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Teaching Programme On Knowledge Regarding Telemedicine Among Nursing Students In Selected Colleges In Kerala

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ABSTRACT
The goal of the current study was to increase nursing students' knowledge about telemedicine. The study's goals are to evaluate nursing students' prior knowledge of telemedicine and to ascertain the impact of a YouTube-uploaded video education program on nursing students' understanding of telemedicine. The study was conducted among 101 nursing students at selected colleges in northern Kerala. The data collection process was completed by using Google Forms and was distributed through social media. The study result shows that only 15% have very poor knowledge, 70% have below average, and 13.86% have average knowledge of Telemedicine after YouTube uploaded a video teaching programme the knowledge level was found very good knowledge 57.42%, good knowledge 30.69%, average knowledge 6.93%. below average 3.96%, very poor 0.99% has been shown the pretest knowledge score and specific demographic factors do not significantly correlate.

Keywords: *Telemedicine, YouTube uploaded video, Nursing students.*

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I. Introduction

In telemedicine, which is a rapidly evolving field of clinical medicine, medical data is transmitted for consultation purposes over the phone, the internet, and occasionally another network. The phrase "telemedicine," which was first used in the 1970s and literally translates to "healing at a distance," refers to the application of ICT to enhance patient outcomes by facilitating access to care and medical knowledge.[1]

World Health Organization has adopted this broad description as a definition for telemedicine “The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities”.[1]

Telemedicine refers to the delivery of medically related information and services over great distances using electronic communication and information technology.

Telemedicine is being employed in several ways and is having a very beneficial impact on health care during the pandemic. It fills the gap between people, doctors, and the healthcare system by allowing everyone, especially symptomatic patients, to remain at home and contact medical professionals via virtual channels, thereby preventing the virus from spreading to large populations and slowing down the system.[1]

II. Statement of the problem

A study to assess the effect of YouTube-uploaded video teaching programme on Knowledge regarding telemedicine among nursing students in selected colleges in Kerala.

III. Objectives of the study

- To assess the pretest knowledge on telemedicine among nursing students.
- To determine the effect of YouTube uploaded video teaching programme on telemedicine among nursing students.
- To find out the association between the knowledge of telemedicine and selected demographic variables.

Hypotheses
H1: There is a significant improvement in knowledge regarding telemedicine among nursing students after a YouTube-uploaded video teaching programme.
H2: There is a significant association between knowledge of telemedicine and selected demographic variables.

IV. Methods and Material

Research approach: For this study, a quantitative research strategy was used.

Research Setting: The pre-experimental study design was the type of research methodology used in the study. The pre-test-post-test design was applied to one group.

Study Setting: The study's setting is the area where the investigation is carried out. 101 B.Sc. Nursing students participated in the study, which was performed in a few private nursing institutes in Northern Kerala. The Institutional Ethical Committee granted ethical approval.

Inclusion criteria
*****Nursing students between the ages of 17-23.
*****Students present on the day of study.
*****Nursing students of Northern Kerala.

Exclusion criteria
*****Students absent on the day of study.
*****Not willing to participate in the study.

Description of the tool

Tool I
Section A: Demographic format
This was developed to acquire information on demographic variables. It consists of 6 items which include age in years, religion, knowledge in handling computers/laptop, previous knowledge of telemedicine, the electronic device being easily accessible, and family members using this technology.

Section B: Knowledge Questionnaire
These tools consist of 30 questions on the knowledge component of telemedicine and it was a multiple-choice question. The question related to telemedicine each right answer carries 1 mark and the wrong answer gets 0 marks. The maximum score was 30 and the minimum score was 1.
The knowledge was graded as follows:

Score	Grade
1-6	Very poor
7-12	Below average
13-18	Average
19-24	Good
25-30	Very good

V. Results and Discussion

Section 1: Description of baseline characteristics.
The nursing student's pre-test knowledge score was 8.43 at an average knowledge level of 13.86%, below the average of 70%, and the remaining 15% showed very poor knowledge regarding telemedicine.

Section 2: Effect of YouTube uploaded video teaching programme on Telemedicine.
The average knowledge score before the test was 8.43. A significant improvement was seen in the post-test, as indicated by the mean knowledge score of 22.5. At the 0.05 level, the calculated value ($t = 1.960$) was significant. The knowledge score increased following the YouTube-uploaded video education program, it has been tested.

Figure 1. Distribution of sample according to the previous knowledge of telemedicine

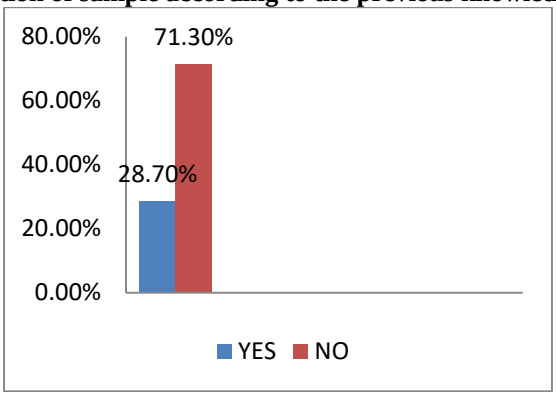

Figure 2. Distribution of samples according to the electronic device easily accessible

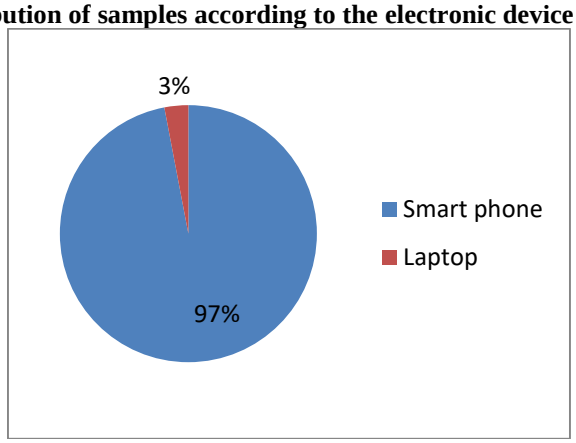

Table 1. Comparison of grading of pre-test, post-test knowledge score on telemedicine.

Grading	Pre-test			Post-test
	Frequency(f)	Percentage (%)	Frequency(f)	Percentage (%)
Very Poor	16	15%	1	0.99%
Below Average	71	70%	4	3.96%
Average	14	13.86%	7	6.93%
Good	0	0%	31	30.69%
Very Good	0	0%	58	57.42%

Table 2. Mean Median, and standard deviation of pre-test and post-test knowledge score of samples

	Mean	Median	Standard deviation (SD)	t Value
Pre-test	8.43	8	2.332	1.960
Post-test	22.5	25	5.025	

The information is displayed in Table. 2, which gives the mean knowledge score from the pre-test. which equals 8.43, and the mean knowledge score after the test was 22.5. At the 0.05 level, the estimated t-value of 1.960 is significant. As a result, the research hypothesis was supported and the null hypothesis was rejected. It is clear and obvious that YouTube-uploaded video education programs were effective in improving nursing students' knowledge of telemedicine.

Section 3: Association between pre-test knowledge score and selected baseline characteristics.

Except for the knowledge of family members using telemedicine, which is covered in more detail in the following table, there is no significant association between the pre-test knowledge score and the demographic variables.

Table 3. Association of pre-test knowledge score among baseline characteristics.

Baseline characteristics	Calculated value	df	Reference value	Level of significance	Inference
Age	4.53	2	21.026	P<0.05	Not Significant
Religion	0.7252	2	21.026	P<0.05	Not Significant
Knowledge handling computer or laptop	2.89891	4	9.488	P<0.05	Not Significant
Previous knowledge on telemedicine	0.75451	4	9.488	P<0.05	Not Significant
Electronic device that are easily accessible	4.2749	2	21.029	P<0.05	Not Significant
Use of telemedicine among family members	15.0433	4	9.488	P>0.05	Significant

Table 5 demonstrated that no correlation between pre-test knowledge score and certain demographic factors, including age, religion, knowledge regarding g computer or laptop, previous knowledge of telemedicine, and electronic devices that are easily accessible, Whereas, use of telemedicine among family members having significant association with pre-test knowledge among nursing students.

VI. Discussion

Another study on the impact of computer-assisted teaching programs on staff nurses' understanding of telemedicine at tertiary hospitals in Kerala's Ernakulum district supports the findings of the current study. A telemedicine computer-assisted training program was offered, a post-test was administered seven days later, and the differences attributable to the teaching programs were identified by comparing pre-test and post-test results. Following the intervention, there was a significant difference in the staff nurses' knowledge scores regarding telemedicine[2].

The results of this study are supported by data from another investigation. structured education program on telemedicine for the Indian rural populace. This method of evaluation includes a pre- and post-test control group design. The sample consisted of 100 individuals who were chosen at random. The average level of knowledge of telemedicine among the subject population was found to be good knowledge (52%) and exceptional knowledge (15%). The researcher came to the conclusion that an organized educational program helped the audience learn more about telemedicine[3].

VII. Conclusion

The purpose of the current study was to evaluate nursing students' understanding of telemedicine and to inform them of its benefits. Nursing students were given access to a YouTube-hosted video teaching program that allowed them to advance their knowledge, and it was found to be successful in doing so. One of the efficient teaching techniques used in this study is the given YouTube video training program on Telemedicine.

VIII. Recommendations

1. Large-scale samples can be used to replicate a study of this kind.
2. A comparable investigation might be carried out among medical specialists.
3. The study's findings enabled the researcher to draw forth a few implications for nursing practice.

Nursing Education

The present study emphasizes the need for YouTube uploaded video programme to improve knowledge regarding telemedicine.

Nursing Administration

Nurses as an administrator can play an important role in educating nursing students through YouTube-uploaded video teaching programme regarding telemedicine.

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