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EFFECTIVENESS OF LECTURE CUM DEMONSTRATION VERSES VIDEO ASSISTED TEACHING ON KNOWLEDGE REGARDING NORTON PRESSURE ULCER RISK ASSESSMENT AMONG STUDENTS OF SELECTED NURSING COLLEGES.

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Abstract: **Introduction:** Pressure ulcers remain the key complications of prolonged hospitalization, especially in poor nutritional conditions, increased moisture on the skin, prolonged pressure, and sensory stimulation compromised. Pressure ulcers are a major problem, but the implementation of best practice guidelines can prevent ulcers from occurring. Pressure ulcers are widespread in many areas of care, with adverse health effects and high cost of treatment**. Objectives:** To compare the effectiveness of lecture cum demonstration and video assisted teaching methods on knowledge regarding Norton pressure ulcer risk assessment among students of selected nursing colleges. **Study design & Methodology:** Two arm interventional comparative research design was used. A total of 50 nursing students were selected using a non-probability convenience sampling technique and divided equally into two groups (25 in each). Group A received lecture cum demonstration teaching and Group B received video assisted teaching on Norton pressure ulcer scale. Pre-test and post-test knowledge scores were measured using a structured questionnaire. Data were analyzed using descriptive and inferential statistics (paired t-test and chi-square test). **Result**: The result shows that in pretest 4% of nursing students in Lecture-cum-Demonstration and 16% in Video Assisted Teaching had poor knowledge score and 76% of nursing students in Lecture-cum-Demonstration and 80% in Video Assisted Teaching had mild level of knowledge score. Minimum knowledge score in Lecture-cum-Demonstration was 6 and in Video Assisted Teaching it was 5 and maximum knowledge score in Lecture-cum-Demonstration was 16 and in Video Assisted Teaching it was 14. In post-test 12% of nursing students in Lecture-cum-Demonstration Teaching and 80% in Video Assisted Teaching had mild knowledge score and 52% of nursing students in Lecture-cum-Demonstration Teaching and 12% in Video Assisted Teaching had good level of knowledge score. The calculated 't' value i.e. 4.25 are much higher than the tabulated value at 5% level of significance for overall knowledge score of nursing students which is statistically acceptable level of significance. **Conclusion**: It is statistically interpreted that the Lecture cum Demonstration method is more effective than Video assisted Teaching on knowledge regarding Norton pressure ulcer risk assessment scale among Students of selected nursing colleges. Thus, the H1 is accepted.

Keywords: Video assisted teaching, prevention of pressure ulcer, Norton scale, lecture cum demonstration method, Knowledge.

I. INTRODUCTION

In the dynamic landscape of healthcare, where the quality of patient care is contingent upon the proficiency of nursing professionals, the acquisition of essential knowledge and skills is paramount. Among the crucial competencies in nursing, the assessment of pressure sore risk through instruments like the Norton pressure score holds a pivotal role. Ensuring that nursing students not only grasp the theoretical underpinnings but also develop practical proficiency in this area is a continuous challenge faced by educators.[1]This research endeavors to scrutinize and compare the efficacy of two distinct pedagogical approaches—lecture cum demonstration and video-assisted teaching—in enhancing the knowledge of nursing students regarding Norton pressure score risk assessment. The aim is to discern which instructional method proves more effective in imparting a comprehensive understanding of this critical aspect of

patient care.[2]As the healthcare landscape evolves, integrating innovative and effective teaching methods becomes imperative for nursing education. The dichotomy between traditional classroom approaches, characterized by live lectures and demonstrations, and modern, technology-enhanced methods, such as video- assisted teaching, beckons exploration. By focusing on the specific context of Norton pressure score risk assessment, this study contributes to the ongoing discourse on optimizing pedagogical strategies in nursing education.[3] Doreen Norton was a delightful, widely respected nurse who devoted her life to improving the care of elderly people. She researched the neglected problem of pressure sores, revolutionized their nursing care, and thus achieved international fame. Her Pressure Sore Scale was established as a management tool and is still used today. She established research as a valuable nursing tool within her profession and health authorities.[4]The Norton Scale was developed in the 1962s and is widely used to assess the risk for pressure ulcer in adult patients. The five subscale scores of the Norton Scale are added together for a total score that ranges from 5-20. A lower Norton score indicates higher levels of risk for pressure ulcer development. Pressure sore risk assessment, a fundamental aspect of nursing care, plays a pivotal role in preventing and managing debilitating complications for patients with limited mobility. As individuals entrusted with the well-being of patients, nurses are tasked with the responsibility of comprehensively evaluating and addressing the risk factors associated with pressure sores. Among the various tools available for this purpose, the Norton pressure score stands out as a widely recognized instrument, encompassing key indicators such as general physical condition, mental state, activity level, mobility, and incontinence.[5]

I.1 STATEMENT OF PROBLEM

A Study to Evaluate the Effectiveness of Lecture cum Demonstration Verses Video Assisted Teaching on Knowledge Regarding Norton Pressure Ulcer Risk Assessment among Students of Selected Nursing Colleges.

II. OBJECTIVES

1) To assess the pretest knowledge score regarding Norton pressure ulcer risk assessment among students of selected nursing colleges.

2) To evaluate the effectiveness of lecture cum Demonstration on knowledge regarding Norton pressure ulcer risk assessment among students of selected nursing colleges.

3) To evaluate the effectiveness of video assisted teaching on knowledge regarding Norton pressure ulcer risk assessment among students of selected nursing colleges.

4) To compare the effectiveness of lecture cum demonstration and video assisted teaching methods on knowledge regarding Norton pressure ulcer risk assessment among students of selected nursing colleges.

5) To find out the association of the study findings with selected demographic variables.

III. Hypothesis

H_0 – There is no significant difference in knowledge score regarding Norton pressure ulcer risk assessment in lecture cum demonstration and video-assisted teaching method among students of selected nursing colleges.

H_1 - There is significant difference in knowledge score regarding Norton pressure ulcer risk assessment in lecture cum demonstration and video-assisted teaching method among students of selected nursing colleges.

IV. Assumption

Lecture cum demonstration method may be effective on knowledge regarding Norton pressure ulcer risk assessment among students of selected nursing colleges as compared to video assisted teaching method.

V. MATERIALS AND METHODS

5.1 Study design: Two parallel arm interventional research design.
5.2 Study Setting: Selected nursing colleges.
5.3 Sample: 1st semester B.Sc. Nursing students of selected nursing colleges.
5.4 Sample size: 25 students in each group, total -50

The sample size formulae used are as follows:

$$n1 = \frac{(\sigma^2 + \sigma^2/K)\,(z1_{-}\alpha/2 + z1-\beta)^2}{\Delta^2}$$

Mean post-test knowledge in Demo group = 20.20 Mean post-test knowledge in Video group=22.87
σ1= SD of post-test knowledge in Demo group=2.9 σ2= SD of post-test knowledge in Video group=3.2
For detecting mean difference of 2.68 i.e. Δ = 22.87-20.20 = 2.68
$n1$ = Sample size of Group 1
$n2$ = Sample size of Group 2
$\sigma1$ = Standard deviation of Group 1
$\sigma2$ = Standard deviation of Group 2
Δ = different in group means
k = ratio = n2/n1
$Z1-\alpha/2$ = two-sided Z value (e.g. Z=1.96 for 95% confidence interval)
$Z1-\beta$ = power K =1
N = (2.9*2.9+ 3.2*3.2) (1.96+0.84)2 2.68*2.68
= 20.51
Power of the Test: 80% Level of significance: 5%
Based on sample size calculation, it is estimated to have 21 samples, among which 10% of dropouts was expected in this study. Therefore, the final sample size will be 23. The final sample size will be 25 For each group. For two groups it will be 25+25 = 50.

I.5 Sampling Criteria

Inclusion Criteria: Students those are giving informed written consent and willing to participate in study. Students of B.Sc. (N) 1st semester.

Exclusion Criteria: Students who undergone similar training on Norton pressure ulcer assessment scale.

I.6 Sampling technique

Non- probability convenience sampling technique.

I.7 Variables

Independent Variables- Lecture cum demonstration and video assisted method

Dependent Variables- Knowledge regarding Norton pressure ulcer risk.

Demographic variables- Age, gender, professional education, and previous knowledge of Norton scale.

I.8 Data Collection Tool

Section – A

It consists of demographic profile of the students i.e. Age, gender, professional education, and previous knowledge of Norton scale. Semi-structured questionnaire on demographic variable.

Section – B

The questionnaire consisted of 30 questions on knowledge regarding Norton pressure ulcer risk assessment scale. Score 1 was given for each correct answer for every questionnaire and 0 for wrong answer. The total score is 30. No negative scoring was given. Knowledge was graded from poor to excellent based on knowledge score. Minimum score is 0 and maximum score is 30. poor, average, good, very good, excellent is categorized for rating knowledge.

I.9 Validity and Reliability Tool

Content Validity:

The content validity of the Norton Pressure Ulcer Risk Assessment Scale was established using the scale Content validity Inde x (S-CVI) which was found to be 0.89, indicating strong agreement among experts regarding the relevance and clarity of the items. The content validity of the tool was determined by 15 experts including Medical Surgical Nursing, statistician etc.15 was received back. The experts include Medical surgical Nursing experts-14, Statistician-1. Valuable suggestion was given by experts. Necessary correction was made before Data collection.

Reliability Tool:

The questionnaire was said to be reliable if the correlation coefficient was more than 0.7. By using Parallel form method of reliability, it is found to be 0.9610 for Lecture-cum- Demonstration Method and 0.9539 for Video Assisted Teaching Method for knowledge score and hence tool is reliable and valid.

I.10 Description of Intervention

A self-structured questionnaire was developed to assess knowledge regarding the prevention of pressure ulcers using the Norton Pressure Ulcer Risk Assessment Scale. The study involved two groups of 25 students each. One group received video-assisted teaching, while the other was taught using a lecture-cum-demonstration method. For the lecture group, a 45-minute session was conducted, including a demonstration of pressure ulcer assessment using the Norton scale. The second group was shown a video illustrating the use of the Norton Pressure Ulcer Risk Assessment Scale. The teaching covered key aspects such as the definition, their stages, pathophysiology of pressure ulcer, the components, gradings, of the Norton pressure ulcer risk assessment scale, and preventive measures. A post- test assessment was conducted on the 7th day to evaluate the effectiveness of the interventions.

II. STATISTICAL ANALYSIS

This chapter deals with analysis and interpretation of the data collected from 50 samples who were B.Sc. nursing students. The present study has been taken up to assess the effectiveness of Lecture-cum-Demonstration versus Video Assisted Teaching on knowledge regarding Norton Pressure Ulcer Risk Assessment among students of selected nursing Colleges. Analysis and interpretation are based on the objectives of the study. A structured questionnaire to collect the knowledge score was used for data collection. The analysis was done with the help of inferential and descriptive statistics.

III. RESULT

Distribution of Nursing students with regards to their demographic characteristics**.**

- 72% of nursing students in Lecture-cum-Demonstration and 84% in Video Assisted Teaching were in the age group of 18- 20 years, 20% in Lecture-cum- Demonstration and 16% of them in Video Assisted Teaching were in the age group of 21-23 years and 8% of them in Lecture-cum-Demonstration Teaching were in the age group of 24-25 years.
- 36% of nursing students in Lecture-cum-Demonstration and 16% in Video Assisted Teaching were males and 64% of nursing students in Lecture-cum- Demonstration and 84% in Video Assisted Teaching were females. All (100%) of nursing students in Lecture-cum-Demonstration and in Video Assisted Teaching were from first year nursing.
- 20% of nursing students in Lecture-cum-Demonstration and 16% in Video Assisted Teaching had previous knowledge about Norton Pressure Ulcer Assessment Scale.

Table no.1 **Percentage wise distribution of Nursing Students according to their demographic characteristics.**

n=50 (25 each group)

Demographic Variables	**Lecture-cum-Demonstration**	**leo Assisted Teaching**
Age (yrs)		
<18 yrs	0(0%)	0(0%)
18-20 yrs	18(72%)	21(84%)
21-23 yrs	5(20%)	4(16%)
24-25 yrs	2(8%)	0(0%)
Gender		
Male	9(36%)	4(16%)
Female	16(64%)	21(84%)
Other	0(0%)	0(0%)
Educational Status		
First Year	25(100%)	25(100%)

Second Year	0(0%)	0(0%)
Third Year	0(0%)	0(0%)
Final Year	0(0%)	0(0%)
Knowledge about Norton Pressure Ulcer Assessment Scale		
Yes	5(20%)	4(16%)
No	20(80%)	21(84%)

2. Association of level of post-test knowledge score regarding prevention of pressure ulcer using Norton pressure ulcer risk assessment scale among students in selected nursing colleges in relation to demographic variables

- The findings show the association of knowledge score regarding Norton Pressure Risk Assessment among nursing students from selected nursing colleges of the city with their educational status. The tabulated 'κ2' values was 5.99(df =2) which is higher than the calculated 'κ2' i.e. 1.19 at 5% level of significance. Also, the calculated 'p'=0.55 which was higher than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that educational status of nursing students is statistically not associated with their post-test knowledge score.

- Table 2: Comparison of mean difference in knowledge score of Lecture-cum-Demonstration and Video Assisted Teaching method among nursing students from selected nursing colleges. n =25

Method	Mean	SD	t-value	p-value
Lecture-cum-Demonstration	5.80	3.61	4.25	0.0001 S,p<0.05
Video Assisted Teaching	1.64	3.28		

The unpaired t-test (df=48) showed a calculated value of 4.25, which is greater than the tabulated value of 2.00 at 5% significance. This indicates a significant difference in knowledge scores between Lecture-cum-Demonstration and Video Assisted Teaching methods, hence the research hypothesis (H_1) is accepted.

VII. CONCLUSION

In this chapter, different aspect of study in terms of analysis and interpretation are discussed. The study reveals mean pretest knowledge score was 9.04 in video assisted teaching,10.92 was lecture cum demonstration method and mean post-test knowledge score was 10.68in video assisted teaching,16.72 in lecture cum demonstration method. The calculated 't' value i.e. 2.49 are much higher than the tabulated value at 5% level of significance for overall knowledge score of nursing student which is statistically acceptable level of significance. Hence it is statistically interpreted that lecture cum demonstration method is more effective than video assisted teaching on knowledge regarding prevention of pressure ulcer using Norton pressure ulcer risk assessment scale in selected nursing colleges was effective. Thus, H_1 is accepted and H_0 is rejected.

DISCUSSION

A research study conducted in the year may 2023 to evaluate the Effectiveness of Lecture cum Demonstration Verses Video assisted teaching on knowledge regarding Norton pressure ulcer risk assessment among students of selected nursing colleges, quantitative research approach was considered appropriate. The study was conducted in selected nursing colleges. The rationale for selecting the present setting for the study was researcher's familiarity with the setting, convenience, feasibility, expected cooperation from the authorities in getting permission, language and geographical proximity, high delivery census and adequate student ratio. The researcher selected 50B.Sc. nursing Students who fulfill the inclusion criteria of the study by using convenience sampling technique.

A study conducted by David D, Kaur S, Siddiqui A, Sarin J. Efficacy of Lecture cum demonstration versus videotape- grounded tutoring in terms of knowledge and chops of GNM scholars This was a quasi-experimental study conducted on 100 GNM third- time scholars named by intentional slice and aimlessly assigned to TV (n = 50) and VBT (n = 50) groups. Sample characteristics perform a, Structured Knowledge Questionnaire, and experimental roster were used to collect data from GNM scholars through tone- Grounded on the findings of the study, it can be concluded that both TV and VBT group were set up to be inversely effective in perfecting the knowledge and chops of GNM scholars by experimental fashion.[6]

Ethical consideration:

Research proposal was approved by institutional ethical committee of government medical college Nagpur (IEC 2100 Dated 23.2.2024). Prior permission was taken from the authority of the education. Informed written consent taken from the study subject. Maintained confidentiality and anonymity of the subject. Assured freedom to withdraw from the study any time to the study subject.

Limitations:

The study was conducted on student nurse. The sample size was small to generalize the findings of the study.

Recommendations:

A similar study can be replicated on a larger population for a generalization of findings.

Conflict of Interest:

There is no conflict of interest in this study. No any risk factors to the subjects of the study.

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