

## **Perspectives of faculty members on the use of artificial intelligence chatbots in medical education and research: a qualitative study**

### **Abstract:**

**Aims:** The effective adoption of artificial intelligence in medical academia critically depends on faculty perspectives as the primary stakeholders. Therefore, this study was conducted with the aim of elucidating the Perspectives of faculty members regarding the use of artificial intelligence Chatbots in the medical education and research.

**Methods:** The present study is a qualitative research using a content analysis approach. Data were collected through semi-structured interviews with eighteen faculty members. Sampling continued purposively and via snowball sampling until data saturation was reached. The interviews were analyzed using the conventional content analysis method by Graneheim and Lundman. The rigor of the findings was ensured using Lincoln and Guba's criteria.

**Result:** The findings were organized into three main categories: [1] "Practical Application Domains of AI Tools," which included the sub-categories of content creation and instructional design, academic research support and production, and therapeutic application; [2] "Identified Benefits and Challenges for AI Tools," comprising the sub-categories of ethical and security concerns, educational and pedagogical concerns for student learning, technical and infrastructural limitations, and perceived advantages and opportunities; and [3] "Prerequisites and Enablers for Effective AI Tools Use," covering the sub-categories of competency development and foundational attitudes and systemic support.

**Conclusion:** The results of this study indicate that faculty members widely utilize chatbots for content creation, article writing, and disease diagnosis and that they can help accelerate educational and research processes. However, challenges such as filtering and data validity exist and should be addressed. The effective utilization of these technologies requires appropriate training.

**Keywords:** Artificial Intelligence, Chatbot, Education, Medical

## Introduction

Artificial intelligence refers to systems capable of performing behaviors similar to human intelligence. These behaviors encompass the ability to comprehend intricate situations, emulate thought processes, engage in human reasoning, and learn and acquire knowledge to address problems [1]. Currently, intelligent conversational agents, such as chatbots, are employed in various domains. Most chatbots are web-based and readily accessible to users. Many adults engage with chatbots regularly, especially when they need help from mobile or internet service providers. In contrast, opting for more sophisticated conversational agents like ChatGPT or Bard is usually a conscious and intentional decision [2]. Currently, artificial intelligence and related technologies, including chatbots, have significantly impacted educational and research approaches. In this context, medical education must move beyond basic biomedical and clinical sciences, focusing on organizing professional efforts among healthcare professionals and utilizing artificial intelligence information tools, while ensuring mastery of compassionate care [3]. Therefore, with the increasing pace of advancements in medical knowledge, technologies like artificial intelligence [AI] are emerging as essential tools for healthcare professionals to effectively leverage this knowledge in medical practice. Medical professionals must be adequately trained on these novel technologies, their benefits in improving the cost, quality, and accessibility of healthcare services, as well as challenges such as transparency and accountability [4]. One of the key benefits of utilizing AI in education is strengthening traditional teaching methods, introducing innovative approaches, and improving assessment and clinical reasoning [5]. The successful incorporation of AI into educational practices holds the potential to enhance both teaching and learning processes [6]. In this way, AI can help enhance students' clinical skills, facilitate their learning process, and play an effective role in medical decision-making. Nonetheless, the application of AI in medical education also presents certain challenges. Given the expanding application of this technology, immediate attention to ethical guidelines and examination of potential risks associated with it is necessary [5]. Furthermore, faculty members face concerns and challenges in educational and research fields. As the results of the Gayed [2025] study indicate, despite faculty's strong background in educational technology and their positive view towards using artificial intelligence tools in the classroom, they still do not feel adequately prepared for it [7]. Another study's results show that views on the use of artificial intelligence are mainly positive, although these views are accompanied by significant concerns regarding ethical issues and privacy. This study emphasizes the need to adopt a balanced approach that, while maximizing the benefits of artificial intelligence, also ensures the protection of the rights and interests of all stakeholders [8]. The medical organization also warns of the risks that students who use these technologies to complete their assignments may face [9]. Regarding the role of artificial intelligence in research, academics believe that ChatGPT can serve as an assistive tool in scientific research and educational processes, and can be a source of inspiration for new research topics and areas. However, despite these benefits, academics have expressed concerns about ethical issues, including plagiarism and the dissemination of misinformation [10]. Although artificial intelligence can improve students' writing skills, self-efficacy, and academic understanding, some students have raised concerns about its possible effects on creativity, critical thinking, and ethical writing practices [11]. Another study, titled " ChatGPT by OpenAI: Students' Viewpoint on Cheating using Artificial Intelligence-Based Application" It was revealed that more than half of the students are inclined to cheat and may utilize ChatGPT to produce content for their essays, which could jeopardize research integrity[12].

A key factor in the successful application of artificial intelligence in medical education and research is the perspective of faculty members, as the primary users of this technology, and their acceptance of the need to prepare and become knowledgeable about artificial intelligence and its utilization. The success of artificial intelligence depends on considering stakeholders' viewpoints, and awareness of these perspectives can help identify the strengths, weaknesses, and challenges in this field. Furthermore, faculty perspective can be considered in the development of future artificial intelligence tools. Qualitative studies, by explaining deep and individual concepts, help to

understand human phenomena. As far as we are aware, there has been no research conducted in Iran to investigate faculty members' perspectives on the use of artificial intelligence tools, particularly chatbots, in education and research. Therefore, this qualitative research aims to elucidating the perspectives of faculty members regarding the use of artificial intelligence chatbots in the medical education and research. The results of this research can assist medical universities in planning for the application of artificial intelligence and also open new horizons for explaining the application of artificial intelligence in various fields, including education, research, treatment, and management and administration.

## **Materials and Methods**

### **Design**

The present study is qualitative research with a conventional content analysis approach, conducted from March 12, 2025, to November 26, 2025.

### **Participants and Sampling**

The participants were 18 faculty members from Alborz University of Medical Sciences. Snowball sampling was initially used to select participants. This involved the researcher, after interviewing the first participant, asking them to recommend individuals who had experience using any type of artificial intelligence [chatbot] in the field of medical education and research for students. Therefore, participants who were, firstly, instructors of medical students, and secondly, had experience using chatbots in the field of medical education and research for medical students, were purposefully selected and entered the study with informed consent. Maximum variation was ensured in terms of sex, work experience, academic rank, and type of specialty. The sampling process was continued until data saturation was achieved, at which point no new codes were identified.

### **Interview Setting**

Interviews were conducted after telephone contact with participants, with the location and time arranged according to the preferences of participants at Alborz University of Medical Sciences. On the day of the interview, participants provided written informed consent prior to the start of the interview, confirming their willingness to participate and allowing their voices to be recorded.

### **Research Instrument and Data Collection Method**

Data was collected through semi-structured interviews, with some general questions pre-designed to align with the study's objective. The interview began with the general question: "Please describe your experience using AI chatbots in the education of medical students." It then continued using probing questions such as: "Please provide an example in this regard." Subsequently, a general question was posed regarding their experience using AI chatbots in research. The average duration of the interviews was between 45 and 55 minutes, and Interviews were collected, analyzed, and interpreted from March 2025 to September 2025. An additional two months were dedicated to report preparation and manuscript writing. All interviews were conducted by one of the authors [L.S].

### **Analysis**

The research questions and starting point determine which type of content analysis a researcher will use. Inductive content analysis is performed to create concepts, categories, and themes from the data [13, 14]. Given our lack of prior knowledge regarding the faculty members' perspectives on the use of chatbots in the education and research of medical students, the data were analyzed using inductive content analysis with the Graneheim and Lundman [2004] approach. The analysis of the interviews began after the collection of the first interview. The verbatim transcription of each recorded interview was carried out on paper by one of the authors, Z.N.kh Subsequently, two of the authors, Z.N.kh and R.A., independently read through the interview text multiple times to gain a deep understanding of it. Subsequently, meaning units were identified, and each meaning unit was assigned one or two codes. Similar codes were then grouped into subcategories, and main categories were formed by combining these subcategories [15].

### **Rigor**

To assess scientific rigor, Guba and Lincoln's four criteria were used [16]. Accordingly, credibility was ensured by having a third researcher review the codes extracted from the interviews.

Transferability was achieved by providing complete explanations regarding the methodology and code extraction process. Dependability was ensured as all details pertaining to how the interviews were conducted and the analyses performed during the research process were meticulously recorded and maintained, and confirmability was ensured as the second researcher extracted the codes after the first researcher, and all stages were reviewed and monitored from the beginning by the third researcher.

### Results

In this study, 18 faculty members from Alborz University of Medical Sciences participated, and their demographic information is presented in Table 1. In the present study, the chatbots most frequently mentioned by participants during interviews were ChatGPT, Copilot, Gemini, and Perplexity. Although our objective was to investigate the use of AI chatbots, participants also referred to other AI tools such as Gamma and Paper pad.

The application of content analysis to the interview led to the identification of 301 primary codes, which were subsequently organized into nine subcategories and three main categories: 1) Practical Application Domains of AI Tools, 2) Identified Benefits and Challenges of AI Tools, and 3) Prerequisites and Enablers for Effective AI Tool Use [Table 2].

**Table 1: Demographic Information of Participants**

Participant Number	Sex	scholarly position	Field or Discipline	work experience
1	Female	Associate Professor	Anatomical Sciences	13
2	Female	Assistant Professor	Anesthesiology	12
3	Male	Assistant Professor	Anatomical Sciences	9
4	Female	Assistant Professor	Pediatric Surgery	11
5	Female	Assistant Professor	Otorhinolaryngology, Head and Neck Surgery	10
6	Female	Assistant Professor	Obstetrics and Gynecology	12
7	Male	Associate Professor	Orthopedics	13
8	Male	Associate Professor	Physiology	10
9	Male	Assistant Professor	General Surgery	8
10	Male	Professor	Thoracic Surgery	15
11	Male	Professor	Neurosurgeon	16
12	Female	Assistant Professor	Physiology	6
13	Male	Assistant Professor	Otorhinolaryngology, Head and Neck Surgery	10
14	Male	Associate Professor	Neurosurgeon	13
15	Female	Assistant Professor	Anesthesiology	7
16	Female	Associate Professor	General Surgery	12
17	Female	Associate Professor	Obstetrics and Gynecology	11
18	Male	Assistant Professor	Orthopedics	8

**Table 2: Results from the Analysis of Participant Interviews**

Main category	Sub-category	Code(N)
Practical Application Domains of AI Tools	Content Creation and Instructional Design	3D Anatomy Education(2)/ PowerPoint Preparation(7)/Use in Simulation(1)/Use in Curriculum/Lesson Plan Development(7)/ Video and Photo Content Production(4)/ Teaching Method Design(9)/ Use for File

		Conversion(3)
	Academic Research Support and Production	Article Writing (8)/ Article Translation (8)/Research Title/Topic Generation(10)/ Research Data Analysis(6)/ Facilitating Interdisciplinary Research(2)/ Use in Referencing/Citation(4)
	Therapeutic Application	Use in Clinical Diagnosis(6)/ Use in Clinical Treatment(8)/ Predicting Treatment Outcomes(5)/ Application in Clinical Decision-Making(6)
Identified benefits and Challenges for AI Tools	Ethical and Security Concerns	Lack of Security in Protecting Privacy(7)/ Ethical Issues Raised in Research(5)/ Low Data Validity(7)/ Lack of Reliability in Provided Answers(5)/ Worry About Future Employment(8)
	Educational and Pedagogical Concerns for student learning	Decreased Reading Rate(7)/ Reduced Human Interaction(5)/ Decreased Accountability(4)/ Addiction in Usage(5)
	Technical and Infrastructural Limitations	Lack of Application in the Field of Innovation(5)/ Poor Persian Language Support(8)/ Filtering and Sanctions Issues(14)/ Concern About Complexity(5)/ Time Constraint(9)
	Perceived Advantages and Opportunities	Motivation for Learning(4)/ Accelerating Tasks(3)/ Saving Time(10)/ Faster Access to Materials with Reliable Sources(6)/ Providing High-Quality Files(1)/ Unlimited Responsiveness(1)
Prerequisites and Enablers for Effective AI Tools Use	Competency Development	Need for Training on How to Use(15)/ Importance of Correct Prompt Engineering(16)/ Need to Gain Experience(12)
	Foundational Attitudes and Systemic Support	Promoting a Culture of Correct Usage(10)/ Having a "Assistant" View of Chatbots(14)/ Adherence to Ethical Issues(4)/ Feeling of Personal Need(5)/ Need for Cost/ Expenditure(10)

## 1. Practical Application Domains of AI Tools

### 1.1 Content Creation and Instructional Design

Participants stated that they use artificial intelligence and chatbots in student education, PowerPoint preparation, lesson plan writing, teaching method design, and also in designing assessment questions for learners.

Following this, examples of the participants' quotations are presented.

*"In my field, which is anatomy, it's very useful because it relies heavily on 3D and spatial understanding of body organs...especially when you want to simulate the 3D state of body organs or in surgical models where we have the proximity of different organs to each other."* [p. 1]

*"For example, we can use AI for slide creation and even writing lesson plans."* [p. 5]

*"In education, it can help with designing standardized questions, provided you give it the content and tell it to create questions."* [p. 10]

*"It also helps us in choosing teaching methods and gamification."* [p. 12]

### **1.2 Academic Research Support and Production**

Article writing and article translation were the most frequently mentioned applications of artificial intelligence by professors, although some of them mentioned the use of artificial intelligence for referencing, research data analysis, and research title selection.

Some of the professors' statements on this matter are as follows:

*"There's a huge variety of AIs, and the number is growing every day. We can use them to translate our articles and even find research topics."* [p. 9]

*"Some professors are using AI for qualitative content analysis."* [p. 3]

### **1.3 Therapeutic Application**

Professors stated that they can use artificial intelligence in diagnosing diseases, making clinical decisions, and even understanding the prognosis of the disease.

Some of the professors' statements on this matter are as follows:

*"We use artificial intelligence to help students learn how to diagnose diseases and identify risk factors, so they can be useful in patient treatment."* [p. 16]

*"We and Students together can use AI in clinical decision-making or even in treatments based on genetic and demographic differences."* [p. 10]

*"AI can sometimes help predict treatment outcomes and the course of a disease."* [p. 17]

## **2. Identified benefits and Challenges for AI Tools**

### **2.1. Ethical and Security Concerns**

Despite its applications in education, research, and treatment for students, artificial intelligence presents certain Concerns. One of the most significant Concerns is the issue of Ethics and Security Specifically in research.

One participant noted that: *"AI is frequently used for writing articles, but authors often fail to transparently report the extent of its use upon submission."* [P.1]

Participants also expressed ethical concerns regarding the unreliability and lack of validity of AI-generated data. As one participant noted:

*"Often, it suggests articles to you, and then you find out that the article doesn't even exist... Even though it also nicely provides valid findings relevant to your question, there's actually no such article, and you definitely need to check these things."* [p. 9]

Similarly, another participant pointed out that: *"One problem with AI is that if you ask it the same question today, it might give you one answer, and then if you ask it again in a day or two, it might give you a slightly different answer. Basically, AI search results aren't consistent from day to day. I think that's a problem."* [p. 4]

### **2.2. Educational and Pedagogical Concerns for student learning**

One of the educational concerns expressed by the participant was a decrease in students' study rate. They believed that since AI chatbots provide answers in the shortest possible time, many students do not refer to their primary course materials anymore. Another major issue they highlighted was addiction to using AI. They stated that this addiction leads to irresponsibility in learning the material and completing their assignments.

Regarding this, one of the professors said: *"One of our concerns as instructors is the loss of deep thinking among the new generation of students because of their dependence on this technology."* [P.10]

Another professor stated on this matter: *"When you have a tool that quickly does your assignments, what responsibility do you want to have for your own learning?"* [P.6]

### **2.3 Technical and Infrastructural Limitations**

Some of the challenges concerned technical and infrastructural limitations. Many participants stated that the popular AI chatbots have usage time limits in their higher versions and can only be used for a limited time each day. Another infrastructural limitation that most referred to was the filtering of many chatbots and some of their functions in Iran. Regarding this, one professor said:

*"I was on a research trip to Spain, and while I was there, access was much easier. I created an account and had easy access to ChatGPT-4 with a SIM card I had there. Since I've returned to Iran... it seems access to the higher versions of ChatGPT isn't possible in our country. It needs a circumvention tool... I haven't been able to use that account anymore either."* [p. 8]

#### **2.4 Perceived Advantages and Opportunities**

Despite the concerns and challenges presented by artificial intelligence, participants cited numerous benefits, including accelerated task completion, time savings, unrestricted responsiveness, and motivation for learning.

*"Since the world is moving in this direction, and it's become such that a while ago, if a student had a question, or even when I was a student and wanted to ask something... it would occur to me that first I should Google it, and if I didn't find the answer to my question, then ask my professor. And now, AI is exactly the same way... meaning, when a student has a question or something unclear, they can easily use AI... to reach the answer much faster and more time-efficiently."* [p. 15]

*"Artificial intelligence is really useful in student education... because it's a new topic... and at the same time, students can use various resources simultaneously... This makes us have a desire and passion for learning in students."* [p. 6]

### **3. Prerequisites and Enablers for Effective AI Tools Use**

#### **3.1 Competency Development**

In this study, faculty members stated that for using artificial intelligence tools in student education and research, in addition to experience, there is a need to attend training workshops on how to use these tools especially on the topic of proper prompt engineering. Regarding this, two professors said:

*"The way you ask questions from them [artificial intelligence] is very important, and we should ask those questions very clearly."* [p.5]

*"If we want to use it without training and recklessly... it can give us a lot of incorrect information."* [p. 2]

#### **3.2 Foundational Attitudes and Systemic Support**

In addition to empowering faculty to use artificial intelligence, having a positive attitude and organizational support in terms of culture and funding for the use of these tools is important. Many professors viewed AI tools as assistants and believed that ethical issues, especially in research, must be observed when using these tools, and that a culture for their use should be fostered within universities.

One of the professors stated the following on this matter:

*"When something comes along and there isn't a culture of using it, it can be very damaging... So, a lack of education and sufficient culture in the use of artificial intelligence can be harmful."* [p.1]

### **Discussion**

Given the practical dimensions of artificial intelligence [AI] in education, faculty members stated that they utilize AI and chatbots in educating students, preparing PowerPoint presentations, writing lesson plans, designing teaching methods, and evaluating learners. In this regard, Garg's article also states that AI can be employed at various levels of medical education, including the development and analysis of curricula, the learning process, and evaluation. This can reduce the time required to evaluate multiple curricula, solve multi-dimensional problems, increase classification accuracy, identify relationships between different variables, be used in assessing curriculum effectiveness, and provide students with adaptive and personalized learning content[17]. Furthermore, by participating in educational discussions, evaluating students, and providing immediate feedback, they assist in the learning of medical students and make the evaluation process more objective, faster, and more cost-effective[17, 18], which, in a way, confirms the results of the present study.

In the Tlili study, one participant mentions that ChatGPT can serve as a valuable resource for professors by reminding them of the knowledge and skills that should be incorporated into their curriculum, thus assisting in curriculum design[19]. In this study, participants also utilize artificial intelligence for simulation and gamification in education. Another study, focusing on how to

develop artificial intelligence to improve the training of radiology assistants, suggests that AI-enhanced radiology may lead to greater accuracy and efficiency in medical education[20]. While professors in this study primarily leverage AI capabilities for teaching anatomy and surgery courses, it is necessary to examine its application and use in each of the medical science courses separately. Furthermore, some chatbots are developed using a social constructivist approach and can act as interactive tutors by providing quizzes, assessments, and access to previous lectures [21], which benefits the learning of all students in various disciplines.

According to professors, article writing and translation of articles were the most common applications of artificial intelligence in research. However, some also mentioned using AI for referencing, analyzing research data, and selecting research titles. The AI revolution in scientific publication encompasses various research aspects, including the transformation of the peer review process, plagiarism detection, intelligent data validation systems, automated meta-analysis generation from existing data, alert systems for unusual findings, continuous post-publication monitoring with automatic citation and related results tracking, intelligent content management, article recommendation systems, and translation [22].

In the field of treatment, some professors have stated that students can use artificial intelligence in disease diagnosis, clinical decision-making, and even determining disease prognosis. On the other hand, AI also has the potential to create positive transformations in the healthcare system and empower patients, including providing personalized health information such as health recommendations and warnings tailored to each individual's condition, analyzing personal health data to predict disease risks, and offering virtual consultation services that provide access to remote medical advice, sometimes through continuous remote monitoring of patients' vital signs and timely alerts upon observation of medical anomalies, and improved management of chronic diseases, which can help physicians[22]. Considering that the professors did not mention this issue, it seems that there is a need to provide the groundwork for the application of telemedicine so that professors, while using this technology, can also provide the necessary training in this field to their students.

Despite professors pointing to the applications of artificial intelligence in education, research, and treatment, they also expressed challenges in its use. One of the biggest challenges was the issue of filtering and limitations on usage, which made employing these tools difficult for professors. Other issues included the low credibility of data received from artificial intelligence, unreliability in the answers provided, and a lack of privacy security. In this context, the research conducted by Milana et al. indicates that all aspects of AI technologies are either predetermined or derived from a restricted set of data and information that humans have previously expressed and documented [2]. This can occasionally result in inaccuracies and diminished credibility of the information provided, particularly when AI technology has adopted an incorrect pattern due to incomplete or biased training data [23].

Conversely, interactions with ChatGPT do not incorporate the recognition of emotions and other typical cues found in human-to-human communication, and at times, it may offer contradictory responses to questions concerning the same subject. These are among the ethical concerns cited by participants in the study by Tlili et al.; encouraging plagiarism and cheating, a tendency to induce laziness, and a susceptibility to errors such as presenting biased or fabricated information, and sometimes providing inaccurate and vague information. Some participants consider ChatGPT's output data to be more like an opinion without reference[19]. The present study also refers to related codes, including reduced human interaction, low-quality communication with humans, reduced student accountability, and low data credibility.

In another study, a small number of participants expressed the possibility of learners misusing ChatGPT, considering it a cause for reduced innovative capacities and critical thinking. They stated that when students lack motivation, they are more likely to seek easily accessible solutions [19]. In this context, even professors participating in the study admitted that chatbots could lead to frustration with learners' personal performance and a decrease in study rates. Another study, surveying 367 Ethiopian students from various educational levels and regions, focused on concerns about privacy and data security [24]. Therefore, ethical issues have always been a central public

concern, and there is a fear of privacy breaches. These concerns are mainly due to the lack of unified standards and norms in artificial intelligence technology, leading to public skepticism about AI. It is suggested that standards be established for further AI regulation and privacy protection [25-27]. Consequently, individuals at various academic levels, both professors and students, are concerned about a lack of security in preserving privacy. In conclusion, while the integration of AI in medicine holds great promise, health policies must be developed to address the ethical and financial concerns associated with AI [28].

Alongside the challenges that artificial intelligence presents, participants cited numerous benefits, including accelerated task completion, time savings, unrestricted responsiveness, and motivation for learning. As the findings suggest, most users hold a positive outlook on the integration of AI-powered chatbots, such as ChatGPT, within educational systems [19], and instructors appreciate chatbots as time-saving assistants, performing tasks such as planning, organizing, and enhancing their teaching [29].

In this study, professors outline prerequisites for the proper and beneficial use of artificial intelligence and chatbots, with the most important being training on how to use them, proper prompt engineering, fostering a culture of acceptance, adhering to ethical considerations, and viewing AI as an assistant. Based on the results of a study by Ejaz et al. regarding AI and medical education, there was support for including AI education in core curricula worldwide, as few students, particularly in low- and middle-income countries, had received AI training. Incorporating this training as part of the curriculum is essential for developing their skills and knowledge to prepare them for a future in medicine that is increasingly digitally driven [30]. Therefore, there is a broad consensus on the need for AI ethics education and AI in medical education, and there is an immediate need to integrate AI and AI ethics education into medical curricula to adequately prepare future medical professionals [31]. Considering research findings indicating the necessity of incorporating AI education into student curricula, the need for comprehensive training of professors and achieving their proficiency in using AI is increasingly felt.

The research conducted by Omar et al. on faculty members at Palestinian universities emphasized the need for comprehensive training programs to improve their skills in using artificial intelligence [AI] applications in higher education. Additionally, it discussed the concerns and risks that may impede the adoption of these programs [32]. Conducting workshops, seminars, and training courses for professors and students can provide a better understanding of the role of AI in medicine. Its success requires careful planning, faculty training, and intelligent integration with existing curricula, which can contribute to nurturing a new generation of physicians with comprehensive skills [33]. Furthermore, the field of integrating AI with medicine/medical education is constantly expanding, and the most immediate need is collaboration among policymakers, medical professionals, AI specialists, educators, and other disciplines to reach a consensus on ethical issues and develop regulatory standards [26]. As also indicated in this study, professors mentioned the preliminary codes of cultivating the correct use and observing ethical issues as a prerequisite for using AI.

### **Recommendations and Applications**

It is suggested to focus on developing training courses for faculty members and students regarding the use of artificial intelligence and chatbots. Furthermore, creating suitable platforms for accessing these tools and addressing technical and ethical challenges can contribute to improving the quality of education and research. Finally, examining successful experiences in other universities and countries can help optimize the use of these technologies.

### **Limitations**

One limitation of this study is its concentration on a particular university and its faculty members, which may restrict the applicability of the findings to other universities and fields within medical science. Furthermore, the technical and ethical challenges related to the use of artificial intelligence in education and research necessitates further exploration in other universities and countries globally.

### **Conclusion**

The results of this study indicate that faculty members at Alborz University of Medical Sciences widely utilize artificial intelligence and chatbots in student education and research. These tools are particularly useful in content creation, article writing, and disease diagnosis, and can help accelerate educational and research processes. However, challenges such as filtering, data validity, and privacy issues exist and should be addressed. Overall, effective utilization of these technologies requires appropriate training and awareness.

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