

A comparative study to evaluate the effectiveness of video assisted teaching program and traditional demonstration on nursing student's knowledge and learning skills of performing personal protective equipments at Arya School of Nursing, Kamrup (R), Assam

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Abstract:

PPE is protective clothing, goggles, or other garments or equipment designed to protect the wearer's body from injury or infection. According to Occupational Safety and Health Administration(OSHA), "Personal protective equipment commonly refer to as PPE, is equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses". PPE should be used by all health care providers, supporting staffs, laboratory staffs and family members who provides care to the patients in situation where they have contact with blood, body fluids, secretions and excretions. It is one of the common preventive measures which can be demonstrated as well as can be shown through video to the practical skills of students. Lecturing also remains one of the most popular method to transmit information and ideas by teachers, trainers and speakers. . A comparative study was undertaken with the objective "To evaluate the effectiveness of Video Assisted Teaching Programme and Traditional demonstration on nursing student's knowledge and learning skill on performing PPE at Arya School of Nursing, Kamrup®, Assam". 40 students were selected by using Non-probability Purposive Sampling Technique. The tool used in this study was semi- structure knowledge questionnaire, rating scale. The study findings revealed that mean for the knowledge and skill score of the participants of Video Assisted Teaching was 17.25& 20.75 in pre-test and 24.45 & 46.6 in post-test. For traditional demonstration, the mean for the knowledge and skill score of the participants was 17.6& 22.95 in pre-test and 24.65 and 49.35 in post-test. The study concludes that the students had poor knowledge and skill level in pre-test and excellent knowledge and good skill level in post-test. The study had several implications in various field of nursing.

Key Word: Evaluative, Comparative, Effectiveness, Video assisted teaching, Traditional Demonstration method, Knowledge, Nursing Students, Personal Protective Equipment, Rating Scale

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I. Introduction:

"Teaching should be such that what is offered is perceived as a valuable gift and not as a hard duty."

- Albert Einstein

PPE is protective clothing, goggles, or other garments or equipment designed to protect the wearer's body from injury or infection. PPE provides a physical barrier between microorganisms from contaminating hands, eyes, clothing, hair, shoes etc. Lecturing remains one of the most popular method to transmit information and ideas by teachers, trainers and speakers. As student and audience participants, we are quite familiar with the approach. The choice of teaching method to be used largely depends on the information or skill that is being taught. Different instructional techniques are used for clinical education including live clinical demonstration. Demonstration refers to usual presentation of the activities aiming to facilitate learning since the students directly watch the equipment or procedure. It provides live experiences to the students. Use of advanced technology such as video tapes or computers is also popular now a days. These provide new learning experience for students. Health workers are constantly exposed to infectious materials and pathogens while providing care to the patients. By practicing infection control techniques, the health workers can avoid spreading microorganisms and can protect themselves. This can be possible when there is upgradation of knowledge and

attitude of health workers by using effective teaching programme like video assisted teaching. Present study attempts to evaluate the effectiveness of video assisted teaching and traditional demonstration on knowledge and skills regarding infection control among nursing students at Arya School of Nursing.

Need of the Study:

Communicable diseases are great threat to Health Care workers because they are constantly exposed to pathogens and biological hazards. Even health care workers never touch a client still he/she will be exposed to infection by contact with body fluid and infected waste on equipment/surface. Infectious disease can occur in even the cleanest workplace. Inappropriate using of PPE among healthcare workers increased high risk for getting infection .So it is very necessary to educate the students of GNM 3rd year and ANM 2nd year regarding use of PPE. Proper utilization of PPE, hand hygiene is critical to prevention of disinfection which contributes to the death of nearly 90,000 people. In this study on Personal Protective Equipments, helps knowledge and skills and level of attitude of the students and practice of subject among the GNM 3rd year and ANM 2nd year students on PPE. It also helps to evaluate the effectiveness of video assisted teaching program and traditional demonstration on nursing students learning skills of performing personal protective equipments. This study helps to get results about the effectiveness between Video assisted teaching programme and demonstration method. A study conducted by JaHyun Kang(2017) on the use of PPE among health workers in University of Pittsburgh Medical Center, Presbyterian Hospital, concluded that although Healthcare Personnel knew they were being videotaped , contamination occurred in 79.2 % of the PPE simulation .Devising better standardized PPE Protocols and implementing innovative PPE education are necessary to ensures Healthcare Personnel safety .² While talking about the students of GNM 3rd year and ANM 2nd year is important to teach them about the donning and doffing techniques of PPE through Video Assisted Teaching Programme and Traditional Demonstration. This study will raise student's interest and motivation for video assisted teaching programme and traditional demonstration along with PPE.

Research Problem:

“A comparative study to evaluate the effectiveness of video assisted teaching program and traditional demonstration on nursing student's knowledge and learning skills of performing personal protective equipments at Arya School of Nursing, Kamrup (R), Assam”

Objectives:

- i. To assess the pre- test and post- test knowledge of GNM and ANM students in a selected school of nursing on personal protective equipments.
- ii. To assess the pre -test and post -test skills of GNM and ANM students in a selected school of nursing on personal protective equipments .
- iii. To compare the pre-test and post-test results of the effectiveness of video assisted teaching and traditional demonstration on personal protective equipment in terms of skills.
- iv. To assess effectiveness of video assisted teaching and traditional demonstration on personal protective equipments among students in terms of knowledge.
- v. To associate the pre-test knowledge and skills on video assisted and traditional demonstration with selected demographic variables.

II. Materials and Methods

Research Approach: In view of the nature of the research problem,to accomplish the objectives and to test the hypothesis, a Quantitative evaluative and comparative approach was used in the present study

Research Design: Quasi Experimental pre- test post- test design.

Research Setting: The study was conducted in Arya School of Nursing, Changsari

Study Population: Accessible population of this study are GNM and ANM students of Arya School of Nursing.

Sample: The sample will be GNM 3rd year and ANM 2nd year students of Arya School of Nursing

Sample Size: The sample size of this study, consist of 40 GNM 3rd year and ANM 2nd year students of Arya School of Nursing.

Inclusive criteria:

- i) Both male and female Nursing students.
- ii)Those who are willing to participate and present during period of data collection.

Exclusive criteria:

- i) Those students who already participated in similar teaching methods.

Sampling Technique: Non-probability purposive sampling technique and Random Sampling(Lottery Method) was used to collect the data.

Variables under study:

▪ **Research Variable -**

Independent Variable: Video assisted teaching programme and traditional demonstration on PPE

Dependent Variable: Knowledge and skills of the students on performing PPE

▪ **Demographic variables** – The demographic variables chosen for the study are age, gender, family background, source of information/knowledge, Method of teaching experienced in practical before.

TOOLS FOR DATA COLLECTION

Development of the tool: Based on the objectives of the study, the following tools were developed:

- Semi-structured questionnaire to assess the knowledge on PPE
- Rating scale to assess the skills on PPE
- Standard video to conduct teaching programme on PPE to provide knowledge on PPE
- Live demonstration to conduct teaching programme on PPE, to improve the skill level of the students.

DESCRIPTION OF TOOL :

The tools used in the data collection procedure are as follows:

Section-I: Demographic data

Section-II: Knowledge questionnaire on PPE

Section-III: Rating Scale

Section-IV: Video assisted teaching programme

Section-V: Live demonstration

SECTION-I

Demographic Performa

The demographic data consist of Five variables for obtaining information regarding background variables.i.e: Age, Gender, Family background, Source of knowledge/information, Methods of teaching experienced before

.SECTION-II

Semi-Structured knowledge questionnaire

. The Semi-Structured questionnaire consists of 32 multiple choice questions. These questions covered knowledge regarding PPE. Each correct answer carried a score of ‘1’ and each incorrect answer carried a ‘0’ score

SECTION – III

Standard Rating Scale

A three point rating scale was used to assess skills on PPE. A score of 3 (Good), 2 (Average), 1(Poor) was allotted for each standard criteria

DATA COLLECTION PROCEDURE

Before starting the final data collection procedure for the present study, the investigators obtain permission from the principal of Arya Nursing College and Arya School of Nursing, Kamrup®, Assam. After seeking permission the following steps had been taken. An informed consent was obtained from each respondent. They were assured to maintain confidentiality regarding their response.

The period of data collection was from 19th September 2020-28th September 2020. On 19th September, pre-test was conducted followed by video assisted teaching programme and traditional demonstration from 2pm to 4 pm. On 26th September 2020, post-test was conducted. The collected data was compiled for data analysis and interpretation. The steps involved in data collection procedure are as follows-

Step I – Introduction of topic

Step II – Informed consent were taken before administration of research tool.

Step III – Administration of research tool to assess the pre-test knowledge before video assisted teaching programme and traditional demonstration.

Step IV – Conducted video assisted teaching programme and traditional demonstration.

Step V – Administration of research tool to assess the post-test knowledge after video assisted teaching programme and traditional demonstration

PLAN FOR DATA ANALYSIS

The obtained data was analysed using descriptive and inferential statistics under the following section. Plan for data analysis was done according to objectives and hypothesis.

Section A

Frequency distribution related to demographic proforma of the participants.

Section B

Findings related to pre-test knowledge and skill level regarding personal protective equipments by computing frequency and percentage of collected data.

Section C

Findings related to video assisted teaching programme and traditional demonstration using paired t-test.

Section D

Findings related to association between pre-test post-test knowledge score regarding PPE with selected demographic variables using Chi-square.

III. Result

Section A : Descriptive analysis of demographic Performa

This section represents data regarding frequency and percentage distribution of demographic variables such as age, gender, family background. Sources of information/knowledge, method of teaching experienced in practical before for Video Assisted Teaching and Traditional Demonstration.

Fig 1: Bar diagram showing distribution of Video Assisted Teaching participants according to their age (in years)

Data presented in fig 1, shows that half of (55%) of students belong to the age group of 21-23 years, (25%) belong to the age group of more than 23 and remaining students (20%) belongs to the age group of 18-20.

n=20

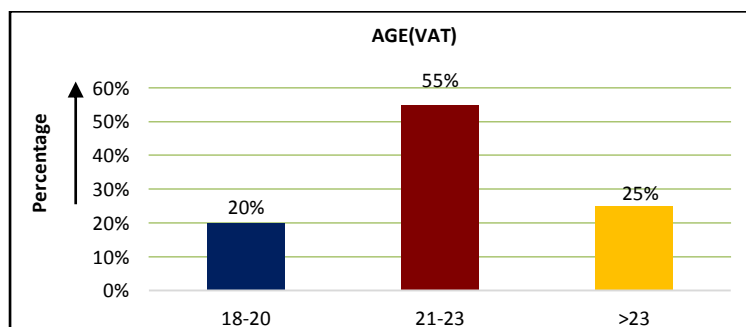


Fig 2:Bar diagram showing distribution of Traditional demonstration participants according to their age (in years)

Data presented fig 2, shows that majority (65%) belongs to the age group of 21-23 years, (20%) students belongs to the age group more than 23 years and remaining students (15%) belongs to the age group of 18-20.

n= 20

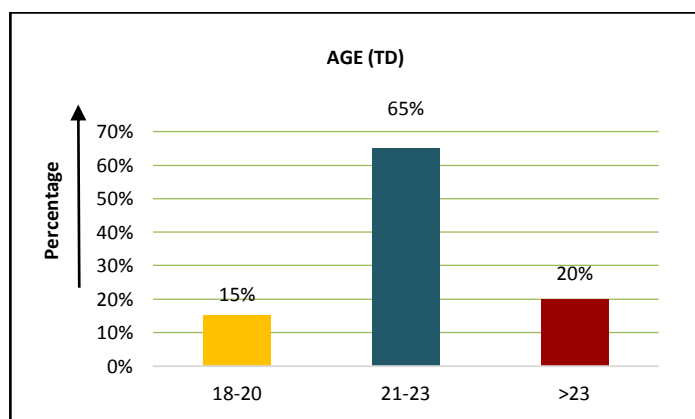


Fig 3: Pie diagram showing percentage distribution of Video Assisted Teaching participants according to their gender

Data presented fig 3, shows that most of (85%) samples are female and (15%) samples are male.

n=20

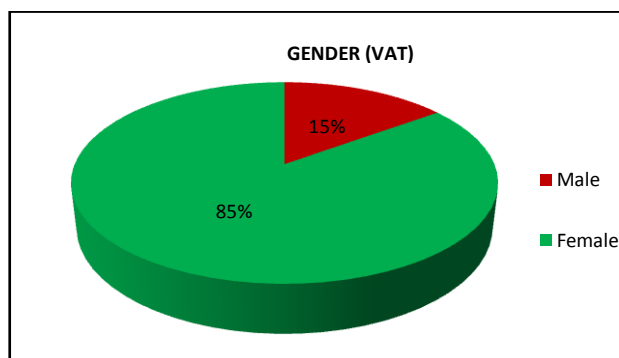


Fig 4: Pie diagram showing percentage distribution of Traditional demonstration participants according to their gender.

Data presented in fig 4, shows that most of (80%) samples are female and (20%) samples are male.

n=20

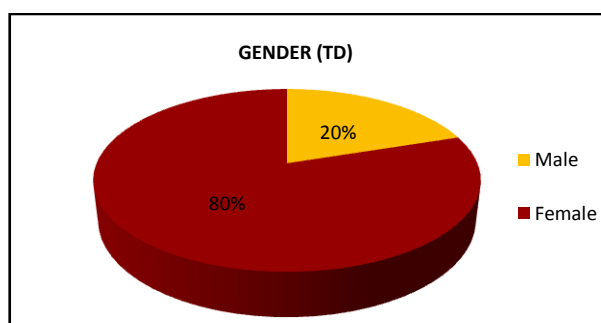


Fig 5: Bar diagram showing percentage distribution of Video Assisted Teaching participants according to their family background

Data presented in fig 5, shows that most of (85%) students are from family background of other profession and (15%) students are from medical profession

n=20

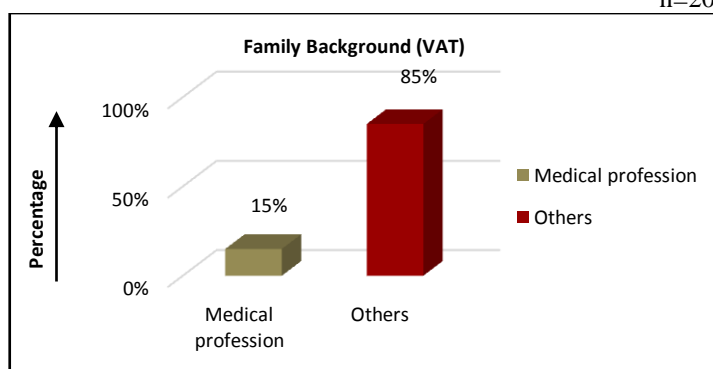


Fig 6: Bar diagram showing percentage distribution of Traditional demonstration participants according to their family background.

Data presented in fig 6, shows that most of (85%) students are from family background of other profession and (15%) students are from medical profession

n=20

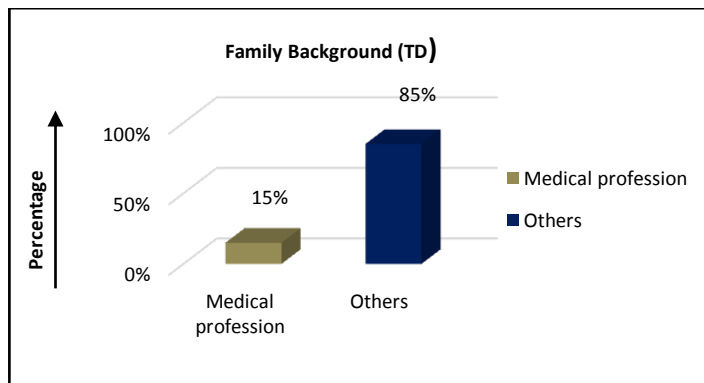


Fig 7: Bar diagram showing percentage distribution of Video Assisted Teaching participants according to their source of information

Data presented in fig 7, shows that half of students (55%) source of information/knowledge belongs to others, (35%) was books and (10%) source of information was personnel observation.

n=20

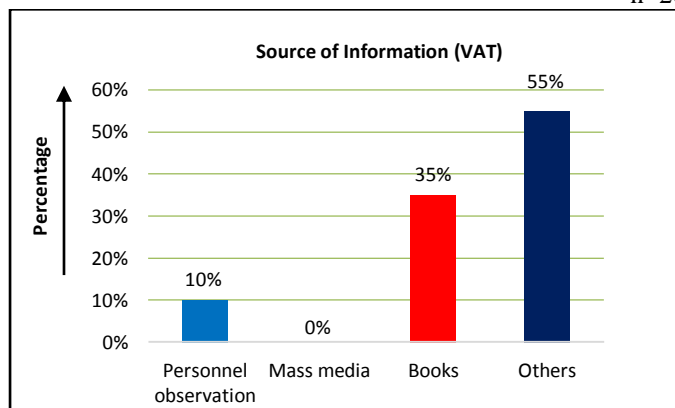


Fig 8: Bar diagram showing percentage distribution of Traditional demonstration participants according to their source of information.

Data presented in fig 8, shows that half of (55%) students source of information was books, (35%) was from other sources and (10%) source of information was from personnel observation.

n=20

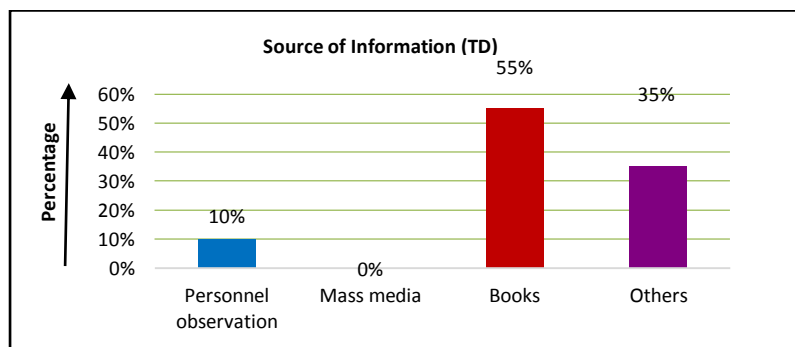


Fig 9: Bar diagram showing percentage distribution of Video Assisted Teaching participants according to the method of teaching experienced in practical before.

Data presented in fig 9, shows that most of (90%) experienced both video assisted teaching and traditional demonstration in practical before, (5%) experienced video assisted teaching method and traditional demonstration before.

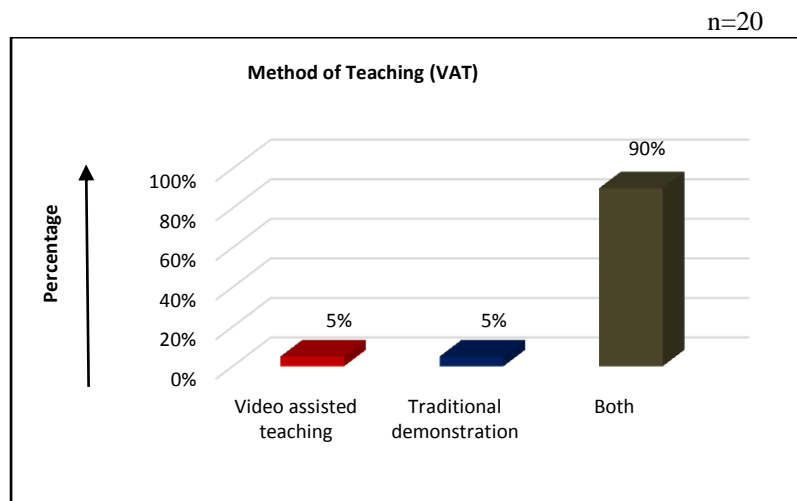
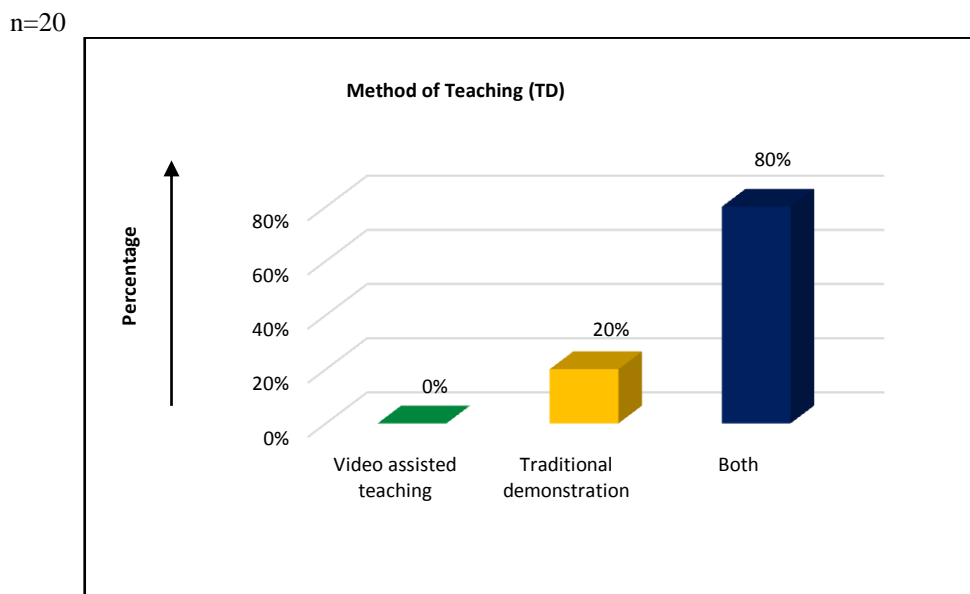


Fig 10: Bar diagram showing percentage distribution of Traditional demonstration participants according to the method of teaching experienced in practical before.

Data presented in fig 10, shows that most of (80%) experienced both video assisted teaching and traditional demonstration in practical before and (20%) experienced traditional demonstration in practical before.



SECTION B

Descriptive analysis of knowledge score on personal protective equipments.

This section represents the knowledge among the students on personal protective equipments.

TABLE 1: Frequency and percentage of pre-test and post-test knowledge score of participants in video assisted teaching.

VAT, n=20
TD, n= 20

Frequency and percentage of pre-test and post-test knowledge score								
Knowledge level	Video Assisted Teaching (N-20)				Traditional demonstration (N-20)			
	Pre-test		Post-test		Pre-test		Post-test	
	(f)	%	(f)	%	(f)	%	(f)	%
Excellent (≥24)	1	5%	12	60%	2	10%	14	70%

Good (20-23)	5	25%	8	40%	6	30%	6	30%
Average (16-19)	6	30%	0	0%	7	35%	0	0%
Poor (1-15)	8	40%	0	0%	5	25%	0	0%

Table1: Shows that inpre-test knowledge score of video assisted teaching, maximum(40%) students had poor knowledge and 30% had average knowledge and (25%) students had good knowledge and (5%) participants had excellent knowledge on PPE prior to teaching method. Where as in post-test knowledge score, majority (60%) students had excellent knowledge, (40%) had good knowledge on PPE.

In pre-test knowledge score traditional demonstration, maximum (35%) of students had average knowledge, (30%) students had good knowledge, (25%) students had poor knowledge and (10%) participants had excellent knowledge prior to traditional demonstration. Where as in post-test knowledge score maximum (70%) students had excellent knowledge and (30%) students had good knowledge.

TABLE 2: Area wise distribution of pre-test post-test knowledge score of video assisted teaching and traditional demonstration.

VAT, n=20

TD, n= 20

Area wise distribution of knowledge score								
Area wise Knowledge Distribution	Video Assisted Teaching				Traditional demonstration			
	Pre-test		Post-test		Pre-test		Post-test	
	(f)	%	(f)	%	(f)	%	(f)	%
Description of PPE	136	75%	170	94%	122	68%	158	88%
Preparatory phase	79	43%	115	63%	95	53%	127	71%
Donning of PPE	50	50%	85	85%	64	64%	77	77%
Doffing of PPE	80	44%	119	66%	71	39%	115	64%

Table 2: Shows that in the pre-test knowledge score of video assisted teaching, majority (75%) had knowledge on description of PPE, (50%)half of the students had knowledge on donning of PPE, (44%) had knowledge on doffing of PPE and (43%) had knowledge on preparatory phase. Where as in post-test knowledge score, most of (94%) had knowledge on description of PPE, (85%) students had knowledge on donning of PPE, (66%) had knowledge on doffing of PPE and (63%) students had knowledge on preparatory phase.

In pre-test knowledge score of traditional demonstration, majority (68%) students had knowledge on description of PPE, (64%) had knowledge on donning of PPE, (53%) had knowledge on preparatory phase and (39%) students had knowledge on doffing of PPE. Where as in post-test knowledge score of traditional demonstration, most of (88%) students had knowledge on description of PPE, (77%) had knowledge on donning of PPE, (71%) had knowledge on preparatory phase and (64%) had knowledge on doffing of PPE.

SECTION-C

Inferential analysis of effectiveness of Video Assisted Teaching Programme and Traditional demonstration for knowledge on PPE.

TABLE 3: Comparison between mean and SD of pre-test and post-test knowledge score of Video assisted teaching and traditional demonstration

VAT, n=20

TD, n= 20

Group	Pre-test Knowledge Score		Post-test Knowledge Score	
	Mean	SD	Mean	SD
Video Assisted Teaching	17.25	3.69	24.45	4.27
Traditional Demonstration	17.6	4.04	24.65	2.15

Table 3: Shows that the standard deviation of pre-test knowledge score of video assisted teaching was 3.69 and the standard deviation of post-test knowledge was 4.27 on PPE. The mean score of pre-test was 17.25 and post-test was 24.45.

Whereas in Traditional demonstration, standard deviation of pre-test knowledge was 4.04 and standard deviation of post-test knowledge was 2.15 on PPE. The mean score of pre-test knowledge was 17.6 and post-test mean was 24.65.

SECTION-D

Descriptive analysis of pre-test post-test skill score in performing personal protective equipments.

This section represents the skill level among the students in performing PPE

TABLE 4: Frequency and percentage of pre-test and post-test skill level of video assisted teaching and traditional demonstration.

VAT, n=20

TD, n= 20

Frequency and percentage of skill score								
Skill level	Video Assisted teaching (N-20)				Traditional demonstration (N-20)			
	Pre-test		Post-test		Pre-test		Post-test	
	(f)	%	(f)	%	(f)	%	(f)	%
Good (38-54)	0	0%	17	85%	0	0%	20	100%
Average (27-37)	0	0%	3	15%	4	20%	0	0%
Poor (1-26)	20	100%	0	0%	16	80%	0	0%

Table 4: Shows that in pre-test skill score of video assisted teaching, most of (100%) students had poor skill level. In post-test skill score most of (85%) participants had good skill level and remaining students (15%) had poor skill level.

Where as in the pre-test skill score of traditional demonstration, most of (80%) students had poor skill level , (20%) of the students had average skill score. In the post-test skill score, most of (100%) participants had good skill score.

TABLE 5: Area wise distribution of pre-test post-test skill score of participants in video assisted teaching.

VAT, n=20

TD, n= 20

Area wise distribution of skill score								
Area wise skill distribution	Video Assisted Teaching				Traditional demonstration			
	Pre-test		Post-test		Pre-test		Post-test	
	(f)	%	(f)	%	(f)	%	(f)	%
Description of PPE	119	40%	280	93%	139	46%	280	93%
Preparatory phase	179	37%	371	77%	197	41%	439	91%
Donning of PPE	72	40%	171	95%	70	39%	159	88%
Doffing of PPE	45	37%	110	91%	53	44%	109	91%

Table 5:Shows that in the pre-test skill score of video assisted teaching, maximum (40%) students had skills on both description and donning of PPE, and (37%) students had skills on both preparatory phase and doffing of PPE. Where as in the post-test skill score, most of (95%) students had skills on donning of PPE, (93%) had skills on description of PPE, (91%) had skills on doffing of PPE and (77%) students had skills on preparatory phase.

In the pre-test skill score of traditional demonstration, maximum (46%) students had skills on description of PPE, (44%) had skills on doffing of PPE, (41%) had skills on preparatory phase and (39%) students had skills on donning of PPE. Where as in the post-test skill score, most of (93%) students had skills on description of PPE, (91%) had skills on both preparatory phase and doffing of PPE and (88%) students had skills on donning of PPE.

SECTION-E

Inferential analysis of effectiveness of Video assisted teaching programme and Traditional demonstration for skill level in performing PPE

TABLE 6: Comparison between mean and SD of pre-test and post-test skill score of video assisted teaching and traditional demonstration using paired 't' test.

VAT, n=20

TD, n= 20

Comparison between mean and standard deviation of pre-test and post-test skill score							
Group	Test	Mean	SD	Paired 't' test	df	Tabulated value	Remarks
Video assisted teaching	Pre-test	20.75	1.78	19.52*	19	2.09	Null hypothesis is rejected
	Post-test	46.6	5.34				
Traditional demonstration	Pre-test	22.95	3.55	24.60*	19	2.09	Null hypothesis is rejected
	Post-test	49.35	2.21				

Table 6: Shows that in Video Assisted Teaching, the standard deviation of pre-test skill was 1.78 and post-test skill was 5.34. The mean score of pre-test was 20.75 and post-test was 46.6. Therefore it is evident from the above data that the mean post-test skill score were higher than the mean pre-test skill score. It also shows that the calculated paired 't' value 19.52 was greater than the tabulated value ($t_{19}=2.09$) Hence, the null hypothesis was rejected.

Whereas in Traditional demonstration, the standard deviation of pre-test skill score was 3.55 and standard deviation of post-test skill score was 2.21 on PPE. The mean of pre-test skill score was 22.95 and post-test skill score was 49.35. Therefore it is evident from the above data that the mean post-test skill score were higher than the mean pre-test skill score. It also shows that the calculated paired 't' value 24.60 was greater than the tabulated value ($t_{19}=2.09$) Hence, the null hypothesis was rejected.

TABLE 7: Comparison between mean and SD of post-test skill score of video assisted teaching and traditional demonstration using unpaired 't' test

VAT, n=20

TD, n= 20.

Comparison between mean and standard deviation of post-test skill score						
Group	Mean	SD	Unpaired 't' test	df	Tabulated value	Remark
Video Assisted Teaching	46.6	5.34	2.14*	38	2.028	Null hypothesis is rejected
Traditional demonstration	24.65	2.15				

Table 7: Shows that in post-test skill score of video assisted teaching, the mean was (46.6) and standard deviation was (5.34) and for traditional demonstration the mean was (24.65) and standard deviation was (2.15). In this table the calculated unpaired 't' value for video assisted teaching and traditional demonstration was (2.14) which was greater than the tabulated value ($t_{38}=2.028$). Hence, the null hypothesis was rejected.

SECTION-F

Analysis on Association between the pre-test knowledge score with selected demographic variables.

TABLE 8: Association between pre-test knowledge on PPE with selected variables for video assisted teaching. VAT, n=20

Association between pre-test knowledge score with selected demographic variables								
Sl. No	Demographic variables	Categories	Pre-test knowledge scores for video assisted teaching		df	X ²	Tabulated value	Remark
			<Median	≥ Median				
1.	Age	18-20	1	3	2	1.18	5.99	NS
		21-23	6	5				
		≥24	3	2				
2.	Gender	Male	2	1				

		Female	8	9	1	0.36	3.84	NS
3.	Family background	Medical profession	1	2	1	0.36	3.84	NS
		Others	9	8				
4.	Sources of information/ knowledge	Personnel observation	1	1	3	0.22	7.82	NS
		Mass media	0	0				
		Books	4	3				
		Others	5	6				
5.	Method of teaching experienced in practical before	VAT	1	0	3	2	7.82	NS
		TD	0	1				
		Both	9	9				

NS- Not significant

Table 8: Shows that the calculated value of X^2 is less than the tabulated value, hence it is proved that there is no significant association between pre-test knowledge score with the selected demographic variables such as age, gender, background, source of information/knowledge and methods of teaching experienced in practical before.

TABLE 9: Association between pre-test knowledge on PPE with selected variables for traditional demonstration.

TD,n=20

Association between pre-test knowledge score with selected demographic variables								
Sl. No	Demographic variables	Categories	Pre-test knowledge scores for traditional demonstration		df	X^2	Tabulated value	Remark
			<Median	≥Median				
1.	Age	18-20	0	3	2	2.88	5.99	NS
		21-23	7	6				
		≥24	2	2				
2.	Gender	Male	2	2	1	0.04	3.84	NS
		Female	7	9				
3.	Family background	Medical profession	0	3	1	2.87	3.84	NS
		Others	9	3				
4.	Sources of information/ knowledge	Personnel observation	1	1	3	0.03	7.82	NS
		Mass media	0	0				
		Books	5	6				
		Others	3	4				
5.	Method of teaching experienced in practical before	VAT	0	0	2	0.04	5.99	NS
		TD	2	3				
		Both	7	8				

NS- Not significant

Table 9: Shows that the calculated value of X^2 is less than the tabulated value. Hence, it is proved that there is no significant association between pre-test knowledge score with selected demographic variables such as age, gender, background, source of information/knowledge and methods of teaching experienced in practical before.

SECTION-G

Analysis of association between the post-test knowledge score with selected demographic variables.

TABLE 10: Association between post-test knowledge on PPE with selected variables for video assisted teaching.

VAT,n=20

Association between post-test knowledge score with selected demographic variables								
Sl. No	Demographic variables	Categories	Post-test knowledge scores for video assisted teaching		df	X ²	Tabulated value	Remark
			< Median	≥ Median				
1.	Age	18-20	1	3	2	0.5	5.99	NS
		21-23	5	6				
		≥24	2	3				
2.	Gender	Male	3	0	1	5.28*	3.84	S
		Female	5	12				
3.	Family background	Medical profession	2	1	1	1.05	3.84	NS
		Others	6	11				
4.	Sources of information/ knowledge	Personnel observation	2	0	3	3.74	7.82	NS
		Mass media	0	0				
		Books	3	4				
		Others	3	8				
5.	Method of teaching experienced in practical before	VAT	0	1	2	1.51	5.99	NS
		TD	0	1				
		Both	8	10				

NS- Not significant

S- Significant

Table 10: Shows that the association between post-test knowledge score with gender X² is more than the tabulated value. Hence, it is proved that there is a significant association between post-test knowledge score with gender. Whereas other demographic variables such as age, family background, source of information/knowledge, method of teaching experienced in practical before have no significant association with knowledge score.

TABLE 11: Association between post-test knowledge on PPE with selected variables for traditional demonstration.

TD,n=20

Association between post-test knowledge score with demographic variables								
Sl. No	Demographic variables	Categories	Post-test knowledge scores for traditional demonstration		df	X ²	Tabulated value	Remark
			< Median	≥ Median				
1.	Age	18-20	1	2	2	0.19	5.99	NS
		21-23	6	7				
		≥24	2	2				
2.	Gender	Male	2	2	1	0.38	3.84	NS
		Female	7	9				
3.	Family background	Medical profession	0	3	1	2.87	3.84	NS
		Others	9	8				
4.	Sources of information/ knowledge	Personnel observation	1	1	3	0.03	7.82	NS
		Mass media	0	0				
		Books	5	6				
		Others	3	4				
5.	Method of	VAT	0	0				

	teaching experienced in practical before	TD	1	3	1	1.84	3.84	NS
		Both	8	8				

NS- Not Significant

Table 11: Shows that the calculated value of post-test knowledge score has no significant association with selected demographic variables such as age, gender, family background, source of information/knowledge, method of teaching experienced in practical before

SECTION-H

Analysis of association between the pre-test skills score with selected demographic variables

TABLE 12: Association between pre-test skill scores with demographic variables for video assisted teaching.

VAT, n=20

Association between pre-test skill score with demographic variables								
Sl. No	Demographic variables	Categories	Pre-test skill scores for video assisted teaching		df	X ²	Tabulated value	Remark
			<Median	≥Median				
1.	Age	18-20	2	2	2	0.8	5.99	NS
		21-23	4	7				
		≥24	3	2				
2.	Gender	Male	3	0	1	4.3*	3.84	S
		Female	6	11				
3.	Family background	Medical profession	0	3	1	2.87	3.84	NS
		Others	9	8				
4.	Sources of information/ knowledge	Personnel observation	1	1	3	4.209	7.82	NS
		Mass media	0	0				
		Books	1	6				
		Others	7	4				
5.	Method of teaching experienced in practical before	VAT	0	1	2	1.8	5.99	NS
		TD	0	1				
		Both	9	9				

NS- Not significant

S- Significant

Table 12: Shows that the association between pre-test skill score with gender X² is more than tabulated value. Hence, it is proved that there is a significant association between pre-test skill score with gender. Whereas other demographic variables such as age, family background, source of information/knowledge, methods of teaching experienced in practical before had no significant association with pre-test skill score.

TABLE 13: Association between pre-test skill scores with demographic variables for traditional demonstration.

Association between pre-test skill score with demographic variables								
Sl. No	Demographic variables	Categories	Pre-test skill scores for Traditional demonstration		df	X ²	Tabulated value	Remark
			< Median	≥ Median				
1.	Age	18-20	0	2	2	2.28	5.99	NS
		21-23	7	7				
		≥24	1	3				
2.	Gender	Male	1	3	2	9.19*	5.99	S
		Female	7	9				
3.	Family background	Medical profession	1	2	2	0.05	5.99	NS
		Others	7	10				
4.	Sources of information/ knowledge	Personnel observation	1	1	3	0.23	7.82	NS
		Mass media	0	0				
		Books	4	7				

		Others	3	4				
5.	Method of teaching experienced in practical before	VAT	0	0	2	1.02	5.99	NS
		TD	1	3				
		Both	7	9				

NS- Not Significant; S- Significant

TD,n = 20

Table 13: Shows that the association between pre-test skill score with selected demographic variable (gender) X^2 is more than tabulated value. Hence, it is proved that there is a significant association between pre-test skill score with gender. Whereas other demographic variables such as age, family background, source of information/knowledge, methods of teaching experienced in practical before had no significant association with pre-test skill score

SECTION-I

Analysis of association between the post-test skills score with selected demographic variables

TABLE 14: Association between pre-test skill scores with demographic variables for video assisted teaching.

n=20

Association between post-test skill score with demographic variables								
Sl. No	Demographic variables	Categories	Post-test skill scores for video assisted teaching		df	X^2	Tabulated value	Remark
			< Median	≥ Median				
1.	Age	18-20	2	2	2	0.28	5.99	NS
		21-23	5	6				
		≥24	3	2				
2.	Gender	Male	1	2	1	0.36	3.84	NS
		Female	9	8				
3.	Family background	Medical profession	0	3	1	3.52	3.84	NS
		Others	10	7				
4.	Sources of information/ knowledge	Personnel observation	1	1	3	0.22	7.82	NS
		Mass media	0	0				
		Books	3	4				
		Others	6	5				
5.	Method of teaching experienced in practical before	VAT	1	0	2	2.7	5.99	NS
		TD	1	0				
		Both	7	11				

NS- Not significant

Table 14: Shows that the calculated value of X^2 is less than the tabulated value, hence it is proved that there is no significant association between the post-test skill score with selected demographic variables such as age, gender, family background, source of information/knowledge, and methods of teaching experienced in practical before .

TABLE 15: Association between post-test skill scores with demographic variables for traditional demonstration.

n=20

Association between post-test skill score with demographic variables								
Sl. No	Demographic variables	Categories	Post-test skill scores for traditional demonstration		df	X^2	Tabulated value	Remark
			< Median	≥ Median				
1.	Age	18-20	2	1	2	3.63	5.99	NS
		21-23	4	9				
		≥24	0	4				

2.	Gender	Male	2	2	1	0.94	3.84	NS
		Female	4	12				
3.	Family background	Medical profession	0	3	1	1.52	3.84	NS
		Others	6	11				
4.	Sources of information/ knowledge	Personnel observation	2	0	3	7.79	7.82	NS
		Mass media	0	0				
		Books	3	8				
		Others	1	6				
5.	Method of teaching experienced in practical before	VAT	0	0	2	4.83	5.99	NS
		TD	3	1				
		Both	3	13				

NS- Not Significant

Table 15: Shows that the calculated value of X^2 is less than the tabulated value, hence it is proved that there is no significant association between the post-test skill score with selected demographic variables such as age, gender, family background, source of information/knowledge, and methods of teaching experienced in practical before .

IV. Discussion

1. Finding related to demographic characteristics of the participants

The finding of the present study shows that out of 20 subjects each from the video assisted teaching group and traditional demonstration group, half of (55%) of the participants belong to the age group of 21-23 years and majority (65%) of the participants belongs to the age group of 21-23 years, respectively. This finding is not supported from a study done by Catherine AC (2017) to assess the effectiveness of planning teaching programme among college students where the finding shows that , among 30 samples ,27(73.33%) samples belonged to the age group 18 years , where only 1(73.3%) of the samples belonged to the age group of 20 years and above.

2. Findings related to pre-test post-test knowledge score of the participants

Video assisted teaching- The knowledge score of the pre-test study shows, maximum (40%) students had poor knowledge, (30%) students had average knowledge, (25%) students had good knowledge and (5%) participants had excellent knowledge on PPE prior to video assisted teaching. Where as in post-test, majority(60%) participants had excellent knowledge, (40%) students had average knowledge on PPE after video assisted teaching.

Traditional demonstration- The knowledge score of the pre-test study shows that maximum (35%) students had average knowledge, (30%) students had good knowledge, (25%) participants had poor knowledge and (10%) students had excellent knowledge on PPE prior to traditional demonstration. Where as in post-test, majority (70%) participants had excellent knowledge and (30%) students had good knowledge on PPE after traditional demonstration.

This findings were supported by a study conducted by

3. Findings related to effectiveness of video assisted teaching and traditional demonstration for knowledge on PPE

Video assisted teaching- The data of the present study showed that mean and standard deviation of knowledge score was 17.25 and 3.69 in pre-test followed by 46.6 and 5.34 in post-test among the participants regarding PPE.

Traditional demonstration- The data of the present study showed that mean and standard deviation of knowledge score was 17.6 and 4.04 in pre-test followed by 24.65 and 2.15 in post-test among the participants regarding PPE. Paired 't' test value as 19.52 and tabulated value is 2.09 significant at 0.05 level

A similar study was conducted by Barkha Devi, BiditaKhandelwala (2019) on A study on comparison of the effectiveness of video assisted teaching programme and traditional demonstration on nursing students learning skills on performing obstetrical palpation which have been proven by significant difference between the pre-test and post-test skill scores of students who were exposed to video assisted teaching programme and traditional demonstration ($t=18.35$, $P<0.001$). Although both the methods were equally effective in enhancing skill, traditional demonstration scored much better than the video assisted teaching programme when the post-test skills were compared ($t=36.40$, $P=0.001$).

4. Findings related to pre-test post-test skill score of the participants on performing PPE.

Video assisted teaching- The skill score of pre-test study shows most of (100%) participants had poor skill level on PPE prior to video assisted teaching. Where as in post-test most of (85%) had good skill level and (15%) students had average skill level on PPE.

Traditional demonstration- The skill score of pre-test study shows most of (80%) participants had poor knowledge and (20%) participants had average knowledge on PPE prior to traditional demonstration. Where as in post-test most of (100%) had good skill level on PPE.

5. Findings related to effectiveness of video assisted teaching and traditional demonstration for skill score on performing PPE

Video assisted teaching – The data of the present study showed that the mean and standard deviation score was 20.75 and 1.78 in pre-test followed by 46.6 and 5.34 in post- test among the participants regarding PPE. Paired ‘t’ test value was 19.52 and tabulated value 2.09 significant at 0.05 level. Hence, there was significant difference between pre-test and post-test score.

Traditional demonstration-The data of the present study showed that the mean and standard deviation 22.95 and 3.55 in pre-test followed by 49.35 and 2.21 in post-test among the participants regarding PPE. Paired ‘t’ test value was 24.60 and tabulated value 2.09 significant at 0.05 level. Unpaired ‘t’ test value was 2.14 and tabulated value 2.028. Hence, there was significant difference between pre-test and post-test score.

6. Findings related to association between pre-test post-test knowledge score with selected demographic variables

Video assisted teaching- The findings in the present study showed that there was statistically no significant association between pre-test knowledge score with demographic variables. The findings in the post-test study showed that there was statistically significant association between post-test knowledge score with gender.

Traditional demonstration- The findings in the present study showed that there was statistically no significant association between pre-test knowledge score with demographic variables. The findings in the post-test study showed that there was no statistically significant association between post-test knowledge score with selected demographic variables.

7. Findings related to association between pre-test post-test skill score with selected demographic variables

Traditional demonstration- The finding in the pre-test study showed that there was statistically significant association between pre-test skill score with gender. The finding in the post-test study showed that there was statistically no significant association between post-test skill score with demographic variables. A similar study conducted by Devi B et.al, (2019) on comparison of the effectiveness of video assisted teaching programme and traditional demonstration on nursing students learning skills on performing obstetrical palpation showed that although both the methods were equally effective in enhancing skill, traditional demonstration scored much better than the video assisted teaching programme when the post-test skills were compared ($t=36.40$, $P=0.001$).

V. Conclusion

From the finding of the present study, it was concluded that although both video assisted teaching programme and traditional demonstration were equally effective in enhancing the knowledge and skills of the students, traditional demonstration scored much better than video assisted teaching programme when the post-test knowledge and skills were compared.

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