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A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE AND ATTITUDE REGARDING ARTIFICIAL INTELLIGENCE AMONG B.SC NURSING STUDENTS IN A SELECTED COLLEGE AT MADURAI

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ABSTRACT

Background: The delivery of healthcare is being completely transformed by Artificial Intelligence, particularly in the areas of diagnosis, treatment planning, patient monitoring, and administrative duties. As aspiring medical practitioners, Nursing Students need to be ready to comprehend, evaluate and apply AI technology¹. **Objective:** The purpose of this study was to assess knowledge and attitude among B.Sc Nursing Students in a selected Nursing Institution in Madurai about Artificial Intelligence. **Methodology:** 49 B.Sc Nursing students were chosen as samples using the convenient sampling technique. Data were gathered using a structured knowledge questionnaire and a five-point Likert scale. The collected data were arranged, tabulated and analysed using descriptive and inferential statistical techniques. **Results:** The study's key findings were that of, the 49 B.Sc Nursing students, 2(4%) had adequate knowledge, 23(47%) had moderately adequate knowledge and 24(49%) had inadequate knowledge and 42(86%) had a positive attitude and 7(14%) had negative attitude regarding Artificial Intelligence. According to the study's findings, a large number of B.Sc Nursing Students had inadequate knowledge and had positive attitude toward Artificial Intelligence.

KEYWORDS

Artificial intelligence, B.Sc Nursing students, Knowledge and Attitude.

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INTRODUCTION

Artificial Intelligence and Information Technology are becoming more and more common in various organizations and societal sectors. The healthcare industry is one of these industries, where new technologies have the potential to revolutionize patient care. A subfield of computer science called Artificial Intelligence Technology was created to

replicate the intellect of healthcare team members using computer systems to accomplish tasks or resolve issues. It is also utilized in the healthcare industry to automate a number of processes, such as learning and decision-making². There are many categories of AI technology used in healthcare: deep learning, which is a kind of machine learning approach and an extension of neural networks and machine learning, which is a collection of statistical techniques for problem solving³.

Need For Study

Because of its revolutionary effects on healthcare, Artificial Intelligence (AI) is an essential subject for B.Sc Nursing students to learn. Nurses can spend more time interacting directly with patients because of AI's enhanced monitoring, clinical decision support and reduced administrative activities⁴. Additionally, it transforms Nursing Education through tailored learning pathways and life like simulations. Furthermore, knowing AI gives aspiring nurses the flexibility, digital literacy and ethical awareness, they need to work with AI technology in an ever-changing healthcare environment and achieve the best possible patient outcomes⁵.

In addition to helping students build clinical judgment and critical thinking skills in complicated situations, AI-enabled tailored learning pathways can more effectively identify knowledge gaps and adapt instructional content to each student's needs⁶. With the increasing prevalence of AI technologies, Nurses need to be well-versed in AI literacy in order to assess AI-generated information critically, handle ethical issues such as algorithmic bias and data privacy and make sure that AI enhances rather than replaces the crucial human component of compassionate Nursing Care⁷.

Problem Statement

“A descriptive study to assess the knowledge and attitude regarding Artificial Intelligence among B.Sc Nursing Students in a selected College at Madurai”

Aim

To assess the knowledge and attitude regarding Artificial Intelligence among BSc Nursing Students. To find out the correlation between knowledge and attitude regarding Artificial Intelligence among BSc Nursing Students.

To find out the association between knowledge regarding Artificial Intelligence with the selected socio demographic variables.

To find out the association between attitude regarding Artificial Intelligence with the selected socio demographic variables.

METHODOLOGY

Quantitative research strategy was selected. For this study, a non-experimental descriptive research design was adopted. The study was conducted in CSI Jeyaraj Annapackiam College of Nursing at Madurai. It's about fifty kilometres from Virudhunagar. Nursing Students pursuing bachelor degree were selected as samples for this study. Convenient sampling technique was used to choose 49 B.Sc Nursing students as the samples. The tool is divided in to three sections: Section I includes Socio demographic information; Section II is a structured knowledge questionnaire designed to assess knowledge; and Section III is a five-point Likert scale used to assess the attitude of B.Sc Nursing Students.

RESULTS AND DISCUSSION

The findings were organized in the following section.

Section 1: Classification of subjects based on the socio demographic variables

Section 2: Distribution of subjects based on the knowledge level.

Section 3: Distribution of subjects based on the attitude level.

Section 4: Correlation between knowledge & attitude regarding Artificial Intelligence among BSc Nursing students.

Section 5: Association between sample knowledge and attitude with selected Socio demographic variables.

Section I

Table No.1 shows that in terms of age, 41(84%) of the B.Sc Nursing students are between the ages of 20 and 21 years. Of the subjects, 28(57%) were female. In terms of family structure, the majority of B.Sc Nursing students 38(78%) belong to nuclear families, whereas the majority of subjects 29(59%)

belong to Christian families. In terms of the family's monthly income, 19(39%) were earning more than Rs 20,000 per month, while 20(41%) were living in an urban region. Of those who had prior understanding of artificial intelligence, 31(64%) had learned it via a mobile device.

Section II

Of the 49 B.Sc Nursing students 2(4%) B.Sc Nursing students had adequate knowledge, 23(47%) had moderately adequate knowledge, and 24(49%) had inadequate knowledge regarding Artificial Intelligence, according to the statistics shown in Table No.2.

Section III

According to the statistics in Table No.3, of the 49 B.Sc Nursing students, 42(86%) had positive attitude and 7(14%) had negative attitude toward Artificial Intelligence.

Section IV: Correlation between knowledge and attitude regarding Artificial Intelligence among B.Sc Nursing students

The mean score for knowledge was 10.33, with a standard deviation of 3.140. With a standard deviation of 10.9321, the derived attitude mean score was 47.20 at the 0.05 level; the obtained "r" value of 0.1499 was significant. From the above findings among BSc Nursing students, there was a positive correlation between knowledge and attitude regarding Artificial Intelligence.

Section V: Association between sample knowledge and attitude with selected demographic variables

Knowledge of Artificial Intelligence was significantly associated with certain Socio demographic variables including the age and gender of B.Sc Nursing students.

Attitude toward Artificial Intelligence was significantly associated with some Socio demographic variables, including monthly family income and prior knowledge of B.Sc Nursing students.

Discussion

In terms of age, 41(84%) of the BSc Nursing students are between the ages of 20 and 21 years. Of the subjects, 28(57%) were female. In terms of family structure, the majority of B.Sc Nursing students 38(78%) belong to nuclear families,

whereas the majority of subjects 29(59%) belong to Christian families. In terms of the family's monthly income, 19(39%) were earning more than Rs.20,000 per month, while 20(41%) were living in an urban region. Of those who had prior understanding of Artificial Intelligence, 31(64%) had learned it via a mobile device.

The objective is to assess the level knowledge and attitude regarding Artificial Intelligence among BSc Nursing Students in a selected College at Madurai.

Regarding Artificial Intelligence 2(4%) B.Sc Nursing students had adequate knowledge, 23(47%) had moderately adequate knowledge, and 24(49%) had inadequate knowledge.

Regarding Artificial Intelligence, 42(86%) had positive attitude and 7(14%) had negative attitude toward Artificial Intelligence.

Among B.Sc Nursing students, there was a significant correlation between knowledge and attitude regarding Artificial Intelligence.

Ethical Clearance

The relevant authorities granted permission to the researcher.

The study subjects gave their oral consent.

Privacy and anonymity were maintained during the research.

Section I: Table No.1: Classification of subjects based on the socio demographic variables (n= 49)

S.No	Socio demographic variables	Frequency	Percentage (%)
Age			
1	18-19 years	5	10%
2	20-21 years	41	84%
3	22-23 years	3	6%
Gender			
4	Male	21	43%
5	Female	28	57%
Religion			
6	Hindu	18	37%
7	Christian	29	59%
8	Muslim	2	4%
Type of family			
9	Nuclear family	38	78%
10	Joint family	11	22 %
11	Extended family	0	0%
Family income per month			
12	>Rs 5000	2	4%
13	Rs 5001-10000	11	22%
14	Rs 10001-20000	17	35%
15	< Rs 20000	19	39%
Area of Residence			
16	Urban	20	41 %
17	Semi Urban	10	20%
18	Rural	19	39%
Previous Knowledge			
19	Mobile Phones	31	64%
20	News paper	9	18%
21	Journals	1	2%
22	Internet	3	6%
23	Television	5	10%

Section II

Table No.2: Distribution of subjects based on the knowledge level (n=49)

S.No	Level of Knowledge	Frequency	Percentage (%)
1	Adequate Knowledge	2	4%
2	Moderately Adequate Knowledge	23	47 %
3	Inadequate Knowledge	24	49%
4	Total	49	100%

Section III

Table No.3: Distribution of subjects based on the attitude level (n=49)

S.No	Level of Attitude	Frequency	Percentage (%)
1	Positive Attitude	42	86%
2	Negative Attitude	7	14 %
3	Total	49	100%

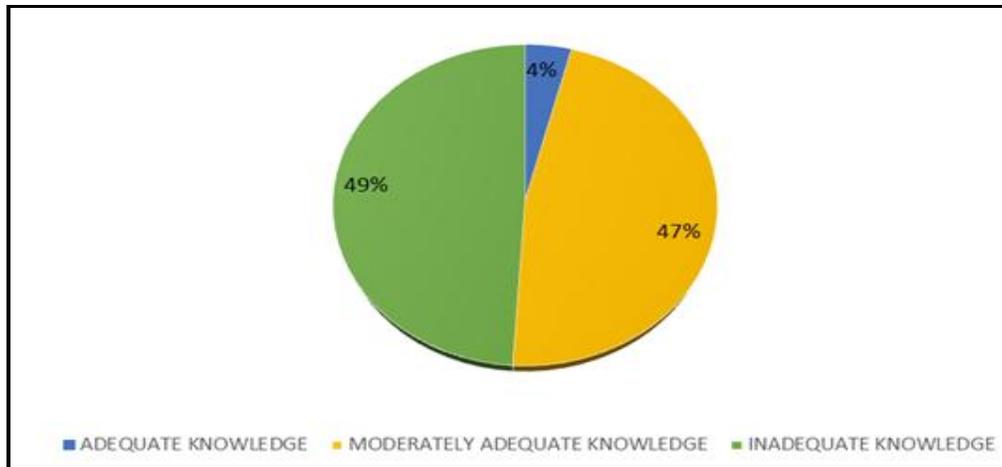


Figure No.1: Level of knowledge

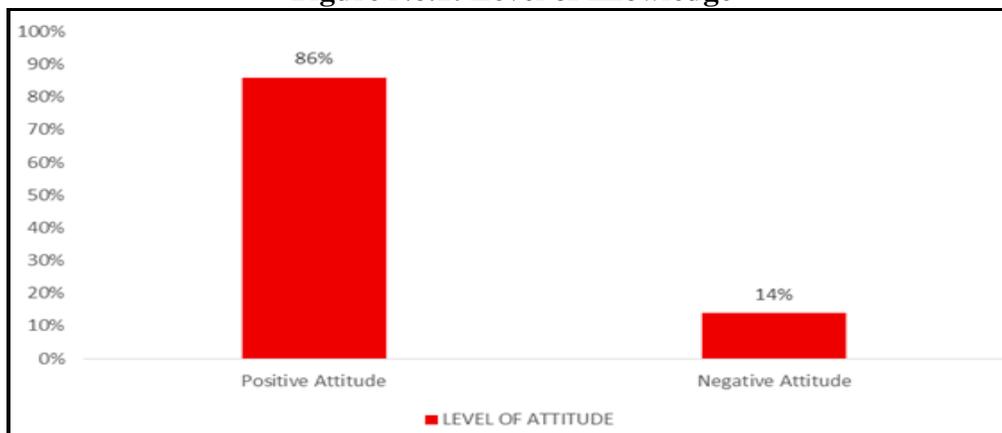


Figure No.2: Level of Attitude

CONCLUSION

According to the study's findings, 2(4%) B.Sc Nursing students had adequate knowledge, 23(47%) had moderately adequate knowledge, and 24(49%) had inadequate knowledge.

In relation to Artificial Intelligence, 42(86%) had positive attitude and 7(14%) had negative attitude.

Among B.Sc Nursing students, there was a significant correlation between knowledge and attitude regarding artificial intelligence.

The present study revealed that B.Sc Nursing students possessed a moderate level of knowledge regarding Artificial Intelligence (AI) in healthcare, while their attitude towards its application was generally positive. This indicates that although students recognize the potential benefits of AI in improving patient care, efficiency and clinical decision-making, there remains a significant knowledge gap that needs to be addressed.

Integrating AI-related concepts into the nursing curriculum, organizing workshops, and providing hands-on training can enhance students' preparedness to work effectively in a technology-driven healthcare environment. Overall, the findings emphasize the importance of equipping future nurses with both knowledge and confidence to adapt to the evolving role of AI in nursing practice.

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CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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