

A MIXED METHOD STUDY TO ASSESS PERCEPTION ON USE OF ARTIFICIAL INTELLIGENCE AMONG NURSING STUDENTS AND NURSING FACULTIES OF SELECTED NURSING COLLEGE AT PATHANAMTHITTA DISTRICT

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ABSTRACT

Artificial Intelligence (AI) is increasingly used in nursing education. This study assessed perceptions regarding AI among nursing students and nursing faculty in a selected nursing college in Pathanamthitta district, Kerala. A convergent parallel mixed-methods design was used. Quantitative data were collected from 125 nursing students and 18 nursing faculty members using a structured perception questionnaire. Qualitative data were obtained through focused group interviews. Quantitative data were analyzed using descriptive and inferential statistics, while qualitative data underwent thematic analysis. The findings revealed that most nursing students (93.6%) and faculty (88.9%) demonstrated a highly favorable perception of AI. No significant association was found between perception scores and selected socio-demographic variables ($p>0.05$). AI is widely accepted as a valuable educational tool in nursing education; however, ethical guidelines, training, and awareness programs are needed for its responsible use.

Key words : Artificial Intelligence, Nursing Education, Nursing Students, Nursing Faculty, Perception, Mixed Methods

INTRODUCTION

Background of the problem

Artificial Intelligence (AI) is transforming education and healthcare by enabling machines to simulate human intelligence, learning, reasoning, and decision-making. Rapid advancements in generative AI have accelerated its global adoption, particularly in education, where AI supports personalized learning, instant feedback, virtual tutoring, accessibility, and reduced faculty workload. In healthcare, AI enhances clinical decision-making, early diagnosis, workflow efficiency, and patient outcomes while supporting healthcare professionals, including nurses. Despite these benefits, concerns regarding data privacy, ethical issues, bias, unequal access, and overreliance on AI remain. Understanding perceptions of AI among future healthcare professionals is therefore essential for its safe, effective, and responsible integration into education and clinical practice.

Need and significance of the study:

Artificial Intelligence has evolved into a transformative technology with expanding applications in education and healthcare. Studies from Kerala report high awareness and positive perceptions of AI among educators despite barriers such as inadequate training and institutional support. AI improves learning, diagnostics, and healthcare delivery; however, concerns regarding implementation costs, ethical issues, bias, privacy, and workforce impact persist. Assessing nursing students' and faculty members' perceptions of AI is therefore essential to guide its effective and responsible integration into education and clinical practice.

STATEMENT OF THE PROBLEM

A mixed method study to assess perceptions on use of Artificial Intelligence among nursing students and nursing faculties of selected nursing college at Pathanamthitta district.

OBJECTIVES OF THE STUDY

Quantitative phase

Primary objectives:

1. To assess the perception on use of artificial intelligence among nursing students.
2. To assess the perception on use of artificial intelligence among nursing faculties.

Secondary objectives:

3. To find association between perception on artificial intelligence among nursing students with selected socio-demographic variables.
4. To find association between perception on artificial intelligence among nursing faculties with selected socio-demographic variables.

Qualitative phase

5. To explore the perceptions on use of artificial intelligence among nursing students and nursing faculties.
6. To integrate the qualitative and quantitative findings to get a comprehensive overview on use of artificial intelligence among nursing students and nursing faculties.

OPERATIONAL DEFINITION

Assess: It refers to an act of analyzing perception of nursing students and faculties on use of AI.

Perception: This refers to the way in which something is interpreted. In this study perception refers to the insight of nursing students and nursing faculties regarding use of Artificial Intelligence in day to day teaching and learning aspects which will be assessed using rating scale.

Use of artificial intelligence: In this study, use of Artificial Intelligence refers to the computer based technologies or software systems which are helping to perform the teaching and learning activities effectively in their day-to-day life.

Nursing students: Refers to students currently studying in B.Sc. Nursing course in the selected nursing college at Pathanamthitta district.

Nursing faculties: Refers to teachers who are involved in academic activities of the B.Sc. Nursing students at selected nursing college at Pathanamthitta district.

ASSUMPTIONS

1. Nursing students may have different perceptions on use of Artificial Intelligence.
2. Nursing professionals can determine the level of effective education for the students towards their better transition.
3. Information transfer is essential for the wellbeing of the students and nursing faculties.

METHODOLOGY

It deals with defining the problem, formulation of hypothesis, methods adopted for data collection and statistical techniques used for analyzing the data.

This chapter deals with the methodology adopted by the researcher for the present study, to assess the perception on use of artificial intelligence among nursing students and nursing faculties of selected nursing college at Pathanamthitta.

Research Approach

Research approach is a frequently used term in research, which is an important element of the research design.

The research approach used in the study was Mixed Methodology Research Approach.

Research Design

The research design used in the study was Convergent Parallel Research Design. It involves simultaneously collecting and independently analyzing both quantitative and qualitative data during the same research phase, then merging the finding for comprehensive interpretation.

Setting of the study

Based on the feasibility and familiarity, the researcher selected MGM Muthoot College of Nursing, Kozhencherry for the present study mainly focusing at the nursing students and faculties. Formal permission obtained from MGM Muthoot College of Nursing, Kozhencherry to assess the feasibility and practicability of the study.

Population

In this study, population consists of nursing students and nursing faculties.

Sample

In this study nursing students and nursing faculties in selected college of nursing at Pathanamthitta District.

Sample size: 125 nursing students and 18 nursing faculties.

RESULTS AND DISCUSSION

DISTRIBUTION OF NURSING STUDENTS ACCORDING TO SOCIO DEMOGRAPHIC VARIABLES

Demographic variables	Frequency (N)	Percentage (%)
AGE (YEARS)		
17-18	3	2.4
19-20	38	30.4
>20	84	67.2

GENDER		
Male	12	9.6
Female	113	90.4
SEMESTER OF STUDY		
Sem1	25	20.0
Sem 3	25	20.0
Sem5	25	20.0
Sem8	25	20.0
MOST FREQUENTLY USED AI TOOL		
Chat GPT	114	91.2
Gemini	7	5.6
Other AI tools	4	3.2

DISTRIBUTION OF NURSING FACULTIES ACCORDING TO SOCIO DEMOGRAPHIC VARIABLES

Demographic variables	Frequency (N)	Percentage (%)
AGE (YEARS)		
24-26	1	5.6
>30	17	94.4
GENDER		
Female	18	100.0
TEACHING SEMESTER		
Sem1	5	27.8
Sem 3	4	22.2
Sem5	5	27.8
Sem 7	4	22.2
MOST FREQUENTLY USED AI TOOL		
Chat GPT	15	83.3
Other AI tools	3	16.7

PERCEPTION TOWARD ARTIFICIAL INTELLIGENCE AMONG NURSING STUDENTS AND FACULTY

Participants	Highly favourable		Favourable		Unfavourable	
	n	%	n	%	n	%
Nursing students (N = 125)	117	93.6	8	6.4	0	0.0
Nursing faculty (N = 18)	16	88.9	2	11.1	0	0.0

ASSOCIATION BETWEEN PERCEPTION TOWARD ARTIFICIAL INTELLIGENCE AND SELECTED SOCIO-DEMOGRAPHIC VARIABLES

Participants	Variable	Statistical test	p-value	Interpretation
Nursing students	Age	Chi-square	>0.05	Not significant
	Gender	Chi-square	>0.05	Not significant
	Semester of study	Chi-square	>0.05	Not significant
	AI tool used	Chi-square	>0.05	Not significant
Nursing faculty	Age	Chi-square	>0.05	Not significant
	Teaching semester	Chi-square	>0.05	Not significant
	AI tool used	Chi-square	>0.05	Not significant

All associations were statistically non-significant ($p > 0.05$).

THEME AND SUBTHEMES FROM QUALITATIVE FINDINGS

Theme	Subthemes	Representative findings
Theme 1. Use, Benefits and Positive Impacts of AI	Improves understanding	Simplifies complex concepts and improves comprehension
	Time efficiency	Saves time through quick responses and faster information retrieval
	Personalized learning	Supports individualized and distance learning

	Accessibility and convenience	Available anytime through mobile devices
	Academic assistance	Helps with assignments, learning resources, and progress monitoring
	Information retrieval	Provides updated information from multiple sources
	Language improvement	Improves grammar, vocabulary, and communication
Theme 2. Weaknesses and Concerns	Reduced deep learning	May reduce critical thinking, creativity, and memory retention
	Reliability issues	Concerns regarding accuracy and inconsistency of AI-generated information
	Overdependence	Excessive reliance reduces independent learning
	Data privacy and security	Concerns about misuse of personal information
	Ethical concerns	Risks of plagiarism, misinformation, and academic dishonesty
	Social and professional concerns	Fear of job displacement and reduced interpersonal interaction
Theme 3. Suggested Improvements	Ethical governance	Need for regulations and monitoring of AI use
	Reliable and valid data	Preference for verified and credible information sources

INTEGRATION OF QUANTITATIVE AND QUALITATIVE FINDINGS

Quantitative findings	Qualitative findings	Integrated interpretation
Majority of students (93.6%) and faculty (88.9%) had highly favourable perceptions of AI.	Participants described AI as useful for understanding, academic support, accessibility, and time efficiency.	Quantitative and qualitative findings consistently demonstrated a positive perception of AI.
AI was widely used, predominantly ChatGPT.	Participants frequently reported using AI for learning, assignments, and information retrieval.	AI has become an integral academic support tool among nursing students and faculty.
No significant association between perception and socio demographic variables ($p>0.05$)	Positive and negative perceptions were expressed across participants irrespective of background.	Perception toward AI appeared independent of demographic characteristics.
Quantitative findings did not assess concerns separately.	Participants highlighted concerns regarding reliability, overdependence, privacy, ethics, and reduced critical thinking.	Qualitative findings complemented quantitative results by identifying challenges requiring responsible AI implementation.

NURSING IMPLICATIONS

The findings of the present study have important implications for nursing education, nursing practice, nursing administration, and nursing research.

Nursing practice

1. The nurses can educate students on the appropriate and effective use of Artificial Intelligence in academic and clinical settings.
2. Nursing professionals can promote the use of Artificial Intelligence as a supportive learning tool while encouraging critical thinking.
3. Students can be guided to use Artificial Intelligence responsibly and avoid over dependence.

Nursing Education

1. Educators can include Artificial Intelligence and its applications in the curriculum.
2. Conduct orientation programs on the benefits and limitations of Artificial Intelligence.

Nursing Research

1. Conduct further studies to explore the impact of Artificial Intelligence on learning outcomes.
2. Develop tools to assess perception and usage of AI more effectively.

Nursing Administration

1. Promote the responsible implementation of AI technologies by developing institutional policies, providing adequate infrastructure, and ensuring continuous training for nursing faculty and students.
2. Establish guidelines addressing ethical issues, academic integrity, data security, and appropriate use of AI within educational and healthcare settings

ETHICAL CONSIDERATIONS.

1. Formal permission from the institutional review board.
2. Official permission was obtained from head of the institution
3. Informed consent was obtained from participants.

LIMITATIONS

1. The study was confined to a single institution.

RECOMMENDATIONS

1. Similar studies can be conducted with larger samples.
2. Studies can be extended to different institutions.
3. Comparative studies can assess AI usage and perception.
4. Objective methods can be used for evaluation.

CONCLUSION

The study concluded that the majority of nursing students and faculty have a highly favorable perception towards artificial intelligence. However, proper guidance, training, and ethical considerations are necessary for its effective use in nursing education.

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