

A Study to Assess the Effectiveness of Video Assisted Teaching Programme Versus Lecture cum Demonstration Method of Teaching on Neurological Assessment among III Year B.Sc Nursing Students of Selected Private Nursing Colleges at District Kangra, Himachal Pradesh

Running Title: "Comparative Effectiveness of Video-Assisted Teaching versus Lecture-Demonstration on Neurological Assessment Knowledge among Nursing Students."

Ruchika Sharma

Guru Dronacharya College of Nursing Yol, Dharamshala, Himachal Pradesh, India

Abstract: ***Background:** Neurological assessment is multifaceted and critical nursing skill required to detect early changes in patient status. Selecting effective pedagogical strategy is vital for nursing educators to bridge the gap between theory and clinical practice. **Objective:** To compare the effectiveness of Video-Assisted Teaching (VAT) and Lecture-cum-demonstration method (LCD) on knowledge regarding neurological assessment among B.Sc. Nursing III-year students. **Methods:** This study evaluates the effectiveness of video-assisted teaching and lecture-cum-demonstration methods in improving neurological assessment knowledge among third-year nursing students. A true experimental design was applied to 120 students selected through probability sampling and allocated into two groups (Exp group LCD method & Exp group 2 VAT method). Knowledge was measured using a validated 30-item questionnaire before and after intervention. Both methods significantly improved knowledge scores ($p < 0.001$). The lecture-cum-demonstration group showed a greater mean improvement compared to the video-assisted teaching group. These findings indicate that while both approaches are beneficial, demonstration-based instruction is more effective for complex clinical skill acquisition. The results support integrating interactive demonstration methods into nursing education to enhance competency development. was used. **Results:** Both methods significantly improved knowledge scores ($p < 0.001$). The LCD group's mean score increased from 16.93 to 20.37, while the VAT group's mean increased from 16.33 to 20.17. Statistical analysis showed both methods were effective, the LCD method was significantly more effective than VAT (t -value 6.806 vs 4.939). **Conclusion:** Although educational videos provide sensory-rich learning, the traditional lecture-cum-demonstration method remains superior for teaching complex clinical skills like neurological assessment.*

Keywords: LCD (Lecture Cum Demonstration), Neurological assessment, Nursing Education, (VAT) Video-assisted teaching, Experimental study

1. Introduction

Education facilitates the acquisition of skills, values, and habits. In the specialized field of nursing, the neurological assessment is fundamental to patient care, encompassing mental status, cranial nerves, motor/sensory systems, coordination, and gait. It is an essential basis for identifying life-saving interventions and monitoring disease progression.

Despite its importance, neurological assessment is often perceived as a challenge by student nurses due to the complexity of the nervous system. Traditional didactic lectures may inadequately convey the practical nuances of these examinations. Consequently, educators are turning toward interactive methods. The Lecture-cum-demonstration (LCD) method involves "demonstration, performance and explanation" which helps illustrate the coordination of "head, heart, and hands". Conversely, Video-Assisted Teaching (VAT) offers sensory-rich and repeatable learning experiences that help students form mental models of moving events. This study seeks to determine which of these two modern approaches is more effective for nursing education.

2. Need for the Study

Neurological disorders are a rising global health challenge, affecting about one billion people estimated by World Health Organization (WHO) and serving as a leading cause of disability-adjusted life years (DALYs). Globally, there are roughly 6.6 million to 7 million deaths from stroke annually across the entire world. In Himachal Pradesh according to Disease burden Profile neurological disorders affect 1.2% to 0-14 years, 8.2% to 15-39 years, 6.1% to 40- 69 years, 6% to 70 years and above. Nurses, as frontline workers, must be masters of neurological examination to provide comprehensive care and detect subtle changes in patient status. Inadequate knowledge among students can lead to critical oversights in clinical settings. Therefore, identifying the most effective teaching medium is a public health necessity.

3. Methodology

- 1) **Research Design:** The study utilized a true experimental research design to evaluate the impact of teaching interventions.

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- 2) **Setting and Population:** The study was conducted in selected private nursing colleges in District Kangra, Himachal Pradesh. The target population consisted of all III-year B.Sc. Nursing students in the region.
- 3) **Sample:** A sample of 120 students was chosen using probability simple random sampling (random number table method).
- 4) **Instruments:** * **Tool I:** Socio-demographic data sheet (age, residence, previous exposure).
 - **Tool II:** A 30-item structured knowledge questionnaire ("Score 0 to 30; scores of 21 to 30 indicating "Good" knowledge).
 - **Tool III:** A researcher-developed video on neurological examination (30-35 minutes).
 - **Tool IV:** An observation checklist comprising 39 items to evaluate procedural steps.
- 5) **Ethical Considerations:** The researcher obtained formal approval from the institutional ethical committee, and written informed consent was secured from all participants. Confidentiality and anonymity were strictly maintained.

4. Results

4.1 Demographic Profile

The majority of participants (96.7%) were between 20-22 years of age. In experimental group 2, 86.7% had previous exposure to the topic, primarily through teachers (60%), whereas experimental group 1 had significantly less prior exposure (76.7% had no source of information).

4.2 Knowledge Scores

Pre-test results showed that 90% of the LCD group and 96.7% of the VAT group possessed "average" knowledge. Following the interventions, the proportion of students with good knowledge significantly increased:

- **LCD Group (Exp 1):** 60% of students reached the "good" knowledge level.
- **VAT Group (Exp 2):** 53.3% of students reached the "good" knowledge level.

4.3 Comparative Effectiveness

The paired t-test demonstrated significant improvement in both groups ($p < 0.001$). However, the mean difference was higher in the LCD group (3.433) compared to the VAT group (3.833 relative to their specific pre-scores). Statistical comparison led to the acceptance of the research hypothesis (H₂) that the lecture-cum-demonstration method is more effective than video-assisted teaching for this specific clinical skill.

4.4 Association with Demographic Variables

A strong statistical association was found between pre-test knowledge scores and previous exposure to the topic, the source of information, and prior practice in the clinical area. Variables such as age and place of residence did not show a significant association with knowledge levels.

5. Discussion

The findings of this study reinforce the value of demonstration-based learning in nursing. While VAT provides instructional advantages like pattern recognition and visual cues, LCD allows for real-time interaction, immediate clarification, and a tangible bridge between theory and practice. The results mirror earlier studies where demonstration methods were found to be more effective for clinical skill acquisition than self-learning modules. The superiority of LCD in this study suggests that for complex physical assessments, the presence of an instructor who can "show and illustrate" remains highly effective.

6. Conclusion and Recommendations

Both video-assisted teaching and lecture-cum-demonstration methods significantly enhance neurological assessment knowledge among nursing students. However, lecture-cum-demonstration demonstrates greater effectiveness for complex clinical skill learning. These findings suggest that interactive and instructor-led approaches should be prioritized in nursing curricula. Future studies should examine long-term knowledge retention, include diverse populations, and assess practical skill performance to strengthen educational strategies.

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