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Original Article

COMPARISON OF TRADITIONAL VERSUS VIDEO BASED TEACHING ON NEUROLOGICAL ASSESSMENT AMONG UNDERGRADUATE NURSING STUDENTS

Sushma Prabhu
Assistant Professor, Nitte Usha Institute of Nursing Sciences, Nitte University,
Mangalore - 575 018, India

Correspondence:
Mobile: 09964242765 Email : sushmarathna@gmail.com

Abstract:

Background: The new computer assisted and interactive video instructions have been merged into teaching system as an efficient method. This method is an effective medium for student learning, regardless of discipline and its potentials have encouraged instructors and learners to opt this method.

Purpose: The current study has aimed to compare the traditional lecture method with video based teaching, in improving the knowledge and skill of Undergraduate Nursing students on Neurological assessment.

Methods: This quasi experimental study was conducted on 30 undergraduate nursing students who were randomly assigned to two groups. Group A attended a lecture cum demonstration method and group B underwent video based teaching on neurological assessment. Learning level of both the groups was compared by using independent't' test.

Results: In both the groups the post test scores were significantly higher than the pretest scores, but there was no statistically significant difference between group A and B. Hence both the teaching methods were found to be equally effective in improving the knowledge and skill of undergraduate nursing students on neurological assessment.

Keywords: video based lecture, traditional lecture, learning, undergraduate nursing students, teaching, knowledge and skill.

Introduction:

One of the most important principles in education is adopting a teaching method in concordance with objectives, contents, and learners. New research indicates that people can learn more and at a faster rate, than was previously thought, by means of improved teaching strategies' aimed specifically at enhancing memory storage and retrieval, cognition and learning [1].

Multimedia, is the combination of various digital media types such as text, images, audio and video, into an integrated multi-sensory interactive application or presentation to convey information to an audience. By incorporating digital media into the system of education, the students are able to learn better since they use multiple sensory modalities, which would make them more motivated to pay more attention to the information presented and retain the information better. In this paper we focus on comparing the traditional lecture method with video based teaching in improving knowledge and skill of undergraduate nursing students on neurological assessment.

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Statement of the problem:

A study on "comparison of traditional versus video based teaching on neurological assessment among undergraduate nursing students in selected college of Mangalore"

Objectives:

1. To assess the knowledge and skill of undergraduate nursing students on neurological assessment.
2. To find out the effectiveness of traditional lecture cum demonstration on neurological assessment.
3. To find out the effectiveness of video based teaching on neurological assessment.

4. To compare the effectiveness of Traditional lecture method and video based teaching on neurological assessment.

Hypotheses:

All hypotheses are tested at 0. 05 level of significance.

H_1: There will be a significant difference between pre and post test knowledge and skill scores of undergraduate nursing students of Group A.

H_2: There will be a significant difference between pre and post test knowledge and skill scores of undergraduate nursing students of Group B.

H_3: There will be a significant difference between post test knowledge and skill scores of Group A and Group B.

Material and Methods:

Study has adopted evaluative approach and quasi experimental design. 30 undergraduate nursing students were selected from third year BSc.Nursing by simple random sampling technique, and they were randomly assigned to two groups. Group A attended a lecture cum demonstration method and group B underwent video based teaching on neurological assessment. The data were collected from pretest and post test by using structured knowledge questionnaire and an observational checklist on neurological assessment. Knowledge questionnaire consisted of 22 multiple choice questions and each correct response was scored one and wrong response was scored zero. Observational checklist on neurological assessment consisted of 67 steps of neurological assessment, which includes pre procedure, Glasgow coma scale,mental status examination, assessment of cranial nerves, reflexes and post procedure care. This was rated by the researcher as yes or no. The correct step was scored one and incorrect step as zero. Validities were determined by content validity evaluation. Reliability of the knowledge questionnaire was found out by using split half method, and reliability of observational checklist was found by inter rater method and found reliable.

The structured knowledge questionnaire and an observational checklist were administered on day 1 to assess the pretest knowledge and skill on neurological assessment. After the pre test they were exposed to two different teaching sessions on neurological assessment.

The traditional lecture method with the demonstration was administered for group A. At the same time Group B was administered with video based teaching on neurological assessment. To minimize the contact between two groups, the post test was given after 1 week of each presentation. The difference between pretest and posttest scores was considered as their learning level and was categorized in three levels as poor, average and good. Data were analyzed by using descriptive and inferential statistics.

Results and Discussion:

Objective 1: To assess the knowledge and skill of undergraduate nursing students on Neurological assessment

Table1: In the group A(Traditional Lecture cum demonstration method)pre test results of the study reveals that, 73.3% of the students were having poor knowledge and 26.6% had average knowledge on neurological assessment, post test results shows that 26.6% of students had good knowledge, 66.6% had average and only 6.6% had poor knowledge on neurological assessment.

In Group B(Video based teaching) pretest results revealed that 40% of the students had poor knowledge and 60% had good knowledge on neurological assessment, post test results shows that 86.6% of the students had average knowledge and 13.3% had good knowledge after attending video based teaching sessions on neurological assessment

Table 2: In the group A (Traditional Lecture cum demonstration method) pre test results of the study reveals that, 66.6% of the students had poor skill and 33.3% had average skill on neurological assessment, post test results shows that 60% of students had average skill, 40% had gained good skill on neurological assessment.

Keywords : video based lecture, traditional lecture, learning, undergraduate nursing students, teaching, knowledge and skill.

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In Group B(Video based teaching) pretest results revealed that 66.6% of the students had poor skill and 33.3% had average skill on neurological assessment, post test results shows that 86.6% of the students had average skill and 13.3% had gained good skill after attending video based teaching sessions on neurological assessment.

Objective 2: To find out the effectiveness of traditional lecture cum demonstration on Neurological assessment

Table 3 shows that the mean post test knowledge and skill scores were significantly higher than the mean pretest scores, hence traditional lecture cum demonstration method was effective in improving knowledge and skill of undergraduate nursing students on neurological assessment.

Table 4 shows that the mean post test knowledge and skill scores were significantly higher than the mean pretest scores, hence video based teaching was effective in improving knowledge and skill of undergraduate nursing students on neurological assessment.

This supports the study conducted by Nasab *et al* on effect of video based instruction on students' cognitive learning showed that the difference of the pretest and posttest scores between the two groups was not statistically significant. However, in each group the posttest scores were significantly higher than the pretest scores [1].

Objective 4: To compare the effectiveness of Traditional lecture method and video based teaching on neurological assessment

Table 5 and 6 shows that there is no significant difference in knowledge and skill of students of group A (lecture cum demonstration) and group B (video based teaching)

Hence both the methods were found to be equally effective in terms of gain in knowledge and skill on neurological assessment. This study supports the study conducted by schare *et al*. They found that both lecture and video instructions were equally effective, with video achieving slightly better result [2].

This also supports the study conducted by Nikopoulos C, Smyrni NP. On evaluating the impact of video based versus traditional lectures on students learning, they found that all of the students 'responding was higher during intervention and follow-up conditions demonstrating that video based lectures were at least as equally effective as standard teaching lectures. Nevertheless, average performances of all students demonstrated a slight superiority of video based lectures over traditional ones [3].

Table 1 - Frequency distribution of Pre test and post test Knowledge scores of group A (lecture cum demonstration) and group B (video based teaching) N=15

	Group A		Group B	
	Pre test	Post test	Pre test	Post test
Poor (1-7)	11(73.3%)	1(6.6%)	6(40%)	0(0%)
Average (8-14)	4(26.6%)	10(66.6%)	9(60%)	13(86.6%)
Good (15-22)	0(0%)	4(26.6%)	0(0%)	2(13.3%)

Table 2 - Frequency distribution of Pre test and post test skill scores of group A (lecture cum demonstration) and group B (video based teaching) N=15

	Group A		Group B	
	Pre test	Post test	Pre test	Post test
Poor (1-22)	10(66.6%)	0(0%)	10(66.6%)	0(0%)
Average (23-45)	5(33.3%)	9(60%)	5(33.3%)	13(86.6%)
Good (46-67)	0(0%)	6(40%)	0(0%)	2(13.3%)

Keywords : video based lecture, traditional lecture, learning, undergraduate nursing students, teaching, knowledge and skill.

Table 3 - Distribution of the t value between pre test and post test knowledge and skill scores of Group A. N=15

	Mean	Mean difference	Standard deviation difference	t value	df	LOS
Pre test knowledge scores	6.33	5.6	3.18	6.82	14	0 p<0.05 HS
Post test knowledge scores	11.93					
Pre test skill scores	19.8	-2.27	9	9.79	14	0 p<0.05 HS
Post test skill scores	42.53					

Table 4 - Distribution of the t value between pre test and post test knowledge and skill scores of Group B. N=15

	Mean	Mean difference	Standard deviation difference	t value	df	LOS
Pre test knowledge scores	7.6	5.8	4.77	4.71	14	0 p<0.05 HS
Post test knowledge scores	13.4					
Pre test skill scores	19.27	-1.826	12.39	5.708	14	0 p<0.05 HS
Post test skill scores	37.53					

Table 5 - Comparison of knowledge scores of group A and B. N=30

Group	Mean	Mean difference	Standard deviation difference	t value	df	LOS
Group A	-5.6	0.266	4.33	0.192	28	0.849 p>0.05 NS
Group B	-5.33					

Table 6 - Comparison of skill scores of group A and B. N=30

Group	Mean	Mean difference	Standard deviation difference	t value	df	LOS
Group A	-22.73	4.46	3.95	1.13	28	0.268 p>0.05 NS
Group B	-18.26					

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