A LITERATURE REVIEW OF THE BENEFITS AND RISK OF CHATGPT AMONG NURSING STUDENTS

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ABSTRACT

Background: The integration of artificial intelligence (AI) in healthcare education has introduced new pedagogical possibilities. Among various AI tools, ChatGPT has emerged as a prominent tool due to its capability to engage in interactive dialogue, generate explanations, and support knowledge synthesis in real time. ChatGPT's was quickly reshaping the learning experience of nursing students..Unlike other AI technologies that offer limited functionality, ChatGPT is accessible, adaptable across educational settings, making it especially relevant for nursing students. This systematic review aims to identify benefits and risks ChatGPT among nursing students. **Methods:** This literature review was conducted through a systematic search of four major electronic databases—ScienceDirect, PubMed, ProQuest, and SAGE, articles published between May 2020 and May 2025. The search strategy utilized Boolean operators "AND" and "OR" to refine and optimize the retrieval of relevant studies.The selection and screening of articles followed the PRISMA guidelines. **Results:** In total, eight articles met the predefined inclusion criteria and were included in the final analysis. ChatGPT offers numerous benefits—including enhanced learning efficiency, support for academic tasks, and simulation. It also presents notable risks, susch as potential missinformation, over-reliance, and ethical concerns related to academic integrity. **Conclusions:** ChatGPT can support learning by improving access to information, and increasing student engagement. ChatGPT can also introduce risks like academic dishonesty and a reduction in students' critical thinking capacity. Recommendations for the future use of ChatGPT by educators, policy makers, and students to promote responsible and effective integration of AI.
Keywords:Benefit, ChatGPT, Nursing Students, Risk

Introduction

Technological advancements in education are evolving rapidly (Digiacomo et al., 2025), particularly in the field of artificial intelligence (AI). AI has become a widely discussed topic, offering numerous opportunities for exploration and innovation(De Felice, Petrillo, De Luca, & Baffo, 2022). One notable advancement in this area is the emergence of AI-powered tools such as ChatGPT, which has become a groundbreaking innovation in the educational landscape (Haviki et al., 2024). As technology continues to evolve, nursing education must also adapt to these changes to remain relevant and effective (Luo, Mao, Wu, & He, 2024). Nursing education is a dynamic

discipline that requires an integration of theoretical knowledge and practical skills to prepare students for the complexities of professional nursing practice. Therefore, the integration of technological developments into nursing education necessitates that students develop the ability to utilize these tools effectively in their learning processes (Savellon, Baybayan, & Asiri, 2024). The novelty of this research lies in its focus on nursing education, a field where ethical practice, critical thinking, and clinical competence are essential. By evaluating both the advantages and the drawbacks of ChatGPT use among nursing students, this study offers valuable insights for educators, policymakers, and students themselves in navigating the evolving role of AI in healthcare education.

A study conducted at a nursing education institution reported a 100% improvement in care plan development among students in the control group who used ChatGPT while preparing nursing reports (Tseng, Huang, & Chen, 2025). Another study found that 89.5% of nursing students experienced substantial progress in their problem-solving abilities after using ChatGPT (Gonzalez-Garcia et al., 2025a). Despite these promising outcomes, a study conducted at a nursing school in Morocco revealed that 59.9% of students did not use ChatGPT, and 70.52% reported indifference toward its presence in their academic environment (Bouriami et al., 2025).

ChatGPT is perceived as a beneficial tool for facilitating access to topic-specific information and assisting with academic tasks. However, concerns have been raised about its potential to reduce students' creativity and increase the risk of plagiarism. These concerns highlight the importance of proper supervision to ensure that the use of ChatGPT aligns with ethical and effective learning practices (Haviki et al., 2024). Research by (Suryono, Bhagaskara, Pratama, & Pratama, 2023) reported an increase in student productivity when using ChatGPT during their learning process. This included improvements in task completion, content comprehension, and problem-solving abilities. Additionally, other studies have demonstrated that ChatGPT can enhance student satisfaction with their learning experience, particularly in areas related to credibility, social influence, privacy, and security (Savellon, Baybayan, & Asiri, 2024).

Although ChatGPT has limitations in terms of scientific reliability compared to traditional learning methods, its effectiveness improves when combined with conventional lectures. ChatGPT shows potential as a relevant educational tool in today's technological environment; however, its effectiveness may be diminished without a structured framework or theoretical foundation (Digiacomo et al., 2025). According to (Hui, Zewu, Jiao, & Yu, 2025), ChatGPT should be viewed as a complementary tool in the educational process, not a replacement for traditional teaching. When integrated alongside educator-led instruction, ChatGPT can yield optimal learning outcomes. This collaborative approach ensures that students receive reliable information while also

maintaining personalized learning experiences through individualization and interactive engagement.

This study aims to explore the benefits and risks associated with the use of ChatGPT among nursing students. By reviewing current literature, it seeks to understand how ChatGPT supports learning and where it may pose challenges, particularly in relation to academic integrity, critical thinking, and clinical readiness. The goal is to provide balanced insights that can inform the responsible integration of AI in nursing education.

Methods

A literature review constitutes a structured and critical analysis of existing scholarly publications related to a defined research area, topic, or discipline. Its primary purpose is to synthesize previous studies in order to identify research gaps, refine theoretical frameworks, and support the formulation of new research questions. Rather than replicating the objectives of earlier works, the literature review aims to build upon them through comprehensive investigation and critical reflection. In this context, it serves as an essential methodological component, involving a series of systematic activities that contribute to the advancement of academic inquiry (Chigbu, Atiku, & Du Plessis, 2023).

An exploratory search was initially undertaken, with the Cochrane Library reviewed to determine the presence of relevant systematic reviews on the topic. Articles and journals were selected based on their suitability for inclusion in a systematic review, following the framework established by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), the literature search was conducted based on a predefined set of criteria carefully developed keywords, formulated in collaboration with an academic librarian and structured around the PICO (Population, Intervention, Comparison, Outcome) framework.

Identification of the relevant studies

Article identification was conducted across all studies relevant to the topic by selecting key scientific databases that are widely recognized in the fields of health and nursing. Searches were conducted across several electronic databases, including:

1. ScienceDirect
2. PubMed
3. ProQuest
4. SAGE

Studies had to be primary research articles published between May 2020 and May 2025. The search strategy consisted of four distinct query formulations:

1. ChatGPT
2. AND Benefit
3. AND Risk
4. AND Nursing Students

Each search query incorporated various synonymous terms combined using the "OR" operator. The search strategy incorporated three keyword groups, which were combined using Boolean operators *AND* and *OR*, specifically: (ChatGPT, Chatbot, Artificial Intelligence) *AND* (benefit*) *AND* (risk*) *AND* (nursing student*). These keywords were applied consistently across all selected databases.

Although the specific syntax varied across databases due to their unique features, the overall terminology and logical structure remained consistent. The schematic representation of the query logic and the synonyms applied is presented in Figure 1.

Study Selection

All references retrieved from the selected databases were imported into Mendeley reference management software for systematic organization and duplicate removal. Two independent reviewers conducted an initial screening of titles and abstracts, applying the following exclusion criteria:

1. Studies published after May 2021
2. Studies involving populations other than nursing students
3. Articles not published in English
4. Publications already included in previous systematic or scoping reviews.

A subsequent full-text review was performed using the same criteria to ensure the inclusion of only relevant studies. Any discrepancies between reviewers were resolved through discussion until consensus was reached.

Data charting and report

Data extraction criteria were established in the final stage of the process. Information regarding the names of the scales and associated data was collected from both primary sources and review articles. For each identified scale, the earliest available validation study was located—unless it had already been identified during earlier phases. These validation studies were then re-evaluated, with only those meeting the predefined relevance criteria in relation to the research questions being included.

1. Publication year (May 2021- May 2025)
2. Validation research published in the English language
3. Research studies involving nursing student participants
4. Review articles, including literature, systematic, and scoping reviews, were excluded from the selection.

Duplicate records were removed, and remaining studies were screened by title and abstract according to the predefined inclusion and exclusion parameters, the full texts of all quality articles were obtained for further assessment and reviewed in-depth by a single researcher using a screening tool to verify their compliance with the inclusion parameters.

Results

The overview of the identification and screening stages is illustrated in Figure 2. This study was conducted in accordance with the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Moher D, Liberati A, Tetzlaff J, Altman DG, 2009a).

Identification of the Relevant Studies and Eligibility

Eligible studies specifically examined the use of ChatGPT in the educational experiences of nursing students, with a clear focus on its benefits and drawbacks. The selection of journal

articles was guided by the inclusion criteria, which considered several aspects such as publication year, research design, participant characteristics, data variations, and outcome measures.

Following data extraction and quality appraisal, the core characteristics and key findings of each study were analyzed collaboratively by the authors to develop a coherent framework for synthesizing results. The literature search was conducted using keywords related to the advantages and risks of ChatGPT in nursing education, yielding the following initial results: 26 articles from ScienceDirect, 137 from PubMed, 157 from ProQuest, and 69 from SAGE (see Figure 2). After the removal of duplicate entries and screening of titles and abstracts based on the inclusion criteria, 13 articles remained. Following a comprehensive full-text evaluation, eight articles were identified as relevant and were incorporated into the final analysis. A comprehensive analysis and identification of the studies selected for the systematic review were conducted, with the findings presented in Table 1. Table 1 also indicates that the selected articles were published between 2021 and 2025, with the majority (88.9%) published in 2025.

Data charting and report

In this review, as shown in Table 1, five studies focused on the benefits of ChatGPT for nursing students, while other studies examined the associated risks. These selected studies were thoroughly reviewed, analyzed, and synthesized to provide a comprehensive understanding of the topic. The review included one study

employing a cross-sectional design. four studies utilizing a quasi-experimental methods, one case study, one descriptive phenomenology study, and one qualitative research. Most of the journals included in this review employed quantitative research methods.

The findings across the reviewed studies indicate that ChatGPT can enhance nursing students' academic performance, increase student satisfaction during the learning process, and facilitate more effective learning experiences. The risk of used ChatGPT on nursing students about

Discussion

The advancement of artificial intelligence (AI) has the potential to transform how nurses deliver evidence-based care, allowing it to be more tailored to patient priorities and needs (Glauberman, Ito-Fujita, Katz, & Callahan, 2023). Among various AI tools, ChatGPT has emerged as a prominent innovation within the nursing field.

This review emphasizes that ChatGPT provides substantial benefits in nursing education.

Enhancing students learning motivation and satisfaction of nursing students

Based on the research finding (Gonzalez-Garcia et al., 2025b) The findings demonstrate that ChatGPT has the potential to improve the learning satisfaction of nursing students. According to the result of the study (Arkan, Dallı, & Varol, 2025a) also indicate that the use of ChatGPT in nursing education enhances student satisfaction with the learning

process. This is evidenced by post-test results, which show a higher increase in satisfaction among nursing students in the intervention group compared to the control group.

Improving students learning abilities

Several studies have reported positive academic outcomes. For example, a cross-sectional study conducted in Spain revealed that 89.5% of nursing students showed notable improvements in academic performance and grades after using ChatGPT. The improvement in learning refers to enhanced academic performance and the promotion of technological innovation in nursing education (Gonzalez-Garcia et al., 2025b). In a similar vein, educators utilized ChatGPT to efficiently create case studies aligned with clinical judgment frameworks, thereby reducing their workload and conserving institutional resources (Deane, 2024).

Facilitating a more effective students learning procces

The findings suggest that ChatGPT can serve as an effective tool in supporting the learning process (Kaya, Parlak, & Duru, 2025a).In addition to academic support, AI technologies offer various educational advantages in nursing. These include serving as platforms for virtual simulations, acting as personalized tutors for nursing students, and supporting the development of clinical assessment tools (Glauberman, Ito-Fujita, Katz, & Callahan, 2023) Facilitating a more effective students learning procces.

ChatGPT provides substantial risk in nursing education. However, consistent with findings from other studies, several challenges accompany the integration of ChatGPT in nursing education. Technical limitations—such as AI "hallucinations," outdated training datasets, and lack of transparency in output generation—raise concerns about the reliability of educational content and the quality of clinical decision-making (Peng, Cheng, Deng, & Zhang, 2025). Students have expressed apprehension that excessive dependence on ChatGPT may hinder the development of critical thinking and interpersonal communication skills, which are essential competencies in nursing practice (Moskovich & Rozani, 2025). Moreover, additional concerns include algorithmic bias, and potential threats to data privacy and confidentiality (Glauberman, Ito-Fujita, Katz, & Callahan, 2023). Given these considerations, ChatGPT is best regarded as a complementary tool within nursing education rather than a substitute for traditional instructional methods. This integrative approach acknowledges the value of AI in promoting interactive learning and alleviating faculty workload, yet underscores the need for structured evaluation, ethical guidelines, and continuous educator oversight (Archibald & Clark, 2023).

Study Limitation

This literature review is subject to several limitations. First, the review relied solely on articles available in English, which may have excluded relevant studies published in other languages. Second,

most of the included literature was published within a short timeframe following the release of ChatGPT, potentially limiting long-term insights into its educational impact. Third, the review did not include empirical studies with large sample sizes, as much of the current research is exploratory or based on small-scale surveys and expert opinions. Lastly, due to the rapid development of AI technologies, the findings of this review may become outdated as new evidence emerges. Therefore, future studies are needed to provide updated and more comprehensive evaluations of ChatGPT's role in nursing education.

Conclusion

The journal analysis conducted by the researcher revealed that the use of ChatGPT among nursing students offers several academic benefits. These include enhanced academic performance, improved problem-solving skills, and increased competence in the nursing process. However, the analysis also identified several potential risks associated with its use in nursing education, such as a decline in students' creativity, increased risk of plagiarism, challenges in content curation, and ethical concerns.

In light of the review findings, several suggestions are offered to guide future practices and research:
1. Establish clear guidelines for responsible use of ChatGPT in academic settings
2. Promote digital literacy to help students critically assess AI-generated content
3. Use ChatGPT as a supplement, not a substitute for core clinical learning
4. Encourage further research on its long-term impact in nursing education
5. Update teaching practices regularly to keep pace with AI advancements

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Figure 1. Search string. Light boxes represent the primary query topics, whereas grey boxes contain the associated synonyms combined using the "AND" operator. Arrows illustrate the connectors employed to integrate the various search queries.
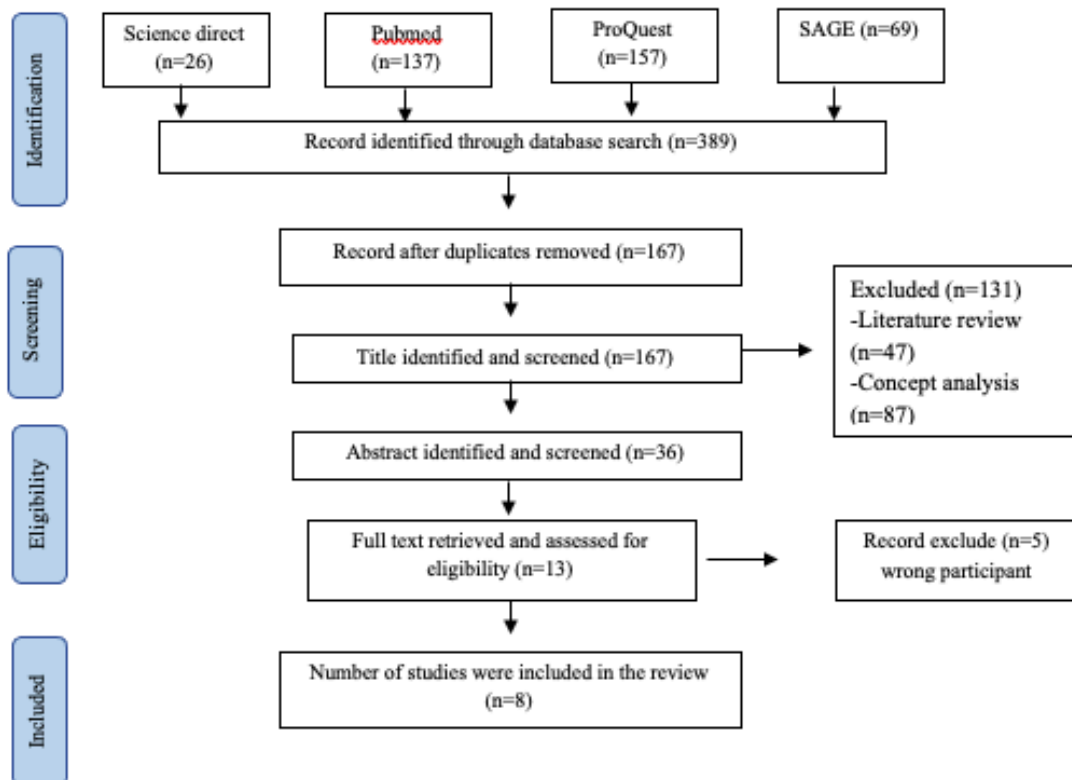

Figure 2. PRISMA Flow Diagram (Moher D, Liberati A, Tetzlaff J, Altman DG, 2009b)

Table 1. Summary of the included studies (n=8)

Author, year	Participant setting	Study Design	Instrument, follow up	Key findings
(Gonzalez-Garcia et al., 2025a)	98 nursing students in the Nursing care and Services Management course during the second semester of 2024	Cross-sectional design	Socio demographic data and prior knowledge Perception of ChatGPT used Opinion on ChatGPT in personal contexts	The findings of this study suggest that ChatGPT can enhance both learning outcomes and student satisfaction. Improvements in learning include enhanced academic performance and increased engagement with technological innovation.
(Arkan, Dallı, & Varol, 2025b)	A total of 96 participants were enrolled in the study and were equally allocated into intervention groups and one control group, with each group consisting of 48 nursing students.	Single-blind randomized controlled study	The Nursing Student Information Form (NSIF) (T0) The Problem-Solving Inventory (PSI) (primary outcome) (T0 and T1), The General Attitudes towards Artificial Intelligence Scale (GAAIS) (secondary	The study results indicate an increase in learning satisfaction among the intervention group compared to the control group. In addition, the use of ChatGPT was found to enhance students' problem-solving skills, with a significant improvement observed in nursing process competencies, particularly within the intervention group.

			outcome) (T0 and T1) The Nursing Process Competency Form (NPCF) (secondary outcome) (T0 and T1) The Satisfaction Assessment Form (SAF) (T1).	
(Kaya, Parlak, & Duru, 2025b)	University student	A Quasi-Experimental	Using socio-demographic characteristics and an introductory information form the "Medical Waste Attitude and Behavior Scale" and the "Awareness Scale for Environmental Issues	ChatGPT- supported learning was implemented, it did not lead to a notable improvement in how students perceived or managed medical waste, it effectively enhanced their environmental awareness. The intervention group showed a notable increase in awareness, highlighting the tool's informational value and the need to refine educational strategies on waste management
(Tseng, Huang, & Chen, 2025)	Nursing student from Southern Taiwan	A Quasi-Experimental study	the MAILS questionnaire and the AI software	Significant improvement was noted in the 'Plan of Care' section of case reports generated with full ChatGPT integration. While, the experimental group showed performance relative to the control group their problem-plan alignment was weaker, and

				interventions were less patient-specific. Embedding AI tools like ChatGPT and Copilot within a scaffolded instructional design effectively enhanced students' AI literacy and summative performance
(Durmuş Sarıkahya et al., 2025)	Nursing Educator	Descriptive phenomenological study	A socio-demographic information form and a semi-structured interview guide	ChatGPT holds the potential to enrich nursing education by reinforcing theoretical learning, streamlining educational processes, and facilitating individualized learning experiences. However, effective implementation depends on institutional efforts such as structured faculty development and AI literacy initiatives to ensure users are adequately prepared and competent in utilizing the technology.
(Elliott, Williams, Aldwikat, & Wong, 2025)	Nurse student	A Case Study	The Assessment Task and online survey to asked the feedback of student	The majority of students successfully met the objectives of the assignment by providing comprehensive responses to the assessment questions. Student feedback suggested that the task enhanced their ability to interpret and apply evidence-based sources appropriately
(Higashitsuji, Otsuka, & Watanabe, 2024)	Undergraduate nursing student	Single group pre-post design study	A questionnaire survey about participant characteristics,	This research confirms that ChatGPT effectively facilitates case-based learning for undergraduate

			computer anxiety, and teaching behavior	nursing students by reducing faculty workload in case development without compromising educational quality. Nevertheless, critical oversight is required to address issues of data privacy, ethics, and content accuracy
(Karaçay & Yaşar, 2025)	Nursing students	Qualitative study	Survey and "Ko͵cQualtrics" system	The integration of ChatGPT activities within the classroom setting played a pivotal role in improving students' understanding of academic content and increasing their proficiency in using the ChatGPT tool. These educational strategies encouraged the development of critical thinking abilities and deepened students' awareness of the practical use of artificial intelligence technologies in educational contexts.