"A study to assess the effectiveness of Video assisted teaching programme on knowledge and skill regarding neonatal resuscitation programme among B. Sc Nursing 5th Semester students at Shri Guru Ram Rai Institute Medical & Health Science College of Nursing, Dehradun"

[1]**Ms. NEENU. N**, M. Sc Nursing Student, Shri Guru Ram Rai Institute Medical & Health Science College of Nursing, Dehradun (First Author). Email – neenun88@gmail.com
[2]**MS RACHAL PRASAD**, Assistant professor, Child Health Nursing, Shri Guru Ram Rai Institute Medical & Health Science College of Nursing, Dehradun. (Second Author)
[3]**Ms RESHMI JOSHY**, Assistant professor, Shri Guru Ram Rai Institute Medical & Health Science College of Nursing, Dehradun. (Third Author)

Abstract: A pre -experimental study was conducted to evaluate the effectiveness of a video-assisted teaching program on neonatal resuscitation knowledge and skills among 5th-semester BSc Nursing students. The study involved a sample of 79 students from Shri Guru Ram Rai Institute of Medical & Health Sciences, Dehradun. The research employed a pre-experimental design (one group pre-test post-test), utilizing non-probability convenient sampling. The conceptual framework was based on King's theory of goal attainment. Pre-test results revealed that 72% of students had inadequate knowledge, and 86% had poor skills in neonatal resuscitation. After the intervention, there was a significant improvement in both knowledge and skills, with the post-test mean scores increasing by 12.810 for knowledge and 13.568 for skills. The difference in pre-test and post-test scores was statistically significant 't'value is 20.054(p<0.05),the effectiveness of pre skill and post skill revealed that 't 'value is 43.45(p value <0.005) so it indicating the effectiveness of the video-assisted teaching program. Additionally, the study found a significant association between pre-test knowledge and the demographic variables was found by chi-square test which shows there is significant (p 0.05) level all demographic variables except any past experience or knowledge with pre-test skill and the pre test knowledge only significant with education of parents p0.05.In conclusion, the video-assisted teaching program effectively enhanced the neonatal resuscitation knowledge and skills of 5th-semester BSc Nursing students, demonstrating its potential as a valuable educational tool in nursing education.

Key Words: Neonatal Resuscitation, Video-Assisted Teaching Program, Knowledge and Skills.

1. INTRODUCTION:

Neonatal resuscitation is a set of interventions used to assist the airway, breathing, and circulation of a newborn following birth. The Neonatal resuscitation program (NRP) is a set of educational guidelines established by the American Academy of pediatrics that outline the proper procedures for resuscitation of a newborn, are required to complete the educational program and become certified so that they may properly respond in the event of an emergency.[1]

NEED AND SIGNIFICANCE OF THE STUDY:

As Newborn resuscitation is a key component of to reduce neonatal mortality occurring during birth asphyxia, the student should possess knowledge and practice to overcome the barriers of providing resuscitation. During her clinical experience the researcher observed that the BSC 5TH Semester students posted in the labour room were showing aversion to participate in the neonatal resuscitation during emergencies due to lack of knowledge and practices regarding neonatal resuscitation[2]

The researcher hence interested to reinforce their knowledge about newborn resuscitation as to prepare them to be efficient neonates resuscitator. Hence the present study to assess the effectiveness of training Programme on knowledge and skill regarding newborn resuscitation is expected to create awareness among BSC Nursing 5th semester students.

2. LITERATURE REVIEW:
Neonatal resuscitation guidelines are based on 4 systematic reviews recently completed under the direction of the International Liaison Committee on Resuscitation Neonatal Life Support Task Force. Systematic reviewers and content experts from this task force performed comprehensive reviews of the scientific literature on umbilical cord management in preterm, late preterm, and term newborn infants, and the optimal devices and interfaces used for administering positive-pressure ventilation during resuscitation of newborn infants. These recommendations provide new guidance on the use of intact umbilical cord milking, device selection for administering positive-pressure ventilation, and an additional primary interface for administering positive-pressure ventilation[3]. **Ahaiasa Journals 2023**

A prospective cohort study included women in childbirth and their newborns at four district hospitals in Pemba, Tanzania. Videos were analyzed for quality-of-care. Questionnaires on quality-of-care indicators were answered by health workers (HW) and women. Risk factors for neonatal mortality were analyzed in a binomial logistic regression model. 1440 newborns were enrolled. 34 newborns died within the neonatal period (23.6 per 1000 live births). Ninety neonatal resuscitations were performed, 20 cases on video. Positive pressure ventilation (PPV) was inadequate in 15 cases (75%). Half (10/20) did not have PPV initiated within the first minute, and in one case (5.0%), no PPV was performed. PPV was not sustained in 16/20 (80%) newborns. Of the 20 videos analyzed, death occurred in 10 newborns: 8 after resuscitation attempts and two within the first 24 h. Most of HW 49/56 (87.5%) had received training in NR. Video analysis of NR revealed significant deviations from guidelines despite 87.5% of HW being trained in NR. Videos provided direct evidence of gaps in the quality of care and areas for future education, particularly effective PPV[3]. **Charlotte carina Holm Hansen et. al 2023**

A quantitative resource approach and a true experimental research design was used the sample consisting of 60 3rd year nursing students of Shraddha University by symbol random sampling procedure. This study revealed that there is significant main difference in pretest and posters knowledge scoring unital resuscitation was used to conclude that STP was affected nursing student knowledge can improve through the STP fall on posters nursing students who are going to essential personnel in managing newborn health expected to adequate training and expertise on the subject they guarantee an acceptable neonatal outcome increasing their time and quality of training Programme will help to reduce the neonatal mortality [4] **Dr Pawan Kumar Sharma 2023**

A cross-sectional study of healthcare workers based on the labor and delivery ward of the 46 healthcare workers who were assessed with a written examination and skills assessment, 85% were nurses. While 46% were able to pass the written examination, none demonstrated all required steps of newborn resuscitation during the skills assessment by simulation. No significant associations were present between the pass rate of the written examination and years of experience, role, or prior in-service training. All the hospitals had the basic equipment required for neonatal resuscitation; the study concluded that there is a need to further develop the neonatal resuscitation skills among healthcare workers in the labor and delivery wards in Kenya[5]. **Pauline T Kamau 2022**

3. MATERIALS AND METHODS:
The research design selected for the study was one group pre-test- post-test design. The sample consisted of 79 students of B.Sc. Nursing 5th semester students at shri Guru Ram Rai Institute of Medical &Health Science, College Of Nursing, Dehradun. Students who are willing to participate in the study. Both males and female students are included.

TOOLS AND TECHNIQUE
Structured questionnaire method consisting of two part and checklist
Section A Demographic variables
Items on demographic variables like Age, Sex, Education of parents, source of information, Any past experience or knowledge.
Section B Structured questionnaire
Structured questionnaire on neonatal resuscitation among 5th semester BSC Nursing students

Score interpretation

0-7	Poor knowledge
8-14	Inadequate knowledge
15-21	Moderate knowledge
22-28	Adequate knowledge
29-35	Good Knowledge

VALIDITY AND RELIABILITY

Content validity was done from 8 experts (2 doctors,5Nursing tutors,1statisician) and necessary correction were made in the tool based on the suggestion obtained.

Reliability of the tool is the degree of consistency with which measures the attributes it is supposed to measure. It refers to the extent to which the same result is obtained after repeated administration of the instrument. The tool was administered on 8 samples and the reliability of the tool was found by using Test -Retest method (Karl Pearson's) co-relation coefficient formula. The reliability of the tool was found to be (r=0.86) that is high positive correlation.

ETHICAL CONSIDERATION

To conduct research study in SGRRRIM&HS, SGRRU, College of Nursing Dehradun written permission was obtained from the principal prior to data collection. Confidentially was assured to all subjects to get their co-operation. An informed consent was taken from the subjects before giving intervention to them in shri Guru Ram Rain Institute of Medical &Health Sciences, college of Nursing, Patel Nagar, Dehradun.

4. ANALYSIS AND FINDINGS:

This chapter presents the analysis and interpretation of data collected from BSC Nursing 5th semester students to assess the effectiveness of video assisted teaching Programme on skill and knowledge regarding Newborn resuscitation. The data were analysed according to the objectives and hypothesis is formulated for study.

Organization of the findings

- **Section A:** Percentage wise distribution of demographic variables.
- **Section B:** Frequency and percentage distribution of pretest and post test score.
- **Section C:** Comparison of pretest and post test score.
- **Section D:** Association of demographic variables of students with observational

Section A

Description Of Demographic Variables: The sample were selected through convenient sampling technique from SGRRRIM&HS, SGRRU, College of Nursing Dehradun. The data obtained in sample characteristics and analysed used descriptive statistics and depicted in table.1. Frequency and Percentage distribution of demographic variables among BSC Nursing 5th semester students with respect of Age, sex, education of the parents, source of information and any past experience.

Sr.No	Demographic variables	Frequency (f)	Percentage (%)
1	**Age (Year)**		
	18 – 20 years	27	34 %
	21 – 23 years	51	65 %
	24 – 26 years	1	1 %
	Above 26 years	0	0 %
2	**Sex**		
	Male	13	17 %
	Female	66	83 %
3	**Education of parents**		
	Illiterate	4	5%
	Primary Education (1-5)	8	10 %
	Higher Secondary (6-10)	13	17 %
	Intermediate and above	54	68 %

4	**Source of information**		
	Mass media	29	37 %
	Friends	12	15 %
	Books	19	24 %
	Health personal	18	23 %
5.	**Any past experience or knowledge**		
	BLS	51	65 %
	Work shop	7	8 %
	Life experience	10	13 %
	Others	11	14 %

Table 1: Frequency and Percentage Distribution of sample according to demographic variables.

 The table 1 revealed that the socio demographic data details according to their age group envision that 34% of the students were in the age group of 18-20 years. Highest percentage of age group is 21-23 years that is 65 %, in the age group of 24-26 years is 1% and above 26 years of age is zero.
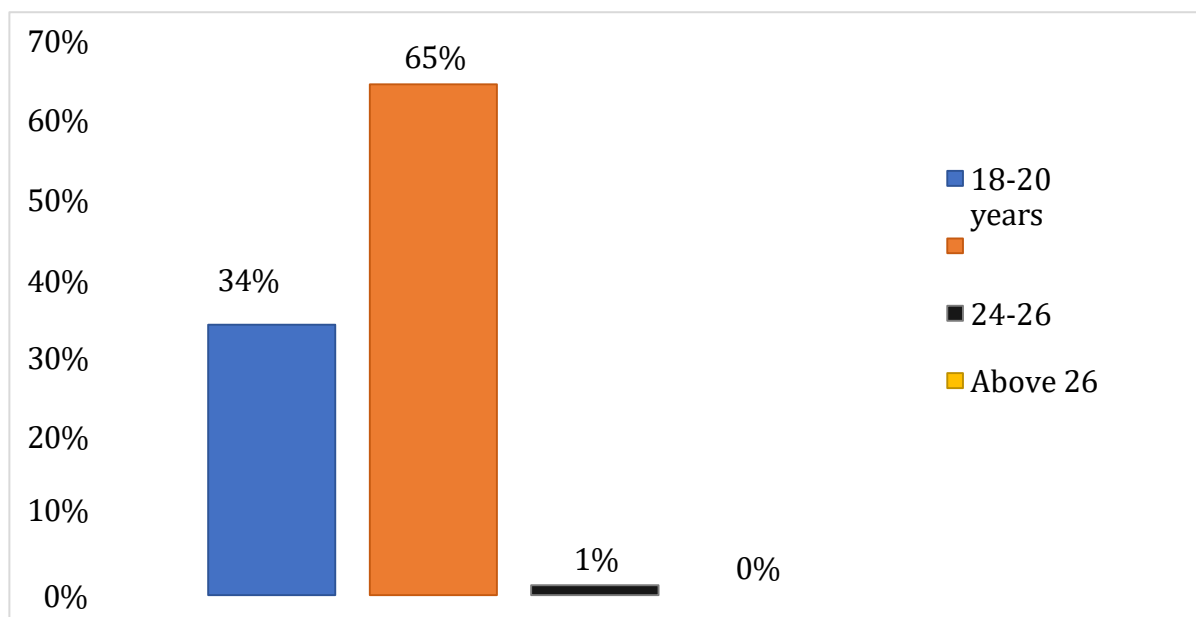
Percentage wise distribution of students according to their sex revealed that 83% are females and 17% of them are males.

Percentage wise distribution of students according to their parents education status revealed that majority of the parents had intermediate and above that is 68%, most of the parents had higher secondary education that is 17%, then 10% of parents had primary education and less than 5% parents are illiterate.

Percentage wise distribution of students according to their source of information shows that highest percentage through mass media that is 37%, then 24% got information from the books, more than 23% got information from health personnels and rest 15 % gained information from the friends.

Percentage distribution of students according to their past experience or knowledge reveals that most of students that is 65% students were attended BLS training Programme, more than 14% students gained from others, whereas 13% have past experience or knowledge through life experience and 8% of students had past experience and knowledge through workshop.
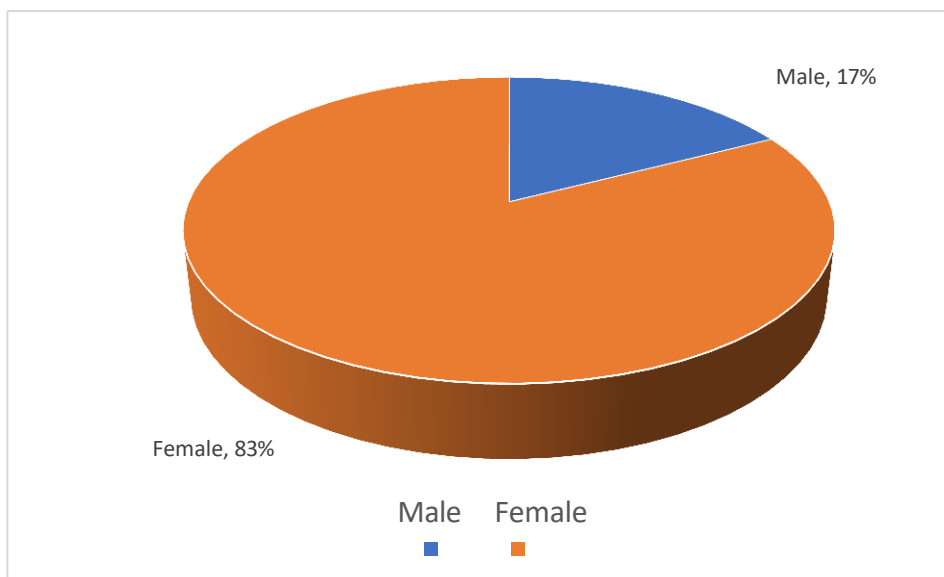
AGE

Figure 1: Bar diagram showing percentage of students according to their age

The figure 1 shows that the demographic data details according to their age group depict that 34% of the students were in the group of 18-20 years, in the age group of 21-23 years was 65%, less than 1% of the students in the age group of 24-26 years.
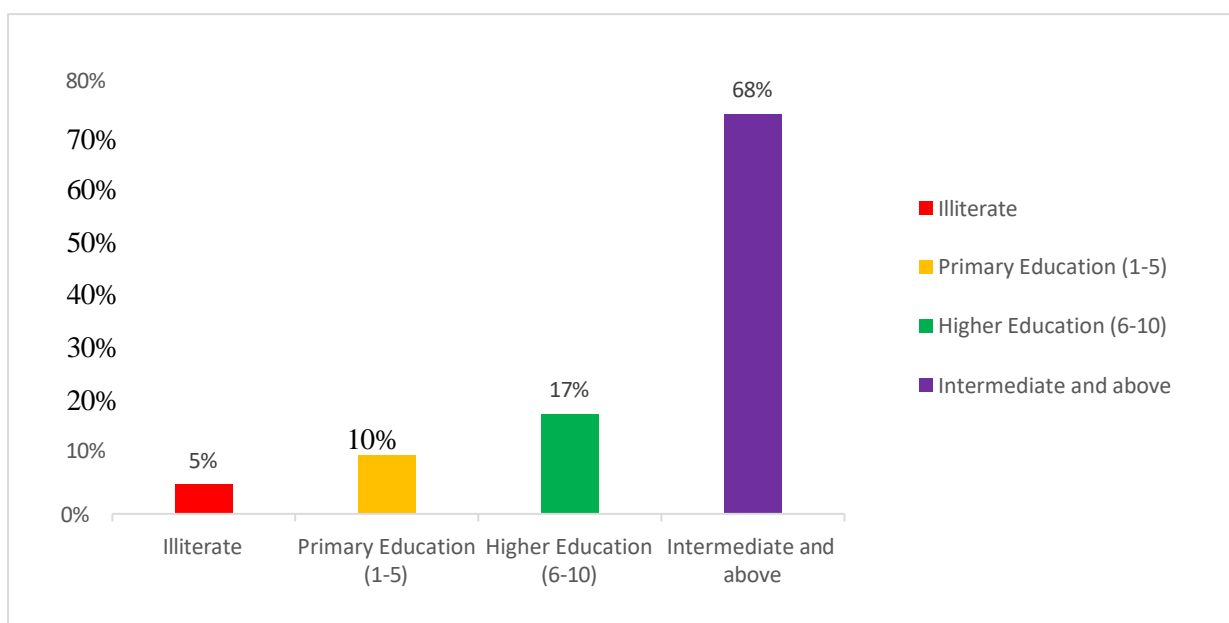
SEX

Figure 2: Pie diagram showing percentage of students according to the sex ratio.

Percentage wise distribution of students according to their sex reveals that highest percentage 83% of them female. The lowest percentage 17% of them are male students.
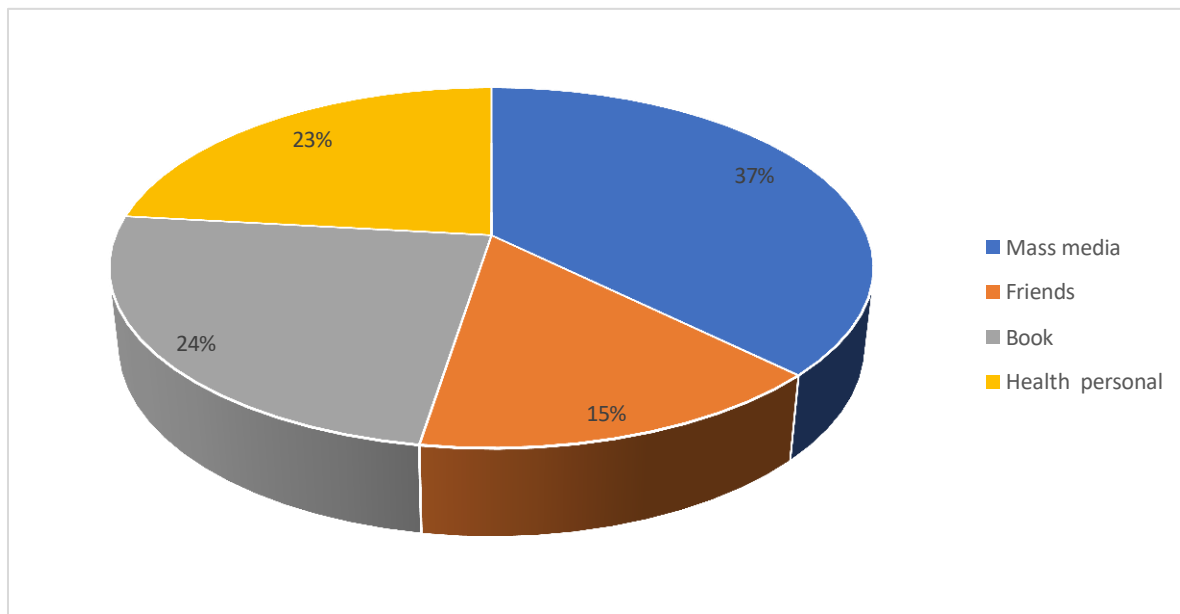
EDUCATION OF PARENTS

Figure 3: Bar diagram showing percentage distribution of students according to their parent's education

Percentage wise distribution of students according to their parent's education status reveals that more than 68% of parents had intermediate or above, then 17% of parents had higher secondary and less than 5% had primary education.
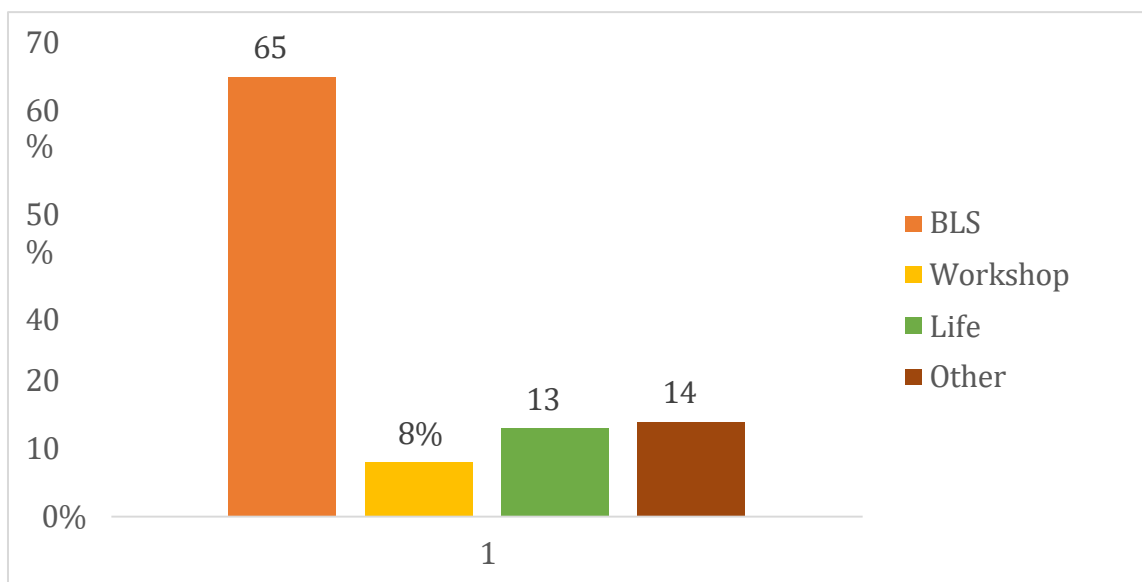
SOURCE OF INFORMATION

Figure 4: Pie diagram showing percentage distribution of students according to their source of information

Percentage wise distribution of students according to their source of information shows that highest percentage 37% of students get the information from mass media, then 24% students got the information from books, less than 23% got from health personnels and 15 % through friends respectively.

ANY PAST EXPERIENCE OR KNOWLEDGE

Figure 5: Bar diagram showing the percentage distribution of students according to their past experience or knowledge through

Percentage wise distribution of students according to their past experience or knowledge majority of students as 65% through BLS ,14 % through other sources, whereas 13% through life experience and rest 8% of students had past experience or knowledge through workshop
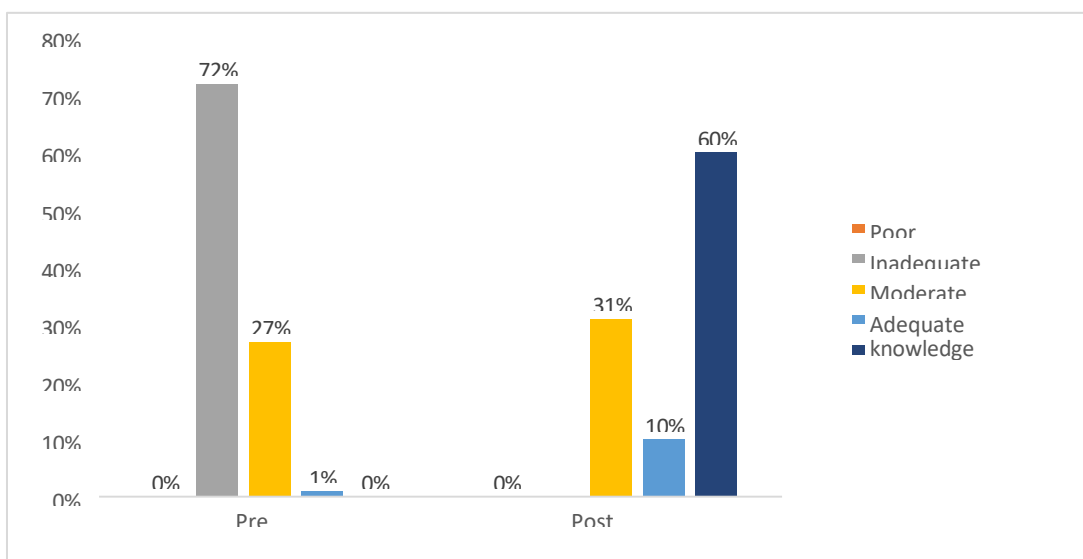
SECTION B:
COMPARISON OF INTERVENTION IN TERMS OF INCREASING THE KNOWLEDGE AND THE SKILL

Level of knowledge	Score	Pre-Test		Post-Test	
		Frequency N=79	Percentage (%)	Frequency N=79	Percentage (%)
Poor knowledge	0-7	0	0	0	0%
Inadequate knowledge	8-14	57	72%	0	0%
Moderate knowledge	15-21	21	27%	24	31%
Adequate knowledge	22-28	1	1%	8	10%
Good knowledge	33-35	0	0%	47	60%

Table 2: Frequency and percentage distribution of pretest and post test score

Data revealed in table 2 shows 72% are having inadequate knowledge, and 21% were moderate knowledge and 1% were adequate knowledge and o numbers were good knowledge, which shows majority of students having inadequate knowledge during pre-test and in post- test 60% (47) students having good knowledge and 10% (8) were having adequate knowledge and 31% got moderate level of knowledge. so, it is clearly indicating that there was increase the level of knowledge after video assisted teaching.

Figure 6: Bar diagram showing comparison between the pre-test and post-test level of knowledge
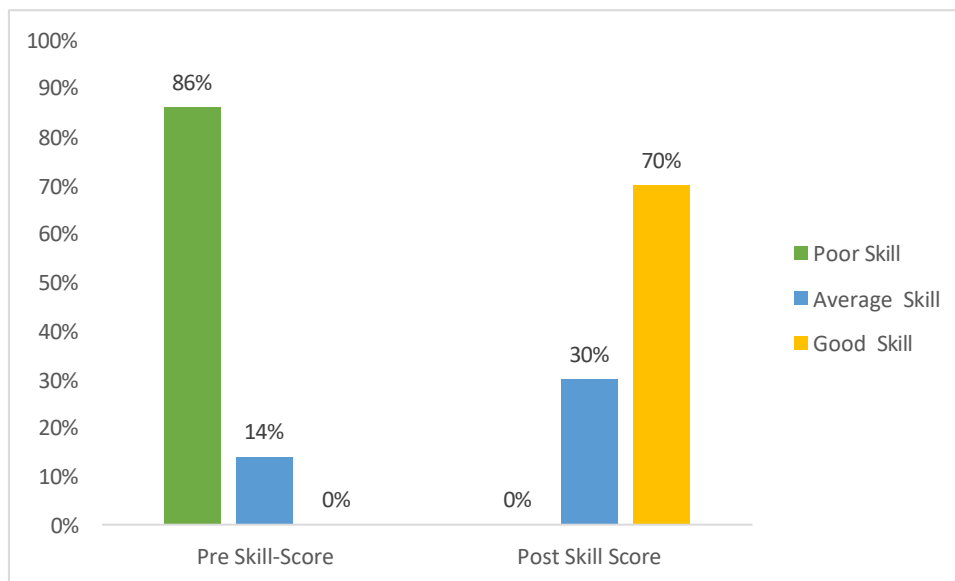
Data presented in bar diagram showed that in pre- test 72% had scored inadequate knowledge and27 % had moderate knowledge and 1% had only adequate knowledge and post-test level 60% good knowledge, 31% had moderate knowledge and 10%adequate knowledge .it clearly revealed that there is effectiveness in video assisted teaching.

Skill score	Score range	Pre-Score		Post-Score	
		Skill frequency	Percentage	Skill frequency	percentage
poor	0-5	68	86%	0	0%

| Average | 6-10 | 11 | 14% | 24 | 30% |
| Good | 11-15 | 0 | 0% | 55 | 70% |

Table 3: Frequency and percentage distribution of pre- test and post- test skill Assessment

Data shown in the table that 68 students had poor skill and 11 students had average skill during pretest. After post skill assessment 55 students had good and 24 students scored average skill score. So, it is indicated that video assisted teaching is affective.

Figure 7: Bar diagram showing comparison between the pre-test and post-test level of skill assessment

Data shown that 86% students had poor skill and 14% had average skill score during pretest. After intervention post skill assessment 70% had good skill score and 30% were scored average skill score. So, it is indicated that video assisted teaching is affective in improving skill.

SECTION C

EFFECTIVENESS OF PRE-TEST AND POST TEST KNOWLEDGE

TABLE 4:

Knowledge score	mean	SD	t-value	p-value	Level of significance
Pre test	12.810	3.080	20.054	0.001	Highly significant
Post test	28.113	6.289			

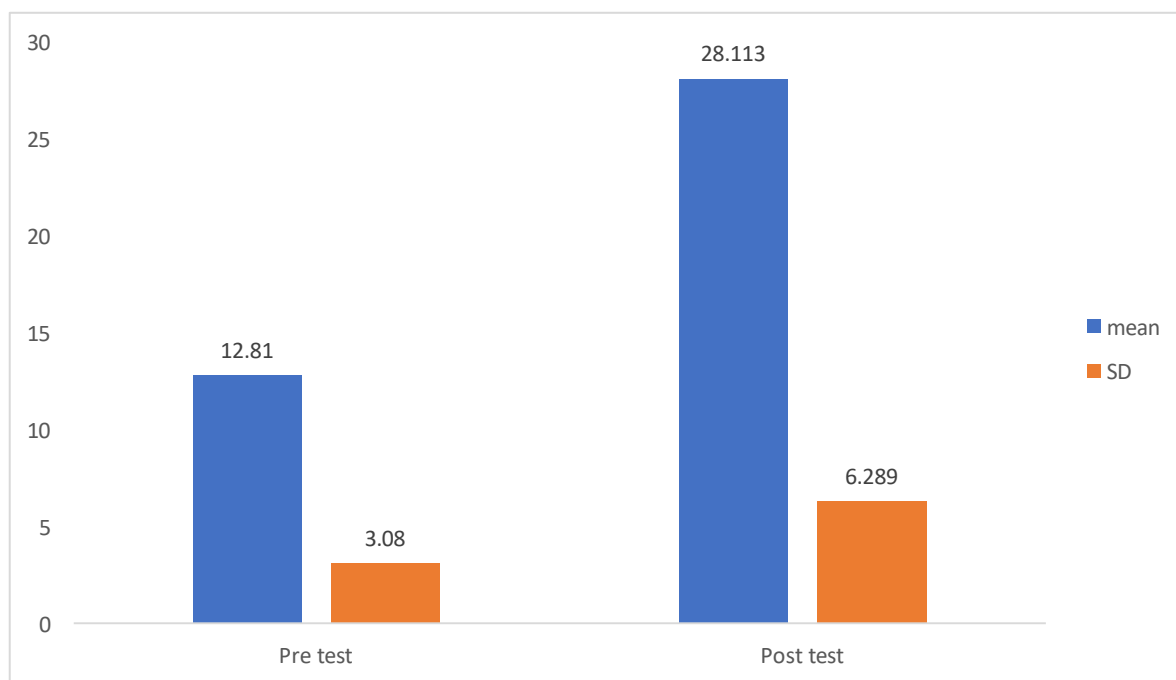*Table 4: "t" Value between pre and post test score value*

Significant at P <0.05

Data shown in table number 4 revealed that the mean post-test knowledge score value mean =28.113 among 5th semester BSC Nursing students were significantly higher than the pretest mean value=12.810. The calculated "t" value (20.054) and "p" value (0.001).

It was found that' t 'value (20.054) is more than the p -value was less than 0.05 which implies that statistical improvement in Video assisted teaching Programme among BSC Nursing 5th semester students.

Hence the hypothesis (H1) is accepted i.e. there is a significant difference in the level of knowledge among BSC Nursing 5th semester students regarding neonatal resuscitation.

Figure 8: Bar diagram showing effectiveness between the pre-test and post-test level of knowledge score value among 5th semester BSC Nursing 5th semester students were significantly higher than the mean pre-test value

Data shown revealed that the mean of post-test knowledge score is 28.113   among BSC Nursing 5th semester students were significantly higher than the pre -test mean value (12.81).

EFFECTIVENESS OF PRE SKILL AND POST SKILL ASSESSMENT

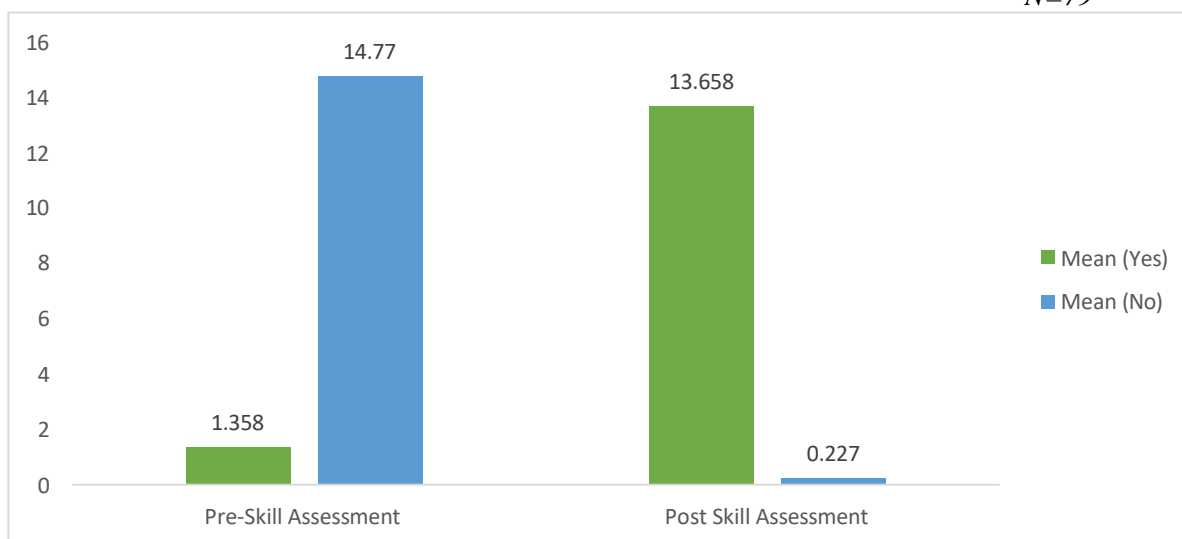| Knowledge score	Pre test		Post test	
	Yes	No	Yes	No
Mean	1.34	13.66	14.77	0.23
SD	1.26		0.48	
t value	43.45			
p Value	0.0001			
Level of significance	Highly significant			

Significant at p<0.005

Table 5: 'Effectiveness of pre skill and post skill value'

Data shown in table number 5 revealed that the mean value of (YES) post skill score among 5th semester BSC Nursing students were significantly higher than the pre skill score, and in the mean (NO) pre skill score is higher than the post skill score.

It was found that 't' value 43.45 and 'p' value is less than 0.05, which implies that statistical improvement in Video assisted teaching Programme among 5th semester student. So hence the hypothesis (H1) is accepted i.e., there is significant difference in the level of skill among BSc Nursing 5th semester students regarding neonatal resuscitation.

N=79

Figure 9: Bar diagram showing Mean Value comparison between pre skill and post skill

Score value among BSC Nursing 5th semester students

Data revealed that the mean post skill assessment score value among BSC Nursing 5th semester students were significantly higher than the mean pretest value.

SECTION D

ASSOCIATION OF PRE -TEST KNOWLEDGE SCORE AND DEMOGRAPHIC VARIABLES

Sr no	Demographic variables	Inadequate knowledge	Moderate knowledge	Adequate knowledge	df	X²	P Value
1	**Age (Year)**						
	18 – 20 years	10	9	8			
	21 – 23 years	7	10	9			
	24 – 26 years	9	8	9	8	12	#
	Above 26 years						
2	**Sex**						
	Male	4	5	5	2	2	#
	Female	22	23	20			
3	**Education of parents**						
	Illiterate	1	3	2			
	Primary Education (1-5)	1	2	5			
	Higher Secondary (6-10)	1	1	29	6	15	*
	Intermediate and above	1	3	30			
4	**Source of information**						
	Mass media	8	4	5			

	Friends	8	5	7			
	Books	6	8	4	6	12	#
	Health personal	15	4	5			
5	**Any past experience or knowledge**						
	BLS	17	17	17			
	Work shop	2	3	3	6	12	#
	Life experience	3	3	5			
	Others	2	3	4			

Significant at *p (>0.05), Not significant at #p (<0.05)

Table 6: Association of Pre -test knowledge Score and Demographic Variables

Described that data presented revealed that p>0.005 in Education of parent pretest knowledge score and so, there is statistically significant association established between pre- test knowledge score among 5th semester BSC Nursing students. Hence H_2 hypothesis was accepted.

Sr.	Demographic variables	Poor f	Average f	df	X^2	P Value
1	**Age (Year)**					
	18 – 20 years	22	17			
	21 – 23 years	32	6	2	8	#
	24 – 26 years	1	1			
	Above 26 years					
2	**Sex**					
	Male	6	7	1	6	#
	Female	35	31			
3	**Education of parents**					
	Illiterate	2	2			
	Primary Education (1-5)	4	2	3	8	#
	Higher Secondary (6-10)	12	10			
	Intermediate and above	19	28			
4	**Source of information**					
	Mass media	10	7			
	Friends	4	6	3	8	#
	Books	7	10			
	Health personal	20	15			
5	**Any past experience or knowledge**					
	BLS	26	24			
	Work shop	3	4	3	8	*
	Life experience	4	6			
	Others	6	6			

Table 7: Association 0f Pre -Test Skill Score and Demographic Variables

significant at * p>0.05

Not significant at # p<0.05

Data shown in the table revealed that p >0.005 for Any past experience or knowledge. so, there is statistically significant association established between pretest skill score among 5th semester BSC Nursing students. Hence H₂ hypothesis was accepted.

5. DISCUSSION:
THE FINDINGS OF THE STUDY   HAVE   BEEN DISCUSSED UNDER THE FOLLOWING SECTION:
SECTION A

Percentage wise distribution of demographic variables

SECTION B
➢   Finding the preexisting knowledge and skill of BSC Nursing 5th semester students regarding Neonatal Resuscitation by conducting pretest.
➢   Evaluate the effectiveness of video assisted teaching Programme on Neonatal resuscitation among 5th semester students by comparing pre and post test
➢   Association between pre -test knowledge score of 5th semester students with selected socio demographic variables.

Major Findings of The Study

SECTION A

Percentage wise distribution of demographic variables of samples

1   Age – In this study percentage wise distribution of students to their age group revealed that 34% (27) students are in the category of 18-20 years65% (51) students are in the age group of 21- 23 years 1% (1) are in the group of 24-26 years

2   Sex- Majority are female students were 83% (66) and males 17% (13)

3   Education of Parents-most of the parents were intermediate and above education 68% (54),17% (13) were higher secondary, 10% (8) were primary education and 5% (4) were illiterate

4   Source of information-Majority of students got information from mass media 37% (29), then 24% (19) were from books, 15% (12) were friends and 23% (18) from health personal

5   Any past experience or knowledge – majority of the students were attended BLS 65% (51), others were 14% (11), whereas 13% (10) were life experience and 8% (7) were attended workshop

SECTION B

➢   **Finding the preexisting knowledge of BSC Nursing 5th semester students regarding Neonatal Resuscitation by conducting pre test**
Data present in table shows 72% (57) students   were scored inadequate knowledge (8-14) and 27% (21) were scored moderate knowledge (15-21), and whereas 1% (1) had adequate knowledge (22-28).

➢   **Finding the pre-existing skill of BSC Nursing 5th semester students regarding Neonatal Resuscitation**
Data present in table revealed that 86% (68) were poor skills and 14% (11) average skill about Neonatal resuscitation

➢   **Evaluate the effectiveness of video assisted teaching Programme on neonatal resuscitation among BSC Nursing 5th semester students by pre and post-test knowledge and skill score**

Data shown in table revealed that the mean post-test knowledge score among BSC Nursing 5th semester students were significantly higher than the mean pre-test value. The calculated 't' value20.054 and p value 0.001 and it was found that p value was less than 0.05, skill assessment 't'value is 43.45 and p value is 0.001 so it is highly significant. which

implies that statistical improvement in knowledge and skill level among BSC Nursing 5th semester students at SGGRIM&HS, SGRRU, College of Nursing, Dehradun.

Hence accepting the alternative hypothesis (H1) i.e. There is significant difference the level of knowledge and skill among BSC Nursing 5th semester Nursing students regarding Neonatal Resuscitation before and after video assisted teaching Programme.

Association between pretest knowledge and skill score of BSC Nursing 5th semester s t u d e n t s with selected socio demographic variables

Finding revealed that there is significant association between demographic variable except in education of parents, and in skill and pre- test association significant with past experience or knowledge at 0.05 p value. Hence H2 was accepted.

6. RECOMMENDATIONS :

On the basis of present study, the following recommendations are formed for the future study:

➤   The similar study can carry out to assess the knowledge and skill among the nurses of pediatric and Neonatal intensive care staff.
➤   The same study may be conducted to find out the effectiveness of video assisted Programme vs self-instructional module on knowledge regarding neonatal resuscitation in Labour room, pediatric and maternity unit staff nurses.
➤   This study can be conducted among another health workers to improve their level of knowledge and practice.
➤   The study also will be beneficial if conducted among non-health workers to improve the first management of cardiac arrest in small children's.
➤   This study can be used as review for the future studies.

7.CONCLUSION:

On the basis of finding the strategy below set conclusion was drawn it also bringing out the limitation of the study in picture.

The pretest technologies cover baseless sum up on students of BSc Nursing 5th semesters students after the video assisted Programme the knowledge and skill were increased so it is affective.

From the finding the study it can be concluded that highest percentage of students in the age group of 21 to 23 years and most of them were females.

 Education of parents reveals that highest percentage of parents were intermediate and above highest percentage of student got source of information from mass media and whereas most of students 65% having past experience or knowledge through BLS.

During the post -test analysis revealed that the most of the students are having good knowledge 60% and 31% having moderate knowledge and 10% having adequate knowledge and in skill 70% having good skill and 30 % having average skill. pre and post -test knowledge score was demonstrated by using 't' test and skill by using' Mean, it was found that video assisted teaching Programme was effective.

  There is significant association revealed that computed P value was greater than the significance level (0.05) for selected the socio demographic variables pre- test knowledge with education of parents and past experience or knowledge on pre-test skill. So, there was no statistically significant association established between the pre-test score with their socio demographic variables.

REFERENCES:
1. Kouslar ul islam, Et. Al, (2021) A pre-experimental study to assess the effectiveness of neonatal resuscitation Programme on knowledge and skill, volume 12
2. Duncan N Shikku, Et. Al, (2018), practice and outcome of neonatal resuscitation for newborn with birth asphyxia, volume 18, Article 167 (2018).
3. www.resu.org.au/policy/guideliness/admin/arc-index
4. www.resu.org .au/policy/guidelines/admin /arc-index
5. http://www icddrb.org/publication .cfm/classification ID=68&pubID=7