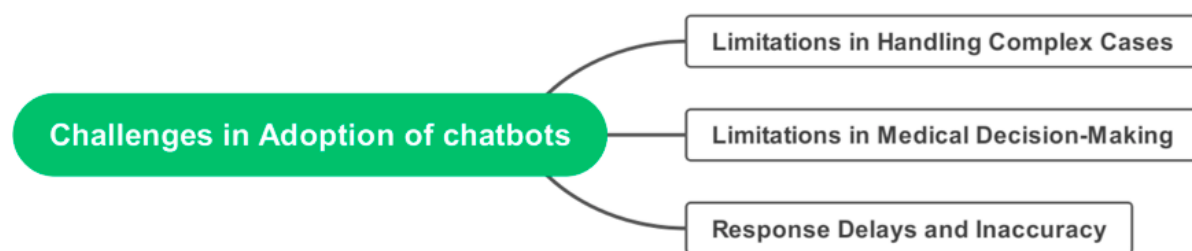


Figure 4: Summary of themes in challenges of adoption of chatbots

5. Discussion

The study conducted at Mpilo Central Hospital reflected broader trends in the literature regarding the adoption of chatbots in health care and hence the researcher explained how the research findings confirm with existing literature. Shown below is how the researcher linked findings from the study to other existing literature.

a) Lack of Trust in the Source of Chatbots

The data analysis showed that the ten Mpilo Central Hospital health staff use current apps to help them with their work. The chatbot source was not trusted by these participants. The 10 participants show a complicated acceptance-skepticism landscape. This is consistent with studies on healthcare chatbot dependability and trustworthiness. Healthcare chatbots are becoming more popular, but trust and dependability remain major impediments (Grassini et al., 2024).

b) Limited Use in Complex Cases and Medical Decision-Making

According to the findings, the participants also believe that chatbots cannot handle complex cases and scenarios requiring human experience. Participants noted that while chatbots could manage routine tasks, they fell short in scenarios that required nuanced understanding and decision-making. The foregoing is also supported by existing literature. Chatbots are not yet mature enough to replace human judgment in complex medical situations, (Parviainen et al, 2021).

c) Chatbots as an Efficient Tool and Source of Support

Despite the mentioned concerns by participants and existing literature; the researcher also found that chatbots could play a supportive role in health care by automating routine processes and providing timely information. This is consistent with the literature, which suggests that chatbots can enhance efficiency and reduce the burden on healthcare professionals by handling administrative tasks and providing basic patient support (La, 2024). Chatbots have been successfully used to schedule appointments, remind patients of medication, and provide general health information, thereby freeing up healthcare workers to focus on more complex tasks (Parviainen et al, 2021). Chatbots have dual roles as both a tool for efficiency and a potential source of support which highlights their value in the healthcare ecosystem, despite the existing reservations (Grassini et al, 2024).

d) Enjoyment and Voluntary Use

The results data analysis confirm with data reported by Sweeney et al. (2021) who noted that medical health personnel had satisfactory experiences with chatbots in the mental health sector. The similar level of enjoyment points out to the seamless ease with which chatbots are used.

e) Privacy and Security Issues

The findings support Saglam et al. (2021)'s usage of personal data and chatbot data recovery failure. Medical staff were also wary about chatbots due to privacy issues (Nadarzinky et al., 2019). Given the multitude of activities in healthcare institutions, chatbot monitoring is tough. These subthemes organize participants' views on AI chatbots in medicine, including abilities, installation, social perceptions, user expectations, usage delight, and security.

f) Installation Challenge, Response Delay, and Inaccuracy

The results agree with Yunus et al. (2024), who found installation difficult, especially for first-time chatbot users due to gadget difficulties. The results concur that AI might make ChatGPT incorporation into medical practices and healthcare environments difficult due to biased or erroneous information and ethical violations in patient safety (Yunus et al,2024). AI-generated information mistaken for human knowledge raises ethical difficulties. The similarities indicated that chatbots were still in development and needed extra steps before adoption. Participants reported subscription and slow response issues when installing and using chatbots.

6. Implications

This study will advance understanding theoretically and practically. In practice, it will improve healthcare by assessing health professionals' impressions, making services more accessible and efficient. Knowing health professionals' opinions can help create chatbots that are easier to use and improve patient care and workflows (Abd-Alrazaq et al., 2021). Chatbots may optimize resources, reduce healthcare professional workload, and reduce costs if good perceptions are found (Palanica et al., 2019). The findings can help create health worker training programs and policies. The findings can help governments create supportive frameworks for chatbot integration in healthcare settings, resolve concerns, increase acceptance, and educate health workers to utilise chatbots. The review's findings will illuminate healthcare technology adoption and influence future AI-based solution integration decisions. The study showed how cultural and infrastructural variables affect healthcare technology adoption. Academic research relies on theoretical contributions to bridge the literature gap between technology and health care in underdeveloped places (Wilson & Marasoiu, 2022).

7. Limitations

Selection bias, restricted generality, and lack of longitudinal data limit the study of health workers' views on chatbots in medical care at Mpilo Central Hospital. Participants were chosen based on chatbot experience and decision-making position. The findings may have been biased and not applicable to all Mpilo Central Hospital health personnel. The study was done at one hospital, which may limit its applicability. Depending on the institution and culture, health personnel may see chatbots in medical care differently. The investigation's one-time evaluation of health professionals' perspectives limited its capacity to track changes in attitudes and opinions. Chatbot perspectives in medical therapy should be better understood with longitudinal data.

8. Recommendations

The researcher suggests using random sampling instead of specific criteria to select participants in future studies to reduce selection bias and improve generalizability to the hospital's health workers. To examine health professionals' impressions over time, a longitudinal study design is needed. This allows a more dynamic examination of attitudes and preferences for medical chatbots and an understanding of how medical practitioners' attitudes toward chatbots are changing.

9. Conclusion

In conclusion, Mpilo Central Hospital health workers' views on chatbots in medical care have illuminated the various aspects that affect acceptance and attitudes toward this developing technology. A comprehensive survey of health workers revealed a range of viewpoints and concerns about chatbots in medical care. Context-specific factors including institutional resources, organizational culture, and technology infrastructure influence health professionals' chatbot adoption perspectives. This study lays the groundwork for future research and activities to boost chatbot adoption in health care, improving patient care and medical treatment at Mpilo Central Hospital and beyond.

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