

Effect of Video vs Lecture Cum Demonstration in Improving the Knowledge and Skill regarding External Ventricular Drain among Nursing Interns

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Background

Video-assisted instruction is innovative and effective in clinical training. However, videos of high quality are essential to enhance learning. Video is a preferred teaching aid for specific procedures, due to the high acceptance by students and learning effectiveness (Weber, U., et al. (2016)
Clinical educators in the study setting look into innovative and effective ways to teach advanced skills such as extra ventricular drain (EVD) in new interns.

Methods

The study utilized quasi-experimental research with a post-test only design. The experimental group was exposed to video on EVD, and the control group to lecture cum demonstration on EVD.
The research sites were located in King Fahad Medical City (. Nurse interns who underwent the internship program in the setting at the time of the study were considered as the participants in the study. Theses were with no prior knowledge about the procedure. The sample size was (N=40).

Objectives

This study aimed at the development of a high-quality educational video to see the effect of video versus lecture cum demonstration in improving the knowledge and skill regarding extra ventricular drain among nurse interns

Results

The results revealed that the lecture group had a slightly high knowledge score compared to the video group, but the difference was not significant (p=0.583). The mean score was 68.2+/- 21.1 in the lecture group, while it was 78.5+/-21.6 in the video group. Thus the video group had a significantly high total skill score compared to the lecture group (p=0.034).
The odds of attaining a high 'Overall Percentage Skill Score' were 1.003 times more in video EVD (95% CI: 1.003 – 1.053); otherwise, the difference was not significant. Moreover, the association of EVD with all six studied variables is 13.4%.

Table 1: Demographic characteristics of the respondents that attended EVD training

Characteristic	Description	Control	Experimental	p-value
Gender	Female	26 (65.0)	26 (65.0)	1.000
	Male	14 (35.0)	14 (35.0)	
University	Private	6 (15.4)	2 (5.1)	0.263
	Government	33 (84.6)	37 (94.9)	
Age (yr)	min - max	22 - 30	22 - 32	0.793
	Mean ± SD	23.5 ± 1.7	23.4 ± 1.7	
Grade	min - max	2.5 - 4.8	2.2 - 4.6	0.991

Table 4: Multiple logistic regression showing association of knowledge and skill with socio-demography characteristics and overall percentage score

Factor (Reference)	Odds ration	95% C.I.		p-value
		Lower	Upper	
Gender (Female)	1.005	0.316	3.202	0.993
Age	0.962	0.688	1.345	0.822
Grade	0.743	0.247	2.235	0.597
University (Private)	3.264	0.472	22.578	0.231
Total Percentage Knowledge Score	0.979	0.951	1.008	0.148
Total Percentage Skill Score	1.028	1.003	1.053	0.027
Constant	1.387			0.949
R ² = 0.134				

Discussion

The present study findings reported no significant difference in the knowledge gain by video and lecture groups except for the scenario-based questions. Numerous studies revealed classroom instruction and video were equally effective to enhance the knowledge of the procedure (Fayaz, A., et al. (2015)18), (Saiboon, I. M., et al. (2016)19). Concerning the skill score, the video group performed better than the lecture group in the present study. Other studies had previously shown the effectiveness of video presentation (Chang, C. Y., et al (2019), (Darban, F., et al 2019).
Literature also suggests the importance of combining the multimedia method with traditional methods when teaching complex procedures (Inuwa, A., et al 2017). The findings of this study parallels those of the literature, supporting the combined use of educational strategies to produce significant benefits. Hence it is ideal to use a combination of teaching methodologies to teach theoretical knowledge and clinical skill.

How to improve ?

This will open the way to create a change in the methodology of teaching the clinical skill.
This study will provide evidence to the nursing education and administrative department to initiate strategies to improve the quality of clinical education.
These can be a cost-effective intervention in the long run..

Conclusions

Currently much emphasis is given to incorporating innovative methods in clinical education. The study revealed both methods were effective in knowledge gain, though the skill performance of the student was slightly better in the video group over the traditional one. The study concluded, that the use of video can be useful in teaching advanced clinical skills in conjunction with other teaching methods. Equally, it is necessary to be able to use multiple educational strategies to improve learning effectiveness.

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