

## Simulation versus Video Film as a Method of Teaching

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**Abstract:** A comparative study was conducted to evaluate the effectiveness of simulation versus video film as a method of teaching. This study was conducted in a selected college of nursing, Dehradun; Uttarakhand. Total 60 samples were taken i.e. 30 for simulation and 30 for video film by random sampling technique. Before exposing the groups to simulation and another group to video film, a pre test (simulation based demonstration demonstration) was taken and samples were observed with the help of structured observation checklist. After pre test One group was exposed to simulation based demonstration and another group was exposed to video film on the same topic and steps. Post - test was conducted after one week by taking return demonstration. The mean post -test was significantly higher in both the teaching individually, but when Comparison was made among both the teaching methods. The post-test mean score of simulation was (24.40) post -test mean score for video was (24.00) which was found statistically non significant. This indicates that both the methods have its own benefits in teaching. We can learn in both the ways. Some can learn by simulation and some after video film exposure. It depends how we perceive it.

**Keywords:** Adult, basic life support, skills, simulation, video film.

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### I. Introduction

Nursing is a global profession, and it is not easy to do practice on real client. Education is simple to impart in various field but it is really a challenge in the field of nursing profession, as it requires regular hands on practice within the real situation. To meet the challenge of nursing education that cannot taught directly to the client, some form of teaching methods and aids need to be use especially in life saving procedures like basic life support. Looking at the sensitivity of the issue it requires prior preparation including educational training and repeated practice. Nursing is a field where both knowledge and skill plays an important role. As far as basic life support is concerned it is more of a skill than knowledge so, it is important that nurses should be skilled enough to save a life when needed.

Basic life support is one of the important procedure in which each individual from different field should be trained. These types of procedure can be taught to the student nurses before they join nursing as a profession or before they actually practice it in their clinical field. For that, different methods can be adopt by the teacher as well as by the student nurses for self-practice. Self-assessment is an important aspect in the development of lifelong learning skills for student nurses, crucial to maintaining a high level of competence in practice. Basic Life Support (BLS) is a skill that all health professionals must acquire and maintain competence in it. Various methods, including simulation, have been used in improving the acquisition of basic life support skills.

#### 1.2 Need for the study

Researcher personally felt that whenever there is any life-threatening situations like cardiac & respiratory arrest, nurses usually call doctors rather than meeting the emergencies, themselves. It probably may project there, inadequacy in skill or hesitation in handling the life saving emergencies. There is need to conduct some comparative studies on basic life support. Therefore, there is need to conduct some researches based on different teaching method so that best method can be applied for the practice of emergency management procedures.

Done & Parr (2007), in his study on “Assessing with CARE: an innovative method of testing the approach and casualty assessment components of basic life support, using video recording’ preformed an assessment by two independent observers using the BLS assessment sheet. Two groups, comprising total 51 medical students of fourth year were assessed, 47 were found to be competent in performing BLS on their first assessment. Of the remaining four, three were assessed as competent after further self-directed learning and retesting. Only one student required personal tutoring prior to success.

There is a consensus that nursing is a profession that requires regular practice. However, how many of us get chance to practice our skill? How many times a teacher is able to demonstrate each procedure individually, especially procedure like basic life support, which is an essential procedure in meeting emergencies. Hence the researcher strongly feels that there is need to innovate and evaluate other teaching

materials to meet the ever increasing need of various methods of imparting knowledge & skill related to Basic life support.

**1.3 Statement of the Problem** A comparative study to assess the effectiveness of simulation versus video film as a method of teaching on basic life support for adults in terms of gain in skills of student nurses in a selected college of nursing, Dehradun, Uttarakhand

**1.4 objectives**

1. To assess the level of skills of student nurses on basic life support for adults.
2. To determine level of skills gained by simulation as a method of teaching on basic life support for adults.
3. To determine level of skills gained by video film as a method of teaching on basic life support for adults.
4. To compare the level of skill gained by simulation and video film as methods of teaching.

**1.5 Hypotheses**

**H1**-The mean post-test practice score of student nurses after exposure video film will be significantly higher than their mean pre-test practice scores as observed by an observation checklist at 0.05 level of significance.

**H2**-The mean post-test practice score of student nurses after exposure to simulation will be significantly higher than their mean pre-test practice scores as observed by an observation checklist at 0.05 level of significance.

**H3**- The mean post-test practice score of student nurses after exposure to simulation will be significantly higher than the mean post-test practice scores of student nurses after exposure to video film at 0.05 level of significance.

**1.6 conceptual frameworks**

The model used for the present study is based on System’s model given by World health organization in 1985. This model consists of three phases: Input, Process, and Output in a specific content, including evaluation of all phases.

**II. Materials And Methods**

A comparative study with pre test and post test design was used for the study.

O<sub>1</sub> X<sub>1</sub> O<sub>2</sub>-----O<sub>3</sub> X<sub>2</sub> O<sub>4</sub>

O<sub>1</sub>, O<sub>3</sub>----pre-test for both groups to assess the level of practical skills of student nurses.

O<sub>2</sub>, O<sub>4</sub> --- post-test for both groups to assess the level of practical skill of student nurses after the treatment.

X<sub>1</sub> ----- exposure to simulation

X<sub>2</sub> ----- exposure to video film

Content was validated by giving the tool to different validators from the field off medical science, medical education, nursing science, nursing education. Reliability was established through inter observer reliability by the researcher and a doctor expert in advanced and basic life support procedure. The reliability was computed through percentage agreement between the assigned scores. The percentage of agreement between assigned scores was 0.90 (90%). Procedure on Basic life support was demonstrated in front of two experts from nursing and medical science on an adult simulator. Pilot study was conducted on 10 student nurses.

**III. Results And Findings**

**Table No. 2**

Frequency and percentage distribution of the sample characteristics of student nurses by their demographic characteristics.

n<sub>1</sub>+n<sub>2</sub>=60

S. NO	Sample characteristics	Frequency	Percentage
1.	<b>Age of the respondent</b> a) 17-20 years b) 21 years and above	54 6	90% 10%
2.	<b>Sex</b> a) Male b) Female	10 17	50% 83%
3.	<b>General qualification</b> a) Senior secondary b) Graduation c) Any other	56 2 2	93.33% 3.33% 3.33%
4.	<b>Training programme on BLS</b> a) Yes b) No	0 60	0% 100%

**Table No-3**

Mean, median, standard deviation, standard error of mean, and t-value of pre test and post test practice scores regarding BLS (Simulation)

$n_1 = 30$

Practice scores	Mean	Median	S.D	S.E	df	t-value	p- value
Pre-test	13.56	12.00	5.13	0.935	29	14.345*	(p<0.05)
Post-test	24.40	24.00	3.10	0.566			

't' (29) = 2.04 \*significant at 0.05 level

The data given in the table no.3 reveals that the mean post-test practice scores (24.40) of student nurses regarding basic life support was higher than their mean pre-test practice scores. It indicates gain in the skills by the study subjects. S.D of pre-test scores is 5.13 whereas 3.10 in post-test. Difference in the S.D is slight but it indicates that group is more homogenous in the post-test scores and homogeneity is less in pre-test. From the result in table no 3 it can be seen that the 't' value of 14.345 which is greater than the table value of 2.04 at 0.05 level of significance. Hence, the research hypothesis H2 was accepted. This indicates that the basic life support training was effective in improving the skill of student nurses after exposure to simulation.

**Table No-4**

Mean, median, standard deviation, standard error of mean, and t-value of pre test and post test practice scores regarding BLS (Video)

$n_1 = 30$

Practice scores	Mean	Median	S.D	S.Em	df	't' value	p-value
Pre-test	15.63	15.5	4.51	0.824	29	9.809*	(p<0.05)
Post-test	24.00	25	3.85	0.703			

't'(29) = 2.04 \*significant at 0.05 level

From the data presented in the table no. 4, it can be seen that the mean post-test practice scores (24.00) of student nurses regarding basic life support was higher than their mean pre-test practice scores ( 15.63) . It indicates gain in the skills by study subjects. S.D of pre-test scores is 4.51 in pre test whereas 3.85 in post-test. Difference in the S.D is slight but it indicates that group is more homogenous in the post-test scores and homogeneity is less in pre-test.

From the result in table no 5 it can be seen that the 't' value of 9.809 which is greater than the table value of 2.04 at 0.05 level of significance. Hence the research hypothesis H1 was accepted .this indicates that the basic life support training was effective in improving the practice of student nurses.

**Table No. – 5**

Mean , Mean difference, Standard error mean and 't' value showing the significance differences between post test practice scores of study subjects ( simulation vis a vis video film)

$n_1+n_2 =60$

Group	Mean	Mean D	SE	't'
Simulation	24.40	0.40	.94273	*0.443
Video	24.00			

t' (58) = 2.00 \* not significant at 0.05 level

This section describes the findings related to evaluation of the effectiveness of simulation vis a vis video film as a method of teaching in terms of gain in skill o f study subjects regarding basic life support .the posttest practice scores obtained through an observation check list are described and analyzed.

Data tabulated in table 5 shows that the post test mean score of simulation was (24.40) and the post test mean score for video was ( 24.00) which was found to be statistically non significant as evident from 't' value of .443 against the table value 2.00 for degree of freedom (df) 58 at 0.05 level of significance. Hence, the research hypothesis H3 is rejected. This indicates that both the methods have its own benefits in teaching basic life support to the student nurses. Student can improve their skills in both the ways. Some students can learn by simulation and some after video film exposure. It depends how they perceive it.

#### IV. Implications Of The Study

##### Multimedia technology:

Internet, video and telecommunication, mobile phones and other communication technological advances allow for instant to local-global linkages, as well as cost effective information transfer and intelligence

gathering. Technologies like video film, albeit technological changes, albeit unevenly distributed within countries, create new opportunities for local, national and international health care delivery.

Nurses and other health professionals need to have access to these technologies but also be equipped with the necessary knowledge and skills to use these devices for optimum impact.

Online interviews, entrance exams, on line patient care plans must be involved in the nursing profession through video conferencing.

### **Nursing practice**

Nursing practice should focus on area of specialization and seize the opportunity for creating innovative new roles within the current system. This will require agreement and shared goals between care organizations and educational programmes like video teaching and simulation based practice in well set-up labs. Nurses, as strong and vital professionals, possess cognitive knowledge in various aspects of care and procedure but with these knowledge, psychomotor skills are also very important. These practical skills can be improved through effective teaching methodologies i.e. video teaching and simulation based practices.

Nurses must be encouraged and valued for their unique contributions to the system and recognized for their ability to adopt, and adapt to change- not only in patient populations but also in health care delivery. Emphasis must be given for simulation labs and video teaching, so that student can learn more even if they do not get chance to practice in real situation.

Simulation and practice with the help of video will help to reduce risk to client.

Nursing education:

Regular in-service education programmes with the help of new teaching methods should be provided to the improvement in nursing education.

Emphasis should be given to the proper induction training for the nurses before actual work. These training should be inculcated with the new methods of teaching.

Training on basic life support with the help of video film and simulator should make compulsory for each individual of health team members.

Teacher should involve different simulation based demonstration and video film on different disease conditions while taking sessions for student nurses.

Nursing education and nurse educators are facing unprecedented challenges and working hard to address the looming nursing work force shortage. New programmes are coming online, and enrollments in existing programmes are expanding, in response to growing demands for entry to the profession.

### **Nursing research:**

There is a high need for extended research in the field of teaching methodologies by nursing personnel to develop different new methods and techniques in the field of nursing education and practice.

The nursing personnel should conduct more of the experimental studies on the learning needs of various health professionals to update the learning methods and material on regular basis.

There is need to conduct researches in comparing various teaching methods, so that the nursing education can be expanded up to the level of excellence.

Simulation technology:

Nursing colleges could increase the use of simulation technology. Admittedly, a substantial up-front investment is needed to equip an on campus learning space with the state-of-the-art simulation models and computer technology.

Once the investment is made, such a laboratory makes it possible for students to practice in a safe environment, without risk to patients, and acquired a level of knowledge and practice that readies them for the actual clinical environment.

This can decrease the number of practice hours and the close supervision needed in the actual clinical setting, thus reducing the burden on clinical teaching staff.

Funding for the technology can be sought through public and private sources, as well as through cost sharing with clinical partners.

## **V. Conclusion**

We as nurses are working in a field that is dynamic. Everything is in the era of change, new technologies, and innovations so we also need to use new methods of teaching (video conferencing, simulation based demonstration, group discussions through internet. We need to create paper free teaching sessions. We need to generate or create new methods to make our teaching more effective to.

Prepare present and future generation. By conducting such type of comparative studies we can find out different teaching strategies for our future generation.

As few studies is been done by making comparison of different teaching methods but till the date it is not proved that which methods is best among all , in the same manner the result of the present study showed that simulation and video film both the methods were effective in improving the skills of student nurses on basic life support.

### **Acknowledgment**

I would like to thanks my guides Mrs. Urmila Bhardwaj (vice principal, Rufaida college of nursing, Hamdard university, Delhi), Ms. Taruna Arora ( lecture, Rufaida college of nursing, Hamdard university, Delhi).Ms. Harleen kaur, assistant professor, Himalayan college of nursing,SRHU, Dehradun, Utrakhand for her support and help during my final data collection. I also feel proud to thanks all my friend and teachers from Rufaida college of nursing, who always encourage me during my study.

At last I want to give my special thank to my parents (Mr. Mumtaz Malik, Mrs. Akhtari begum) and my loving husband Mr. Anwar Ansari for his continuous support, blessings and love.

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