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ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии

საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

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GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНИТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНИТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman** (**Кириллица**), для текста на грузинском языке следует использовать **AcadNusx.** Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - http://www.spinesurgery.ru/files/publish.pdf и http://www.nlm.nih.gov/bsd/uniform_requirements.html
В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректура авторам не высылается, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or compu-ter-printed on a single side of standard typing paper, with the left margin of **3** centimeters width, and **1.5** spacing between the lines, typeface - **Times New Roman** (**Cyrillic**), print size - **12** (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf
In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

Articles that Fail to Meet the Aforementioned Requirements are not Assigned to be Reviewed.

ავტორთა საყურადღებოდ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე,დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx.** შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შეღებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფჩხილებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

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EVALUATING THE TRUSTWORTHINESS OF CHATGPT-GENERATED HEALTH INFORMATION AMONG FUTURE HEALTH CARE PROFESSIONALS

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Abstract.

Background: The integration of generative artificial intelligence (AI) tools such as ChatGPT into healthcare education has increased significantly in recent years. These tools are frequently used by students to access medical knowledge, practice clinical reasoning, and supplement coursework. However, concerns remain regarding the accuracy, reliability, and educational value of AI-generated health information. Existing literature highlights both the potential and the limitations of these tools, yet limited empirical evidence is available concerning students' perceptions and trust in such systems, particularly within the Saudi Arabian context.

Objective: This study aimed to evaluate the trustworthiness of ChatGPT-generated health information from the perspective of future healthcare professionals in Saudi Arabia, and to identify the factors influencing their willingness to adopt such tools in academic and clinical settings.

Methods: A cross-sectional survey design was employed, targeting undergraduate students enrolled in health sciences programs across selected Saudi universities. A structured, self-administered questionnaire was used to measure demographic variables, knowledge of generative AI, and attitudes based on the Technology Acceptance Model. A total of 518 responses were analyzed using descriptive statistics, Pearson's correlation, and multiple linear regression.

Results: Participants demonstrated moderate trust in ChatGPT for health-related queries ($M = 3.15$, $SD = 0.78$), with high perceived importance placed on expert verification and source citation. In the multiple linear regression analysis ($N = 284$), perceived reliability ($B = 0.42$, $p < .001$) and perceived accuracy ($B = 0.26$, $p < .001$) emerged as the strongest positive predictors of willingness to recommend the tool, whereas risk awareness had a significant negative association ($B = –0.19$, $p = .002$).

Conclusion: The findings of this study indicate that undergraduate health sciences students in Saudi Arabia hold a cautiously optimistic view of ChatGPT as a supplementary tool for health-related learning. While many participants recognized its usefulness, their willingness to rely on or recommend the tool was closely linked to how reliable and accurate they perceived its content to be. The emphasis placed on expert validation and credible sources underscores a broader need to integrate digital literacy and critical appraisal skills into health education curricula, particularly as AI becomes more embedded in academic practice.

Key words. ChatGPT, generative artificial intelligence, digital health literacy, health sciences education, Technology Acceptance Model, student perceptions, trustworthiness, Saudi Arabia, AI in education, medical informatics.

Introduction.

The integration of artificial intelligence (AI) into healthcare and health professions education has accelerated in recent years, offering both practical advantages and complex challenges. Generative AI tools such as ChatGPT are increasingly used by students to support academic tasks, enhance clinical reasoning, and simulate patient communication [1,2]. Their accessibility and speed make them attractive as supplementary learning tools. However, the lack of regulation and standardized oversight has raised concerns among educators and institutions regarding the reliability, ethical implications, and potential for misinformation [3,4]. Global organizations such as the World Health Organization and the U.S. Food and Drug Administration have emphasized the need for caution in deploying such technologies in health-related contexts [5,6].

While generative AI systems can deliver coherent and sometimes empathetic responses, their limitations are well documented. Ayers et al. found that ChatGPT could generate high-quality replies to patient questions but lacked the contextual awareness needed for nuanced interpretation [3]. Similarly, Kung et al. assessed ChatGPT's performance on USMLE-style questions and reported moderate accuracy for general knowledge but weak outcomes in clinical reasoning domains [4]. These findings illustrate the gap between fluency and functional accuracy—a distinction of particular importance in health education.

In the Saudi Arabian context, Alhur et al. examined students' experiences with AI tools and found that many appreciated their

usefulness in simplifying content and saving time [1]. However, trust remained a significant concern, particularly when it came to clinical applications. National-level surveys have echoed these findings, showing that while many students were open to using AI for academic support, they remained cautious about relying on it for diagnostic or decision-making tasks due to concerns about misinformation and data privacy [2].

These patterns are consistent with international studies on AI adoption in education. Balakrishnan and Vidya, studying faculty attitudes in India, emphasized the need for formal implementation policies and ongoing pedagogical support [7]. Jin et al. reviewed institutional frameworks and highlighted challenges related to academic integrity, governance, and equitable access to AI tools [8]. Across these studies, trust repeatedly emerges as a key factor shaping user acceptance.

In broader research on AI in non-clinical domains, Alzboon et al. found that transparency, usability, and institutional support significantly influenced trust and adoption [9]. Abdallah et al., examining chatbot acceptance in the banking sector, identified prior exposure and user confidence as additional drivers of engagement [10]. Although outside healthcare, these insights remain relevant to understanding student behavior toward generative AI in educational settings.

From an instructional standpoint, scholars have examined how AI might improve engagement and support adaptive learning. Buşu and Henry & Duke described AI-enhanced classrooms where learners benefit from personalization and interactivity [11,12]. Imamguluyev et al. added that digital tools—when integrated with sound pedagogy—can foster learner autonomy [13]. Beyond cognitive outcomes, Pataranutaporn et al. explored the emotional impact of AI avatars on student well-being and motivation [14].

In the specific context of health professions education, AI has been proposed as a tool to improve instructional delivery and expand resource access. Pratama et al. and Tan et al. both highlighted its potential to enhance student retention and instructional flexibility [15,16]. However, as Zawacki-Richter et al. and Zhang & Aslan observed, challenges persist in faculty readiness, ethical alignment, and curriculum integration [17,18]. These concerns are echoed in the work of Alhur, who analyzed how technological innovations are transforming healthcare delivery—improving efficiency and access while introducing new operational demands [19]. In a related study, he examined the educational implications of tools such as ChatGPT, Gemini, and Co-pilot, pointing to their capacity to reshape how students interact with content and educators [20].

Against this backdrop, it is important to examine how future healthcare professionals perceive the trustworthiness of AI-generated health information. This study aims to explore the perspectives of undergraduate health sciences students in Saudi Arabia, with a focus on ChatGPT, and to identify factors that influence their willingness to use and recommend such tools. Understanding these views is critical to informing responsible integration of generative AI into health professions education.

Methodology.

Study Design:

This research utilized a quantitative cross-sectional survey design to assess the knowledge and attitudes of undergraduate health sciences students in Saudi Arabia regarding the use of generative artificial intelligence (AI) in educational contexts. A cross-sectional approach was selected to capture a representative snapshot of participants' perceptions at a specific point in time, thereby facilitating statistical analysis of associated variables.

Study Population and Setting:

The study population consisted of undergraduate students enrolled in various health sciences disciplines, including medicine, pharmacy, nursing, and health informatics, across selected higher education institutions in Saudi Arabia. Eligibility criteria required participants to be actively enrolled in a health-related degree program and to have had prior access to AI-based tools, such as ChatGPT, during their academic studies.

Sample Size and Sampling Technique:

The minimum required sample size was calculated using Cochran's formula, assuming a 95% confidence level, a 5% margin of error, and an estimated response distribution of 50%, resulting in a required sample of 384 participants. To account for potential non-response and incomplete submissions, the target sample size was increased by 20%, aiming for approximately 460 participants. A stratified convenience sampling approach was applied to enhance proportional representation across academic years and health science disciplines. Within each stratum, participants were recruited through official university portals, departmental mailing lists, and student society social media platforms, with participation being voluntary.

Data Collection Instrument:

Data were collected using a self-administered structured questionnaire, developed based on prior research concerning AI in education and the theoretical framework of the Technology Acceptance Model (TAM). The instrument was organized into three main sections:

1. Demographic characteristics (e.g., age, gender, academic year, and field of study).
2. Knowledge assessment regarding concepts and tools related to generative AI.
3. Attitudinal measures addressing perceived usefulness, ease of use, ethical concerns, and willingness to integrate AI tools into educational practice.

Attitudinal responses were measured using a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Validation and Reliability:

Content validity was confirmed through expert review conducted by three faculty members with expertise in health informatics and medical education. A pilot test involving 30 students was conducted to assess item clarity and internal consistency. The attitude scale demonstrated high reliability, with a Cronbach's alpha coefficient of 0.87.

Data Collection Procedure:

The survey was distributed electronically via university student portals and social media platforms. An informed consent statement was presented at the beginning of the questionnaire. Data collection was conducted over a four-week period in March 2025.

Ethical Considerations:

The study received approval from the appropriate institutional ethics committee and was conducted in accordance with recognized ethical guidelines. Informed consent was obtained from all participants prior to data collection.

Data Analysis:

Data were analyzed using IBM SPSS Statistics Version 26. Descriptive statistics—including means, standard deviations, frequencies, and percentages—were used to summarize the demographic characteristics and survey responses. Inferential analyses, including Chi-square tests and independent samples t-tests, were conducted to examine associations between participant demographics and their knowledge or attitudes. Additionally, a multiple linear regression analysis was performed to identify significant predictors of positive attitudes toward the use of generative AI in education.

Results.

A total of 518 health sciences students completed the questionnaire. The majority of respondents were female (n = 392, 75.7%) and between the ages of 20–24 years (n = 345, 66.6%). Pharmacy students represented the largest group (n = 238, 45.9%), followed by nursing (n = 123, 23.7%) and medicine (n = 69, 13.3%). Most students were enrolled in public universities or colleges (n = 437, 84.4%), and the most common academic level was fourth year (n = 155, 29.9%). Full demographic characteristics are presented in (Table 1).

Table 1. *Demographic Characteristics of Health Sciences Students (N = 518).*

Variable	Category	n (%)
Age	< 20	24 (4.6%)
	20–24	345 (66.6%)
	25–29	102 (19.7%)
	> 35	47 (9.1%)
Gender	Female	392 (75.7%)
	Male	126 (24.3%)
Field of Study	Pharmacy	238 (45.9%)
	Nursing	123 (23.7%)
	Medicine	69 (13.3%)
	Applied Medical Sciences	30 (5.8%)
	Health Informatics	26 (5.0%)
	Clinical Nutrition	17 (3.3%)
	Public Health	15 (2.9%)
Year of Study	1st year	34 (6.6%)
	2nd year	47 (9.1%)
	3rd year	109 (21.0%)
	4th year	155 (29.9%)
	5th year	103 (19.9%)
	Graduate	70 (13.5%)
Institution Type	Public university/college	437 (84.4%)
	Private university/college	48 (9.3%)
	Private health institution	21 (4.1%)
	Other / Unemployed	12 (2.3%)

Note: *Values reflect valid responses from 518 health sciences students in Saudi Arabia. Each cell shows the frequency and corresponding percentage.*

As shown in (Figure 1), almost half of the students (46.3%) reported using ChatGPT very often (several times per week or more), while 25.1% used it often (weekly). Occasional users accounted for 18.3%, whereas 5.8% used it rarely and 4.4% indicated they never used ChatGPT for health-related queries.

Regarding the purpose of use, Figure 2 illustrates that 45.4% of participants reported using ChatGPT primarily for academic research or coursework. Additionally, 28.9% used it out of general curiosity, 12.4% for personal health-related questions, 9.3% for clinical scenarios or patient case discussions, and 4.1% for other purposes.

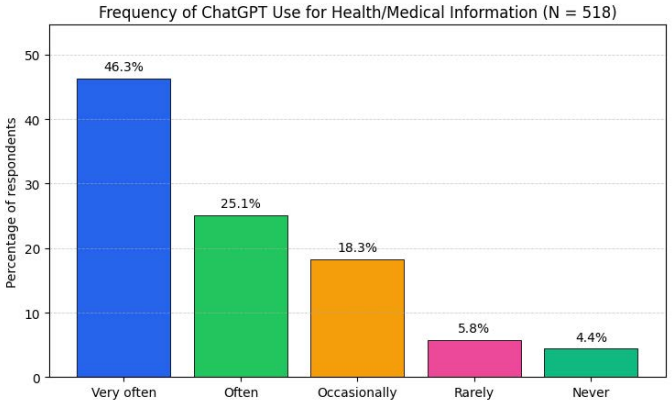

Figure 1. *Student Use of ChatGPT for Health Information (N = 518).*

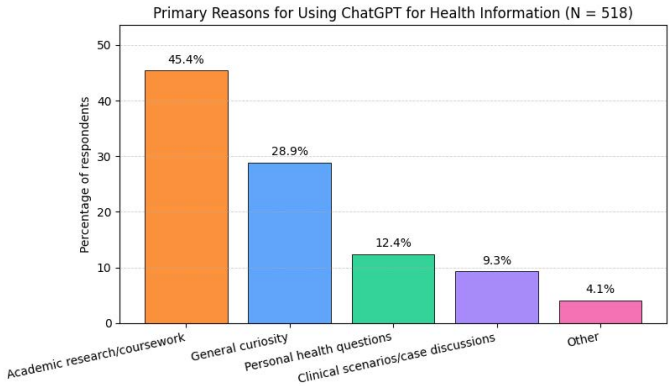

Figure 2. *Primary Reasons for Using ChatGPT to Search for Health Information Among Health Sciences Students (N = 518).*

Table 2. *Descriptive Statistics of Attitudes Toward Generative AI (N = 518).*

Attitude Item	Mean (SD)
Perceived Accuracy	3.32 (0.91)
Perceived Reliability	3.00 (0.99)
Perceived Depth	3.35 (1.06)
Use of References	4.09 (1.13)
Compared with Professionals	4.29 (0.92)
Willingness to Recommend	3.52 (1.09)
Risk Awareness	3.36 (0.96)
Impact on Decision-Making	2.47 (0.88)
Overall Trust	3.15 (0.78)
Future Use Intention	3.48 (1.04)

Note: *Scores were measured on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Higher scores indicate more favorable attitudes or higher perceived influence.*

Table 3. *Correlation Matrix Among Attitude Variables (N = 518). Pearson's correlation coefficients (r) between attitudes toward generative AI.*

Variable	1	2	3	4	5	6	7	8	9	10
1. Perceived Accuracy	1									
2. Perceived Reliability	0.74	1								
3. Perceived Depth	0.48	0.5	1							
4. Use of References	0.15	0.17	0.2	1						
5. Compared w/ Professionals	–.03	–.06	–.08	0.26	1					
6. Willingness to Recommend	0.62	0.66	0.43	0.26	–.02	1				
7. Risk Awareness	–.26	–.33	–.02	0.04	0.33	–.18	1			
8. Impact on Decision-Making	0.17	0.12	0.14	–.10	0.11	0.16	0.08	1		
9. Overall Trust	0.53	0.51	0.36	0.03	0.06	0.33	–.24	–.13	1	
10. Future Use Intention	0.55	0.54	0.41	0.25	0.01	0.52	–.30	0.18	0.53	1

Note: *All values represent Pearson correlation coefficients. N = 518 health sciences students. Most correlations are statistically significant and positive.*

Table 4. *Multiple Linear Regression Predicting Willingness to Recommend Generative AI (N = 518).*

Predictor	B	SE	95% CI	p-value
Perceived Accuracy	0.26	0.07	[0.12, 0.40]	< .001 ***
Perceived Reliability	0.42	0.07	[0.29, 0.56]	< .001 ***
Perceived Depth	0.04	0.05	[–0.05, 0.14]	0.379
Use of References	0.19	0.04	[0.12, 0.27]	< .001 ***
Compared with Professionals	0.11	0.06	[0.00, 0.22]	0.047 *
Risk Awareness	–0.19	0.06	[–0.30, –0.07]	0.002 **
Impact on Decision-Making	0.07	0.05	[–0.03, 0.17]	0.165
Overall Trust	0.03	0.07	[–0.11, 0.17]	0.631
Future Use Intention	–0.03	0.05	[–0.13, 0.07]	0.497
Constant	0.44	0.3	[–0.16, 1.03]	0.15

As shown in Table 2, students' attitudes toward ChatGPT-generated health information were generally favorable. The highest-rated items were "Compared with Professionals" (M = 4.29, SD = 0.92), reflecting strong agreement on the importance of human expert input, and "Use of References" (M = 4.09, SD = 1.13), indicating the perceived need for reliable citations.

Moderate agreement levels were reported for "Willingness to Recommend" (M = 3.52, SD = 1.09), "Future Use Intention" (M = 3.48, SD = 1.04), and "Perceived Accuracy" (M = 3.32, SD = 0.91). The lowest score was observed for "Impact on Decision-Making" (M = 2.47, SD = 0.88), suggesting hesitancy to rely on ChatGPT in clinical reasoning.

As presented in (Table 3), Pearson correlation analysis revealed strong positive associations between "Willingness to Recommend" and both "Perceived Reliability" (r = 0.66) and "Perceived Accuracy" (r = 0.62). "Future Use Intention" also correlated positively with "Overall Trust" (r = 0.53) and "Perceived Depth" (r = 0.41).

Conversely, "Risk Awareness" showed negative correlations with "Willingness to Recommend" (r = –0.18), "Perceived Reliability" (r = –0.33), and "Future Use Intention" (r = –0.30), indicating that students with greater concern about risks were less likely to endorse or adopt ChatGPT.

A multiple linear regression model was developed to identify predictors of students' willingness to recommend ChatGPT (Table 4). Due to listwise deletion of cases with missing data across predictors, the final valid sample size for the analysis was N = 284. The model was statistically significant, $F(9, 274) = 29.70$, $p < .001$, explaining 49.4% of the variance in the outcome (Adjusted $R^2 = 0.477$).

"Perceived Reliability" (B = 0.42, p < .001) and "Perceived Accuracy" (B = 0.26, p < .001) were the strongest positive predictors. "Use of References" (B = 0.19, p < .001) and "Compared with Professionals" (B = 0.11, p = 0.047) were also significant. In contrast, "Risk Awareness" had a significant negative effect (B = –0.19, p = 0.002). Other variables, including "Overall Trust" and "Future Use Intention," were not statistically significant (p > 0.05).

Model Summary:

- $R^2 = 0.494$
- Adjusted $R^2 = 0.477$
- $F(9, 274) = 29.70$, $p < .001$

Note. Outcome variable = Willingness to Recommend ChatGPT for Health Queries. Predictors reflect perceptions of generative AI among health sciences students. Significance levels: p < .001, p < .01, p < .05.

Discussion.

This study examined how undergraduate health sciences students in Saudi Arabia perceive the trustworthiness of ChatGPT-generated health information. The results offer valuable insights into students' patterns of use, the conditions under which they trust AI-generated content, and the factors that shape their willingness to recommend such tools in educational or clinical contexts.

Overall, students reported moderate levels of trust in ChatGPT, particularly when responses were supported by citations or endorsed by professionals. These findings are consistent with prior work suggesting that while AI tools are appreciated for their convenience, users remain cautious when outputs lack verifiable sources or expert validation [1,3,4]. This reflects ongoing concerns raised by global health authorities, including the WHO and FDA, regarding the risks of relying on unverified or context-free AI outputs in healthcare education [5,6].

Regression analysis further clarified the role of trust-related variables in shaping students' attitudes. Perceived reliability and perceived accuracy emerged as the most significant positive predictors of willingness to recommend ChatGPT—aligning with broader technology acceptance research that emphasizes the importance of performance-related trust factors [9,10]. The strong influence of "Use of References" also highlights the importance of source credibility in building confidence, suggesting that future AI tools designed for educational use should prioritize transparent citation practices.

On the other hand, students who expressed greater awareness of the risks associated with AI were significantly less likely to recommend the tool. This pattern, also observed in previous studies from Saudi Arabia and beyond [1,17] reinforces the idea that users' critical thinking and skepticism play an essential role in moderating AI adoption. For many students, especially those in clinical training, the risks of misinformation, ethical misuse, or over-reliance on unregulated technologies remain a concern.

The relatively modest scores for "Perceived Depth" and "Impact on Decision-Making" suggest that students distinguish between ChatGPT's usefulness for general study support and its limitations in more complex or high-stakes situations. This is consistent with prior evaluations of ChatGPT's clinical performance, which found it capable of addressing basic knowledge questions but less reliable in nuanced reasoning tasks [4,16]. For educators, this distinction is important: students may benefit from AI as a learning supplement, but they also need guidance in recognizing where its application ends.

The high frequency of ChatGPT use for academic tasks—reported by more than 70% of participants—indicates that generative AI is already embedded in students' daily learning routines. However, the lingering hesitancy to trust its outputs fully points to a gap in digital literacy and evaluation skills. Many students appear to rely on ChatGPT for speed and efficiency, but remain unsure of how to assess the quality or accuracy of its content. This calls for formal integration of AI literacy into health education curricula, with an emphasis on critical appraisal, source verification, and ethical use.

Taken together, the findings illustrate the dual role of generative AI in medical and health sciences education. On one hand, tools like ChatGPT offer real potential to enhance learning through rapid access to information and simulated reasoning. On the other, their integration must be guided by structured training, transparent validation mechanisms, and ethical safeguards. As institutions continue to experiment with AI in the classroom, efforts should focus not only on the functionality of these tools, but also on how students are taught to engage with them thoughtfully and responsibly.

Strengths of the Study.

This study provides timely insight into how undergraduate students in health-related disciplines engage with and evaluate ChatGPT-generated health information. Its strength lies in the clear focus on a Saudi Arabian context, an area that remains underrepresented in current literature. Drawing on a well-structured, validated instrument based on the Technology Acceptance Model, the study was able to capture nuanced aspects of trust, reliability, and risk perception. The inclusion of students from diverse health science fields—such as pharmacy, nursing, medicine, and public health—adds to the breadth and relevance of the findings. The use of multiple statistical approaches strengthened the analysis and allowed for a better understanding of the relationships between key variables.

Limitations of the Study.

Like all cross-sectional studies, this research is limited in its ability to determine causation. While the sample was relatively large and diverse, it may not fully reflect the views of all health sciences students in Saudi Arabia, especially those studying in private institutions or vocational programs. Additionally, the data relied on self-reported responses, which carry the usual risk of bias, including the tendency to present socially acceptable answers. The study focused specifically on ChatGPT, so its findings may not be generalizable to other AI platforms that students might be using. Lastly, perceptions of AI are likely to evolve as exposure increases and technologies develop, suggesting the need for follow-up studies over time.

Conclusion.

This study provides empirical evidence on how future healthcare professionals in Saudi Arabia perceive and engage with ChatGPT-generated health information. While students reported moderate trust in generative AI tools, their willingness to recommend such tools was strongly influenced by perceptions of reliability, accuracy, and the presence of expert-reviewed references. At the same time, awareness of potential risks served as a significant barrier to broader adoption.

These findings highlight the need to embed critical appraisal and digital health literacy into health sciences education. As generative AI becomes more integrated into academic and clinical settings, ensuring that students are equipped to evaluate and responsibly use AI-generated content is essential. Educational institutions should prioritize transparency, evidence-based training, and clear ethical guidance to maximize the benefits of AI while mitigating its limitations.

Ethics Approval and Consent to Participate.

The study received approval from the relevant institutional ethics committee and was conducted by recognized ethical standards. Informed consent was obtained from all participants prior to their involvement.

Data Sharing Statement.

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Author Contributions.

All authors contributed meaningfully to the development of this study. This includes involvement in the study conception,

design, data collection, analysis, and interpretation. All authors also participated in drafting, revising, or critically reviewing the manuscript. Each author has approved the final version of the manuscript and agrees to be accountable for all aspects of the work. The authors have collectively agreed on the journal to which the manuscript has been submitted.

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The authors declare no conflicts of interest related to this work.

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