

Effectiveness of An Educational Package on Knowledge Regarding Telehealth Among B.Sc Nursing Final Year Students in Selected College Of Indore, Madhya Pradesh

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ABSTRACT

Background: The onset of Covid-19 emerged the need of telehealth as a new standard of care for patient. The current study aimed to evaluate the effectiveness of an educational package on telehealth among B.Sc nursing final year students.

Methodology: A quantitative approach with pre experimental one group pre-test, post-test design was adopted for the study. The samples from the selected college were selected using purposive sampling technique. The sample consist of 200 B.Sc nursing final year students. The tool used for data collection was structured knowledge questionnaire.

Result: Comparing the knowledge level between pretest and posttest revealed that the mean pretest score rose from 9.05 to mean score 12.98 in posttest and was found to be statistically significant at $p < 0.001$.

Conclusion: Study result showed significant improvement in the level of knowledge among B.Sc nursing final year students on telehealth.

Keywords: Effectiveness, Telehealth, educational package, knowledge, nursing students.

INTRODUCTION

During the coronavirus disease 2019 (COVID-19) pandemic, many people used telehealth. People often still use it. The technology extends the reach of the healthcare professional and allows efficient and effective interaction with people seeking healthcare services. It is an essential component of the new models of care being developed.

It is believed that telehealth began with the telephone in the late 1800s. The story is told that Alexander Graham Bell spilled battery acid on himself; then called a doctor friend to help with care for the injury. Telehealth nursing offers many benefits to patients and clinicians alike. To start, it saves patients travel time and can limit their exposure to disease. However, telehealth can also pose challenges. These challenges, ranging from managing technical issues to finding effective methods of communication, make unique demands on nurses. Nurses need to develop specific skill sets and knowledge that prepare them to effectively deliver healthcare services virtually. For example, during in-person visits, nurses often use a patient's nonverbal communication, such as body language, to catch misunderstandings and

pose relevant questions. Telehealth visits limit the nonverbal communication nurses can pick up on. To compensate for this limitation, nurses can learn new techniques that help address potential communication gaps during telehealth visits. One method, called teach-back, creates a communication feedback loop that helps telehealth nurses check for understanding. Nurses ask patients to repeat back the information or instructions the nurse has shared, allowing nurses to clear up confusions and locate misunderstandings. Today, professional goals for nursing should include building telehealth skills. Nurses can develop these skills in formal and informal ways.

NEED FOR THE STUDY

Nurses, as frontline caregivers, play a vital role in patient care and are instrumental in driving advancements in healthcare, including the utilization of telehealth technology. With continuous and rapid development in medical technology, the significance of telehealth in nursing practice is growing, providing nurses with tools to enhance patient outcomes and facilitate access to high-quality healthcare services. The growing prevalence of telemedicine is particularly important considering aging population that places increased demands on the healthcare system, compounded by the challenges posed by a nursing shortage. The integration of telehealth has become increasingly necessary to bridge the gap between healthcare demand and available resources. This shift underlines the need for a more comprehensive understanding of the role telehealth plays in nursing practice and its potential to address these healthcare challenges effectively. By leveraging telehealth technologies, nurses can overcome geographical barriers, reach underserved populations, and provide timely interventions. Thus, exploring the various aspects of telehealth and its impact on nursing practice is essential for healthcare professionals, policymakers, and educators, as it presents new opportunities to improve patient care, enhance healthcare delivery, and meet the evolving needs of a changing healthcare landscape.

Statement of the problem

“An experimental study to assess the effectiveness of an educational package on knowledge regarding telehealth among B.Sc nursing 4th year student in selected college of Indore.

OBJECTIVE:

1. To assess the knowledge of B.Sc nursing final year student on telehealth in selected college of Indore.
2. To evaluate the effectiveness of an educational package on telehealth among B.Sc Nursing final year student.
3. To find the association between selected demographic variable and pre test knowledge of B.Sc nursing final year students regarding telehealth in selected college of Indore.

Hypotheses:

- RH0:- There will be no significant difference between pre test and post test knowledge of B.Sc Nursing 4th year student on telehealth in selected college of Indore at the level $p < 0.05$.
- RH1:- There will be significant association of pre test knowledge on telehealth with selected demographic variables among B.Sc nursing final year students at the level $p < 0.05$.
- RH2:- There will be significant difference between pre test and post test knowledge of B.Sc nursing 4th year student on telehealth in selected college of Indore at the level $p < 0.05$.

Delimitation

1. Study is limited to selected college of Indore.
2. Study is limited to B.Sc nursing final year students present at the time of study.

Conceptual Framework

The conceptual framework of the present study is based on Ludwig Von Bertalanffy. According to this theory an individual is a open group because he/she receives input from the environment. The input includes B.Sc nursing 4th year background such as age, gender, religion, monthly income, information about telehealth. The input is processed in a way useful to the system. Here it refers to the administration of educational package on telehealth to B.Sc nursing 4th year student. The output is assessed through a comparison between the pretest and post-test knowledge of B.Sc nursing final year students.

Literature Review

Heather M Jones, Beth A Ammerman, Kevin L Joiner, Deborah R Lee (2023) conducted a study to describe APRN students belief and confidence regarding the delivery of care via telehealth in their future practice. 68 APRN students participated in the study. The measurement consisted of a self-administered online pre-test and post-test questionnaire of 16 items including socio-demographic variables. Result indicate after the intervention there was a significant improvement in the students' knowledge.⁽³⁾ Chami Nadine, Shah A Hemant, Nastos Steve, Shaikh Shaun, Tenenbein K Paul, Loughheed, Mizdrak Nikolina (2023) conducted an observational study of monthly virtual visits and emergency department visits from Apr. 1, 2020, to Mar. 31, 2021, using administrative data from Ontario, Canada. They used multivariable regression analysis to estimate the association between the proportion of a physician's visits that were delivered virtually and the number of emergency department visits among their enrolled patients. The proportion of virtual visits was higher among female, younger and urban physicians, and the number of emergency department visits was lower among patients of female and urban physicians. In an unadjusted analysis, a 1% increase in a physician's proportion of virtual visits was found to be associated with 11.0 (95% confidence interval [CI] 10.1–11.8) fewer emergency department visits per 1000 rostered patients. After controlling for covariates, we observed no statistically significant change in emergency department visits per 1% increase in the proportion of virtual visits (0.2, 95% CI –0.5 to 0.9).⁽¹⁾

RESEARCH METHODOLOGY

Research approach

In the view of the objectives of the present study, quantitative research method and experimental approach was used.

Variables under study

Independent Variable-In the present study, the independent variable refers to the Educational package on telehealth to improve the knowledge of B.Sc nursing final year students.

Dependent Variable-In the present study the dependent variable refers to knowledge of B.Sc nursing final year student on telehealth.

Sample Size: - In this study the sample consisted of 200 B.Sc nursing final year students who were present at college during the period of data collection and who fulfilled the inclusion criteria.

Sampling technique: - Purposive sampling technique was used to select the sample.

Sampling criteria Inclusion criteria: -

1. Students of B.Sc nursing final year attending college.
2. Students of B.Sc nursing final year who are willing to participate.

Exclusion criteria

1. Students of B.Sc nursing 1,2 and 3rd year.
2. Students of B.Sc nursing final year who were not available at the time of data collection in College.

Data collection tool and technique

A structured knowledge questionnaire was prepared to assess the effectiveness of an educational package on telehealth among B.Sc nursing final year students. The tool used in the study consists of two sections. Section A includes baseline data of 5 items of sociodemographic data. Section B includes 20 questions related to knowledge of B.Sc nursing final year students on telehealth.

Validity and reliability of tool

The prepared tool along with statement, objectives, hypotheses and criteria checklist was given to 5 experts for establishing content validity. A score of 0-6 indicates poor knowledge, 7-13 indicates average knowledge and 14-20 indicates good knowledge.

The tool was tested on 10 respondents. The reliability was calculated by using the split half method. The reliability was confirmed by using Karl Pearson coefficient that obtained ' $r = 0.84$ ' which showed the tool was reliable.

Ethical Consideration

The researcher obtained permission from the Renaissance University School of Nursing Indore and LNCT Nursing College Indore to conduct the study at college. Written informed consent was obtained from the participant. The researcher assured the participants of confidentiality and anonymity and no name or any form of identity was indicated on the form and questionnaire.

Pilot study

The pilot study was conducted at Sapphire Institute of Nursing Sciences in Indore. The structured knowledge questionnaires were introduced to 20 respondents who fulfilled the sampling criteria.

Procedure for data collection

The main study was carried out in the same way as that of the pilot study. A total of 200 samples were selected for the study that was in Renaissance University School of Nursing Indore and LNCT Nursing College Indore. The purpose of the study was explained to the respondents and informed consent was obtained. Confidentiality was assured to all the subjects to get their cooperation. A pre-test with the sociodemographic data and structured questionnaire was given to each respondent to assess the knowledge of B.Sc nursing final year students on telehealth. Intervention that is educational package on telehealth has been given. Post-test was administered on the 7th day by using the same questionnaire. The investigator thanked and appreciated all the participants for their cooperation.

Finding And Discussion

The data were analysed according to the objectives of the study using descriptive and inferential statistics.

Section I: Socio-demographic data containing sample characteristic

Section II: Comparison of final year B.Sc nursing students according to their pre- test and post- test knowledge score.

Section III: Evaluate the effectiveness of educational package on Telehealth among B.Sc nursing final year students.

Section I: Socio-demographic data containing sample characteristics would be analysed using frequency and percentage.

Table 1: Frequency and percentage distribution of B.Sc nursing final year students according to demographic variables.

1	Age in years	Frequency	Percentage
	17-20	168	84%
	21-24	20	10%
	25-28	10	5%
	29-32	2	1%
2	Gender	Frequency	Percentage
	Male	30	15%
	Female	170	85%
3	Religion	Frequency	Percentage
	Hindu	156	78%
	Muslim	20	10%
	Christian	24	12%
	Others	0	0
4	Monthly Family Income	Frequency	Percentage
	6000-10000	50	25%
	11000- 15000	18	9%
	16000-20000	12	6%
	Above 21000	120	60%
5	Information source on Telehealth	Frequency	Percentage
	Media	144	72%
	Teacher	26	13%
	Friends	20	10%
	Relatives	10	5%

It is observed that most of the students were in the age group of 17 – 18 years that is 168(84%) out of 200, followed by 20(10%) students under the age group of 21-24 years, the students who were in the age group of 25-28 years comprises 10(5%) and the sample who includes in the age group of 29-32 years were 2(1%). There were 30(15%) males and 170 (85%) females in the present study. Majority of female found in the study. The religion of student was 156(78%) were Hindu, 20(10%) were Muslim and remaining 24(12%) were Christian. There were 50(25%) students have family income between 6000 - 10000, 18(9%) having income 11000-15000, 12(6%) having income 16000-20000 and remaining 120(60%) have income above 21000. There were 144(72%) students have information about telehealth by media, rest from teachers, friends and relative that is 26(13%), 20(10%) and 10(5%) subsequently.

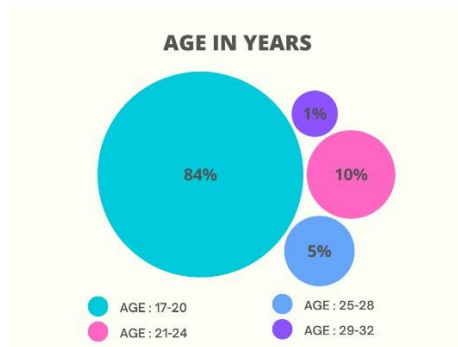


Fig.1: Pie diagram showing distribution according to age

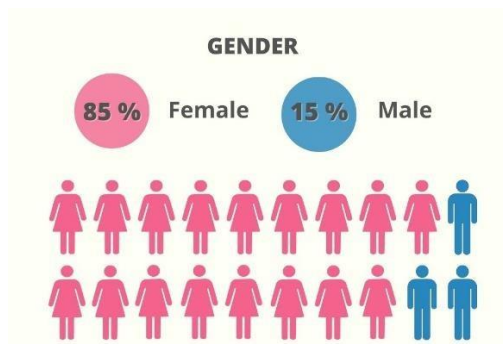


Fig 2: Pie diagram showing gender distribution

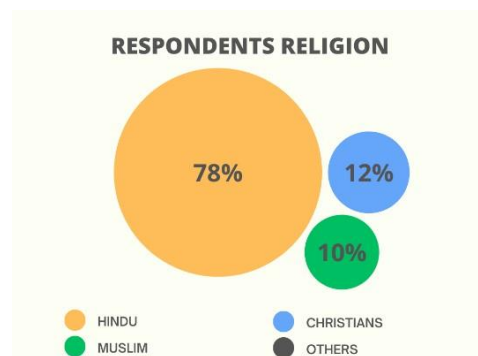


Fig3: Pie diagram showing religion distribution

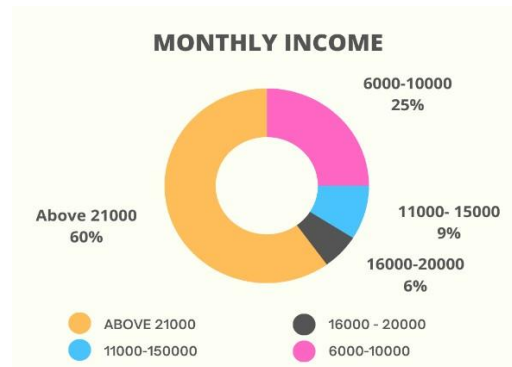


Fig.4: Pie diagram showing monthly income

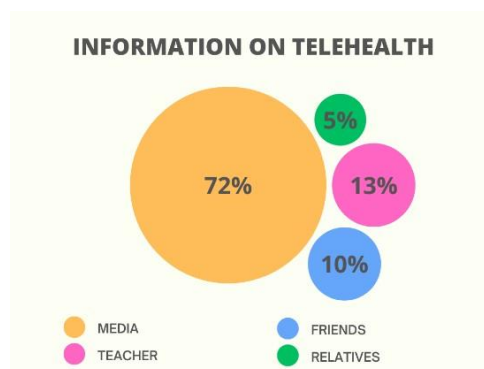


Fig.5 Pie diagram showing awareness on telehealth

Section II: Comparison of final year B.Sc nursing students according to their pre- test and post-test knowledge score.

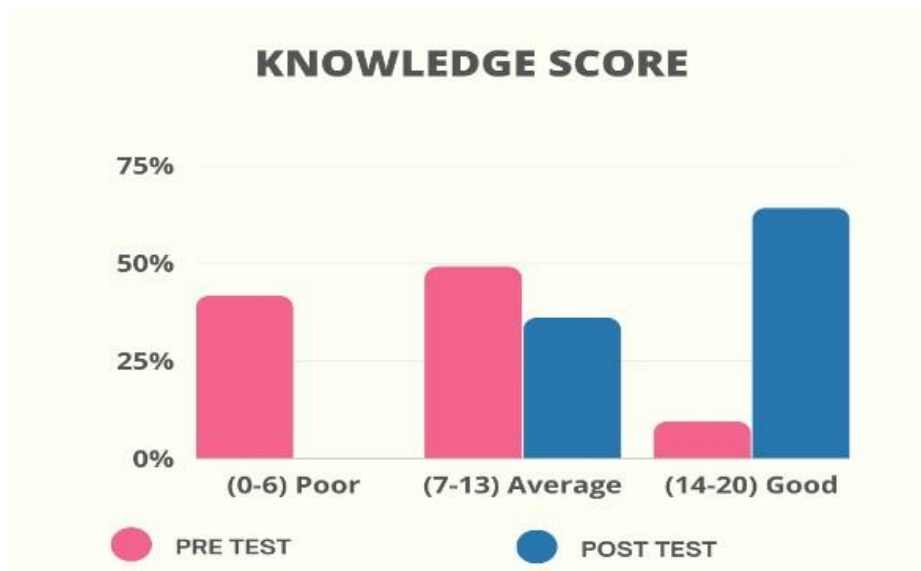


Fig.6: Bar diagram showing the pre-test and post-test knowledge level

The pre interventional score of the samples, show that 83(41.5%) out of 200 had poor knowledge,98(49%) scored averageknowledge and 19(9.5%) had good knowledge about the Telehealth. After providing educational package on Telehealth to the students. The post interventional score of the samples show that 128(64%) students got good score,72(36%) were able to achieve average score.

Section III: Evaluate the effectiveness of educational package on Telehealth among B.Sc nursing final year students.

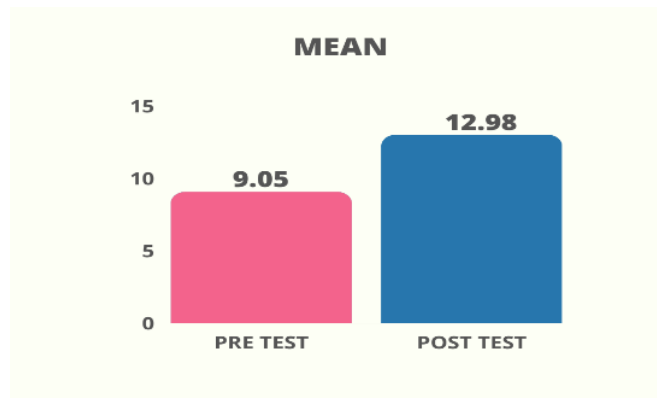


Fig.7: Bar diagram showing comparison of pre-test and post-test mean

It can be clearly seen that the mean score of pretest is 9.05 and posttest is increased by 12.98 and ‘Z’ value was 16.199 which depict that educational package on Telehealth was very effective in increasing knowledge of students.

CONCLUSION

Thus after the analysis and interpretation of the data, we can conclude that the hypothesis RH2 that, “There will be a significant difference in the pre-test and post-test knowledge score of B.Sc nursing final year student on Telehealth is being accepted. From the above results, we can conclude that there was a statistically significant effectiveness seen in knowledge of B.Sc nursing final year student. Thus, the intervention “educational package on Telehealth” was effective in improving the knowledge of students. There was no significant association between pre-test and sociodemographic variable hence RH1 was hypotheses was rejected.

RECOMMENDATIONS

(Further research)

1. A similar study can be replicated on a large sample, there by finding can be generalized for a larger population.
2. A similar study can be conducted with a control group.
3. A study to assess the knowledge of staff nurse on Telehealth technology can be done.
4. A study can be conducted, to assess the knowledge of Telehealth among general public.

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