



ASSESSMENT OF ARTIFICIAL INTELLIGENCE READINESS AMONG NURSING PROFESSIONALS USING THE MEDICAL ARTIFICIAL INTELLIGENCE READINESS SCALE FOR NURSES (MAIRS-N): A CROSS-SECTIONAL STUDY

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ABSTRACT

Introduction: Artificial intelligence (AI) is rapidly changing healthcare. Yet for these tools to truly benefit care, nurses themselves need to feel ready and confident using them. This study explored how prepared nursing professionals feel about embracing AI in their work using the Medical Artificial Intelligence Readiness Scale for Nurses (MAIRS-N), which looks at four key areas: Cognition, Ability, Vision, and Ethics.

Methods: We carried out a cross-sectional survey with 384 female participants, mostly registered nurses, nursing students from a nursing college and its linked hospital. The MAIRS-N tool was checked for relevance by experts and showed good reliability (Cronbach's $\alpha = 0.88$). SPSS was used for data analysis.

Results: On average, participants scored 64.24 out of 110, showing moderate overall readiness. They felt strongest in Ability, followed by Cognition, Ethics, and Vision. Readiness levels varied clearly by professional role across all domains, and the total score, practising nurses and Post Basic B.Sc. students scored highest, while final-year B.Sc. students scored lowest. Older age groups felt more confident in the Ability and Vision domains, but Cognition, Ethics, and total scores showed no strong age link. Marital status made no difference.

Conclusion: Nursing professionals here showed moderate readiness for AI, with practising nurses and more experienced staff feeling noticeably more prepared—especially in hands-on use and outlook. These results underscore the need for practical AI training, curriculum revisions, and clear ethical guidelines, enabling nurses to safely and confidently utilise AI to enhance patient care.

KEYWORDS: AI Readiness, Nursing Professionals, MAIRS-N Scale, Healthcare AI, Cognition, Ability, Vision, Ethics, Indian Nurses.

Introduction

The concept of artificial intelligence (AI) originated in 1955, when John McCarthy defined it as a scientific and engineering discipline aimed at creating intelligent systems capable of mimicking human cognition. It encompasses computational frameworks engineered to simulate human mental processes, including learning, perception, communication, and decision-making. Over the years, AI has evolved from a theoretical idea into a practical reality, and today it has become essential in numerous fields, including education and healthcare[1]. AI is basically about building computers and software that can do things we usually think, like understanding language, recognising images, making decisions, or solving problems, etc. Readiness can be defined as how prepared and comfortable someone feels jumping in and using these new tools in their everyday life or work. In educational contexts, readiness strongly influences behavioural adaptation to technological change. For nursing students and nurses, adequate readiness is essential for integrating AI into education, clinical practice and for functioning effectively in technology-driven healthcare environments. Therefore, assessing readiness towards AI is crucial for a successful transition into future professional roles[2]. AI is making big strides in areas like diagnosing illnesses, monitoring patients, and running hospitals more smoothly. But healthcare workers, especially nurses, who are truly the heart of the day-to-day patient care, still aren't very familiar with it or feel ready to jump in and use it confidently. These tools cover a wide range from predictive models that spot early signs of patient deterioration to AI-supported triage systems, risk-stratification aids, and clinical decision-support software. All these systems have been designed to improve diagnostic accuracy and make daily workflows smoother and more efficient. These developments illustrate that AI has progressed from a theoretical concept to a practical, everyday element of nursing practice, influencing how care is delivered, monitored, and evaluated[3]. As nurses constitute the largest segment of the healthcare workforce, they are well-positioned to benefit substantially from AI's expanding influence, which is expected to bring transformative improvements to healthcare service delivery. Although some nursing professionals express reservations about the incorporation of AI into healthcare, others suggest that it could lead to expanded job opportunities in the future[4]. Karaca et al. (2021) developed the MAIRS-M Scale, a reliable, valid psychometric tool assessing medical students' AI readiness across four domains: cognition, ability, vision, and ethics[5]. Yalcinkaya et al have adopted the same scale for nurses as MAIRS-N. The MAIRS-N tool can offer insights into their current preparedness levels and inform curriculum revisions or in-service training programs. In the Indian healthcare context, where AI is an emerging practice, it has become essential to assess and enhance AI literacy among nurses to improve patient safety, optimise workflows, and maintain ethical standards[6]. Assessment of AI Readiness

among nurses is essential for developing targeted training programs, integrating AI-related competencies into nursing education, and promoting the safe and ethical integration of these technologies into clinical practice. This study aims to fill that gap by measuring perceived AI readiness among nursing professionals using a validated tool. The AI readiness can be calculated using the Medical Artificial Intelligence Readiness Scale for Nurses (MAIRS-N). Data in the Indian context is lacking, and this study aims to fill this gap. Nurses, as frontline caregivers, will be key stakeholders in AI adoption in healthcare settings, influencing clinical decision-making, patient education, and ethical handling of AI-driven data. The primary aim of this study is to assess the level of artificial intelligence (AI) readiness among nursing professionals using a scientific tool across four domains: Cognition, Ability, Vision, and Ethics and to examine the association between AI readiness and selected demographic and professional variables, including age, years of clinical experience, educational qualification, and prior exposure to AI-related technologies or training.

Methodology

This study employed a cross-sectional, questionnaire-based survey design in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines. The study was conducted at a College of Nursing and its affiliated tertiary care hospital in western Maharashtra, India. Eligible participants included registered nurses and final-year Bachelor of Science (B.Sc.) nursing students who were actively involved in clinical care or clinical training at the study setting during the data collection period. The sample size of 384 was calculated using Cochran's formula, assuming a prevalence of 50% to maximise variability, a 95% confidence level, and a 5% margin of error. All the participants were females as the college and hospital had only female nurses employed in the organisations. Participants unwilling to give consent were excluded from the study.

The primary outcome variable was AI readiness, measured as total and domain-wise scores (cognition, ability, vision, and ethics) using a 5-point Likert scale. Independent variables included age, gender, years of clinical experience, educational qualification, professional role (student or registered nurse), and prior exposure to AI-related tools or training.

Data were collected using the Medical Artificial Intelligence Readiness Scale–Nurses (MAIRS-N), a validated self-administered questionnaire. As the instrument was originally developed in Turkey, content validity for the Indian context was established before its use. The draft questionnaire was reviewed by five subject matter experts from nursing administration, hospital administration, and artificial intelligence. The Content Validity Index (CVI) was calculated to assess item relevance and clarity. A pilot study was conducted among 25 registered nurses who were

excluded from the final analysis. Internal consistency and reliability of the scale were assessed using Cronbach's alpha coefficient (0.88).

Data were collected using an online survey platform (Google Forms). The survey link was distributed in person using a QR code. Electronic informed consent was obtained before participants accessed the questionnaire. Data were entered into Microsoft Excel for data cleaning and coding and were analysed using the Statistical Package for the Social Sciences (SPSS), Statistics for Windows, Version 28.0. Armonk, NY: IBM Corp. Descriptive statistics were used to summarise demographic variables and AI readiness scores (mean, standard deviation, frequency, and percentage). The analysis of the data revealed a non-normal distribution of AI readiness; hence, non-parametric tests were used to compare AI readiness scores between groups. This was followed by post-hoc tests where applicable. Correlation analysis was performed to assess the relationship between continuous variables (e.g., age, years of experience) and AI readiness scores. A p-value of <0.05 was considered statistically significant. The study was approved by the Institutional Ethics Committee. Participation was voluntary, and informed consent was obtained from all before filling out the questionnaire. Confidentiality and anonymity were maintained throughout the study.

Results

Most participants were in the 35–50-year age group ($n = 217$; 56.5%), followed by those aged 18–35 years ($n = 153$; 39.8%). Only a small number of participants were above 50 years of age ($n = 14$; 3.6%). As per the appointment status, the sample was largely made up of practising nurses ($n = 314$; 81.8%). Final-year B.Sc. Nursing students formed 8.3% ($n = 32$) of the participants, while M.Sc. Nursing/Postgraduate Diploma students accounted for 5.2% ($n = 20$). Post Basic B.Sc. (PB BSc) Nursing students were the least represented group ($n = 18$; 4.7%). Most participants were married ($n = 343$; 89.3%), and the rest were unmarried. The details of the demographic profile of participants are given in Table 1. All the participants were females, as in the participating institutions, all seats were reserved for females, and male nurses were not enrolled.

Table 1: Demographic details of the participants

Age Group (in yrs)	Number of Participants
18 to 35	153
35 to 50	217
Above 50	14
Grand Total	384
Appointment Status	
B Sc Nursing Student - Final Year	32
M Sc Nursing or PG Diploma Student	20
Nurses	314

PB BSc Student	18
Grand Total	384
Marital Status	Number of Participants
Married	343
Unmarried	41
Grand Total	384

The MAIRS-N scale (Table 2), which had 22 items and a possible score in the range 22–110, was used to calculate the overall AI readiness score, which had a mean of 64.24 ($SD = 21.37$), with scores ranging from 22 to 99. When viewed against the maximum possible score, this reflects an overall readiness of about 58% in healthcare settings.

Table 2: MAIRS - N Scale with domains

Remarks	Domain
I can define the basic concepts of data science	Cognition Factor
I can define the basic concepts of statistics	
I can explain how AI systems are trained	
I can define the basic concepts and terminology of AI	
I can properly analyse the data obtained by AI in healthcare.	
I can differentiate the functions and features of AI-related tools and applications.	
I can organise workflows compatible with AI.	Ability Factor
I can express the importance of data collection, analysis, evaluation and safety for the development of AI in healthcare.	
I can harness AI-based information combined with my professional knowledge.	
I can use AI technologies effectively and efficiently in healthcare delivery.	
I can use artificial intelligence applications in accordance with their purpose.	
I can access, evaluate, use, share and create new knowledge using information and communication technologies.	
I can explain how AI applications offer a solution to which problem in healthcare.	Ability Factor
I find it valuable to use AI for education, service and research purposes.	
I can explain the AI applications used in healthcare services to the patient.	

Remarks	Domain
I can choose a proper AI application for the problem encountered in healthcare.	Vision Factor
I can explain the limitations of AI technology.	
I can explain the strengths and weaknesses of AI technology.	
I can foresee the opportunities and threats that AI technology can create.	
I can use health data in accordance with legal and ethical norms.	Ethics Factor
I can conduct research under ethical principles while using AI technologies.	
I can follow legal regulations regarding the use of AI technologies in healthcare.	

The study tool is organised into four domains: the Cognition domain (Items 1–8), which assesses foundational understanding of AI-related concepts (score range: 8–40), the Ability domain (Items 9–16), which evaluates perceived competence in applying AI tools and integrating AI outputs into professional nursing practice (score range: 8–40), the Vision domain (Items 17–19), which reflects perceptions regarding future opportunities or threats associated with AI technology (score range: 3–15), and the Ethics domain (Items 20–22), which assesses awareness of ethical principles and legal considerations related to the use of AI and health data (score range: 3–15). When domain-wise scores were examined, as seen in Figure 1, participants scored highest in the Ability domain with a mean score of 24.84 (SD = 8.55). The Cognition domain showed a mean score of 21.82 (SD = 7.61). The mean scores in the Vision and Ethics domains were 8.64 (SD = 3.56) and 8.95 (SD = 3.58), respectively.

Across all four MAIRS-N domains, scores varied significantly by appointment category as seen in Table 3, indicating that AI readiness differed meaningfully across participant groups.

Table 3: Summary of Overall & Factor-wise Scores across appointments

	Kruskal–Wallis H	df	P - value
Cognition Factors	50.55	3	<0.001
Ability Factors	45.46	3	<0.001
Vision Factors	31.81	3	<0.001
Ethics Factors	13.51	3	0.004
MAIRS – N Score	24.67	3	<0.001

In the Cognition domain, PB B.Sc. students demonstrated the highest readiness, followed by Nursing Officers, while final-year B.Sc. students scored the lowest. Post-hoc analysis showed PB B.Sc. students scored significantly higher than

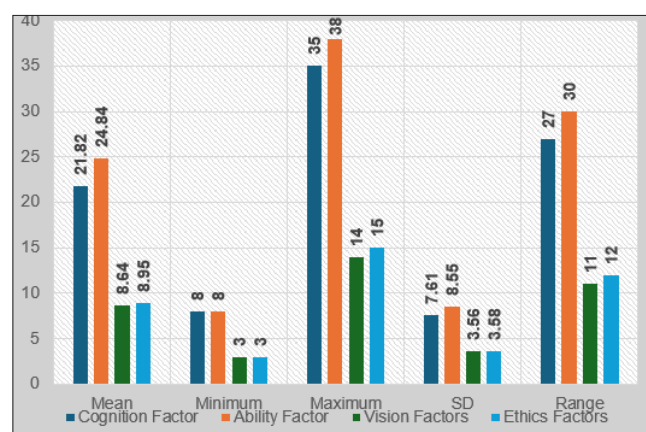


Figure 1. Descriptive analysis of Factors affecting Readiness for Artificial Intelligence.

Nursing Officers (adjusted $p = 0.029$), Nursing Officers scored significantly higher than M.Sc./PG Diploma students (adjusted $p < 0.001$), and M.Sc./PG Diploma students scored significantly higher than final-year B.Sc. students (adjusted $p < 0.001$). A borderline difference was seen between PB B.Sc. students and M.Sc./PG Diploma students (adjusted $p = 0.050$).

In the Ability domain, PB B.Sc. students again showed the highest scores, with Nursing Officers also scoring relatively high, while final-year B.Sc. students remained the lowest. PB B.Sc. students scored significantly higher than M.Sc./PG Diploma students (adjusted $p < 0.001$), Nursing Officers scored significantly higher than M.Sc./PG Diploma students (adjusted $p < 0.001$), and final-year B.Sc. students scored significantly lower than M.Sc./PG Diploma students (adjusted $p < 0.001$).

In the Vision domain, PB B.Sc. students and Nursing Officers showed the highest scores, whereas final-year B.Sc. students showed the lowest readiness. M.Sc./PG Diploma students scored significantly lower than PB B.Sc. students (adjusted $p = 0.003$) and Nursing Officers (adjusted $p < 0.001$), but significantly higher than final-year B.Sc. students (adjusted $p < 0.001$).

In the Ethics domain, differences were smaller but still statistically significant. Nursing Officers showed the highest ethics readiness, while final-year B.Sc. students again scored the lowest. Nursing Officers scored significantly higher than M.Sc./PG Diploma students (adjusted $p = 0.003$), and final-year B.Sc. students scored significantly lower than M.Sc./PG Diploma students (adjusted $p = 0.046$), placing M.Sc./PG Diploma students in an intermediate position.

The overall AI readiness (total MAIRS-N score) also differed significantly across appointment categories, indicating that total AI readiness was not uniform among Nursing Officers, final-year B.Sc. nursing students, PB B.Sc. students, and M.Sc./PG Diploma students. Bonferroni-adjusted post-hoc comparisons showed that Nursing Officers scored

significantly higher than M.Sc./PG Diploma students (adjusted $p < 0.001$). Similarly, PB B.Sc. students scored significantly higher than M.Sc./PG Diploma students (adjusted $p = 0.006$). In contrast, final-year B.Sc. nursing students scored significantly lower than M.Sc./PG Diploma students (adjusted $p = 0.001$). The overall trend suggests that Nursing Officers and PB B.Sc. students demonstrated the highest overall AI readiness, while final-year B.Sc. nursing students showed the lowest total readiness. M.Sc./PG Diploma students showed lower readiness than Nursing Officers and PB B.Sc. students, but higher readiness than final-year B.Sc. students. Age-group differences in MAIRS-N domain scores were assessed, as seen in Table 4. The Cognition domain scores did not differ significantly across age groups.

Table 4: Summary of Overall & Factor-wise Scores across Age Groups

	Kruskal–Wallis H	df	P - value
Cognition Factors	1.14	2	0.565
Ability Factors	14.43	2	0.001
Vision Factors	25.18	2	<0.001
Ethics Factors	2.67	2	0.26
MAIRS – N Score	6.57	2	0.73

In contrast, statistically significant age-group differences were observed in the Ability domain. Bonferroni-adjusted post-hoc comparisons revealed that participants aged above 50 years scored significantly higher than those aged 35–50 years (adjusted $p = 0.011$), and those aged 35–50 years scored significantly higher than participants aged 18–35 years (adjusted $p = 0.012$). The difference between those above 50 years and 18–35 years was not statistically significant after correction (adjusted $p = 0.225$). Overall, the ability factor showed an increasing trend with age.

Table 5: Summary of Overall & Factor-wise Scores as per Marital Status

	Mann-Whitney U	P - value
Cognition Factors	8077.50	0.25
Ability Factors	7788.50	0.05
Vision Factors	8300.00	0.07
Ethics Factors	7710.50	0.30
MAIRS – N Score	8210.00	0.79

The Vision factor also differed significantly across age groups. Post-hoc analysis demonstrated that participants aged 35–50 years scored significantly higher than those aged 18–35 years (adjusted $p < 0.001$). Differences involving the above 50 years group were not statistically significant after Bonferroni adjustment. The overall trend suggested that the 35–50-year group demonstrated the strongest

Vision readiness, while the 18–35-year group showed the lowest Vision scores. For the Ethics domain, no statistically significant differences were observed across age categories, suggesting that perceived ethical/legal readiness for AI use was broadly similar across age groups. Finally, the total MAIRS-N score (overall AI readiness) did not show any statistically significant differences between specific age groups.

Differences in MAIRS-N domain scores and overall AI readiness scores between married and unmarried participants were assessed using the Mann–Whitney U test, as seen in Table 5. The analysis showed that marital status was not significantly associated with AI readiness in any MAIRS-N domain.

These findings indicate that marital status did not significantly influence perceived AI readiness, including cognition, ability, vision, ethics, or total MAIRS-N score, among the study participants.

Discussion

This study explored how ready nursing professionals are to work in AI-enabled healthcare environments, using the MAIRS-N scale. The findings show that AI readiness among participants was moderate, with noticeable differences across domains and across participant groups. Readiness varied significantly by appointment category, and certain domains also differed by age group, while marital status did not show any meaningful association with readiness.

The overall AI readiness score observed in this study reflects a moderate level of readiness, which suggests that participants are not entirely new to the idea of AI in healthcare, yet they may still require structured support to use AI confidently and safely in clinical settings. Similar patterns have been reported globally. El Arab et al, in their systematic review, described that nursing students and working nurses often demonstrate moderate AI literacy and readiness, even though their attitudes towards AI are generally positive[7]. Alyasin et al. also reported a similar trend, where nurses showed a favourable outlook toward AI but faced readiness limitations largely due to gaps in training and curriculum adaptation[8]. These findings indicate that moderate readiness is not unique to India; it reflects a broader global stage where AI is advancing faster than formal training systems.

The Cognition domain relates to foundational understanding concepts such as basic statistics, data science, AI terminology, and how AI systems are trained. In this study, Cognition scores were moderate and did not vary significantly across age groups. This finding is consistent with multiple international studies reporting that nurses often have limited formal exposure to AI theory and technical fundamentals. Sezer and Yağcan (2025) showed that many nursing students had minimal awareness of common AI tools

such as ChatGPT[9]. Similarly, El Arab et al. highlighted that poor integration of AI into nursing curricula remains a key barrier worldwide[7].

The highest domain score in this study was Ability, indicating that participants felt relatively more confident in their ability to use AI-based tools, work with information technology, and integrate AI outputs into nursing workflows. This is encouraging because it suggests that participants are gaining confidence in applied or practical elements, as digital tools are becoming a part of routine hospital functioning. These findings align with the professional narrative seen in nursing leadership literature. Wei et al. emphasise that AI is increasingly being used as a support system for productivity, documentation, and decision-making, rather than replacing nurses. They also point out that AI solutions can reduce administrative workload, allowing nurses to spend more time in patient care[10]. Lin et al. and the report of the American College of Nursing further demonstrate how AI-based documentation systems, when aligned with clinical expertise, can significantly improve the completeness and accuracy of nursing documentation[11],[12].

The Vision domain captures how participants view the future impact of AI, its opportunities, limitations, and threats. Vision scores differed significantly across age groups and appointment groups. This may reflect that mid-career professionals have greater exposure to system-level healthcare functioning, administrative responsibility, and evolving technologies. They may have a clearer perspective on where AI can realistically help and where it may create challenges. Previous literature supports this interpretation, as El Arab et al. noted that readiness is often influenced by perceived usefulness, confidence, and professional maturity[7].

Ethics scores were moderate and did not differ significantly across age groups. This finding is important because ethics is not simply about awareness but also includes legal responsibility, safe handling of health data, and accountability in AI-supported decision-making.

International literature repeatedly highlights that nurses tend to have concerns about accountability, privacy, cybersecurity, and algorithm bias. Bodur et al. described that nurses recognise the benefits of AI but remain worried about unclear responsibility, deskilling, and ethical dilemmas[13]. Nurses shall remain accountable for patient care, even when AI systems are involved. Hoelscher et al. also warn of risks such as hallucinated AI outputs and a lack of transparency[14]. Thus, the moderate ethics readiness observed in this study suggests that ethics must be explicitly taught and reinforced through training and governance systems.

One of the most important findings of this study was that AI readiness varied significantly across appointment categories for all domains and the total score. This indicates that readiness is shaped strongly by the professional context, including what kind of work participants do, what training

they have received, and how much exposure they have had to digital systems. This is consistent with existing literature that shows readiness is not merely an attitude, but it is influenced by competence and exposure. El Arab et al. found that readiness improves with AI training and stronger computer skills[7]. Similarly, Labrague L et al. reported that prior training and awareness of AI use in practice significantly influence readiness among newly qualified nurses[15].

Age was significantly associated with Ability and Vision scores. Older participants demonstrated stronger Ability readiness, suggesting that confidence in applied skills may improve with years of exposure to hospital systems, administrative responsibilities, and practical workflow familiarity. At the same time, Cognition did not differ by age, reinforcing the point that formal AI conceptual learning is still limited across age categories and needs structured teaching.

Total readiness showed an overall association with age ($p = 0.037$), although the pairwise comparisons did not remain significant after Bonferroni correction. This is expected in situations where one subgroup (above 50 years) has a much smaller sample size, reducing statistical power in post-hoc comparisons. Therefore, while age appears linked to readiness overall, larger balanced samples are needed to confirm specific group differences.

This study addresses an important evidence gap in India by systematically measuring AI readiness using a validated tool and a sufficiently large sample. However, limitations include its cross-sectional design, only female nurses employed in the institutes, the self-reported nature of responses, and the possibility that findings may not generalise beyond this institutional setting. The smaller number of participants in the above 50-year age group may have reduced the strength of pairwise post-hoc comparisons.

Conclusion

Overall, nursing professionals in this study demonstrated moderate AI readiness, with variation across appointment categories and age-linked differences in the Ability and Vision domains. These findings align with global literature showing moderate readiness and highlight the need for structured education and training initiatives to ensure safe, ethical, and effective integration of AI into nursing practice in India.

Recommendations

The findings highlight that AI readiness in Indian nursing professionals is developing, but not yet adequate for widespread confident adoption without support. Strengthening AI readiness requires Curriculum integration in which AI fundamentals should be introduced early and revisited progressively. Hands-on applied training should be imparted, and nurses need exposure to real AI tools, not just theoretical lectures. Ethics and governance training must

ensure legal accountability, privacy, and biases must be formally addressed. Institution-level support will strengthen AI adoption by providing stable workflows, infrastructure, and leadership support.

Conflict of Interest

None

References

1. Alatawi F, Kerari A. Attitudes and Readiness for Artificial Intelligence Adoption Among Nursing Students in Saudi Arabia: A Cross-Sectional Study. *J Multidiscip Healthc*. 2025 Dec;Volume 18:7907–18. DOI: 10.2147/JMDH.S567485
2. Al-Olaimat K, Salameh B, Abdulhalim Alqadi R, Alruwaili A, Hakami M, Huwaydi ALanazi H, et al. Readiness and Acceptance of Nursing Students Regarding AI-Based Health Care Technology on the Training of Nursing Skills in Saudi Arabia: Cross-Sectional Study. *JMIR Nurs*. 2025 Jul 30;8:e71653. doi: 10.2196/71653
3. El-Bassal NAM, El-Sayed AAI, Elgamal HG. Empowering nurses in the AI era: investigating the interplay between professionalism, AI readiness, and self-efficacy. *BMC Nurs*. 2025 Oct 15;24(1):1287. DOI: <https://doi.org/10.1186/s12912-025-03896-y>
4. Erkayiran O, Aslan R. Evaluation of Nurses' Perceptions and Readiness for Artificial Intelligence Integration in Healthcare: A Cross-Sectional Study in Turkey. *J Adv Nurs*. 2025 Sep 26; DOI: 10.1111/jan.70256
5. Karaca O, Çalışkan SA, Demir K. Medical artificial intelligence readiness scale for medical students (MAIRS-MS) – development, validity and reliability study. *BMC Med Educ*. 2021 Dec 18;21(1):112. Doi: <https://doi.org/10.1186/s12909-021-02546-6>
6. Yalcinkaya T, Ergin E, Yucel SC. Exploring Nursing Students' Attitudes and Readiness for Artificial Intelligence: A Cross-Sectional Study. *Teaching and Learning in Nursing*. 2024 Oct;19(4):e722–8. DOI:10.1016/j.teln.2024.07.008
7. El Arab RA, Alshakihs AH, Alabdulwahab SH, Almubarak YS, Alkhalifah SS, Abdrbo A, et al. Artificial intelligence in nursing: a systematic review of attitudes, literacy, readiness, and adoption intentions among nursing students and practicing nurses. *Front Digit Health*. 2025; 7: 1666005. DOI: <https://doi.org/10.3389/fdgh.2025.1666005>
8. Alyasin A et al. Nurse Readiness to Use Artificial Intelligence in Patient Care: A Systematic Review and Meta-Analysis *Middle East Journal of Nursing*. 2024;18(2):29–44. DOI:10.5742/MEJN2024.9378053
9. Sezer H, Yağcan H. ChatGPT Use by Nursing Students and Their Readiness Levels for Artificial Intelligence: Current Situation Analysis. *Journal of Medical Education and Family Medicine*. 2025 Dec 25;2(3):99–107. DOI:10.62425/jmefm.1735129
10. Wei Q, Pan S, Liu X, Hong M, Nong C, Zhang W. The integration of AI in nursing: addressing current applications, challenges, and future directions. *Front Med(Lausanne)*.2025;12:1545420.DOI:<https://doi.org/10.3389/fmed.2025.1545420>
11. Lin SY, Shanafelt TD, Asch SM. Reimagining Clinical Documentation with Artificial Intelligence. *Mayo Clin Proc*. 2018 May;93(5):563–5. DOI: 10.1016/j.mayocp.2018.02.016
12. American Association of Colleges of Nursing; Thought Leaders' Assembly – Examining the potential of AI to Transform Nursing Education 2025. <https://www.aacnnursing.org/Portals/0/PDFs/Reports/Thought-Leadership/AACN-2025-Thought-Leaders-Assembly-Summary.pdf>
13. Bodur G, Cakir H, Turan S, Seren AKH, Goktas P. Artificial intelligence in nursing practice: a qualitative study of nurses' perspectives on opportunities, challenges, and ethical implications. *BMC Nurs*. 2025 Oct 14;24(1):1263. DOI: 10.1186/s12912-025-03775-6
14. Hoelscher SH, Pugh A. N.U.R.S.E.S. embracing artificial intelligence: A guide to artificial intelligence literacy for the nursing profession. *Nurs Outlook*. 2025 Jul;73(4):102466. DOI: 10.1016/j.outlook.2025.102466
15. Labrague LJ, AL Sabei S, AL Yahyaei A. Artificial intelligence in nursing education: A review of AI-based teaching pedagogies. *Teaching and Learning in Nursing*. 2025 Jul;20(3):210–21. DOI:10.1016/j.teln.2025.01.019.