The Impact of Artificial Intelligence on Health Literacy of Surgical Patients: A Literature Review

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ABSTRACT

This literature review was conducted to evaluate studies assessing the impact of artificial intelligence on the health literacy of surgical patients. A systematic search of the PubMed, Science Direct, Taylor & Francis, and Google Scholar databases, as well as the National Academic Network and Information Center, was performed. The search was limited to articles published in English or Turkish in the last five years, using the following keywords such as "Artificial Intelligence," "General Surgery," "Health Literacy," and "Nursing." A total of twenty articles, conducted in Turkey and other countries, met the specified scope conditions for this review. The findings indicate that a considerable number of studies have addressed health literacy in the context of surgical operations. A key determination was that 95% (n=19) of the virtual chatbots examined within these studies were ChatGPT. It was observed that these chatbots generally delivered accurate information at a "medium and above" readability level. The positive correlation between enhanced patient health literacy and improved surgical outcomes is well documented in the literature. Moreover, the integration of technological advancements, particularly from the field of artificial intelligence, has been demonstrated to increase the effectiveness of nursing care. Consequently, addressing health inequalities requires urgent, twofold measures: firstly, implementing targeted efforts to improve the health literacy of disadvantaged groups, and secondly, adapting nursing education to reflect technological advancements.

Keyword: Artificial Intelligence, General Surgery, Health Literacy, Nursing

1. Introduction

Artificial intelligence can be defined as the ability of a machine to imitate human behavior. This term encompasses technologies like machine learning, computer vision, and natural language processing. Given the rapid, daily development of artificial intelligence, a significant transformation in the healthcare sector is considered inevitable (Clancy, 2020; McGrow, 2019). Applications of artificial intelligence in medicine are generally examined under two primary classifications: physical, including surgical robots, and digital, encompassing diagnostic programs (Hamet & Tremblay, 2017). The advent of conversational artificial intelligence platforms has enabled patients to access health information from these environments (Berkman, Davis, & McCormack, 2010). One such technology, the chatbot, (a portmanteau combining the words "chat", "conversation", "dialogue" and "bot/robot"), coincided with the advent of the digital age during the global

COVID-19 pandemic. These innovative technological solutions have provided businesses with a competitive advantage by facilitating the delivery of accurate, expeditious, and reliable information to individuals. Thereby, addressing the paramount concerns of their target demographics. The accelerated digitalization during this crisis altered social lifestyles and prompted businesses to expedite their digital transformation process, fortify their technological infrastructures and cultivate information-based decision-making processes (Bacaksiz, 2020). Consequently, the pandemic also accentuated the profound importance of health literacy (Okan et al., 2020).

Nao is a physical robot version of a chat platform designed to support fragile patient groups, including children and the elderly, throughout their treatment and care. As a platform capable of conversing with patients and displaying a sense of humor, Nao has been demonstrated to be effective in reducing pre-operative anxiety and enhancing the patient's motivation by engaging them in treatment and care process post-operative (Dogan Merih, Y., & Akdogan, 2021). The growing importance of artificial intelligence chatbots in healthcare services is linked to their capacity for personal interaction and rapid information access, which are key factors in improving service quality(Xu, Sanders, Li, & Chow, 2021). Given that these robots provide continuous information and rapid responses to patients, investigating their readability and how well patients understand the information is essential (Dogan Merih, Y., & Akdogan, 2021). In the context of advancing digitalization, the legibility of information that chatbots provide to surgical patients warrants investigation. The content delivered by these chatbots directly influences the surgical process. Consequently, it must be ascertained whether AI chat platforms benefit surgical patients or have deleterious effects, as information that negatively impacts the surgical process is of critical concern. Conversely, the provision of accurate and comprehensible information to patients is conducive to successful surgical outcomes. Accordingly, the objective of this study is to evaluate the extent to which artificial intelligence chat platforms enhance the surgical health literacy of patients through a systematic review of studies conducted on this topic.

In the contemporary era of artificial intelligence, prognostication regarding the trajectory of surgical development has become a challenging endeavor. Consequently, it is imperative for surgical nurses to maintain currency with these rapid technological advancements. The integration of artificial intelligence offers the potential to streamline access to patient data and enhance the thoroughness of patient evaluations. By automating routine tasks, artificial intelligence enables nurses to allocate more time to direct patient care. This utilization of artificial intelligence also facilitates more efficient data analysis and provides robust decision support systems (Aygin & Gul, 2021). Specifically, surgical nurses partake in activities that demand considerable physical strength, such as transferring patients after surgical procedures. These tasks make them susceptible to physical harm, particularly musculoskeletal injuries. The utilisation of robotic technologies has the potential to mitigate the physical demands on nurses, thereby reducing the incidence of physical injuries. Given the exertion required to move patients from an operating room gurney to their bed and the resulting prevalence of musculoskeletal disorders, the integration of robotics could significantly enhance the occupational well-being of these professionals. These artificial intelligence-supported robots, for instance, could provide substantial assistance in orthopedic surgeries, where patients require prolonged bed rest. In such cases, nurses must reposition patients at least every two hours to prevent pressure sores and provide in-bed baths, physically strenuous tasks that could be facilitated by robotic assistance (Turan & Khorshid, 2022). The advent of digital technologies has precipitated the integration of artificial intelligence chat platforms, which has concomitantly begun to impact the domain of surgical nursing. Concurrent with these technological developments, the increasing utilisation of artificial intelligence in the healthcare sector has led to a growing preference for this technology among surgical patients. Consequently, patients have begun to use AI chat platforms to address their lack of knowledge regarding surgical processes. Although the use of these platforms has been demonstrated to substantially enhance the quality of preoperative preparation by nurses (Samaan et al., 2023), the extent to which AI can provide accurate and comprehensible information to surgical patients and nurses is still unclear. It is evident, therefore, that an assimilative study examining this area from a broad perspective is necessary. Accordingly, this study aims to demonstrate the contribution of artificial chat platforms to the surgical health literacy of nurses and patients by conducting a systematic review of relevant studies.

This review article aims to investigate three research questions:
- How are artificial intelligence (AI) applications utilized in surgical nursing?
- What do we know about how well surgical patients understand health information when they use artificial intelligence chat platforms?
- Do AI platforms actually help patients having surgery?

2. Methods

This study was designed as a literature review to provide a conceptual overview of the current status of health literacy among surgical patients using artificial intelligence chatbots, through the analysis and synthesis of relevant academic literature. Given that the research design is a literature review, the PEO guideline was utilized to formulate the research questions based on its three core components of the PEO model: population, exposure, and outcome (Doody & Bailey, 2016). The population of interest was determined to be surgical patients and nurses. The exposure was defined as the utilisation of artificial intelligence (AI) applications. The outcomes were subsequently evaluated in terms of their impact on health literacy, as well as professional and patient benefits. A series of three research questions were then formulated to guide this investigation. The methodology comprised a comprehensive search of articles published in English and Turkish in the last five years. The search utilized the 2025 Medical Subject Headings (MeSH) standardized keywords "Artificial Intelligence," "General Surgery," "Health Literacy," and "Nursing." The search was conducted across the following databases: PubMed, Science Direct, Taylor & Francis, Google Scholar, and the National Academic Network and Information Center. Following the search, the articles were subjected to analysis to ascertain their compliance and adequacy with the inclusion criteria. The exclusion criteria encompassed studies that did not focus on artificial intelligence and health literacy or were not related to surgical patients and nurses. A total of 543 records were identified through this database search. Duplicate articles were then detected using the Mendeley program and automatically removed from the study.

Following the initial search, 120 duplicate records were eliminated. The abstracts of the remaining articles were then screened, leading to the exclusion of 358 records. Subsequently, the full texts of the remaining articles were assessed for eligibility, and 45 were excluded for reasons such as providing insufficient detail or not meeting the inclusion criteria. This screening process, which is detailed in the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-analyses) flowchart (Figure 1), resulted in a final selection of 20 articles for inclusion in this review.
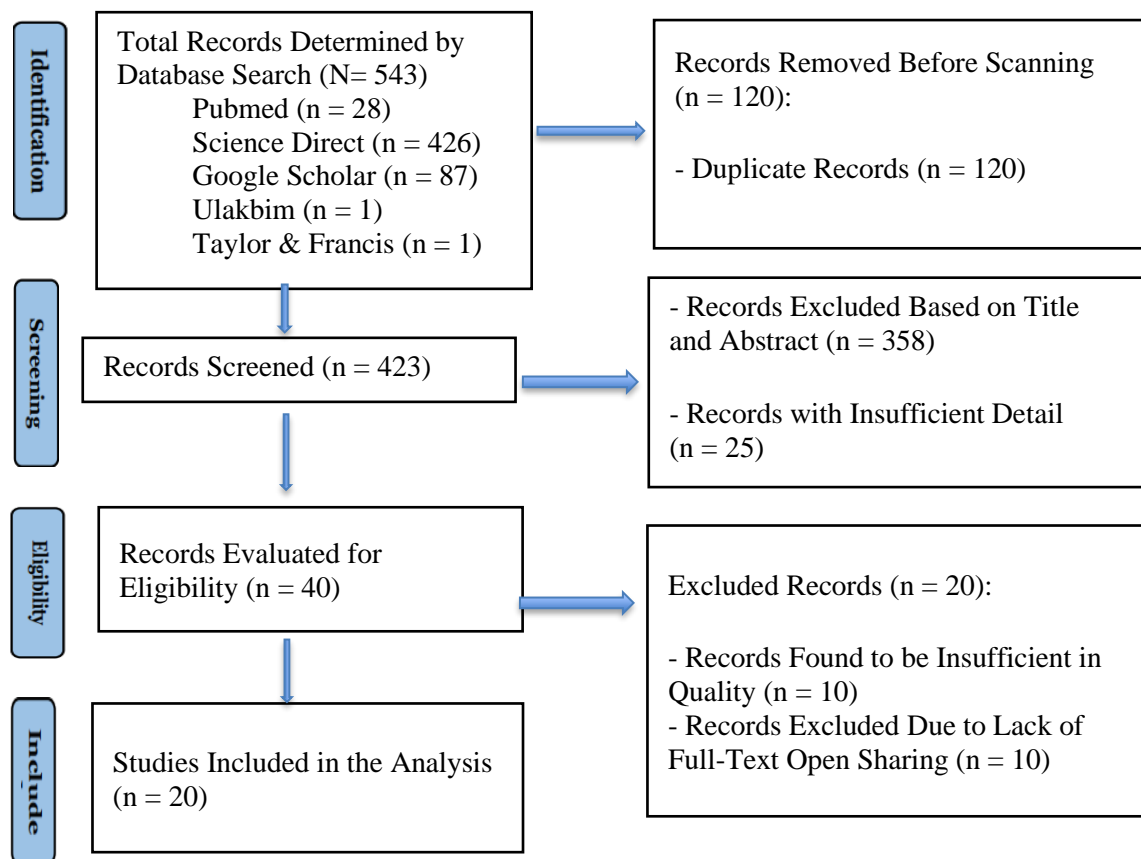

Figure 1 PRISMA 2020 Flow Chart

3. Results

This paper presents an analysis of 20 studies that met the inclusion criteria for a systematic review on the impact of artificial intelligence on the health literacy of surgical patients. The distribution of the articles by publication year was as follows: 30% (n=6) were published in 2025, 55% (n=11) in 2024, and 15% (n=3) in 2023. The reviewed studies focused on health literacy across a significant range of surgical operations, encompassing fields such as orthopaedics, ophthalmology, otolaryngology, urology, and oncology. The analysis ascertained that 95% (n=19) of the virtual chatbots evaluated within the studies were ChatGPT. It was observed that the information provided by these chatbots was generally accurate and possessed a readability level of "medium and above." It was also determined that the development and use of these platforms by healthcare professionals as an educational tool would be beneficial (Table 1).

4. Discussion

The rationale for enhancing patient communication tools is clear, as low health literacy levels in surgical patients have been shown to negatively impact surgical outcomes (Chang et al., 2020). Virtual health chatbots can automate basic patient communication by answering frequently asked questions, scheduling appointments, and providing timely medication reminders to improve patient adherence to treatment regimens (Perri-Moore et al., 2016). The comprehensibility of these platforms is a key consideration, with one recent study finding that ChatGPT responses were understandable at a post-secondary level (Chervonski et al., 2025). Consequently, it is recommended that public health systems facilitate the design of these chatbots by ensuring they have a user-friendly interface and multilingual support to accommodate diverse patient populations. Furthermore, their content must be regularly evaluated and updated as necessary to maintain accuracy and relevance (Laymouna et al., 2024).

A further review of the literature concluded that AI platforms exhibit superior understandability and actionability in comparison to websites (Raquepo et al., 2025). Specific AI language models have been demonstrated to be effective for surgical patients who require comprehension of intricate procedures. For example, ChatGPT-4 has been shown to possess a readability level ranging from the sixth to eighth grade for information concerning shoulder and elbow surgeries (Chandra et al., 2025). Similarly, GPT-4o-Mini was identified as the most effective and readable language model for creating educational material for orthopedic trauma patients (LaNicca, Wright, & Lutnick, 2025). In another study evaluating ChatGPT as an educational tool for colorectal cancer patients, its responses were rated as 'very good' by PEMAT-AI (71.43), 'moderate' by DISCERN-AI (12.00), and 'high' by GQS (4.00) (Siu et al., 2025). However, in contrast to these findings, the responses of ChatGPT-4 to frequently asked questions regarding strabismus and amblyopia were found to be challenging for the average individual, necessitating a university-level education for full comprehension (Guven & Ayyildiz, 2025).

The extant research in this area indicates that the level of surgical literacy is contingent on the nature of the specific surgical procedure. This phenomenon may be interpreted as a result of patients' greater familiarity with the terminology associated with more prevalent diseases compared to less common ones. For example, evidence suggests that a majority of patients prefer ChatGPT answers for common procedures such as cataract and cataract surgery (Cohen et al., 2024). Furthermore, ChatGPT has been shown to provide satisfactory responses to 93.8% of inquiries concerning the efficacy, suitability, and procedural options for bariatric surgery, thereby enhancing the preoperative preparation of patients and nurses (Samaan et al., 2023). While no statistically significant difference was observed between Google and ChatGPT regarding total shoulder arthroplasty (TSA) and total elbow arthroplasty (TEA), ChatGPT generated a higher percentage of academic references, whereas Google produced more medical practice references. These findings suggest that both platforms may increase health literacy and facilitate more effective shared decision-making for patients seeking information (Tharakan et al., 2024) (Table 1). In line with other findings, it has been determined that advanced AI tools present information to patients in a more intelligible format compared to the specific frequently asked questions (FAQs) found on traditional websites. One study concluded that the readability of ChatGPT was more accessible, with responses that were more easily understood by patients; the readability of content generated by the artificial intelligence for pre-surgical education averaged at the first grade high school level (9±0.8) (Abreu et al., 2024). Similarly, another study concluded that patient education materials created via ChatGPT-3.5 were more useful than those from Bard, and it was noted that patients are increasingly interested in such artificial intelligence platforms (Rouhi et al., 2024). In a practical application of these findings, surgeons have begun to recommend ChatGPT to patients who are seeking information about total knee arthroplasty (Taylor, Cheng, Weinblatt, Bergstein, & Long, 2024).

The extant research has identified that a notable segment of surgical patients utilizes artificial intelligence chat platforms for informational purposes, and the thorough review of the articles included in our research determined that ChatGPT is the most predominant among them. Evidence suggests that patients who actively use AI platforms derive significant benefits; for instance, the utilisation of AI chatbots has been demonstrated to facilitate patient decision-making and to significantly accelerate the preoperative preparation of both patients and nurses.

However, while recent research has revealed that ChatGPT can enhance health literacy, further research and development are required to optimize its potential in this domain. It is therefore imperative to acknowledge the importance of enhancing patient access to these artificial intelligence platforms, especially in light of economic disparities, to facilitate a precise analysis.

Table 1 Summary data items

Author/Year	Objective	Sample	Data collection tools	Results	Benefit Status
(Chervonski et al., 2025)	To assess the quality of AI responses to common patient questions regarding vascular surgical disease processes.	-24 mock patient questions -6 vascular surgery lecturers,	-Google Bard -ChatGPT	Approximately one-third of Bard responses (29.2%, n=7) were deemed inappropriate by at least two raters, while two Bard responses (8.4%) were considered mostly inappropriate. The mean readability scores of ChatGPT responses were as follows: Flesch Reading Ease: 29.4 ± 10.8; Flesch-Kincaid Grade Level: 14.5 ± 2.2; Gunning Fog Index: 17.7 ± 3.1) suggest that these responses are readable at a postsecondary level.	Generative AI platforms have facilitated patient education by reducing the time barrier of physician-patient interactions.
(Raquepo et al., 2025)	To compare the information quality of online and AI sources on phalloplasty donor sites.	-Top ten donor websites	-ChatGPT-4o mini -Google Gemini MetaAI	While the readability of the websites was higher than that of the AI platforms, the difference was not statistically significant (p=0.10). However, it is noteworthy that all of the means exceeded the eighth grade reading level, and the AI platforms outperformed the websites in terms of understandability (p<0.0001) and actionability (p=0.006). This suggests that while the websites were generally understandable, they lacked actionable content.	ChatGPT-4o mini, Google Gemini, and MetaAI have enhanced the clarity and quality of online health resources related to phalloplasty donor sites, empowering patients to make informed surgical decisions.
(Chandra et al., 2025)	To evaluate the readability of online patient education material for shoulder and elbow surgery.	-Thirty chapters compiled from academic and professional medical sources	-ChatGPT	ChatGPT-4 has demonstrated efficacy in the review and simplification of patient education materials for shoulder and elbow surgery, achieving readability levels that approach the recommended benchmark.	ChatGPT-4 was instrumental in analysing and simplifying shoulder and elbow surgery patient education materials, ensuring they met the recommended levels of readability and enhancing patient comprehension.
(LaNicca et al., 2025)	To determine the effectiveness of using artificial intelligence (AI) in rewriting orthopedic trauma hospital patient education materials appropriate to the patient reading level.	-Thirty-five orthopaedic patient educational articles from three hospital networks	-ChatGPT -Claude -Gemini AI	Whilst artificial intelligence (AI) models offer a viable option for reducing the reading difficulty of orthopaedic trauma patient education materials whilst maintaining accuracy at an affordable cost, GPT-4o-Mini is the most efficient language model in this field.	GPT-4o-Mini has been demonstrated to be the most efficient language model. As it has been shown to reduce the reading difficulty of patient education materials.
(Siu et al., 2025)	To evaluate the efficacy, quality and readability of answers generated by ChatGPT-4 on colorectal cancer (CRC), utilizing patient-style question prompts.	-8 CRC-related questions -8 colorectal surgeons	-ChatGPT-4	The responses to ChatGPT as an educational tool for colorectal cancer patients were found to be correct (median 4.00), safe (4.25), appropriate (4.00), applicable (4.00) and effective (4.00). Quality assessments classified PEMAT-AI as 'very good' (71.43), DISCERN-AI as 'moderate' (12.00) and GQS as 'high' (4.00).	ChatGPT-4 served as an educational tool by providing patients with safe and nonspecific medical information.

Table 1 Continued

Author/Year	Objective	Sample	Data collection tools	Results	Benefit Status
(Abreu et al., 2024)	To explore the potential of artificial intelligence chatbots as a tool to enhance the readability of patient-focused cancer content.	-Content from 34 websites on breast, colon, lung, prostate and pancreatic cancer	-ChatGPT,	The mean readability score of the 34 websites was found to be at a college freshman level (13 ± 1.5th grade). However, following the implementation of ChatGPT, the mean readability score of the AI-generated outputs was reduced to a high school freshman level (9 ± 0.8th grade).	AI has enabled significant improvement in health education by reducing health care disparities.
(Cohen et al., 2024)	To ascertain the accuracy, security, and readability of responses from both Google and ChatGPT to the most common questions patients pose regarding cataracts and cataract surgery.	-The top 20 questions about cataracts and cataract surgery were found on Google	-ChatGPT -Google	In a comparative evaluation of ChatGPT and Google responses to frequently asked patient questions about cataracts and cataract surgery by practising ophthalmologists, the vast majority expressed a preference for ChatGPT responses, finding this large language model to be less likely to provide incorrect information.	ChatGPT has facilitated access to eye health information for patients with high health literacy and assisted eye care professionals in personalising educational materials for patients with diverse literacy levels.
(Rouhi et al., 2024)	To determine the public readability levels of online patient education materials pertaining to aortic stenosis, utilising an artificial intelligence dialogue platform.	-Cardiothoracic surgery society -Academic institution educational materials	-ChatGPT -Google Bard	While it is evident that AI conversational platforms have the potential to enhance the readability of patient education materials prepared for patients with aortic stenosis, it is important to note that they may not fully meet the recommended reading skill levels. In a comparative analysis, ChatGPT-3.5 demonstrated significantly superior results in terms of post-conversion readability scores, percent change in readability scores, and conversion time when compared to Bard (all $p<0.001$).	It has been determined that AI conversational platforms are not yet capable of providing adequate benefits to patients due to their current inability to fully meet the reading skill levels required for aortic stenosis patients.
(Taylor et al., 2024)	To assess the accuracy and reliability of ChatGPT-generated responses to frequently asked questions regarding total knee arthroplasty	-2 answers to the most frequently asked questions on their institution's website	-ChatGPT	ChatGPT has been demonstrated to provide accurate and reliable responses to frequently asked questions posed by patients undergoing total knee arthroplasty. Surgeons concur that ChatGPT's capacity to furnish language-specific and targeted answers will prove advantageous to a diverse range of patient demographics.	ChatGPT has been found to benefit patients by providing answers in multiple languages, meeting their needs far beyond the hospital's limited English-only online resources.

Table 1 Continued

Author/Year	Objective	Sample	Data collection tools	Results	Benefit Status
(Abdelmalek et al., 2025)	To evaluate the readability of Patient Reported Experience (PEM) generated by ChatGPT 3.5 and 4.0 for common hand disorders.	-The most frequently asked 50 questions for common hand pathologies	-ChatGPT 4.0 -ChatGPT 3.5	In the context of the study, ChatGPT 4.0 demonstrated a substantial enhancement in its capacity to respond to inquiries that were beyond the scope of ChatGPT 3.5. Following the implementation of the preparation phase, ChatGPT 4.0 successfully generated responses that met the stipulated reading level in 28% of cases. Moreover, it exhibited a superior performance across all readability metrics when compared to its predecessors.	ChatGPT has been found to empower patients, enable more informed decision-making, and benefit patients by improving health outcomes.
(Warn et al., 2024)	To determine the readability of online patient education materials and the usefulness of ChatGPT.	-Sixty-six articles related to endoscopic skull base surgery	-ChatGPT	Despite the enhancement of readability afforded by ChatGPT, a considerable proportion of articles still exceed the recommended literacy level for patient education materials.	It has been determined that ChatGPT has not yet demonstrated any significant benefits for patients in the educational context.
(Tharakan et al., 2024)	To evaluate patient responses to frequently asked questions regarding total shoulder and total elbow arthroplasty using ChatGPT and Google.	-The ten most frequently asked questions about total shoulder arthroplasty and total elbow arthroplasty	-Google Search, -ChatGPT 3.0	An analysis of the data revealed no statistically significant difference between Google and ChatGPT with respect to question category. The majority of references emanated from academic websites, and ChatGPT generated a higher percentage of academic references than Google (80% vs. 50%; P=0.047). Conversely, Google more frequently provided medical practice references (25% vs. 0%; P=0.017). These findings suggest that these tools may enhance literacy and facilitate more effective shared decision-making for patients seeking information about total shoulder arthroplasty and total elbow arthroplasty (TEA).	Artificial intelligence and large language models improve the health of patients undergoing total shoulder and elbow arthroplasty by offering a dependable source of information on activities, recovery, limitations, technical details, cost, indications, risks, pain, longevity, and surgical evaluation.
(Ichhpujani, 2024)	To evaluate the readability of surgical treatment for glaucoma using information provided by ChatGPT-3.5 and Google Bard.	-The most frequently asked 25 questions for surgical treatment of glaucoma	-ChatGPT-3.5™ -Google Bard	While the responses generated by ChatGPT-3.5™ AI are more accurate than those provided by Google Bard, they may be difficult for glaucoma patients to comprehend.	The demonstration that patients lacked the capacity to comprehend online information indicated that the artificial intelligence dialogue platform was not advantageous.
(Abou-Abdallah et al., 2024)	To evaluate the readability of ChatGPT in the context of the ENT operation.	-Standard and simplified questions on common ENT operations	-ChatGPT	It is evident that the information provided by ChatGPT regarding KBB operations was characterised by suboptimal readability.	A recent study has revealed that ChatGPT is not yet reliable in terms of informing patients about health-related matters, and it is not yet clear whether it can benefit patients.

Table 1 Continued

Author/Year	Objective	Sample	Data collection tools	Results	Benefit Status
(Nguyen et al., 2024)	To compare AI chatbots with the ability to answer frequently asked questions in the field of anaesthesia.	-Ten frequently asked questions in anaesthesia	-ChatGPT4 -Google Bard -Microsoft Bing Chat	While chatbots demonstrate proficiency in communication metrics, such as the capacity to respond to frequently asked questions by anaesthesia patients, they exhibit deficiencies in medical content evaluations. In this regard, ChatGPT4 and Bard exhibit comparable overall performance, yet they lag behind Bing Chat.	Despite the proficiency of AI chatbots in communication metrics, shortcomings were identified in their performance with regard to medical content metrics.
(Gibson et al., 2024)	To evaluate the quality, accuracy and readability of ChatGPT-4 responses to common prostate cancer questions posed by patients.	-The most frequently asked 8 questions for prostate cancer	-ChatGPT	ChatGPT-4 was designed to provide adequate responses to frequently asked questions concerning prostate cancer in general, and thus represents a potentially valuable resource for patient education in prostate cancer care.	ChatGPT has been observed to contribute to patient education by providing satisfactory responses to questions posed by patients with prostate cancer regarding the management of symptoms, risk factors, survival rates, diagnosis, screening, treatment, sexual function, and bladder function.
(Kirchner, Kim, Weddle, & Bible, 2023)	To ascertain whether artificial intelligence has the capacity to enhance the comprehensibility of patient educational materials.	-Descriptions of lumbar disc herniation, scoliosis, and spinal stenosis, as well as TKA and THA, are published online in educational materials by orthopaedic surgery specialty societies and leading orthopaedic institutions.	-A freely accessible AI dialogue platform	An evaluation of the readability of the converted materials revealed that they contained no factual errors or inaccuracies while providing sufficient detail for patient education.	The AI conversational platforms have been found to rapidly and efficiently enhance the accessibility of online educational materials for patients undergoing orthopedic surgery, thereby achieving optimal levels of readability.

Table 1 Continued

Author/Year	Objective	Sample	Data collection tools	Results	Benefit Status
(Momenaei et al., 2023)	To evaluate the relevance and readability of medical information on common vitreoretinal surgeries for retinal detachments, macular holes, and epiretinal membranes provided by ChatGPT-4.	-Common questions about RD, MH and ERM	-ChatGPT	ChatGPT-4 has determined that the responses provided about retinal detachments (RD), macular holes (MH), and epiretinal membranes (ERM) are challenging or very challenging for the average citizen to read and understand, and that a college degree is required to comprehend this material.	ChatGPT and other natural language models have not yet been recognised as a reliable source of knowledge for medical science.
(Samaan et al., 2023)	To examine the accuracy and reproducibility of ChatGPT in answering patient questions regarding bariatric surgery.	-This study comprises 151 questions concerning bariatric surgery.	-ChatGPT	ChatGPT has been demonstrated to provide "comprehensive" responses to a significant proportion of queries related to bariatric surgery. Specifically, it has been observed to offer satisfactory responses to 93.8% of inquiries concerning the efficacy, suitability, and procedural options for bariatric surgery. Furthermore, its proficiency is evident in its capacity to address 93.3% of questions related to preoperative preparation, 85.3% of inquiries regarding recovery, risks, and complications, 88.2% of questions concerning lifestyle changes, and 66.7% of miscellaneous queries.	ChatGPT has been demonstrated to have a beneficial effect on patients by acting as a source of information that can supplement the care provided by licensed healthcare professionals for patients regarding bariatric surgery.

5. Conclusion

This study makes a significant conceptual contribution to the existing literature and serves as a valuable guide for future research in this field. It was concluded that AI platforms are effective in supporting surgical patients and that a positive correlation exists between a patient's health literacy level and their surgical outcomes. It was observed that the chatbots analyzed generally provided accurate information at a "medium and above" readability level. Additionally, the integration of new technological advancements into nursing care, especially those involving artificial intelligence, has been demonstrated to be beneficial. Further research and development are necessary to optimize the capacity of AI chatbots to increase patient health literacy.

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