The study to assess the effectiveness of Computer Assisted Instruction (CAI) on the knowledge and attitude regarding robotics in nursing among registered nurses in selected hospitals of Thanjavur district.

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I. INTRODUCTION

With advancements in healthcare technology, robotics in nursing has become a critical area of focus. However, registered nurses often lack sufficient knowledge and attitude toward robotics in nursing, necessitating targeted educational interventions like Computer-Assisted Instruction (CAI).This present study is not encouraging the robots in nursing field instead of that encouraging registered nurses to updated their knowledge and attitude towards Robotics in Nursing.

II. STATEMENT OF THE PROBLEM

The study to assess the effectiveness of Computer-Assisted Instruction (CAI) on the knowledge and attitude regarding robotics in nursing among registered nurses in selected hospitals of Thanjavur district.

III. OBJECTIVES OF THE STUDY

1.To assess the pretest and posttest levels of knowledge and attitude regarding Robotics in Nursing among Registered Nurses in both experimental and control groups.
2.To evaluate the effectiveness of computer assisted instruction on knowledge and attitude regarding Robotics in Nursing among Registered Nurses in the experimental group.
3.To compare the significant difference in posttest levels of knowledge and attitude between the experimental and control group regarding Robotics in Nursing among Registered Nurses.
4.To correlate the relationship between the posttest levels of knowledge and attitude regarding Robotics in Nursing among Registered Nurses in both experimental and control groups.
5.To determine the association between the pretest levels of knowledge and attitude regarding Robotics in Nursing and their selected demographic variables in both experimental and control groups.

IV. MATERIALS AND METHODS

A pre-test post-test control group design was employed among 80 registered nurses, selected using probability simple random sampling technique. The structured self-administered knowledge questionnaire and a Modified Rensis 3-point Likert scale were used to assess knowledge and attitude. The experimental group received CAI, while the control group did not. Data were analyzed using paired t-test, unpaired t-test, and correlation analysis.

Tools:
The Data collection tool was subdivided in to III parts.
Part I: Demographic data such as Age of Registered Nurses, religion, residential area, a previous source of knowledge, annual income, mother tongue, marital status, and interest to watch robotic movies.
Part II: It consisted of structured self -administered knowledge questionnaire regarding Robotics in Nursing.
Part III: It consisted of Modified Rensis 3-point Likert scale with positive and negative declarative statements regarding Robotics in Nursing.

V. DATA COLLECTION PROCESS

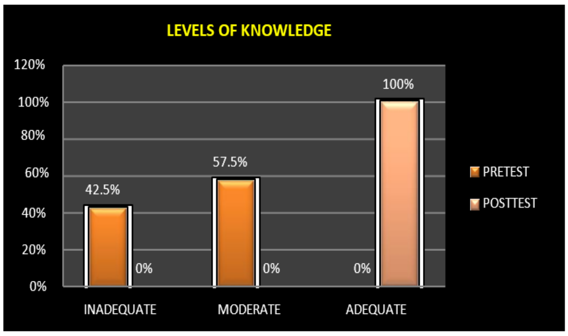
In In Thanjavur district, total multi speciality hospital was 26, by using lottery method experimental and control group was selected. For experimental (Our Lady of Health Hospital) and control group (Rohini Hospital). Then again lottery method was used to select the samples for experimental and control group. Written formal permission was obtained from the head of the hospital authorities. The investigator conducted the pretest on 1st day, by using a structured self administered knowledge questionnaire and Modified Rensis 3- point Likert scale to assess the knowledge and attitude respectively. After the pretest, Computer assisted instruction was given to the experimental group. On the 7th day, the investigator conducted the posttest to determine the knowledge and attitude with the same questionnaire for both experimental and control group.

VI.RESULT

The investigator concluded that the levels of knowledge in experimental group, pretest value of mean was 12.1 and SD was 2.3 and posttest value of mean was 25.02, SD was 4.01 and paired t test value was 34.3, and in control group, pretest value of mean was 9.275, SD was 1.56 and post value of mean was 9.3, SD was 1.129 and paired t test was 1.734. The levels of attitude in experimental group, pretest value of mean was 12.35 and SD was 2.37 and posttest value of mean was 24.07, SD was 3.247 and paired t test value was 36.51. In control group, pretest value of mean was 11.175, SD was 1.1157 and post value of mean was 11.5, SD was 2.09 and paired t test was 0.6329. This clearly indicates that after the administration of computer assisted instruction on levels of knowledge and attitude regarding Robotics in Nursing is effective and statistically significant, to the experimental group, hence the given CAI was effective. The calculated unpaired 't' test value of knowledge was 23.20 and attitude was 25.4 was found as statistically significant. The Correlation between the posttest levels of knowledge and attitude in experimental group was r = 0.73 and control group was r = 0.553. It proves that there is a strong positive relationship between the knowledge and attitude of the experimental group and it is statistically significant. the demographic variables such as religion, residential area, annual income, mother tongue, and had shown statistically significant association and in level of attitude, the demographic variables such as age, religion, annual income, marital status had shown statistically significant. In control group the pretest level of knowledge, the demographic variables such as age, religion, source of information, annual income, mother tongue, marital status, had shown statistically significant and in level of attitude, the demographic variables such as residential area, annual income, had shown statistically significant association with pretest levels of attitude among Registered Nurses in the control group.

VII.FREQUENCY AND PERCENTAGE DISTRIBUTION

(a)The below figure shows that the percentage distribution of pretest and posttest levels of knowledge regarding Robotics in Nursing among Registered Nurses. In experimental group , the analysis of pretest level of knowledge shows that, 17(42.5%) had inadequate level of knowledge and 23(57.5%) had moderate level of knowledge regarding Robotics in Nursing. In posttest 40(100%) had adequate level of knowledge regarding Robotics in Nursing.



(b)Frequency and percentage distribution of pretest and posttest levels of knowledge regarding Robotics in Nursing among Registered Nurses in control group.

N=40

Level of knowledge	Pretest		Posttest	
	No	%	No	%
Inadequate (1-10)	33	82.5	15	37.5
Moderate (11-20)	07	17.5	25	62.5
Adequate (21-30)	-	-	-	-

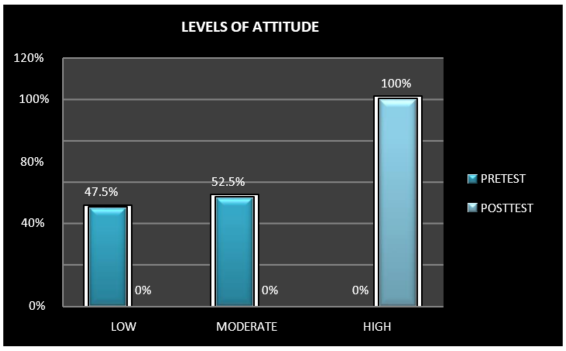
In control group, the analysis of pretest level of knowledge shows that, 33(82.5%) had inadequate level of knowledge and 07(17.5%) had moderate level of knowledge regarding Robotics in Nursing, and in posttest shows that 15(37.5%) had inadequate level of knowledge and 25(62.5%) had moderate level of knowledge regarding Robotics in Nursing and none of them had adequate knowledge.

(c) Frequency and percentage distribution of pretest and posttest levels of attitude regarding Robotics in Nursing among Registered Nurses in control group

N=40

Level of attitude	Pretest		Posttest	
	No	%	No	%
Low (1-10)	15	37.5	12	30
Moderate (11-20)	25	62.5	28	70
High (21-30)	-	-	-	-

The above table shows that the percentage distribution of pretest and posttest level of attitude regarding Robotics in Nursing among Registered Nurses. In control group the pretest level of attitude, revealed that 15(37.5%) had low level of attitude and 25(62.5%) had moderate level of attitude regarding Robotics in Nursing. The analysis of posttest level of attitude in control group, revealed that 12(30%) had low level of attitude and 28(70%) had moderate level of attitude regarding Robotics in Nursing.



(d) The below figure shows that the percentage distribution of pretest and posttest level of attitude regarding Robotics in Nursing among Registered Nurses. In experimental group the analysis of pretest level of attitude, revealed that 19(47.5%) had low level of attitude and 21(52.5%) had moderate level of attitude regarding Robotics in Nursing and in posttest 40(100%) had adequate level of attitude regarding Robotics in Nursing.

VIII. CONCLUSION

Nurse as a communicator, teacher, leader, manager, advocator, motivator, and supervisor in a various situation of patient caring and education. The nurse should be equipped with up to date knowledge of robotic in nursing, so that they are able to impart appropriate knowledge and attitude to the patients and the student trainee. The study findings revealed that the importance of nurses role in managing level of knowledge and attitude among Registered Nurses by using Computer assisted instruction, which is cost effective and safe. The present study would help the nurses, acquire in depth knowledge and attitude on Robotics in Nursing.

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