



"EFFECTIVENESS OF BLENDED LEARNING FOR TEACHING CARDIAC DISORDERS ON NURSING STUDENTS' LEARNING OUTCOMES AND ATTITUDE"

Nursing

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ABSTRACT

An estimate of about 26 million individuals across the world are affected by Heart Failure. There is a necessity of using e-learning in Nursing profession, because nurses need access to updated information on diseases, treatments and new skills. The purpose of the study was to find out the effectiveness of Blended learning on Nursing Students' learning outcomes regarding management of cardiac disorders. A True-Experimental study was conducted among 40 nursing students.

The results revealed that mean post-test knowledge and skills scores in Blended learning group were not significantly higher than Conventional learning group. Further, mean post-test clinical decision-making scores in Blended learning group were significantly higher than the Conventional learning group.

Conclusion: Blended Learning was effective in improving the learning outcomes of Nursing Students in terms of Critical Decision-making. There was a favourable attitude of Nursing Students towards Blended Learning.

KEYWORDS

Blended Learning, Nursing Students, Learning Outcomes, Attitude

INTRODUCTION

Cardiovascular diseases (CVDs) are known to be one of the foremost causes of disability and untimely death across the world. Each year, around 17.9 million people die from CVDs making an estimate of approximately 31% deaths that occur worldwide. Heart attack and stroke are responsible for causing 85% of all CVD deaths. ("Cardiovascular diseases (CVDs)," n.d.) People with CVDs require early detection and management through counselling, medications or lifestyle modifications. As healthcare professionals, nurses are presumed to deliver health education to the patients as well as general population so as to promote their health. The knowledge about CVDs is not merely limited to the understanding of anatomy and physiology of heart but it also involves knowledge about the risk factors, diet, medications and self-management skills of patients.(Hart, Spiva, & Kimble, 2011)

Education in Modern World has been transformed into learning that occurs immediately, self-driven and online or it can be said as on the go learning. One of the important milestones developed and established in India is E-learning.(Chatterjee Shivaji, n.d.)

In health care field, E-learning is a very fast-growing method of teaching which has increased the fortuity for an interactive, flexible and convenient education to the students. In order to fulfil the needs of changing society, nursing education must equip the students so as to develop clinical skills and judgment to an extent that they are able to apply the knowledge gained in class along with the use of technology to address the health issues.(Patricia Benner, Molly Sutphen, 2012)

E-learning nowadays is used as a complementary strategy in traditional training. Application of e-learning enables saving of time and money and also sharing of information among the students and teachers possible. And a subsequent increase in the level of students' motivation and contentment can be achieved.(Kaveevivitchai et al., 2009; Rahim Baghaie et al., 2012)

The nursing students are required to possess a complete learning of the clinical skills so as to provide secured care to the patients. Thus, to maximize learning among the students, most effective methods of training skills are to be used. In order to be affirm that the nursing students are prepared and taught well and are fortunate in making a positive difference in 21st century healthcare, then blended learning is a mandate and not an option.-----("BLENDED LEARNING IN SCHOOL OF NURSING," n.d.)

Despite development of technology in the field of nursing education, there is dearth of studies on effectiveness of blended learning for teaching cardiac disorders and their management.

The aim of this study was to compare the effectiveness of blended learning i.e. combining e-learning and conventional learning with

conventional learning alone on nursing students' learning outcomes and attitude.

MATERIALS AND METHODS

It was a cross sectional study conducted among Nursing students studying in nursing colleges at Punjab and Haryana. A total of 40 nursing students who fulfilled the inclusion criteria were allocated randomly into two groups (20 in Blended Learning & 20 in Conventional Learning). The students in the blended learning group received teaching on cardiac disorders and their management by a combination of structured intervention and conventional learning whereas the students in the conventional learning group received teaching by conventional method only.

The nursing students absent during data collection were excluded from the study.

The structured intervention contained the topics thoroughly validated by experts and uploaded on the web portal under the web link www.kanika.sellnimo.com. User names and passwords were created and it was ensured that the students were able to login and view the content on the web. Then, the students' progress of reading the content was regularly monitored by the researcher and text messages were sent to the students for motivating the students to finish reading the content. On 15th day after completion of teaching of cardiac disorders in both the Selection of Nursing Colleges from Distt. Patiala and Ambala (using Cluster Sampling technique)groups, post-test was taken. The CONSORT diagram is depicted in Figure 1.

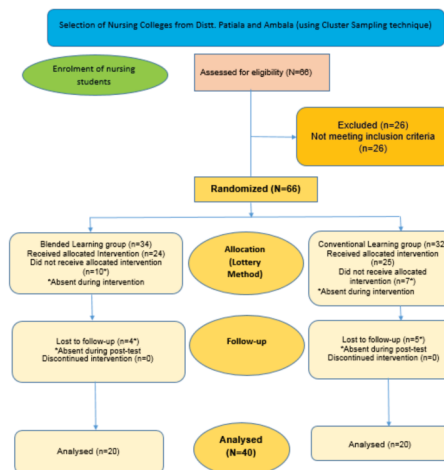


FIGURE 1: CONSORT showing sample selection

RESULTS

The scores obtained were coded into master data sheet and the analysis was carried out using SPSS Version 21.0.

In our study, all (100%) nursing students were females. Most of the students in conventional learning (90%) and blended learning (75%) were not having any computer training experience. Next, maximum number of students in conventional learning (80%) and blended learning (70%) were not having e-learning experience.

The extent of difference between the learning outcomes in both the groups was analysed using unpaired t-test. The mean knowledge and skills scores in blended learning group were higher but there was no significant difference between the groups. The results further showed a significant difference in the mean clinical decision-making scores and attitude of Nursing students regarding Blended Learning. (Table 1)

N=40

Table 1. Knowledge, skills and Clinical Decision-making and attitude scores

	Blended Learning (n=20)	Conventional Learning (n=20)	t (p-value at df=38)
Knowledge	17.05 (4.33)	15.70 (3.38)	1.097 (0.403)
Skills	12.65 (2.81)	11.85 (6.09)	0.533 (0.279)
Clinical Decision-making regarding MI	13.40 (1.67)	11.40 (2.39)	3.067 (0.004*)
Clinical decision-making regarding Heart Failure	16.85 (3.98)	12.60 (3.17)	3.738 (0.001*)
Attitude	372.60.68 (63.98)	323.00 (43.66)	2.86 (0.007*)

DISCUSSION

The findings of the present study indicate no significant difference among Nursing students in two groups in terms of their learning outcomes (knowledge and skills). Similar findings were reported in a study conducted by Al-Saai A, Al-kaabi & Al-muftah (2011) where an insignificant difference was found between the instructional treatments in gain scores of the achievement test. The findings were also similar to a study conducted by Mehrdad, Zolfaghari, Bahrani, & Eybpoosh (2011) where no significant difference was found between students' exam scores in both methods i.e. e-learning and lecture method. **Li, Tsai, Tao, & Lorentz (2014)** also reported that there was no significant difference in terms of academic performance before and after the courses adopted blended learning.

Contrary to this, study by Pandey (2015) revealed that there was significant improvement in level of understanding in questions related to cognitive and affective domain. **Alseweed (2013)** also reported significant differences among the instructional approaches in the achievement test scores in favour of blended learning. **Fouad, Dns, & Karamphd (2013)** also reported a highly statistically significant difference between the control and study groups regarding performance in relation to critical care nursing.

The findings also revealed that blended learning was effective in improving clinical decision-making skills of nursing students. Similar finding was reported by Hee-jung & Sun-yeun (2016) where it was revealed that the experimental group that participated in blended learning had a statistically significantly high score for critical thinking. Another finding of the present study was that the nursing students had favourable attitude towards blended learning. Similar findings were reported in studies in which the students had favourable attitude towards blended learning. **(Al-Saai A, Al-kaabi & Al-muftah, 2011; Ali, Jamil, Sethi, & Ali, 2016; Alseweed, 2013; Neyestani, 2013)**

CONCLUSION

In our study, Blended Learning was effective in improving the learning outcomes of Nursing Students in terms of Clinical Decision-making regarding management of Cardiac disorders. The Nursing Students had favourable attitude towards Blended Learning.

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