GMR
The Original

EFFICACY OF LECTURE CUM DEMONSTRATION AND LECTURE CUM VIDEO ASSISTED TEACHING METHOD REGARDING BASIC LIFE SUPPORT IN TERMS OF KNOWLEDGE AND SKILLS OF UNDERGRADUATE NURSING STUDENTS AT SELECTED NURSING COLLEGES, SAHARANPUR, UTTAR PRADESH-AN INTERVENTIONAL STUDY

Sarvendra Pratap[1], Anindita Tripathi[1], Sajjan Kumar[1], Nidhi Visnoi[1], Nityananda Pattanaik[2], Juliya Pramanik[2], Ms. Suvashree Priyadarsani Khatua[2], Sanjibanee Swain[3]

[1]Department of Nursing, Government Nursing College, Saharanpur (UP),
[2]Associate Professor, Viswass College of Nursing, Khorda, Odisha
[3]Staff Nurse, Vikshit Multi Speciality Hospital, Bargarh Odisha
*Corresponding Author: Sarvendra Pratap, E-mail: sarvendrapratap93@gmail.com

ABSTRACT

Introduction: Educational resources are needed to acquire the knowledge and skills taught by teachers in the education system [1]. Cardiopulmonary resuscitation (CPR) or BLS is a teaching component in both video and example teaching methods because it can highlight differences in student knowledge and acquired skills.

Objective: To assess the level of knowledge and study the effectiveness of the BLS (CPR) teaching method among nurses .

Methodology : This was a true experimental study conducted among 80 nurses at Government Nursing College and Mother Teresa College of Nursing, Saharanpur. A computer-generated random list was used for data collection, and the college for the L/D and L/VAT groups was determined by using an opaque sealed envelope. Demographic sampling, structured science survey and checklist were used to collect data from undergraduate nursing students through survey and observation.

Results: The results of the study show that the posttest mean knowledge scores in the L/D (11.075 ± 2.160).) and L/ALV group (9.525 ± 2.291) was higher and the average post-test skill of the L/D groups (6.65 ± 1.275) was higher than that of the L/alv group (5.525 ± 1.359), but the calculated mean value of "t" post-test knowledge (3.8182)) and the calculated Z-value (3.420) for both L/D and L/VAT group were statistically significant at 0.05 level of significance.

Conclusion: It it can be concluded that both L/ D and L /VAT were found effective in BLS (CPR) to improve the knowledge and skills of undergraduate nursing students.

KEYWORDS: *Effectiveness, lecture and video-based teaching, knowledge, skills, basic life support.*

Introduction And Background

Learning is the acquisition of habits, knowledge and attitudes. It involves new ways of doing things and it works when a person tries to overcome obstacles or adapt to new situations. It represents gradual changes in behavior. A person begins to learn immediately after birth or even earlier in the womb. Experiences, whether direct or indirect, are found to play a dominant role in shaping and shaping an individual's behavior [2]. As educators, we must use evidence to advance the science of nursing education and evaluate learning outcomes associated with innovative new educational models and teaching strategies [3].

Introduction is a teaching method used in both large and small groups. The proof method uses multiple senses; students can see, hear and, if possible, experience the actual event. It creates interest, presents ideas and concepts more clearly, provides hands-on experience and enhances learning [4].

Video-based instruction can be used in both large and small groups. The transfer of skills is done faster with the help of video tutorials. Long-term reinforcement is easier and more effective with video learning, where skills are practiced more often on the job, which increases skill level[5]. Therefore, considering the general scope of the effect and the researcher's review of the effectiveness of video teaching and learning through evidence methods, the researcher had a deep interest in researching this important, Researchable and solvable problem [6].

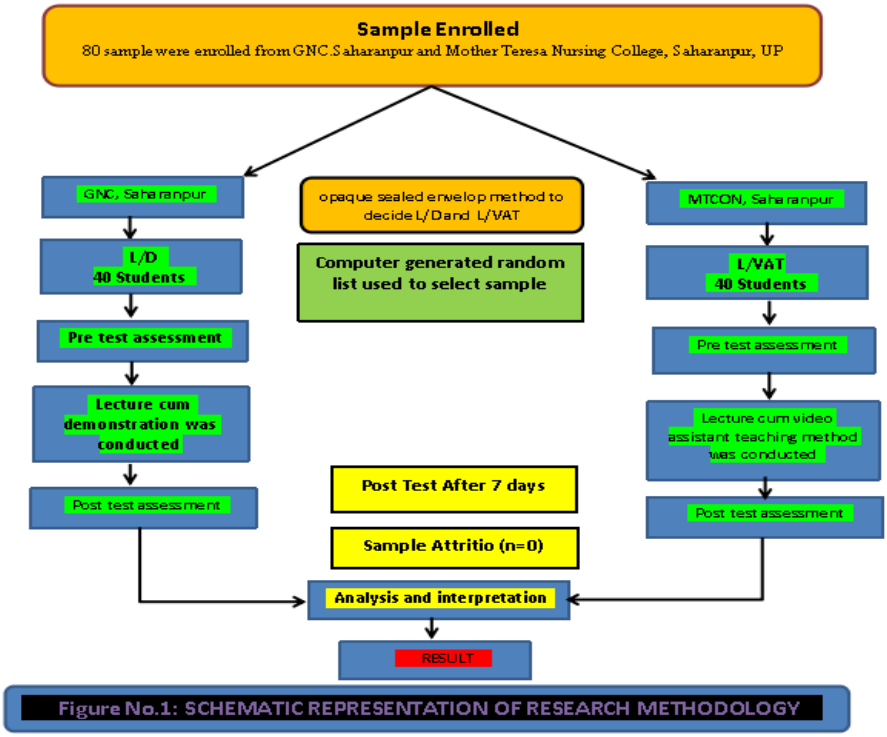
Cardiopulmonary resuscitation (CPR) was introduced as a learning component in both video and exemplar teaching methods because it can highlight differences in students' knowledge and skills acquired.

Rationale for the study

- Annual cardiovascular mortality in India is projected to increase at 2.26 million (1990) to 4.77 million (2020). The prevalence of CHD in India has been estimated over the last few decades and ranges from 1.6% to 7.4% in the rural population and 1% to 13.2% in the urban population.
- About 10% of deaths in India are due to sudden cardiac arrest, which is also the main cause of death. in the world.
- Just under 2 percent of the 1,00,000 people surveyed agreed to know the technique (CPR), while only 0.1 percent said they had ever performed it on someone in crisis,

METHODOLOGY

In this study quantitative research approach was used**.** True experimental study with two group pre-test post-test design were followed. The study was conducted in government nursing college and Mother Teresa Nursing College, Saharanpur, Uttar Pradesh among Undergraduate Nursing students. Computer generated random list was used for data collection and Opaque sealed envelop was used to decide the college for the L/D and L/VAT groups **(L/D-40 and L/VAT-40)**. Sample Demographic performa, Structured Knowledge Questionnaire, and observational checklist were used to collect data from undergraduate Nursing students through Questioning and observation**.**



the majority of the sample were women, i.e. 64 (80%) and 16 (20%) men. According to religion, Hindus or 58 (72.5%) and Muslims 20 (25%) made up the majority of the sample, and Christians only 2 (2.5%). In terms of family income, majority of the sample 54 (67.5%) had more than 20,000 rupees, 14 (17.5%) families had income between 15,001 and 20,000 rupees, 8 (10%) of the sample had income between 10,000 and 15,000 rupees. . and only 4 (5%) of the sample found family income below 10,000 rupees. Regarding the prior knowledge of undergraduate nursing students, the majority of the sample had some knowledge of BLS, ie. only 20 (25%) out of 60 (75%) had insufficient knowledge. Source of information, most of the sample collected information from health professional, which is 50 (62.5%) and some students got information from electronic media, which is 16 (20%), some got information from publication. media, which is 10 (12.5%)) of the sample, only 4 (5%) collected information from their relatives and neighbors. Paired t-test results showed a significant difference ($P < 0.05$) in the mean data points ($t = 6.025$, $P = 0.0001 < 00\ 1^*$) in L/D group and L/VAT group ($t = 2.7569$, $P = 0.0073$.

Table No.-I: T- test differences in pre and post-test level of knowledge regarding BLS among L/D & L/VAT Groups **(N=80)**

Level of Knowledge	**L/D (n=40)**	**L/VAT (n=40)**	***t- Test***	***P value (2 tailed)***
Pre Test	8.325±1.915	8.175±2.084	0.3352	0.7384
Post Test	11.075±2.160	9.525±2.291	3.1134	0.0026

t- Test	6.0251	2.7569	
P value (2 tailed)	0.0001	0.0073	

The results of independent "t"-test revealed no significant difference between the groups with regard to the level of knowledge score in pretest (P < 0.05) but found a significant difference between the groups with regard to the level of knowledge score in posttest [Table I].

The results of paired *t*-test showed significant difference ($P < 0.05$) in mean skill score ($t = 7.1039$, $P = 0.0001 < 00$ 1*) in L/D group and in L/VAT group ($t = 2.9088$, $P = 0.0047 <001$*) [Table II].

Table No.-II: T- test differences in pre and post-test level of skill regarding BLS among LCD & VAT Groups **(N=80)**

Level of Skill	**LCD (n=40)**	**VAT (n=40)**	***t- Test***	***P value (2 tailed)***
Pre Test	4.4±1.545	4.55±1.627	0.4228	0.6736
Post Test	6.65±1.275	5.525±1.359	3.8182	0.0003
t- Test	7.1039	2.9088		
P value (2 tailed)	0.0001	0.0047		

The results of independent "t"-test revealed no significant difference between the groups with regard to the level of skill score in pretest (P < 0.05) but found a significant difference between the groups with regard to the level of skill score in posttest [Table II].

Table No.-III: Mann Whitney U- test differences in pre and post-test level of skill regarding BLS among LCD & VAT Groups **(N=80)**

Level of Skill	**L/D (n=40)**	**L/VAT (n=40)**	***Z- Score***	***P value (2 tailed)***
Pre Test	4.4	4.55	0.639	0.5221
Post Test	6.65	5.525	3.420	0.0006
Z- Score	5.460	1.953		
P value (2 tailed)	0.00001	0.05118		

In the horizontal analysis the results of U-test showed a statistically significant difference ($P = 0. < 0.01$*) in the mean skill score in L/D (6.65) and L/VAT (5.525) group in posttest [Table III]. The results of Mann–Whitney U-test showed no statistically significant difference between the groups with regard to mean skill score of Pretest ($P < 0.05$) But in the vertical analysis the results of U-test showed a statistically significant difference ($P = 0. < 0.01$*) of Pretest and Posttest among both the groups.

There was a significant positive correlation between pretest and posttest level of knowledge and level of skills score of undergraduate nursing students among both the L/D and L/VAT group but there was no significant correlation found between posttest level of skill and knowledge score at 0.05 level of significance.

There was no significant association with the level of knowledge and skills scores among the demographic variable of L/D and L/VAT group.

DISCUSSION

For a potential explanation, the study's main findings have been compared to those of other related studies. Compared to L/VAT, L/D was more successful in improving the knowledge and abilities of undergraduate nursing students. The study found that the mean posttest knowledge score (11.075 ± 2.160) about BLS was considerably greater than the mean pretest knowledge score (8.325 ± 1.915). This result was in line with an Interventional study by Khalid et al. [7] that assessed nursing students' knowledge and proficiency in CPR using the L/D method. The study found that the mean posttest skill (6.65 ± 1.275) in CPR was higher than the pretest mean (4.4 ± 1.545) in L/D.

L/D and L/VAT effectively increased the knowledge and skills of nursing students. In this study, the mean pretest score of the L/D group (8.325 ± 1.915) is slightly higher than the mean of the L/VAT group (8.175 ± 2.084), but the calculated "t" value of both pretest data scores. L/D and L/VAT group 0.3352 and average postal knowledge level "t" 3.1134. proved to be statistically significant at the pre-test level and not at the post-test level at the 0.05 level of significance. These findings were consistent with Sushmaprabhu's (2013)

intervention study comparing a traditional lecture method with VBT to improve nursing students' knowledge and skills in neurological assessment. The results showed that the post-test scores of both groups were significantly higher than the pre-test scores, but there was no statistically significant difference between groups A and B[8]. L/D and L/VAT both effectively improved nursing skills students In this study, the L/VAT group had a skill level mean and Z-score of 4.55, which was slightly higher than the L/D group's mean score of 4.4, and both groups had a pre-test Z-score of 0.639. was not found to be significant at the 0.05 level of significance. These findings were consistent with Kaurin et al. with the studies done. In 2014, to evaluate the effectiveness of direct presentation of nasogastric tube feeding and video learning for the development of the skills of nursing students. The results showed that the average comparison score in the live presentation group (14.46 ± 2.79) was better than that of the video-assisted instruction group (13.40 ± 2.11), although the difference was not statistically significant significant (P = 0.06 t-test) according to performance scores [9].

L/D was more effective than L/VAT in improving knowledge and skills among BLS(CPR) nursing students. In this study, the average post-test knowledge level (11.075) in L/D was significantly higher than the average pre-test knowledge level (8.325) regarding BLS (CPR). For L/VAT, the mean post-test knowledge level (9.525) was significantly higher than the mean pre-test knowledge level for BLS (CPR) (8.175). based on the result, the L/D post-test mean score was higher than the L/VAT post-test mean score. These results are consistent with Sreelekha Rajesh et al. to evaluate the effectiveness of a video-based educational program for non-medical analgesic procedures for selected hospitalized children. The results suggest that at the pre-test, more than half (53.3%) of the nurses had average knowledge, 40% had poor knowledge, and 6.7% had good knowledge about non-medical analgesic interventions before video learning. program, but the knowledge scores improved significantly in the post-test; 80% of the nurses had good information. None of the demographic variables were found to have a significant relationship with the knowledge of employed nurses [10]. L/D and L/VAT both increased the knowledge level of nursing students. In this study, the level of knowledge after 7 days of administration of L/D and L/VAT with a structured knowledge questionnaire showed that the majority ([45% and 22.5%)] had a very good level of knowledge, respectively. The findings were consistent with Oyetunde et al. with the studies done. In 2015, to assess the competence and use of AMTSL among midwives in primary health centers. The results of the study showed that most of the respondents have a high awareness of AMTSL (66.7%) [11].

This study revealed that in the knowledge level of undergraduate students (62.5% and 52, 5%), nursing students had moderate knowledge and only (32.5% and 37.5%) knowledge was insufficient before issuing L/D and L/VAT. The findings contradicted the results of a study on the effectiveness of AMTSL knowledge-structured learning program for nurses working in Davanagere Hospital, Chigater District Hospital. The results of the study showed that more than a third (38% and 40%) of staff nurses had average and poor knowledge before doing the structured learning program. The results of the study showed that the combination of both LCD and VBT effectively improved the knowledge and skills of GNM students [12].

RECOMMENDATION

- To better generalize the results, a study could be conducted with a large population.
- The study could also be conducted among clinical supervisors and nurses to assess their knowledge of BLS (CPR).
- The study could be done using other teaching strategies such as self-learning module, programming learning module, group learning, peer learning and simulation.

CONCLUSION

- Based on the results of the study, it can be concluded that both L/D and L/VAT -groups have been found to be effective in improving the knowledge and skills of nursing students regarding BLS (CPR). However, in the comparison between L/D and L/VAT, the learning style teaching method was more effective than L/VAT in increasing the knowledge level of L/D.
- Research on various teaching strategies and their beneficial outcomes can be integrated into nursing education and practice. Continuing education programs should be organized for clinical supervisors and nurses to update their knowledge and skills in BLS (CPR).

Financial Support
There was no financial support or sponsorship.

Conflict of interest
There are no conflicts of interest.

Acknowledgments
We are thankful to the management, college principal of Mother Teresa College of Nursing and the Principal of Government College of Nursing, Saharanpur, who cooperated with us in conducting this study. The authors would like to thank all the participants who participated and gave their valuable time to conduct the study.

REFERRENCES

1. Aggarwal J. Psychology of learning. [Online]. 2004[cited 2013 March]; Available from: URL:http:// www.mu.ac.in/myweb_test /SYBA%20Study%20 Material/edu-II%20psycho.pdf..

2. Ameh P, Dantani Y. Effects of lecture and demonstration method on the academic achievement of students in chemistry [serial online] 2012 [cited 2013 May 19]; 1(1):29-37.
3. Judith H. Transforming nursing education to meet emerging health care needs. [Online]. 2012 [cited 2012 Sept] Available from: URL:http://www. rwjf.org/en/blogs/human-capital-blog/2012/09/ transforming_nursing.html.
4. Lestrud, M. (2013). Educational Interventions. In: Volkmar, F.R. (eds) Encyclopedia of Autism Spectrum Disorders. Springer, New York, NY. https://doi.org/10.1007/978-1-4419-1698-3_1457
5. Sullian R, McIntosh N. Delivering effective lectures. [Online] 1996 [Cited 2010 oct 30]. Available from: URL:https:// www.google.co.in/?gws_rd=cr#q=S ullian+R%2C+McIntosh+N.+Delivering+effective+ lectures.
6. Wehrli G, Nyquist J. Teaching strategies/ methodologies: Advantages, Disadvantages/ Cautions, Keys to Success. [Online]. 2003; Available from: URL:http://som.unm.edu/ume/ted/pdf/ ed_dev/gen_teach_strategies.pdf..
7. Khalid M, Prakash R. Efficacy of Lecture Cum Demonstration Method on Nursing Students' Knowledge and Skills of using Partograph, in Selected Nursing Institution of Dehradun, Uttarakhand. *Int J Sci Res.* 2013;14:2319–7064.
8. Prabhu, Sushma (2013) Comparison of traditional versus video based teaching on neurological assessment among undergraduate nursing students. *Journal of Health and Allied Sciences NU 03 029-032 101055/s-0040-1703649.* 03 pages {029-032}, doi (101055/s-0040-1703649.
9. Kaur K, Singh NV, Ghai S, Agnihotri M. (2015). A comparative study to assess the effectiveness of Live Demonstration and Video Assisted Teaching on nasogastric tube feeding on the skill development of nursing students. *Nursing and Midwifery Research Journal.* 2015;11(4):163–74.
10. Sreelekha Rajesh. Effectiveness of video assisted teaching programme on knowledge regarding non pharmacological pain relieving intervention for children among staff nurses in selected hospital. [Last accessed on 2020 May 19];*Asian journal of multidisciplinary studies.* 2(Sl) n 10, sep 2014 ISSN 2321-8819.
11. Oyetunde MO, Nkwonta CA, Author C. Assessment of midwives' competence in active management of third stage of labour in primary health centres in Anambra state, Nigeria. *J Appl Med Sci.* 2015;4:17–29.
12. Chandrika CN. A study to evaluate the effectiveness of structured teaching program regarding the knowledge on active management of third stage of labour among staff nurses working in Chigateri district hospital at Davanagere Rajiv Gandhi University of Health Sciences Digital Repository. 2012:1–151.