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Original Article

Education Section

Undergraduate Medical Students' Readiness to Adopt Artificial Intelligence in Healthcare: A Cross-sectional Study

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ABSTRACT

Introduction: Artificial Intelligence (AI) is revolutionising healthcare and is being used in all fields of medicine. For future clinical practice, medical students must gain expertise in this emerging technology.

Aim: To assess the readiness of medical students to adopt AI in healthcare.

Materials and Methods: A cross-sectional study was conducted among Bachelor of Medicine and Bachelor of Surgery (MBBS) students at RVM Institute of Medical Sciences and Research Centre, Secunderabad, Telangana, India, from March 2024 to June 2025. Demographic information and responses to the Medical Artificial Intelligence Readiness Scale for Medical Students (MAIRS-MS) were collected using a 5-point Likert scale through a Google Form circulated via WhatsApp. Data from 269 students (response rate: 32%) who completed the entire data collection form were analysed. Using appropriate tests based on data normality, associations were examined between readiness and age, gender, year of study, and prior AI training, with p-value <0.05 considered statistically significant.

Results: The mean age of participants was 20 years. Most were females, 184 (68%) and half of them were in their second year of MBBS, 135 (50%). Only 17 students (6%) had prior AI training, mainly through seminars 8 (47%). Among them, 92 (34%) of the participants reported having partial knowledge of AI applications in healthcare. The mean MAIRS-MS score was 65.53±11.99. No correlation was observed between age and total MAIRS-MS scores. Significant differences were found in cognitive ability and overall readiness based on gender (p-value <0.001). A moderate positive correlation between cognition scores and year of study (p-value <0.001) indicated cognitive improvement with academic progression. Students with prior AI training scored higher in ability (p-value=0.002), vision (p-value <0.001), and overall MAIRS-MS (p-value=0.002). Cognitive scores were highest between ages 18-21 and declined slightly in older participants. Ability and overall readiness increased with age, while vision and ethics scores remained consistent across age groups.

Conclusion: The present study demonstrates a moderate level of AI readiness among medical students, highlighting the need for structured AI training within the medical curriculum. Integrating AI literacy aligns with the Competency-Based Medical Education (CBME) framework, which emphasises outcome-based learning, self-directed training, and the development of higher-order cognitive and analytical skills essential for future clinical practice.

Keywords: Computer technologies, Deep learning, Machine learning

INTRODUCTION

The exponential growth of medical knowledge constantly challenges physicians to efficiently acquire, analyse, and recall information from diverse sources. This pressing need has brought AI to the forefront- a broad technological field that enables machines to mimic human intellect [1,2]. To define, AI refers to the study and development of intelligent machines and software that perform tasks like human beings and can reason, learn, gather knowledge, communicate, manipulate, and perceive objects [3].

Driven by rapid advancements in computational capabilities and cloud-based data systems, AI has found innovative and impactful applications across clinical medicine and medical research. Notably, Deep Learning (DL), a subset of AI, has revolutionised medical imaging by identifying complex yet subtle patterns, significantly enhancing diagnostic capabilities [4]. Beyond imaging, AI algorithms are proving invaluable in fields like psychiatry, where it can help to detect the onset and the course of mental health problems [5]. Furthermore, a wide array of studies highlight AI's diverse roles in healthcare, including improving human decision-making and efficiency, aiding in the diagnosis and management of various conditions such as Alzheimer's disease [6,7], breast cancer [8], and cardiovascular issues [9], as well as optimising processes like drug discovery and therapy selection [10].

Given this transformative potential, understanding the perspectives of medical students on AI in healthcare is crucial. Their attitudes, educational needs, and readiness will directly shape the integration of AI-driven innovations into future clinical practice. Exploring these perceptions allows us to identify gaps in current medical education curricula, gauge interest in AI-heavy specialisations, and critically examine the ethical and societal implications of AI adoption. Moreover, comprehending students' views on AI's impact on patient-centred care and interdisciplinary collaboration is vital for fostering responsible AI use and a culture of innovation within healthcare Institutions.

Previous research has focused mainly on the attitudes, perceptions and awareness of medical students towards AI [11-13]. However, studies assessing their actual readiness to adopt AI remain limited [14,15]. The current research was therefore initiated to assess the medical students' readiness to adopt AI and to assess if there is a variation in the readiness of medical students with respect to their gender, year of study, and their prior training in AI.

MATERIALS AND METHODS

A cross-sectional study was conducted at RVM Institute of Medical Sciences and Research Centre, Secunderabad, Telangana, India from March 2024 to June 2025. Approval from the Institutional Ethics Committee was obtained before the initiation of the study (Ref: RC.No. IEC/RVMIMS&RC/2024/06/14).

Sample size: All undergraduate MBBS students enrolled at the Institution- from first to final year- were invited to participate.

A universal sampling technique was adopted, and the entire population of 836 eligible students were taken up for the study.

Inclusion criteria: All 836 MBBS students- 250 students of the 2024 batch, 255 from the 2023 batch, 166 from the 2022 batch, and 165 from the 2021 batch who filled out the Google form (N=269) during the data collection period were included in the study.

Exclusion criteria: Students who did not provide consent, those who failed to complete the questionnaire within the data-collection period and those who submitted incomplete questionnaires were excluded.

Study Procedure

The study's purpose and procedure were explained to all the students, and they were requested to participate in the study voluntarily. The data collection form for the study was prepared using Google forms, and a request to participate was sent to all student groups via WhatsApp (https://forms.gle/oGt1qkiNEqKqrgrr8). Filling out the questionnaire was reflected as consent to participate in the study. The survey was kept open for six months (July 2024 to December 2024). Regular reminder messages were sent during this period to encourage their participation.

The data collection form includes two sections- the first section collects demographic data like age, sex and year of admission and two questions to assess their prior training experiences and level of knowledge in AI [16]. The second section measures the readiness to adopt AI using the MAIRS-MS.

The MAIRS-MS is a free, open-access, valid, and reliable scale developed by Karaca O et al., [17]. The MAIRS-MS questionnaire consists of 22 items with a 5-point Likert scale and scores students on four domains of AI readiness - cognition domain (8 questions), ability (8 questions), vision (3 questions), and ethics (3 questions). The cognition domain measures the student's knowledge of AI and data science terminology and logic. Ability domain measures the student's readiness in choosing the appropriate AI application, using the application appropriately and their ability to explain the application to patients. The vision domain measures the student's ability to explain the limitations, strengths, and weaknesses of AI in medicine and to predict future opportunities and threats. Lastly, the ethics domain evaluates the student's ability to adhere to legal and ethical regulations when using AI technologies. Each item on the MAIRS-MS was scored between 1 (minimum) and 5 (maximum) points. "Strongly disagree" is given a score of 1, "disagree" is given a score of 2, "neutral" is given a score of 3, "agree" is given a score of 4, and "strongly agree" is given a score of 5. The final mean score of all respondents in each domain was calculated to evaluate their AI readiness.

STATISTICAL ANALYSIS

The data obtained from completed data collection sheets were entered into an Excel sheet. Descriptive statistics (percentages, mean and standard deviation) were calculated for demographic data. Scoring of MAIRS-MS was done as per the guidelines provided. Based on the results of Shapiro–Wilk normality tests of data, statistical analysis was performed accordingly to compare the mean scores across gender and prior training in AI. The correlation of the readiness score with age and year of admission of the study participants was analysed using Pearson's correlation coefficient. A p-value of less than 0.05 was considered statistically significant. All the required statistical analyses were performed using the software Jamovi version 2.6.26.0.

RESULTS

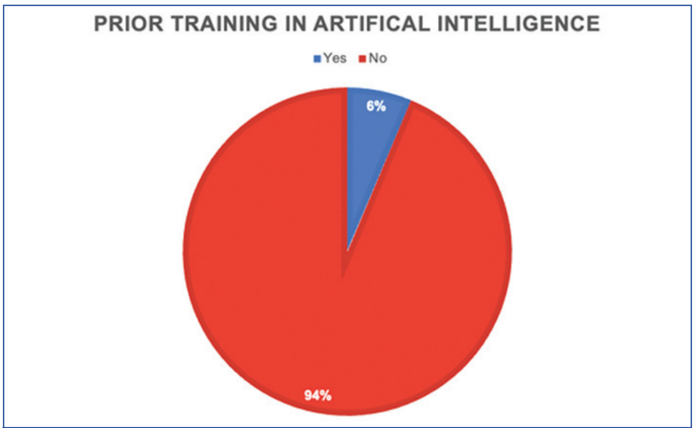
Data from 269 students (Response rate: 32.2%) who completed the entire data collection form were analysed.

The majority of the study participants were in the age group of 18-19 years, 118 (43.8%), and were studying their second MBBS, 135 (50.2%). The demographic data of the study participants are presented in [Table/Fig-1].

S. No.	Characteristics	n (%)
1	Age (in years)	
	16 - 17	5 (2.3)
	18 - 19	118 (43.8)
	20 - 21	117 (43.4)
	22 - 23	25 (9.2)
	24 - 25	4 (1.5)
2.	Gender	
	Male	85 (31.6)
	Females	184 (68.4)
3	Year of study (Year of admission)	
	First year (2024 batch)	107 (39.8)
	Second year (2023 batch)	135 (50.2)
	Third year - part 1 (2022 batch)	7 (2.6)
	Third year- part II (2021 batch)	20 (7.4)

[Table/Fig-1]: Demographic characteristics of the study participants.

Only 17 (6%) of the study participants had prior training in AI, of whom the majority – 8 (47%) were trained during seminars and 4 (23%) in workshops. The rest of them were trained through online or offline courses. The results are presented in [Table/Fig-2].



[Table/Fig-2]: Percentage of students who had {17 (6%)} or did not have prior training in AI in healthcare {252(94%)}.

The responses of the study participants to the question about how they would describe their level of knowledge about AI applications in healthcare are presented in [Table/Fig-3]. The majority of them were 92 (34%), who had partial knowledge.

No.	How would describe your level of knowledge about AI applications in healthcare	n (%)
1	I am pretty knowledgeable	10 (4)
2	I have no knowledge	77 (29)
3	I have partial knowledge	92 (34)
4	I have heard about it but possess no knowledge	90 (33)

[Table/Fig-3]: Responses of participants to how they describe their level of knowledge on AI applications in healthcare.

The responses of the participants in a Likert scale to the 22 items of the MAIRS-MS scale, subdivided into four domains are shown in [Table/Fig-4].

The mean scores in each domain of the MAIRS-MS scale and the overall score on the MAIRS-MS scale are presented in [Table/Fig-5].

To compare the mean scores on the MAIRS-MS scale based on gender, a non parametric Kruskal-Wallis test was performed as the data were not distributed normally; the results of which are presented in [Table/Fig-6]. The p-value was statistically significant for cognitive ability, vision and MAIRS-MS score (<0.001) based on gender.

S. No.	Question s	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Cognitive domain						
1	I can define the basic concepts of data science	24 (8.9)	63 (23.4)	142 (52.8)	38 (14.1)	2 (0.7)
2	I can define the basic concepts of statistics	18 (6.7)	68 (25.3)	132 (49.1)	47 (17.5)	4 (1.5)
3	I can explain how AI systems are trained	34 (12.6)	87 (32.3)	116 (43.1)	28 (10.4)	4(1.5)
4	I can define the basic concepts and terminology of AI	21(7.8)	83 (30.9)	118 (43.9)	43 (16.0)	4 (1.5)
5	I can properly analyse the data obtained by AI in healthcare.	21 (7.8)	64 (23.8)	135 (50.2)	46 (17.1)	3 (1.1)
6	I can differentiate the functions and features of AI related tools and applications	26 (9.7)	77 (28.6)	121 (45.0)	43 (16.0)	2 (0.7)
7	I can organise workflows compatible with AI.	24 (8.9)	75 (27.9)	128 (47.6)	39 (14.5)	3(1.1)
8	I can express the importance of data collection, analysis, evaluation and safety; for the development of AI in healthcare	63 (23.4)	20 (7.4)	118 (43.9)	60 (22.3)	8(3.0)
Ability domain						
9	I can harness AI-based information combined with my professional knowledge	15 (5.6)	71 (26.4)	129 (48.0)	46 (17.1)	8 (3.0)
10	I can use AI technologies effectively and efficiently in healthcare delivery.	14 (5.2)	57 (21.2)	129 (48.0)	61 (22.7)	8 (3.0)
11	I can use artificial intelligence applications in accordance with its purpose.	11 (4.1)	46 (17.1)	133 (49.4)	71 (26.4)	8 (3.0)
12	I can access, evaluate, use, share and create new knowledge using information and communication technologies.	11 (4.1)	45 (16.7)	131 (48.7)	71 (26.4)	11 (4.1)
13	I can explain how AI applications offer a solution to which problem in healthcare	14 (5.2)	58 (21.6)	131 (48.7)	60 (22.3)	6 (2.2)
14	I find it valuable to use AI for education, service and research purposes.	9 (3.3)	31(11.5)	118 (43.9)	93 (34.6)	18 (6.7)
15	I can explain the AI applications used in healthcare services to the patient.	12 (4.5)	54 (20.1)	137 (50.9)	61 (22.7)	5 (1.9)
16	I can choose a proper AI application for the problem encountered in healthcare.	12 (4.5)	58 (21.6)	132 (49.1)	60 (22.3)	7 (2.6)
Vision domain						
17	I can explain the limitations of AI technology.	9 (3.3)	57 (21.2)	132 (49.1)	62 (33.0)	9 (3.3)
18	I can explain the strengths and weaknesses of AI technology.	10 (3.7)	53 (19.7)	125 (46.5)	76 (28.3)	5 (1.9)
19	I can foresee the opportunities and threats that AI technology can create.	11 (4.1)	42 (15.6)	120 (44.6)	77 (28.6)	19 (7.1)
Ethics domain						
20	I can use health data in accordance with legal and ethical norms.	9 (3.3)	42 (15.6)	144 (53.5)	61 (22.7)	13 (48)
21	I can conduct under ethical principles while using AI technologies.	11 (4.1)	48 (17.8)	133 (49.4)	67 (24.9)	10 (3.7)
22	I can follow legal regulations regarding the use of AI technologies in healthcare	11 (4.1)	40 (14.9)	133 (49.4)	75 (27.9)	10 (3.7)

[Table/Fig-4]: Responses to Medical Artificial Intelligence Readiness Scale for Medical Students (MAIRS-MS). Values presented as n (%).

Domain	Possible score		Scores (Mean±SD)	Range of scores obtained	
	Minimum	Maximum		Maximum	Minimum
Cognitive	8	40	20.401±5.191	32	8
Ability	8	40	23.828±5.167	29	8
Vision	3	15	9.133±2.121	12	9
Ethics	3	15	9.163±2.081	12	3
MAIRS-MS	22	110	65.527±11.998	88	22

[Table/Fig-5]: Mean and range of scores of the study participants on various domains and the overall MAIRS-MS scale.

Domain	Scores (Mean±SD)		Chi-square value	p-value
	Females	Males		
Cognitive	19.5±4.7	22.3±5.7	17.97	<0.001*
Ability	23.2±4.8	25.3±5.6	13.18	<0.001*
Vision	8.95±2.08	9.53±2.34	6.34	0.012*
Ethics	9.11±2.02	9.28±2.21	1.51	0.22
MAIRS-MS	60.8±10.7	66.3±13.8	18.5	<0.001*

[Table/Fig-6]: Results of Kruskal-Wallis test comparing mean scores based on gender.

Comparison of the mean scores on the MAIRS-MS scale based on the previous training in AI was done using a non parametric

Kruskal-Wallis test, as the data were not distributed normally. The results of this analysis are presented in [Table/Fig-7]. The p-value was statistically significant for ability, vision and MAIRS-MS score (<0.001) based on previous training in AI. Those with prior AI exposure performed better in these domains, indicating enhanced analytical, perceptual, and integrative reasoning skills.

Domain	Scoresbased on prior training in AI (Mean±SD)		Chi-square value	p-value
	Yes	No		
Cognitive	22.3±5.4	20.3±5.1	2.20	0.138
Ability	27.4±4.8	23.6±5.1	9.79	0.002*
Vision	10.7±11	9.03±2.17	11.01	<0.001*
Ethics	10.0±1.8	9.11±2.0	2.24	0.135
MAIRS-MS	70.4±10.1	62±11.9	9.19	0.002*

[Table/Fig-7]: Results of Kruskal-Wallis test comparing scores based on the previous AI training experience of the study participants. Score presented as mean±SD.

The correlation between the age of the students and individual domain scores and overall MAIRS-MS scores are shown in [Table/Fig-8]. Across the age groups, the cognitive scores peak in the 18-19 year age group and then decline. But the difference is not statistically significant.

Domain	Scores based on age group (in years) (Mean±SD)					Pearson's correlation coefficient	p-value
	16-17	18-19	20-21	22-23	24-25		
Cognition	19.5±3.3	20.9±5.2	20.2±5.3	19.2±4.4	17±0	-0.104	0.087
Ability	24±4.2	23.3±4.9	24.2±5.3	23.7±5.6	28.7±4.1	0.110	0.073
Vision	9.5±1.2	8.9±2.1	9.3±2.1	8.8±2.2	10.7±1.5	0.084	0.169
Ethics	10.3±1.5	8.9±2.0	9.3±2.1	9.0±2.1	11±1.7	0.073	0.231
MAIRS-MS	63.3±4.7	62.2±11.9	63.1±12.7	60.8±10.4	67.3±7.3	0.030	0.624

[Table/Fig-8]: Correlation between the age of the students and domain scores and overall MAIRS-MS scores.

The correlation between the year of study of the student participants and individual domain scores and overall MAIRS-MS scores are shown in [Table/Fig-9]. A moderate positive correlation was observed between cognition score and year of study, indicating cognitive improvement with academic progression. Similar improvement was found with the total MAIRS score, but it was not statistically significant. The remaining three domains showed a negative correlation, with only the vision score showing a statistically significant negative correlation, suggesting a slight decline in visual-spatial performance.

Domain	Scores based on the year of study (Mean±SD)				Pearson's correlation coefficient	p-value
	2021	2022	2023	2024		
Cognition	17.6±2.6	17.3±3.5	20.0±5.0	21.6±5.5	0. 227	<0.001*
Ability	26.9±3.3	23.9±5.8	23.4±5.2	23.8±5.1	-0.109	0.075
Vision	10.4±1.3	9.7±1.3	9.0±2.1	8.9±2.2	-0.152	0.012*
Ethics	10.3±1.6	9.2±1.8	9.0±2.1	9.1±2.1	-0.102	0.094
MAIRS-MS	65.2±6.6	60.1±8.6	61.5±11.9	63.5±12.9	0.006	0.920

[Table/Fig-9]: Correlation between the year of study of the students and domain scores and overall MAIRS-MS scores.

DISCUSSION

Medical AI readiness denotes the capacity of healthcare professionals to integrate AI technologies into clinical practice through appropriate knowledge, technical competence, and professional attitude. As AI rapidly transforms healthcare delivery, it is poised to become a fundamental component of medical education. Future physicians must be able to critically evaluate AI systems, understand algorithmic variations, and apply AI insights alongside clinical reasoning. Measuring medical students' perceived readiness for AI is therefore essential to inform curriculum development, instructional design, and policy initiatives that prepare graduates for AI-enabled healthcare environments.

The present study was initiated to assess the medical students' readiness to adopt AI and to assess if there is a variation in the readiness of medical students in terms of their age, gender and year of study.

The mean age of the study participants was 20 years. Most of them were females, 184 (68%) and half of them were studying in the second MBBS, 135 (50%). Only 17 (6%) of them had prior training in AI, the majority through seminars, 8 (47%). The majority, 92 (34%) of them had partial knowledge, while 90 (33%) of them had just heard and had no knowledge about AI applications in healthcare. This reflects a significant educational gap that needs to be addressed.

In the absence of predefined categorical cut-offs, mean scores were interpreted relative to the neutral midpoint of the Likert scale, consistent with prior MAIRS-MS studies [14]. Mean scores across all domains exceeded the neutral midpoint, indicating a moderate level of perceived readiness.

The mean scores of all the domains and the overall MAIRS scores reported in the current study were lower than the scores reported in similar studies reported by Dhurandhar D et al., Xuan PY et al., and Al Shahrani A et al., but similar to those reported by Hamad M et al., as presented in [Table/Fig-10] [18-21]. This difference may be due to variations in their curricular exposure, Institutional policies to integrate technology in the curriculum and also access to the AI technologies.

Domain	Current study	Dhurandhar D et al., [18]	Xuan PY et al., [19]	Al Shahrani A et al., [20]	Hamad M et al., [21]
Medical students	269	482	105	527	858
Study place	Tertiary care hospital of Telangana	Tertiary care hospital of Chhattisgarh	Private medical university in Malaysia	Saudi Arabia	Jordanian medical schools
Study year	2025	2024	2022	2024	2024
Cognitive	0.40±5.19	26.23±4.41	27.61±8.08	22.69±7.369	22.57±6.67
Ability	23.82±5.16	27.62±4.37	27.17±8.68	26.12±7.302	23.38±7.16
Vision	9.13±2.12	10.37±1.80	10.19±3.26	8.97±2.996	9.02±2.99
Ethics	9.16±2.08	10.39±1.78	10.07±3.54	10.61±3.268	9.29±3.06
MAIRS-MS	65.52±11.99	74.61±10.13	75.04±20.56	68.39±18.316	64.26±18.26

[Table/Fig-10]: Comparison of results of previously reported studies using MAIRS-MS [18-21].

Statistically significant differences were found for cognitive, ability and overall MAIRS-MS score (p-value <0.001) based on gender. This results contrasts with the reports of Dhurandhar D et al., and Xuan PY et al., wherein gender was not significantly associated with medical AI readiness [18,19]. The differences in the number of male and female participants in the present study can be a possible explanation for this significance. It may also be due to gender-based differences in their perceptions towards AI, motivation towards learning, or ease towards use of technology that can be explored further.

Based on their prior training, scores on the domains of ability, vision and MAIRS-MS score were significant. The results signify that training in AI increases their competency in selecting and using the AI tools effectively and their ability to explain these applications to the patients. This also provides them with the capability to know the strengths and limitations of the AI tools and anticipate future opportunities and challenges posed.

There was no statistically significant correlation between the age of the students and the MAIRS scores. This contrasts with the results of Xuan PY et al., who reported significant interdependencies between the age and ability, vision, and ethics domains of MAIRS-MS [19]. Dhurandhar D et al., reported a statistically significant negative correlation of age in the ethics domain of the MAIRS-MS scale [18].

A statistically significant correlation was found between the year of study of the participants and the scores on the domain of cognition. This can be attributed to their greater knowledge and exposure to AI tools as they pass through the various phases of the MBBS study. There was a statistically significant negative correlation on the vision score, indicating a decline in the student's capability to understand and explain the limitations, strengths and weaknesses related to medical AI, anticipate opportunities and threats that may occur, and develop ideas with the year of study. The difference in the sample size across the years makes it difficult to interpret and generalise this finding.

Limitation(s)

The present study is limited by the fact that the data are representative of a single tertiary care institute. The response rate of the participants was low despite repeated reminders over six months. As the study employed self-reported data, the findings may be influenced by response bias - including social desirability bias, where participants might overstate their readiness to use AI to align with perceived academic or professional expectations. Additionally, there can be confounding factors- such as individual differences in personal interest, attitudes toward technology, digital competence, and access to technological resources- that may have affected the individual's perceived readiness. Future research incorporating objective assessments and contextual variables is recommended to provide a more accurate evaluation of medical students' readiness for AI integration.

CONCLUSION(S)

To conclude, the moderate readiness of medical students for AI in the current study highlights the need to integrate structured AI training programs in the medical curriculum to prepare undergraduate students to use AI in their future practice. In the context of the current CBME, the use of information and intelligence tools such as machine learning and robots is crucial to improve the future physician's performance and outcomes. These training programs can be integrated as special modules or elective programs in the current curriculum. Experiential workshops and seminars can also be organised to provide hands-on training in AI applications and their utility. Not only for the students, but it is also imperative to conduct faculty development programs in AI to train the trainers and empower them in the emerging field of AI. The onus is also on the part of regulatory authorities to provide some guidelines and policies on the ethical use of AI, both for education and practice.

REFERENCES

[1] Densen P. Challenges and opportunities facing medical education. Trans Am Clin Climatol Assoc. 2011;122:48-58. PMID: 21686208; PMCID: PMC3116346.
[2] Kundu S. How will artificial intelligence change medical training? Commun Med. 2021;1:8. Available from: https://doi.org/10.1038/s43856-021-00003-5.
[3] Collins C, Dennehy D, Conboy K, Mikalef P. Artificial intelligence in information systems research: A systematic literature review and research agenda. International Journal of Information Management. 2021;60:102383.
[4] Zhou SK, Greenspan H, Davatzikos C, Duncan JS, Van Ginneken B, Madabhushi A, et al. A review of deep learning in medical imaging: Imaging traits, technology trends, case studies with progress highlights, and future promises. Proceedings of the IEEE. 2021;109(5):820-38.
[5] Lewin G, Abakasanga E, Titcombe I, Cosma G, Gangadharan S. Artificial intelligence-enabled predictive modelling in psychiatry: Overview of machine learning applications in mental health research. BJ Psych Advances. 2025:01-07.
[6] Christodoulou RC, Woodward A, Pitsillos R, Ibrahim R, Georgiou MF. Artificial intelligence in Alzheimer's Disease diagnosis and prognosis using PET-MRI: A narrative review of high-impact literature post-tauvid approval. Journal of Clinical Medicine. 2025;14(16):5913.
[7] Malik I, Iqbal A, Gu YH, Al-Antari MA. Deep learning for Alzheimer's disease prediction: A comprehensive review. Diagnostics. 2024;14(12):1281.
[8] Ahn JS, Shin S, Yang SA, Park EK, Kim KH, Cho SI, et al. Artificial intelligence in breast cancer diagnosis and personalized medicine. Journal of Breast Cancer. 2023;26(5):405.
[9] Zargarzadeh A, Javanshir E, Ghaffari A, Mosharkesh E, Anari B. Artificial intelligence in cardiovascular medicine: An updated review of the literature. Journal of Cardiovascular and Thoracic Research. 2023;15(4):204.
[10] Fahim YA, Hasani IW, Kabba S, Ragab WM. Artificial intelligence in healthcare and medicine: Clinical applications, therapeutic advances, and future perspectives. European Journal of Medical Research. 2025;30(1):848.
[11] Liu DS, Sawyer J, Luna A, Aoun J, Wang J, Boachie L, et al. Perceptions of U.S. medical students on Artificial Intelligence in medicine: A mixed-methods survey study. JMIR Medical Education. 2022;8(4):38325. Doi: 10.2196/38325.
[12] Teng M, Singla R, Yau O, Lamoureux D, Gupta A, Hu Z, et al. Health Care Students' perspectives on Artificial Intelligence: Countrywide Survey in Canada. JMIR Medical Education. 2022;8(1):e33390. Doi: 10.2196/33390.
[13] Syed W, Basil A. Al-Rawi M. Assessment of awareness, perceptions, and opinions towards artificial intelligence among healthcare students in Riyadh, Saudi Arabia. Medicina. 2023 ;59(5):828.
[14] AlZaabi A, Masters K. Assessing medical students' readiness for artificial intelligence after pre-clinical training. BMC Medical Education. 2025;25(1):824.
[15] Sarkar M, Sain S, Mukhopadhyay P, Sarkar AP. Attitude, readiness, and predictors of AI adoption among undergraduate medical students. Natl J Community Med 2025;16(9):859-66. Doi: 10.55489/njcm.160920255559.
[16] Jackson P, Ponath Sukumaran G, Babu C, Tony MC, Jack DS, Reshma VR, et al. Artificial intelligence in medical education-perception among medical students. BMC Medical Education. 2024;24(1):804.
[17] Karaca O, Çalışkan SA, Demir K. Medical artificial intelligence readiness scale for medical students (MAIRS-MS)–development, validity and reliability study. BMC Medical Education. 2021;21:01-09. Available from: https://creativecommons.org/licenses/by/4.0/.
[18] Dhurandhar D, Dhamande M, Bhadoria P, Chandrakar T, Agrawal J. Exploring medical artificial intelligence readiness among future physicians: Insights from a medical college in Central India. Cureus. 2025;17(1):e76835.
[19] Xuan PY, Fahumida F, Ismath M, Hussain AN, Imran M, Soe HH, et al. Readiness towards artificial intelligence among undergraduate medical students in Malaysia. Education in Medicine Journal. 2023;15(2):49-60.
[20] Al Shahrani A, Alhumaidan N, AlHindawi Z, Althobaiti A, Aloufi K, Almughamisi R, et al. Readiness to embrace artificial intelligence among medical students in Saudi Arabia: A National survey. In Healthcare MDPI. 2024;12(24):2504.
[21] Hamad M, Qtaishat F, Mhairat E, Al-Qunbar A, Jaradat M, Mousa A, et al. Artificial intelligence readiness among Jordanian medical students: Using medical artificial intelligence readiness scale for medical students (MAIRS-MS). Journal of Medical Education and Curricular Development. 2024;11:23821205241281648.

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