



Integration of Chatgpt and E-Health Literacy: Opportunities, Challenges, and a Look Towards the Future

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Abstract

Context: The integration of ChatGPT and e-health literacy, as an innovative approach to improving the accessibility and quality of healthcare services, offers the potential to strengthen access to health information and health decision-making. This integration helps individuals understand, analyze, and interpret health information more deeply while building a broad health profile. However, the potential risk of ChatGPT misdiagnosing diseases or providing inaccurate information could cause misleading guidance and prevent users from accessing information. Moreover, a ChatGPT-based system could restrict individuals' capacity to supervise and decipher their health records. Thus, while the integration of ChatGPT and e-health literacy holds promise to improve the accessibility and quality of health services, adverse aspects, such as the risk of providing misleading information and reducing user autonomy, should also be considered.

Evidence Acquisition: This study provides insight into the potential, challenges, and prospects of integrating ChatGPT and e-health literacy into health services. Thus, the implication of the integration and the development of strategies for helping users better manage their health information can be explored in greater depth. Related articles on the topic were reviewed from the literature, and the results were interpreted.

Results: The integration of ChatGPT with eHealth literacy harbors significant potential for substantially enhancing the accessibility and quality of health services. Using ChatGPT in health services can increase eHealth literacy, especially in health information access and health-related decision-making processes.

Conclusions: In conclusion, the integration of ChatGPT and eHealth literacy carries considerable potential to improve the accessibility and quality of health services. This integration allows individuals to comprehend health data more efficiently and interpret the results more accurately.

Keywords: ChatGPT, E-Health, Literacy, Integration, Health Services

1. Context

The use of technology, especially artificial intelligence (AI), is rapidly expanding in the quest to improve the quality and accessibility of health services. In this study, adopting natural language processing (NLP) technologies is a significant turning point to simplify users' access to health services while significantly enhancing health literacy. ChatGPT, developed by OpenAI, is an NLP model capable of responding to questions written in natural language, improving users' access to health services and increasing the comprehensibility of health-related information (1, 2). Assisting patients in gaining knowledge about health issues, providing information about health

services, and supporting health-related research are among the potential uses of ChatGPT. However, bias, spread of misinformation, lack of context, and concerns about privacy and security have been identified as obstacles to the widespread use of ChatGPT (3, 4). E-health literacy refers to individuals' ability to find, understand, and use electronic health information, which can enhance the quality and efficiency of health services and positively impact users' health-related decisions (5). The 21st century can be characterized as a rapid evolution in digital technologies. In this context, demand for digital technologies in health services shows a proportional increase in technological progress. People increasingly access health services through mobile phones, tablets,

and other smart devices. This underscores the importance of e-health literacy and reveals the necessity of this skill being acquired by large masses. E-health literacy has now become necessary for making informed decisions about health and improving individual and societal health levels.

As health services digitize, skills such as access to electronic health records, efficient use of health apps, and accurate evaluation of online health resources become increasingly important (5). Consequently, with the spread of digital technologies in the health sector, individuals will need e-health literacy to maintain good health and make educated health decisions. E-health literacy is crucial in providing equality and quality access to health services and is a topic that healthcare providers and policymakers need to consider (6). This review addresses the potential impacts of integrating ChatGPT and e-health literacy on health services and the challenges encountered and potentially faced in this integration process. This integration, which can positively impact the quality and accessibility of health services, may also bring various technological and educational challenges. An in-depth examination of these issues can shed light on the future development of health services and guide innovations in this field.

2. Evidence Acquisition

This study provides insights into the opportunities, challenges, and prospective outlook of integrating ChatGPT and e-health literacy into health services, thus providing a basis for an in-depth exploration of the integration implications and development of strategies to help users manage their health information more effectively. Related articles on the topic were reviewed from the literature, and the results were interpreted.

3. Results

3.1. The Integration of ChatGPT and E-Health Literacy

The integration between ChatGPT and e-health literacy presents a significant potential to enhance the quality and accessibility of health services. However, the associated risks of ChatGPT generating misleading or erroneous content have increased concern regarding misinformation within academic spheres (7). ChatGPT, which has natural language processing capabilities, facilitates users in posing health-related inquiries and getting meaningful responses effortlessly. This attribute aids users in comprehending health information more profoundly, enabling informed health-related

decision-making (4). Research has suggested that ChatGPT can be pivotal in health education, research, and practices (2, 4).

E-health literacy covers the competencies of individuals in researching, understanding, and utilizing electronic health information effectively. This skill set can potentially increase the quality and efficiency of health services and improve individuals' health-related decision-making processes. The role of ChatGPT in improving e-health literacy can facilitate users in acquiring a quicker and more effective grasp of health information. For instance, when a user submits a health-related search to ChatGPT, the system retrieves information from an extensive database and renders a response in a language comprehensible to the user. This ensures quick access to reliable and precise information, facilitating informed health-related decisions. Furthermore, ChatGPT can convert complex terminologies and medical jargon into intelligible language, which assists users in understanding health information with ease. When a user seeks information about a specific illness, ChatGPT can explain the disease's symptoms, treatment options, and preventive strategies comprehensibly. As a result, users can make informed decisions about their health conditions and gain more proficiency in health-related topics. Nevertheless, the integration of ChatGPT and e-health literacy also introduces challenges related to technology and education. For example, AI technologies in health services can lead to issues such as data security, privacy, algorithmic bias, and erroneous predictions (8). Moreover, employing AI and IoT technologies in health services could lead to educational difficulties concerning access to and proficiency in using technology, trust in technology, and adaptability to technology (9, 10). Integrating ChatGPT and e-health literacy mandates integrating digital, data, and AI literacy skills (11). This necessitates that health service users, providers, and policymakers possess the skills and knowledge to utilize AI technologies in health services effectively. A need for further research and policy development aimed at this integration is evident for the successful integration of ChatGPT and e-health literacy.

3.2. Potential Opportunities and Challenges

Integrating ChatGPT and e-health literacy introduces numerous opportunities to transform healthcare services. Primarily, the advanced natural language processing capabilities of ChatGPT afford users more efficient and effective access to health-related information. This heightened accessibility could drastically increase the quality and effectiveness of healthcare services and enrich individuals' health-related decision-making processes (8,

12). Furthermore, ChatGPT has been suggested to have a significant role in health education, research, and practice (13).

Nevertheless, the integration of ChatGPT and e-health literacy also causes a variety of technological and pedagogical challenges. For example, the increasing use of artificial intelligence technologies within health services can raise potential issues about data security and privacy, algorithmic bias, and misleading predictions (8). In addition, employing artificial intelligence and Internet of Things (IoT) technologies in health services could evoke pedagogical challenges relating to technology access and proficiency, trust in technology, and technological adaptation (9, 10). The resolution of such challenges necessitates health service users, providers, and policymakers to be equipped with the requisite skills and knowledge to warrant the efficient use of AI technologies within health services. This demands a multifaceted literacy integration of digital literacy, data literacy, and AI literacy.

The rapidly increasing popularity of ChatGPT also brings various concerns associated with its application in the health services domain. For example, there is a risk associated with ChatGPT providing erroneous or incomplete information when diagnosing a disease. The system generates responses by integrating information from a large dataset, but this collection could contain inaccurate or misleading information. Users may be unable to get accurate information about their health conditions, leading to misconceptions or inaccurate advice. Moreover, ChatGPT's capacity to translate medical jargon into lucid language may be restricted. There is a risk of misinterpretation or misrepresentation of complex technical terms. This could complicate users' comprehensive and accurate understanding of health information, potentially leading to unwarranted worries or deceptive conclusions. Therefore, users should exercise caution when utilizing AI systems like ChatGPT in e-health literacy, ensuring decisions are grounded in precise and reliable information. As a result, technology providers are required to refine and regulate their products continuously, while users are encouraged to use technology with consciousness and responsibility.

3.3. Looking Towards the Future of ChatGPT in Health

Artificial intelligence, specifically models like ChatGPT that possess language processing capabilities, is thought to play a decisive role in shaping future healthcare services. The successful integration of these technologies can significantly enhance health literacy while simultaneously improving the quality and accessibility of healthcare services (1, 12, 13). The deployment of ChatGPT within

healthcare services encourages patients to understand their health conditions comprehensively, empowering them to make more informed decisions in health-related matters. ChatGPT can disseminate information about patients' health statuses, explain treatment options, and respond to health-related questions (1, 12). Such advancements could ease patients' access to healthcare services and equip them with the knowledge to make informed health decisions.

ChatGPT's influence on e-health literacy can support the quality and efficacy of healthcare services. For example, ChatGPT assists patients in interpreting and utilizing health information, subsequently enhancing the effectiveness of healthcare services (14). Additionally, ChatGPT's capacity to improve the quality of healthcare services could increase patients' accessibility to these services and their ability to make informed health decisions. However, the widespread adoption of these technologies may pose challenges to data privacy and security. Healthcare providers and patients must be educated on appropriately using such technologies to ensure their effective use (15).

The integration of ChatGPT and e-health literacy may significantly impact the future of healthcare services. Using these technologies strategically can enhance the quality and accessibility of healthcare services and promote health literacy. However, privacy and security concerns must be addressed to facilitate the efficient spread of these technologies, and educational initiatives should be implemented to promote familiarity with and usage of these technologies.

ChatGPT's natural language processing (NLP) capabilities enable users to comprehend and utilize health-related information more easily. The intricate and technical nature of health information could significantly benefit people with lower levels of e-health literacy (16). The implementation and integration of ChatGPT within the healthcare system are hypothesized to benefit patients due to their lack of familiarity with the technical language used in healthcare (17). Furthermore, ChatGPT has been noted to provide disease-specific information and insight into the behavior of patients and their families. Unlike other social media platforms, artificial intelligence programs like ChatGPT can integrate topical information and present it in a user-friendly manner (4).

ChatGPT responds to health-related queries, provides advice, and spreads information about specific health conditions to aid users in their understanding of health-related information and support more informed decision-making processes regarding health matters (18). E-health literacy is pivotal when making health-related decisions and utilizing health services. Individuals

with high levels of e-health literacy are often more effective at using health-related information and can benefit more from health services (16). Integrating ChatGPT into e-health literacy initiatives could enhance these competencies even further. Specifically, ChatGPT could facilitate users' ability to find and understand health-related information more effortlessly. This is particularly beneficial for individuals with lower levels of e-health literacy due to health information's complex and technical nature. Integrating ChatGPT into e-health literacy initiatives could play a critical role in enhancing the accessibility and quality of healthcare services.

The integration of ChatGPT with eHealth literacy harbors significant potential for substantially enhancing the accessibility and quality of health services. Using ChatGPT in health services can increase eHealth literacy, especially in health information access and health-related decision-making processes. This integration helps individuals understand, analyze, and interpret health data more deeply. From a future-oriented viewpoint, the comprehensive capacity of ChatGPT in organizing and assessing health information could facilitate individuals in creating a more extensive and scientifically-based health profile. However, this integration process should consider specific challenges and potential negatives. A primary concern is the risk of ChatGPT mischaracterizing diseases or providing inaccurate information. The system gathers information from a vast database to generate responses, yet this data could contain flawed or incomplete information. This situation could prevent users from obtaining precise and complete information, leading to potential misconceptions or misguided directions. Another potential drawback is the risk of ChatGPT decreasing users' control abilities during health information integration and evaluation. A system dependent on ChatGPT might decrease users' ability to monitor and interpret their health data, posing additional challenges in establishing thorough comprehension and control over their health conditions.

4. Conclusions

In conclusion, the integration of ChatGPT and eHealth literacy carries considerable potential to improve the accessibility and quality of health services. This integration allows individuals to comprehend health data more efficiently and interpret the results more accurately. Nevertheless, potential adverse aspects should be considered, such as the risk of spreading misleading information and decreasing users' control capabilities. Future research should investigate the impacts of this

integration more meticulously and devise strategies to aid users in managing their health data more effectively.

Footnotes

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