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STUDENT PERSPECTIVES OF UDAYANA UNIVERSITY MEDICALSTUDENTS ON THE USE OF CHAT-GPT IN THE LEARNING PROCESS FOR THE CLASS OF 2021

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ABSTRACT

Artificial intelligence (AI) is a testament to technological advancement aimed at assisting human survival. One form of AI that is frequently used today is ChatGPT. ChatGPT is widely utilized among students, including medical students, due to its numerous benefits. However, there has yet to be a comprehensive understanding of how ChatGPT is viewed in student's learning process. This study aims to determine the perspectives of Udayana University medical students from the class of 2021 regarding the use of ChatGPT in the learning process. This research is a quantitative descriptive study employing a cross-sectional approach. Data collection was conducted using a Google Form questionnaire with 71 medical undergraduate students. Data analysis was performed using SPSS version 26.0. From the 14 statements in the questionnaire, the majority of respondents agreed that the use of ChatGPT aids their learning process, such as easily accessing information, personalizing the learning process, and so on. The drawbacks of ChatGPT perceived by respondents include its inability to search for scientific journal sources for research purposes. For Udayana University medical students, using ChatGPT in the learning process offers more advantages than disadvantages. The presence of ChatGPT assists these students in their studies.

Keywords: ChatGPT, medical students, students, study process

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INTRODUCTION

The policy changes implemented by the government during the COVID-19 transition period, particularly the introduction of hybrid learning models, have had significant effects on various societal sectors. One of the most impacted populations is university students. With the adoption of hybrid policies, students have resumed in-person learning according to fixed schedules. As a result, students are required to adapt to changes in the learning process to effectively engage with the hybrid learning system. In parallel, technological advancements have continued to progress to improve human well-being. Artificial Intelligence (AI) serves as a prominent example of such progress. AI, a subfield of computer science, enables machines to learn intelligent systems, allowing them to perform tasks traditionally executed by humans, like human cognitive processes.[1] Artificial Intelligence (AI) was introduced by Professor John McCarthy of the Massachusetts Institute of Technology (MIT) in 1956 during the Dartmouth Conference, which was attended by researchers in the field of AI. By the early 1980s, AI began to be developed more extensively for commercial purposes.[2] In 2023, AI has advanced significantly with the development of a program known as ChatGPT, which originated from the GPT-2 version.[3] The advantages offered by AI include its permanent intelligence, unlike human natural intelligence, which is subject to degradation over time. With this capability, the primary objective behind the development of AI is to understand and model human cognitive processes, as well as to design machines that can replicate human behavior.[4] In daily life, the implementation of Artificial Intelligence (AI) has become widespread across various sectors. In the government sector, AI is utilized in smart city initiatives, particularly through intelligent camera systems that detect vehicular density and traffic volume. This application enhances urban management and improves traffic flow. In the industrial sector, AI plays a crucial role in automating production machinery and manufacturing processes, thereby increasing efficiency and reducing human error. These advancements demonstrate how AI technologies are transforming operational frameworks in both government and industry, leading to smarter and more efficient systems.[5] In the healthcare sector, AI is utilized for image analysis in radiology and pathology.[6] In the field of education, AI supports students by tracking their academic progress, knowledge, and answer analysis through The Automatic Grading System, which is facilitated by instructors via assignments.[7] Specifically, in medical education, DxR Clinician, an AI-based program with a virtual system, has been developed to teach medical students by leveraging hundreds of real patient data cases processed by AI, allowing students to study these cases.[8] Artificial intelligence technology has become an integral part of modern human life. Currently, various AI applications are

employed across industries such as healthcare, business, management, education, and others, with ChatGPT being one notable example. Among the general public, the presence of ChatGPT has been highly acclaimed. The Generative Pre-trained Transformer 3 (GPT-3) model, developed by OpenAI, serves as the foundation for ChatGPT, a language model designed to address user queries through text in a manner that mimics human interaction with an interactive conversational style.[9] The use of ChatGPT has become widespread among university students due to its numerous benefits, with medical students being one of the primary groups utilizing it. This study aims to determine the perspectives of Udayana University medical students from the class of 2021 regarding the use of ChatGPT in the learning process

MATERIALS AND METHODS

This study is a quantitative descriptive research employing a cross-sectional approach. A questionnaire was used as a tool to identify the perspectives of medical students at Udayana University regarding the use of ChatGPT. The research was conducted online at the Faculty of Medicine, Udayana University in Denpasar, utilizing Google Forms as the data collection method. The study sample consisted of an accessible population that met the inclusion criteria and did not meet the exclusion criteria.

The inclusion criteria for this study were medical students in the Bachelor of Medicine program at the Faculty of Medicine, Udayana University, class of 2021, who were willing to participate and provided consent by signing the informed consent form and completing the questionnaire. The exclusion criteria were medical students who had never used ChatGPT and incomplete data submissions. The sampling method employed in this research was purposive sampling, with the questionnaire serving as the sampling tool. In this method, all populations that meet the inclusion and exclusion criteria can be used as research samples until the minimum sample is met. The required sample size was calculated using Slovin's formula, resulting in a total of 71 participants. The study received approval from the Ethics Committee of the Faculty of Medicine, Udayana University, under protocol number 2024.01.1.0278. The data collected were processed manually using Microsoft Excel, and data analysis was conducted using a quantitative and descriptive approach. The results will be presented in the form of graphs, tables, and a narrative report.

RESULTS

Characteristics of Research Subjects

This study was conducted in May 2024 at the Faculty of Medicine, Udayana University. The data used in this research are primary data collected through Google Forms from students in the Bachelor of Medicine Profram at Medical Faculty Udayana University, class of 2021. The study sample consisted of 71 participants who met the inclusion and exclusion criteria. All subjects completed the study until its conclusion. Univariate analysis was performed on the respondent characteristics (gender and age) as well as on the data regarding the perspectives of the students toward the use of ChatGPT in the learning process (Table 1).

Table 1. Characteristics of Respondents

Variable (N=71)	Frequency	Percentage (%)
Gender		
Woman	37	52.11
Men	34	47.89
Age (Year)		
19	1	1.41
20	31	43.66
21	36	50.70
22	3	4,23

According to Table 1, the majority of respondents were female, accounting for 37 participants (52.11%). Additionally, most respondents were 21 years old, with 36 participants (50.70%) in this age group.

Based on Table 2, the majority of respondents agreed with statements supporting the use of ChatGPT in learning. The statement with the highest percentage of agreement and strong agreement was, "It is easy for you to find or obtain information about certain topics through ChatGPT," with 63 respondents (88.74%). Among the 14 statements on the questionnaire, there were only three where the majority of respondents disagreed. These were: "You have received training or courses on how to operate ChatGPT," with 55 respondents (77.47%); "ChatGPT technology helps you find sources of scientific journals for your research," with 33 respondents (46.48%); and "The ChatGPT technology you use often encounters unexpected issues, making it difficult for you to complete your tasks," with 21 respondents (29.58%).

Table 2. Distribution of Respondents' Perspective Statement Answers

Question Items	Frequency (%)				
	SD	D	N	A	SA
Timeliness is a key factor for you, and thus ChatGPT is expected to meet this need.	0 (0%)	6 (8.45%)	20 (28.17%)	31 (43.66%)	14 (19.72%)
You can easily find the information you need regarding specific topics through ChatGPT	0 (0%)	2 (2.82%)	6 (8.45%)	54 (76.06%)	9 (12.68%)
You can easily access the latest information related to certain issues through ChatGPT.	1 (1.41%)	13 (18.31%)	15 (21.13%)	35 (49.30%)	7 (9.68%)
The ChatGPT technology you use can assist you in the learning process.	0 (0%)	2 (2.82%)	7 (9.86%)	49 (69.01%)	13 (18.31%)
ChatGPT technology can personalize your learning process.	0 (0%)	8 (11.27%)	24 (33.80%)	30 (42.25%)	9 (12.68%)
You are able to complete tasks more effectively after using ChatGPT technology compared to before.	3 (4.23%)	10 (14.08%)	25 (35.21%)	25 (35.21%)	8 (11.21%)
The use of ChatGPT helps you meet the need to complete tasks on time.	1 (1.41%)	5 (7.04%)	21 (29.58%)	37 (52.11%)	7 (9.86%)

The use of ChatGPT makes it more difficult for you to complete tasks on time.	4 (5.63%)	8 (11.27%)	11 (15.49%)	39 (54.93%)	9 (12.68%)
The ChatGPT technology you use frequently encounters unexpected issues, making it difficult for you to complete tasks.	5 (7.04%)	16 (22.54%)	23 (32.39%)	24 (33.80%)	3 (4.23%)
Your understanding of how to use ChatGPT technology is still limited.	3 (4.23%)	9 (12.68%)	26 (36.62%)	28 (39.44%)	5 (7.04%)
The ChatGPT technology you use is easy to operate.	0 (0%)	5 (7.04%)	13 (18.31%)	30 (42.25%)	23 (32.39%)
You have received training or courses on how to operate ChatGPT.	29 (40.85%)	26 (36.62%)	7 (9.86%)	5 (7.04%)	4 (5.63%)
ChatGPT technology helps you find sources of scientific journals for your research.	6 (8.45%)	27 (38.03%)	24 (33.80%)	11 (15.49%)	3 (4.23%)
ChatGPT technology assists you in translating foreign languages into a language you understand.	2 (2.82%)	9 (12.68%)	16 (22.54%)	37 (52.11%)	7 (9.86%)

Notes:
SD : strongly disagree
D: disagree
N: neutral
A: agree
SA: strongly agree

DISCUSSIONS

The findings of this study related to training or courses on using ChatGPT (or other AI technologies) do not have a direct comparison in existing literature, as no studies specifically address this topic. However, one study reported a 58.7% improvement in participants' skills after receiving such training.[10] Another study indicated that the use of ChatGPT is more widely disseminated through its utility rather than through formal training or courses,

such as for searching learning materials for medical students.[11] Regarding the use of ChatGPT to find scholarly journal sources, this study found that 46.48% of respondents did not use or did not find ChatGPT helpful in this regard. This is consistent with previous research, which showed that approximately 50% of respondents felt that ChatGPT was not helpful in searching for journals or references.[12]

In response to the statement, "Timeliness is a key factor for you, and thus ChatGPT is expected to meet this need," 63.38% of respondents agreed. Regarding the statement, "You can easily find the information you need about specific topics through ChatGPT," 88.74% of respondents agreed. Additionally, 59% of respondents agreed with the statement, "You can easily find the latest information on specific issues through ChatGPT." For the statement, "You are able to complete tasks more effectively after using ChatGPT technology compared to before," 46% of respondents agreed. Furthermore, 62% of respondents agreed with the statement, "The use of ChatGPT helps you meet the need to complete tasks on time." These findings align with the research by Abouammoh *et al*., where ChatGPT was found to provide quick and concise access to specific topics, addressing time management challenges in task completion and facilitating the discovery of necessary information. Abouammoh explains that ChatGPT offers rapid responses to user queries and can be instructed to tailor answers according to user preferences.[13]

Regarding the statement, "The ChatGPT technology you use can assist you in the learning process," 87% of respondents agreed. In the following statement, "ChatGPT technology can personalize your learning process," 55% of respondents felt that ChatGPT could personalize their learning experience. This finding is consistent with research that emphasizes how ChatGPT helps medical students discover their own learning patterns, adapt to information that increases their interest in learning, and feel more effective compared to traditional lectures.[13] In a study conducted in Malaysia, the use of ChatGPT enabled medical students to perform better in completing assignments. Of 443 respondents, 386 (87.1%) agreed with the statement, "I feel ChatGPT can produce better results/responses than I can in an examination/assignment".[14]

This study found that only 38% of respondents agreed that ChatGPT is easy to use. Research by Alkhaaldi concluded that medical students' understanding of ChatGPT, or AI in general, is relatively low. However, these students acknowledged that ChatGPT is easy to use, which made them interested in using it for learning purposes.[15] Another benefit identified in this study was that 61.97% of respondents agreed that ChatGPT can be used to translate foreign languages into a language that is easily understood by users. This finding is consistent with earlier research, which reported that 91% of respondents agreed that ChatGPT can translate foreign languages into a language easily understood by users.[16]

This study found that 67% of respondents agreed with the statement, "The use of ChatGPT actually makes it more difficult for you to complete tasks on time." The primary limitation of using ChatGPT is its inability to access the latest information, as it does not possess this capability. This limitation can lead to challenges for users in completing tasks or engaging in the learning process.[17] Medical students also often do not rely on ChatGPT as their primary source for information; instead, they use it to identify patterns, classify data, and confirm information obtained from other sources.[13,18,19,20]

1. SUMMARY AND RECOMMENDATIONS

Based on the research conducted with 71 medical student respondents from Udayana University, the majority of respondents agreed with statements supporting the benefits and advantages of ChatGPT. Future researchers are encouraged to tailor the questionnaire questions to the specific characteristics of medical students in order to minimize contradictory results.

REFERENCES

1. Tjahyanti LPAS, Saputra PS, Gitakarma MS. Peran Artificial Intelligence (Ai) untuk Mendukung Pembelajaran di Masa Pandemi Covid-19. Jurnal Komputer dan Teknologi Sanis (KOMTEKS). 2022;1(1).
2. Kalsum U. Pengenalan Kecerdasan Buatan (*Artificial Intelligence*) kepada Para Remaja. Procedia Comput Sci. 2022;166:310–4.
3. Buana U. 2012-2023 : Perkembangan Teknologi AI untuk Pemrograman, Pembuatan Konten Teks, hingga Gambar. Universitas Mercu Buana. 2023;3:3.
4. Setiawan D, Karuniawati EAD, Janty SI. Peran Chat GPT (Generative Pre-Training Transformer) Dalam Implementasi Ditinjau Dari Dataset. 2023;3(3):9527–39.
5. Lubis MSY. Implementasi *Artificial Intelligence* Pada Sistem Manufaktur Terpadu. Semnastek Uisu. 2021.
6. Bohr A, Memarzadeh K. The Rise of Artificial Intelligence in Healthcare Applications. in: Artificial Intelligence in Healthcare. Elsevier; 2020:25–60.
7. Yufei L, Saleh S, Jiahui H, Abdullah SMS. Review of the Application of Artificial Intelligence in Education. International Journal of Innovation, Creativity and Change. 2020;12:548–62.
8. Mir MM, Mir GM, Raina NT, Mir SM, Mir SM, Miskeen E, et al. Application of Artificial Intelligence in Medical Education: Current Scenario and Future Perspectives. Vol. 11, Journal of Advances in Medical Education and Professionalism. Shiraz University of Medical Sciences; 2023:133–40.
9. Wahid R, Hikamudin E, Hendriani A. Analisis Penggunaan Chat-GPT Oleh Mahasiswa Terhadap Proses Pendidikan di Perguruan Tinggi. Jurnal Pedagogik Indonesia: Yayasan Pendidikan dan Pelatihan Ksatria Siliwangi. 2023;1(2):112–7.
10. Hidayati SN, Widodo W, Subekti H, Aulia EV, Sari DP. Pelatihan Pemanfaatan Artificial Intelligence Untuk Pendidik Ipa Dalam Memfasilitasi Microlearning. JMM (Jurnal Masyarakat Mandiri). 2024;8(1):182.

11. Rao SJ, Isath A, Krishnan P, Tangsrivimol JA, Virk HUH, Wang Z, et al. ChatGPT: A Conceptual Review of Applications and Utility in the Field of Medicine. J Med Syst. 2024;48(1):59.
12. Al-kfairy M. Factors Impacting the Adoption and Acceptance of ChatGPT in Educational Settings: A Narrative Review of Empirical Studies. Applied System Innovation. 2024;7(6).
13. Abouammoh N, Alhasan K, Raina R, Malki KA, Aljamaan F, Tamimi I, et al. Exploring Perceptions and Experiences of ChatGPT in Medical Education: A Qualitative Study Among Medical College Faculty and Students in Saudi Arabia. medRxiv. 2023.
14. George Pallivathukal R, Kyaw Soe HH, Donald PM, Samson RS, Hj Ismail AR. ChatGPT for Academic Purposes: Survey Among Undergraduate Healthcare Students in Malaysia. Cureus. 2024.
15. Alkhaaldi SMI, Kassab CH, Dimassi Z, Oyoun Alsoud L, Al Fahim M, Al Hageh C, et al. Medical Student Experiences and Perceptions of ChatGPT and Artificial Intelligence: Cross-Sectional Study. JMIR Med Educ. 2023;9:e51302.
16. Sahari Y, Al-Kadi AMT, Ali JKM. A Cross Sectional Study of ChatGPT in Translation: Magnitude of Use, Attitudes, and Uncertainties. J Psycholinguist Res. 2023;52(6):2937–54.
17. Currie G, Singh C, Nelson T, Nabasenja C, Al-Hayek Y, Spuur K. ChatGPT in medical imaging higher education. Radiography. 2023;29(4):792–9.
18. Sinha RK, Deb Roy A, Kumar N, Mondal H. Applicability of ChatGPT in Assisting to Solve Higher Order Problems in Pathology. Cureus. 2023;15(2):e35237.
19. Tsang R. Practical Applications of ChatGPT in Undergraduate Medical Education. J Med Educ Curric Dev. 2023 Jan;10:1-3.
20. Sahabudin A. ChatGPT: Sebuah Transformasi Cara Belajar Mahasiswa Studi Kasus : Mahasiswa ITBM Polman di Kabupaten Polewali Mandar. Jurnal e-bussiness Institut Teknologi dan Bisnis Muhammadiyah Polewali Mandar. 2023;3(1):65–73.