

Attitude of Nursing Students towards Artificial Intelligence

Sheela J.

HOD - OBG Nursing, R V College of Nursing & PhD Scholar, Shri JJTU University, Jhunjhunu.

DOI: <https://doi.org/10.52403/ijshr.20220447>

ABSTRACT

The present study was aimed to assess the attitude of nursing students towards artificial intelligence. The objectives of the study were to assess the attitude of nursing students on artificial intelligence & to find the association between attitude towards artificial intelligence and socio demographic variables. The study was conducted among nursing students from selected nursing colleges, Bengaluru with sample size of 189, selected using convenience sampling method. A quantitative non-experimental approach was chosen for the study. The attitude of nursing students regarding artificial intelligence was assessed using structured questionnaire. The result with regard to attitude revealed that 63% of nursing students had unfavorable attitude and 37% had favorable attitude towards artificial intelligence.

The Chi-square test revealed that the association between demographic variables and attitude on artificial intelligence. It showed that there was a no significant association between nursing course, age, previous knowledge and source of information with the attitude of the nursing students on artificial intelligence.

Key words: attitude, nursing students, artificial intelligence.

INTRODUCTION

Artificial intelligence (AI) is intelligence demonstrated by machines, as opposed to the natural intelligence displayed by animals including humans.¹ “Artificial intelligence is a computerised system that exhibits behaviour that is commonly thought of as requiring intelligence.”² “Artificial Intelligence is the science of

making machines do things that would require intelligence if done by man.”³ The founding father of AI, Alan Turing, defines this discipline as “AI is the science and engineering of making intelligent machines, especially intelligent computer programs.”⁴

Artificial intelligence (AI) comprises many healthcare technologies transforming nurses’ roles and enhancing patient care. In healthcare, AI typically refers to the ability of computers to independently convert data into knowledge to guide decisions or autonomous actions.⁵

The COVID-19 pandemic transformed patient care delivery, including an increased need to retrieve data from patients remotely and between clinic visits. Mobile health and sensor-based technologies provide opportunities to reshape a nurse’s ability to deliver care and monitor patients, particularly with limited resources and staffing. These technologies are particularly useful for managing chronic illnesses, which consume over 75% of healthcare spending.⁵

Hence it is necessary for the upcoming nurses to work with these technologies in order to provide holistic care in par with the advancements in health care. It is also necessary for the nursing students to have a positive or favorable attitude towards artificial intelligence in their care.

MATERIALS & METHODS

Quantitative non-experimental approach was used to assess the attitude of nursing students towards artificial intelligence. The study was conducted on

nursing students from selected nursing colleges Bangalore. Convenient sampling technique was found to be appropriate to select the nursing students. The sample size for this study was 189 nursing students who fulfilled the inclusion criteria.

The tool used for this study was socio demographic data of the nursing students, containing information related to their course of study, age, previous knowledge about AI and source of information. Structured questionnaire to assess the attitude of nursing students towards artificial intelligence.

The tool to assess the attitude consisted of 12 questions on artificial intelligence. The tool, was validated and recommendations and suggestions of the experts were considered to modify the tool. Internal consistency of structured knowledge questionnaire was calculated by using split half method. After obtaining permission from the concerned authority a pilot study was done to determine the feasibility, validity, reliability of the designed methodology and tool. The pilot study was conducted on 10 nursing students at RV College of Nursing, Bengaluru. The tool was found to be feasible and practicable. After getting the approval of the institutional ethical committee, the data was collected. The informed consent was taken from the nursing students and the data was collected on socio demographic factors and attitude using the tool. Data analysis was done on the basis of descriptive and inferential statistics.

RESULTS

The results of the study are presented under following headings.

Section1: Demographic data of nursing students.

Section 2: Attitude of nursing students on AI.

Section 3: Relationship between selected demographic variables and attitude towards AI.

Section 1: Demographic data of nursing students.

Table 1: Distribution of nursing students according to the nursing course N = 189

Course	Frequency	Percentage
GNM	97	51
PBBSc	7	4
B.Sc	80	42
M.Sc	5	3

Table 1 shows that 51% were GNM students 4% were PBB.Sc students, 42 % were B.Sc students and 3% were M.Sc nursing students.

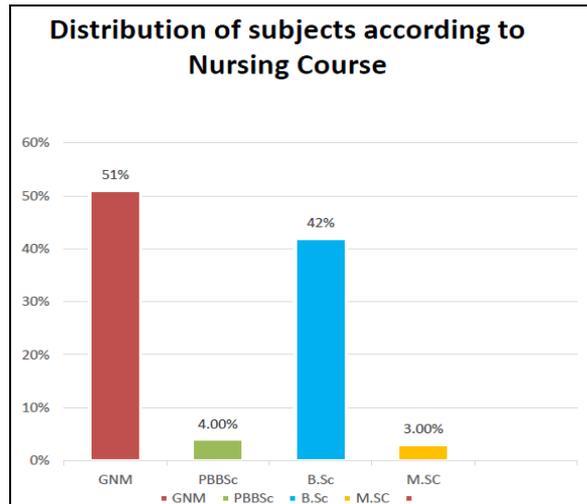


Table 2: Distribution of nursing students according to age N = 189

Age	Frequency	Percentage
17 -18	15	08
19-20	87	46
21-22	74	39
23-24	11	06
25-26	02	01

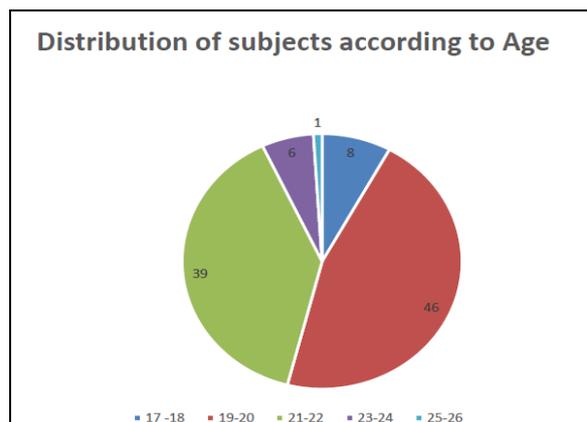


Table 3: Distribution of subjects according to previous knowledge about AI N = 189

Previous knowledge about AI	Frequency	Percentage
Yes	100	53%
No	89	47%

Table 2 shows that 08% were in the age group of 17 - 18 years, 46% were in the age group of 19 - 20 years, 39% were in the

age group of 21 - 22 years, 06% were in the age group of 23 - 24 years and 01 % in the age group 25 - 26 years.

Table 3 shows that 53% of the students had previous knowledge about AI and 47% had no knowledge about AI.

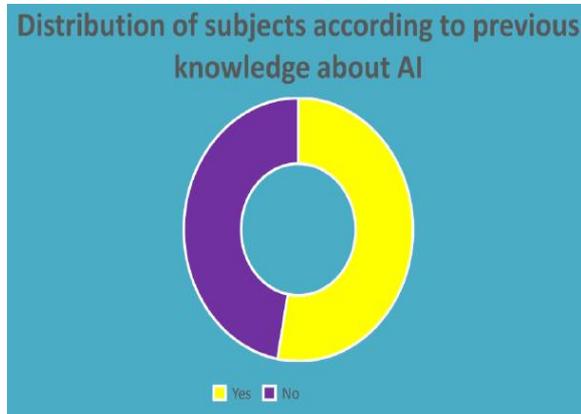
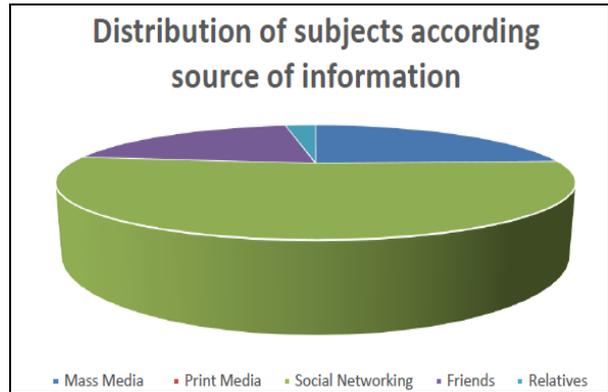


Table 4: Distribution of students according to source of information N = 189

Source of information	Frequency	Percentage
Mass Media	37	20
Print Media	0	0
Social Networking	80	42
Friends	31	16
Relatives	4	2
Professionals	37	20

Table 4 shows that 20% of students received information about AI through mass media, 42% from social networking, 16% from friends, 2 % from relatives and 20% from professionals.



Section 2: Attitude of nursing students on AI.

Table 5: Distribution of nursing students according to attitude N = 189

Attitude	Frequency	Percentage
Unfavourable	119	63
Favourable	70	37

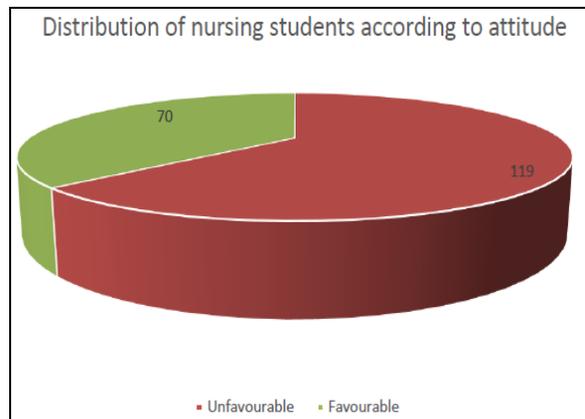


Table 5 shows that 63% of nursing students had unfavorable attitude and 37% had favorable attitude towards artificial intelligence.

Section 3: Relationship between selected demographic variables and attitude on AI

Table 6: Relationship between selected demographic variables and attitude on AI N = 189

Variables	>Median	<Median	Total	χ^2	df	P value
1. Nursing Course						
GNM	0	97	97			
PBB.Sc	7	0	7	0.0478	6	0.9972 Not significant
B.Sc	0	80	80			
M.Sc	5	0	5			
2. Age						
17 -18	15	0	15			
19-20	0	87	87			
21-22	0	74	74	2.65	3	0.4488 Not significant
23-24	11	0	11			
25-26	2	0	2			
3. Previous Knowledge						
Yes	0	10	100	2.39	1	0.1221 Not significant
No	89	0	89			
4. Source of Information						
Mass Media	0	37	37			
Print Media	0	0	0			
Social Networking	0	80	80	4.64	3	0.2001 Not significant
Friends	31	0	31			
Relatives	4	0	4			
Professionals	0	37	37			

Table 6 depicts the association between demographic variable and the attitude of nursing students on artificial intelligence. The chi-square value for the course of the nursing students is $\chi^2 = 0.478$ and p value is 0.9972, age of the nursing students is $\chi^2 = 2.65$ and p value is 0.4488, previous knowledge on AI is $\chi^2 = 2.39$ and p value is 0.1221 and sources of health education is $\chi^2 = 4.64$ and p value is 0.2001. As the p values is more than 0.05 level of significance, there is no significant association between demographic variables (course of study, age, previous knowledge and sources of health information) and attitude nursing students on artificial intelligence.

DISCUSSION

The present study showed that 51% were GNM students 4% were PBB.Sc students, 42 % were B.Sc students and 3% were M.Sc nursing students. With regard to age, 08% were in the age group of 17-18 years, 46% were in the age group of 19-20 years, 39% were in the age group of 21-22 years, 06% were in the age group of 23-24 years and 01 % in the age group 25-26 years. It also showed that 53% of the students had previous knowledge about AI and 47% had no knowledge about AI. With regard to source of information 20% of students received information about AI through mass media, 42% from social networking, 16% from friends, 2% from relatives and 20% from professionals. 63% of nursing students had unfavorable attitude and 37% had favorable attitude towards artificial intelligence. The relationship between the demographic variables and the attitude of nursing students towards AI showed that there is no significant association between course of study, age,

previous knowledge and sources of health information.

CONCLUSION

AI technology is emerging as a partner with nursing to rapidly synthesize information, complete work, assist with clinical decisions and improve patient outcomes. Individually, each of these emerging technologies offers tremendous opportunity to improve care. Combining these solutions and educating nurses on how to best interact with machines will not only open unlimited solutions for efficiency, capacity, quality and healthcare transformation in the future but enable the nurses to have a positive attitude towards AI.

Acknowledgement: None

Conflict of Interest: None

Source of Funding: None

REFERENCES

1. Brian J. Douthit and et al, "Artificial Intelligence in Nursing", American Nurse, January 11, 2022.
2. Poole, David; Mackworth, Alan; Goebel, Randy, "Computational Intelligence: A Logical Approach" New York: Oxford University Press. 26 July 2020.
3. Preparing for the Future of Artificial Intelligence, NSTC, 2016
4. Raphael, B. 1976. The thinking computer. San Francisco, CA: W.H. Freeman
5. <http://www-formal.stanford.edu/jmc/whatisai/node1.html>

How to cite this article: Sheela J. Attitude of nursing students towards artificial intelligence. *International Journal of Science & Healthcare Research*. 2022; 7(2): 344-347. DOI: <https://doi.org/10.52403/ijshr.20220447>
