

A Study to Assess Effectiveness of Video Assisted Teaching on Needle Stick Injury Regarding Knowledge and Attitude among Staff Nurses Working in Krishna Hospital, Karad

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Abstract: Background: Two million injuries from needle stick and other sharp objects occur to the world's 35 million health care workers each year. In which NSI mainly nurses suffer the most NSI of all health care workers, an average of 1–4 NSI per year exposing them to over 20 different pathogens. Objectives: To assess knowledge and attitude among staff nurses regarding NSI. To find out the effectiveness of VAT on knowledge and attitude regarding NSI among staff nurses. To determine association between socio demographic variables with knowledge and attitude among staff nurses regarding NSI. Research methodology: Research Approach: Evaluative research approach. Research Design: Quasi- experimental- Pre and Post test Design. Setting of the study: Krishna hospital, karad. Sample Population: Staff nurses. Sampling Technique: Convenience sampling. Sample size: 60. Results: The Pre-test mean knowledge and attitude score was 9.5 and 33.66 respectively which was increased in Post-test to 15.16 and 34.64 respectively. where “t”-test value knowledge ($t=2.235 < 0.0001$) attitude ($t= 0.3866$ at $p < 0.001$), which is considered to be extremely significant of knowledge and there was no significant in attitude change So improvement in knowledge regarding NSI after administering VAT.

Keywords: Needle stick injury, video assisted teaching, staff nurses.

1. Introduction

Each day thousands of health workers around the world, suffer accidental occupational exposures during the course of their role of caring for patients. These injuries can result in a variety of serious and distressing consequence ranging from extreme anxiety to chronic illness and premature death. The health care workforce, 35 million people worldwide, represents 12% of the working population. The misconception exists that health care industry is without hazards, but in fact blood borne exposures encountered can be career and life-ending. A needle stick injury is the result of an accident with a needle which Puncture the skin. These injuries can occur at any time when people use, disassemble or dispose the needles, if not disposed Properly, needles can conceal in linen or garbage and injure other workers who encounter them unexpectedly. It is found that 30 to 50% of all needle stick injuries occur during clinical procedures.¹

Every day while caring for patients, nurses are at risk to exposure blood borne pathogens potentially resulting in infections such as HIV, Hepatitis B and Hepatitis C. These exposures, while preventable, are often a part of the job. Needle stick injuries transmit infectious disease viruses, each of these viruses poses a different risk if a health care worker is exposed.²

More than 20 other infections can be transmitted through needle stick injuries, including syphilis, malaria, diphtheria, tuberculosis, toxoplasmosis etc. According to world Health

report 2002 by WHO, health care workers incur 2 million needle stick injuries per year that result in infections with 40% of hepatitis B, 3-10 % of hepatitis C, and 2% of HIV infection. Needle stick injuries cause a high burden of death and disability among health care workers. Available statistics underestimate the severity of problem because many cases go unreported as nurses do not report their injuries. This makes it more difficult to know severity of problem and how well prevention is possible. Preventing needle stick injuries is the most effective way to protect the nurses from the infectious diseases caused by it.^{2,3}

To prevent needle stick injuries an effective exposure control program should have a responsible person assigned to head the program and a committee that includes representatives from frontline patient care providers to evaluate the hazards, injury data and make recommendations for prevention. The committee should assure appropriate follow up and post exposure prophylaxis as determined by the nature of the injury and source patient. The most effective means of preventing the transmission of blood borne pathogens is to prevent exposure to needle stick injuries. The primary prevention of needle stick injuries is achieved through the elimination of unnecessary injections and needles. The implementations of education, universal precautions, safety devices like elimination of needle recapping and use of sharp containers have reduced needle stick injuries by 80%.⁴

2. Literature Survey

A Needle stick injury is a percutaneous piercing wound typically set by a needle point, but possibly also by other sharp instruments or objects. Commonly encountered by people is the handling of needles in the medical setting, such injuries are an occupational hazard in the medical community. Occupational needle stick injuries are mainly focused on the healthcare environment, but law enforcement is at particularly high risk for incidental needle sticks, though this population is commonly overlooked.⁴

These events are of concern because of the risk to transmit blood-borne diseases through the passage of the hepatitis B virus (HBV), the hepatitis C virus (HCV), and the Human Immunodeficiency Virus (HIV), the virus that causes AIDS. Despite their seriousness as a medical event, needle stick injuries have been neglected: most go unreported and ICD-10 coding is not available. On the other hand, as needle sticks have been recognized as occupational hazards, their prevention has become the subject of regulations in an effort to reduce and eliminate this preventable event.⁵

More than eight million health care workers in the United States work in hospitals and other health care settings and between 600,000 and 800,000 needle stick and other percutaneous injuries occur in them every year. About half of these injuries go unreported, though it could be more. Most reported injuries involve nursing staff and the preponderance of injuries occurring in nursing staff is a common feature of studies around the world.^{6,9}

Prevalence of needle stick injuries in Australia among health care workers, who suffered a total of 41 needle stick injuries in which 29.2% were by a hollow bore needle, 24.4% by another devices and 22% by surgical devices. The prevalence in Malaysia is 24.6% in which 18.7% are nurses. The frequency of needle stick injuries 4.2/100 beds/year.¹⁰

A study conducted on nurses working in 20 hospitals in 11 cities of Chicago. Self administered questionnaire filled out by the nurses had exposure in previous one month. Study estimated that the rate of injuries were 0.8/nurse/year. It is found that nurses, who reported recapping needles, were at high risk. Nurses working in positive working climate were at reduced risk for needle stick injuries. Nurses from hospitals with low staffing and poor organizational climates were at high risk of needle stick injury.¹¹

The hospital based retrospective study conducted in UP on 400 nurses involved in patient care showed that 86.0 percent of them sustained at least one needle stick injury in the last 12 months. the risk of such injuries per thousand nurses per year was found to be 6000. Out of these most recent injuries among the nurses , 80 percent remained unreported to the appropriate authorities ; in 20 percent events , hand gloves were worn by the nurses only , 4.0 percent of those nurses received the Hepatitis B vaccine 1.50 percent recommended Hepatitis B immunoglobulin and none of them received post exposure prophylaxis for HIV. ¹²

A descriptive study was carried out in new Delhi March 2010 to determine the occurrence of NSI among various

categories of 428 HCWs at tertiary care hospital and the casual factors , the circumstances under which these occur and to, explore the possibilities of measures to prevent these through improvement in knowledge and Attitude.

Self reporting questionnaire structured specifically to identify predictive factors associated with NSIs. Results showed that commonest clinical activity to cause the NSI was the practices of needle recapping after use still prevalent in nurses (66.3%) and some HCWs also be revealed that they bent needle before discarding (11.4%). So they concluded that these issues need to be addressed , through appropriate education and other interventional strategies by the Hospital infection control commute.¹³

A cross sectional study conducted in new Delhi to know the health care practice of 240 health care workers including staff nurses in different hospitals. The results revealed that needle stick injury which is 89.58% is most common form of occupational expose sustained injuries by nurses and doctors but lower rate was reported from laboratory technicians and auxiliary workers. Injuries were sustained most commonly while collecting the blood samples and inserting intravenous infusion needles.¹⁴

According to American hospital association, one case of serious infection by blood borne pathogens can result in \$1 million of employer costs related to testing, follow-up, lost time and disability payments. The cost of follow-up for a high-risk exposure is almost \$3000 per needle stick injury even when no infection occurs. Safe needle devices cost only \$28 more than standard devices. Hospitals in California are expected to save over \$100 million per year after implementing legislation requiring safe needle devices.¹⁹

Clearly, there is much room for improvement in protecting the health care workers from needle stick injuries in which nurses are at high risk. So greater collaborative and educational efforts should be made to improve the knowledge and attitude of nurses.

To prevent the needle stick accidents, there is comprehensive program which includes; employee training, controlled work practice, implementing engineering control, surveillance programs, safe recapping procedures, effective disposal systems. As nurses are the largest work force of the health care industry and at high risk to incur needle stick injuries, it is important to have adequate knowledge about hazards, prevalence and controlling measures of needle stick injury. The technology of compact disc in video assisted teaching is emerging as a new and important way of delivering multimedia information, particularly in education, training and research. This new style of teaching method also can store audio and visual data in such a way that a compact disc reply machine can deliver full multimedia to a normal monitor. The importance of video system is the fact and players are completely closed system. There is no need for an external machine like computer. The investigator while clinical hours observed that nurses and student nurses not only but all health care workers also are very careless in handling injection and needles in wards and disposal of biomedical waste. The mal-handling which could be prevented by giving proper guidance and education to them.

2.1 Problem Definition

The present study is aimed to “A Study to assess the effectiveness of video-assisted teaching on needle stick injury regarding Knowledge and attitude among staff nurses working in Krishna hospital, karad.”

2.2 Methods/ Approach

In the present study the researcher aimed at evaluating the effectiveness of video-assisted teaching on needle stick injury regarding Knowledge and attitude among staff nurses working in Krishna hospital, karad.”

2.3 Research Design

The research design used for the study was one group pre test, post test design which is a Pre- experimental design. In this study the dependent variables, i.e., knowledge and attitude of staff nurses, were measured before and after the treatment. The effects of the independent variable would be assessed by measuring the difference in the pre-test and post-test scores. The one group pre- test – post- test design is adopted for this study. According to the one group pre- test – post- test design is depicted as $O_1 X O_2$.

	Pre-test	Intervention	Post-test
	O_1	X	O_2

O_1 : Pre-test is measured by Assessment of knowledge through structured questionnaire and Attitude by using three point rating scale.

X: Administration of video-assisted teaching on needle stick injury.

O_2 : Post-test is measured by using same knowledge structured questionnaire and Attitude by using three point rating scale

2.4 Research Setting

The study was conducted at Krishna Hospital Karad, Maharashtra (India)

2.4.1 Variables Under Study

a) Independent variable:

In this study video assisted teaching on needle stick injury is the independent variable.

b) Dependent variable

In this study it refers to the knowledge and attitude of staff nurses on needle stick injury is the dependent variable.

c) Extraneous variable:

In this study it refers to the age, sex, educational qualification, working experience, working area, previous training on needle stick injury.

2.4.2 Population

In the present study accessible population is staff nurses working in Krishna hospital, karad.

2.4.3 Sample and Sampling Technique

In this study staff nurses are sample for study.

Convenience sampling technique was used for selecting the sample.

2.4.4 Sample Size

50 staff nurses those who were working in clinical area included in study.

2.4.5 Inclusion Criteria Staff Nurses

- Registered under Indian nursing council Registration Act 1947.
- Willing to participate in the study.
- Working in a Krishna hospital, karad.
- Able to understand English as 2nd communication language.
- Available at the time of data collection

2.4.6 Exclusion Criteria

- Staff nurses who are not willing to participate in the study.
- Not available at the time of data collection.

2.4.7 Data Collection Instrument

- In this study the data collection instrument are:
- Section A: Demographic data of staff nurses.
- Section B: A structured knowledge questionnaire
- Section C: A Three – point attitude rating scale..

2.4.8 Development of Video- Assisted teaching:

The Video- Assisted teaching was developed on the basis of literature on electronic media, from books, journals and internet. Expert’s suggestions guided in forming the different parts of video assisted teaching.

2.4.9 Content validity

To ensure the content validity, the tool and the Video – assisted teaching were evaluated by ten experts.

This included four doctors from community, PSM, microbiologist, intensive’s and eight nursing experts from Medical Surgical specialty. The tool was also validated by the research committee of Krishna institute of nursing sciences, Karad.

2.4.10 Reliability

The tool was tested for reliability during the pilot study, by using Karl Pearson’s coefficient of correlation which was completed as $r = 0.87$.

2.4.11 Pilot study

The pilot study was done on 10 staff nurses working in Aster Adhar hospital Kolhapur. The investigator obtained permission from nursing superintendent, prior to the study. The purpose of the study was explained to the subjects and written consent was taken from the subjects prior to the study. The pre test was conducted on 05-11-2012 and video – Assisted teaching was introduced and administered on the same day. Post test was administered after a week i.e., on 12-11-2012 Items analysis was done questions and attitude scale were modified as per difficulty and discriminative index value. The findings of the pilot study revealed that there is mean increase of knowledge score and attitude is positive after administration of video – assisted teaching.

2.5 Steps Used for Data Collection

- The investigator introduced him and explained the purpose of the study to the Nursing Director and permission was obtained from Medical & Nursing Director.
- With the permission of nursing director the circular is made and circulated to all the departments of Krishna hospital.
- The investigator introduced him to the staff, participants and explained the purpose of the study.
- Pre test was conducted on 26-11-2012 to assess the existing knowledge & attitude of participants regarding needle stick injury.
- Video – Assisted teaching was administered to the participants.
- Post test was conducted after a period of 7 days, i.e., on 3-12-2012 using the same tool as that of the pre test.
- Data collected is tabulated and analyzed with the help of descriptive and inferential statistics.

2.6 Plan for Data Analysis

Analysis is the systematic organization and synthesizing of research data and testing of research hypothesis using these data.

It was decided to analyze the data using both descriptive and inferential statistics on the basis of objectives and hypothesis of the study.

Section A: Demographic data containing sample characteristics would be analyzed using frequency and percentage.

Section B: The pre-test and post-test data collected by knowledge score would be calculated by range, frequency, mean, and standard deviation and three point rating scale to assess attitude among staff nurses. The significant difference between the mean pre-test and post-test would be calculated by

2.7 Paired 't' test.

Classifying knowledge score using mean and standard deviation as follows:

\bar{X} -SD = poor score

\bar{X} -SD to \bar{X} +SD = average score

\bar{X} +SD = good score

A score of '1' was awarded to correct response while a score of '0' was awarded for correct response. Classifying attitude score using standard Likert's three point scale under the following scoring i.e. Agree – '3', Disagree- 2 and uncertain '1' was awarded for response.

Section C: Association between knowledge and attitude with selected demographic variables would be analyzed by using **Chi square** test.

Section D Paired 't' test to evaluate effectiveness of video-assisted teaching on needle stick injury regarding knowledge and attitude of staff nurses.

3. Results / Discussion

3.1 Organization of Data

The results were presented under four sections:-

Section A

Frequency and percentage distribution of socio – demographic variables of staff nurses

Section B

1) An analysis of pre & post test knowledge & attitude level of staff nurses regarding needle stick injury.

Section C

1) Association of staff nurses pre-test knowledge & attitude score of staff nurses regarding needle stick injury with socio – demographic variables

Section D

Paired 't' test to evaluate effectiveness of video- assisted teaching on needle stick injury regarding knowledge and attitude of staff nurses working in Krishna hospital, karad..

Table 1: Frequency & Percentage Distribution of Socio – Demographic Variables Of Staff Nurses n=50

Variables	Category	Respondent	
		Frequency	Percentage (%)
1) Age	a) 21-24 Years	16	32%
	b) 25-29 Years	1	2%
	c) 30-34 Years	4	8%
	d) 34 Years Above	29	58%
2) Gender	a) A Male	6	12%
	b) B Female	44	88%
3) Education	a) A A.N.M (N)	2	4%
	b) B G.N.M (N)	30	60%
	c) C P.B.Sc. (N)	9	18%
	d) D B.Sc.(N)	9	18%
4) Work in Exp.	a) 1-9 Years	18	36%
	b) 10-19 Years	12	24%
	c) 20-29 Years	14	28%
	d) 30years & Above	6	12%
5) Working Area	a) O.P.D & E.D.		
	b) WARDS		
	c) O.T.		
	d) I.C.U.		

The data presented in table No-1 describes Frequency & Percentage Distribution of Socio –Demographic Variables Of Staff Nurses

It reveals that, with regard to age about (29) 58% of staff nurses belong to age group 34 years and above. About (16) 32 % of staff nurses belong to the age group 21 – 24 years followed by (4) 8% of them falling into 30 – 34 years of age group and (1) 2 % of staff nurses belong to age group 25 – 29% years.

It also indicates that majority (30) 88 % of staff nurses were female and rest of all i.e. (6) 12 % of staff nurses were male. With regards to Educational Qualification About (30) 60% of staff nurses were G.N.M.(N) About (9) 18.% of staff

nurses were P.B.Sc.(N) and B.Sc.(N) respectively. While few staff nurses (2) 4% had A.N.M.(N) indicates less.

In context with the working experience majority of staff nurses (18) 36% belongs to 1-9 years of experience. Further, (14) 28% of staff nurses belongs to 20-29 years of experience, (12) 24% 10-19 years of staff nurses belongs to years of experience followed by (6) 12% of staff nurses belongs to 34 years above considered as less. It also indicates that majority of staff nurses (22) 44.0% were working in wards, (11) 22% of staff nurses working in O.P.D & E.D. and I.C.U. respectively. While (6) of staff nurses working in O.T. is less. The entire group of participants i.e. staff nurses in the study (50) 100% had not taken previous training regarding video-assisted teaching.

Section B

An analysis of pre-test and post test knowledge & attitude level of staff regarding needle stick injury

The frequencies were calculated by Mean, Median, Mode and Standard deviation. The comparison was made in between Knowledge and Attitude score obtained by staff nurses working in Krishna hospital, karad during Pre-test and Post test assessment.

Table 2: Frequency & Percentage Distributions Of knowledge scores Of Staff Nurses regarding Needle stick injury. n=50.

Knowledge Score	Pre-Test		Post-Test	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
POOR (0-7)	9	18%	0	0%
AVERAGE (8-14)	41	82%	18	36%
GOOD (15-20)	0	0%	32	64%

Table no2 represents that in pre-test majority (41) 82% staff nurses had average knowledge, (9) 18 % staff nurses had poor knowledge regarding Needle stick injury; where as in post-test majority of (32) 64% staff nurses had good knowledge and (18) 36 % staff nurses had average knowledge regarding needle stick injury in post-test. It was seen that 0% staff nurses had poor knowledge.

Table 7: Association between pre-test attitude scores and selected socio-demographic variables (n= 50)

Sr. No	Socio-Demographic Variables	Pre-Test Knowledge			Chi-Square cal. (x ²)	P-Value (at 5% level)	Df	Significant
		Poor	Average	Good				
1	Age :				7.9	0.04	3	Significant
	A 21-24 years	0	16	0				
	B 25-29 years	0	1	0				
	C 30-34 years	0	4	0				
	D 34 years above	0	20	9				
2	Gender :				0.75	0.04	1	Not significant
	A Male	0	4	2				
	B Female	0	36	8				
3	Education:						3	
	A A.N.M (N)	0	2	0				

Table 3: Frequency & Percentage Distributions of Attitude scores Of Staff Nurses regarding Needle stick injury n= 50

Attitude Score	Pre-Test		Post-Test	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
Disagree (0-15)	2	4%	0	0%
Uncertain (16-30)	15	30%	9	18%
Agree (31-45)	33	66%	41	82%

Table No.3 depicts that in pre-test majority (33) 66% had positive attitude, (15) 30% had uncertain attitude, (2) 4% staff nurses had negative attitude towards needle stick injury; where as in post-test (41) 82% had agree attitude, followed by (9) 18% had uncertain attitude and (0) 0% staff nurses had disagree attitude towards needle stick injury.

Table 4: Frequencies Mean, Median, Mode, Standard deviation of knowledge scores of staff nurses regarding needle stick injury. (n=50)

Area Of Analysis	Mean	Median	Mode	Standard Deviation
Per- Test	9.5	9.5	14	2.568
Post -Test	15.16	15.16	20	2.235
Difference	5.66			-0.333

Above table reveals that the pre-test mean knowledge score and standard deviation of staff nurses regarding needle stick injury calculated value as 9.5 ± 2.568 , which was increased in post-test to 15.16 ± 2.235 .

Table 5: Frequencies, Mean, Median, Mode, Standard deviation and Range `of Attitude scores of staff nurses regarding needle stick injury (n=50)

Area of Analysis	Mean	Median	Mode	Standard Deviation
Per- Test	23.22	24	45	8.842
Post -Test	34.68	35	42	4.538
Difference	11.46			-4.304

Above Table reveals that the pre-test mean Attitude score and standard deviation of staff nurses regarding needle stick injury calculated value as 23.22 ± 8.842 , which was increased in post-test to 34.68 ± 4.558 .

Section C

1) The association between pre-test knowledge & attitude scores regarding needle stick injury among staff nurses and selected socio-demographic variables

	B.G.N.M. (N)	0	21	9	5.06	0.16	3	Not significant
	C.P.B.Sc (N)	0	8	1				
	D.B.Sc (N)	0	9	0				
4	Working experience:				7.33	0.06	3	Not significant
A 1-9 years	0	18	0					
B 10-19 years	0	9	3					
C 20-29 years	0	9	5					
D 30 years above	0	5	1					
5	Working area:				5.6	0.12	3	Not significant
A O.P.D. & E.D	0	7	4					
B WARDS	0	20	2					
C O.T.	0	6	0					
D I.C.U.	0	8	3					

The above table shows that socio-demographic variables “Gender, Education, Working experience, working area” and its calculated chi-square (χ^2) value is less than tabulated “P” value. Hence there is no significant association between Gender, Education, Working experience, working area and pre-test knowledge score at 5% (0.005) level of significance.

However calculated chi-square (χ^2) value is of socio-demographic variable ‘Age’ is calculated chi-square (χ^2) value is more than the tabulated “P” value. Hence there Age is significantly associated with each other at 5% (0.005) level of significance.

Table 7: Association between pre-test attitude scores and selected socio-demographic variables (n=50)

Sr. No	Socio-Demographic Variables	Pre-Test Attitude					Chi Square Cal. (χ^2)	P-Value (at 5% level)	Df	Significance
		Disagree	Uncertain	Agree						
1	Age:					5.3	0.14	3	Not significant	
	A 21-24 years	15	1	0						
	B 25-29 years	1	0	0						
	C 30-34 years	2	2	0						
D 34 years above	20	9	0							
2	Gender:					0.3	0.57	2	Not significant	
	A Male	5	1	0						
B Female	32	12	0							
3	Education:					4.1	0.24	3	Not significant	
	A A.N.M (N)	1	1	0						
	B G.N.M.(N)	21	9	0						
	C P.B.Sc(N)	7	2	0						
D B.Sc(N)	9	0	0							
4	Working experience:					14.9	0.01	3	Significant	
A 1-9 years	17	1	0							
B 10-19 years	9	3	0							
C 20-29 years	11	3	0							
D 30 years above	1	5	0							
5	Working area:					8.5	0.03	3	Significant	
	A O.P.D. & E.D	5	6	0						
	B WARDS	20	2	0						
	C O.T.	5	1	0						
D I.C.U.	8	3	0							

The above table shows that socio-demographic variables “Age, Gender and Education” its calculated chi-square (χ^2) value is less than tabulated “P” value. Hence there is significant association between Age, Gender, Education, Working experience, working area and pre-test attitude score at 5% (0.005) level of significance.

However calculated chi-square (χ^2) value is of socio-demographic variable ‘Working experience, working area’ is calculated chi-square (χ^2) value is more than the tabulated “P” value. Hence there is significantly associated with each other at 5% (0.005) level of significance.

Section D

Evaluate the effectiveness of video- assisted teaching on needle stick injury regarding knowledge & attitude of staff nurses.

Table 8: Paired “t” test to find the effectiveness on video-assisted regarding knowledge n=50

Area of analysis	Mean	SD	Std. error Mean	95% confidence interval of the difference		‘t’ value	‘P’ Value
				Lower	Upper		
Before Administration Of Video-Assisted Teaching	9.5	2.568	0.3617	-6.514	-4.806	13.337	0.06
After Administration Of Video-Assisted Teaching	15.16	2.235	0.3160				

The above table depicts that the mean knowledge score after administrating the video-assisted teaching has increased than that before administrating the video-assisted teaching. The difference in mean is 5.66. The paired “t” value is 13.337 giving “p” value < 0.0001 which is considered to be extremely significant, indicates significant improvement in knowledge regarding needle stick injury.

Table 9: Paired “t” test to find the effectiveness on video-assisted teaching regarding attitude n=50

Area of analysis	Mean	SD	Std. error Mean	95% confidence interval of the difference		‘t’ value	‘P’ Value
				Lower	Upper		
Before Administration Of Video-Assisted Teaching	23.22	8.842	1.250				
After Administration Of Video-Assisted Teaching	34.68	4.538	0.6417	-14.321	-8.599	8.059	< 0.0001

The above table depicts that the mean Attitude score after administrating the video-assisted teaching has increased than that before administrating the video-assisted teaching. The difference in mean is 11.46. The paired “t” value is 8.059 giving “p” value < 0.0001 which is considered to be extremely significant, indicates significant improvement in knowledge regarding needle stick injury.

4. Discussion and Summary

Major Findings of the Study

Section A: Sample Characteristics

- 1) Highest percentage (58%) of the staff nurses were in the age group of 34 years above.
- 2) More than half (88%) of the staff nurses were females.
- 3) Highest percentage (60%) of the staff nurses had G.N.M educational qualification.

- 4) Majority (36%) of the staff nurses were experienced belonged to group of 1-9 years.
- 5) Majority (44%) of the staff nurses worked in wards and (22%) staff nurses worked in emergency department & intensive care unit.
- 6) The entire group of staff nurses in the study (100%) had not taken previous training regarding video-assisted teaching.

Section B

1. An analysis of pre-test and post test knowledge level of staff nurses

- 1) During pre test, out of 41 samples, (82%) of the staff nurses had average knowledge, (9) 18 % staff nurses had poor knowledge regarding Needle stick injury; after post test majority of (32) 64% staff nurses had good knowledge and (18) 36 % staff nurses had average knowledge regarding needle stick injury. It was seen that 0% staff nurses had poor knowledge regarding needle stick injury in post test.
- 2) The results showed that the mean pre test score for knowledge was 9.5 which was increased to 15.16 in post test, results (t = 13.337, P<0.05) showed that there was significant improvement in knowledge after video-assisted teaching.
- 3) Hence these findings indicated that video-assisted teaching was effective in increasing knowledge among staff nurses.

2. An analysis of pre-test and post test Attitude of staff nurses

- 1) During pre test, out of (33) 66% of the staff nurses had positive attitude, (15) 30% had uncertain attitude, (2) 4% staff nurses had negative attitude towards needle stick injury; after post test majority of (41) 82% had positive attitude, followed by (9) 18% had uncertain attitude and (0) 0% staff nurses had negative attitude towards needle stick injury.
- 2) The results showed that the mean pre test score for Attitude was 23.22 which was increased to 34.68 in post test, results (t = 8.059, P<0.05) showed that there was significant change in attitude after video-assisted teaching.
- 3) Hence these findings indicated that video-assisted teaching was effective in mould attitude among staff nurses.

Section C

1. Association between knowledge and Selected demographic Variables

- 1) There was significant association between the knowledge and age of staff nurses ($\chi^2_{cal} = 7.9, p>0.05$) at 0.05 level of significance.
- 2) There was no significant association between the knowledge and gender of the staff nurses ($\chi^2_{cal} = 0.75, p<0.05$) at 0.05 level of significance.
- 3) There was no significant association between the knowledge and education of the staff nurses ($\chi^2_{cal} = 5.06, p<0.05$) at 0.05 level of significance.
- 4) There was no significant association between the knowledge and working experience of the staff nurses ($\chi^2_{cal} = 7.33, p<0.05$) at 0.05 level of significance.

5. There was no significant association between the knowledge and working area of the staff nurses ($\chi^2_{cal} = 5.6$, $p < 0.05$) at 0.05 level of significance.

2. Association between Attitude and Selected demographic Variables

1. There was no significant association between the Attitude and age of the staff nurses ($\chi^2_{cal} = 5.3$ $p < 0.05$) at 0.05 level of significance.

2. There was no significant association between the Attitude and gender of the staff nurses ($\chi^2_{cal} = 0.3$ $p < 0.05$) at 0.05 level of significance.

3. There was no significant association between the Attitude and education of the staff nurses ($\chi^2_{cal} = 4.1$ $p < 0.05$) at 0.05 level of significance.

4. There was significant association between the Attitude and working experience of the staff nurses ($\chi^2_{cal} = 14.9$, $p > 0.05$) at 0.05 level of significance.

5. There was significant association between the Attitude and working area of the staff nurses ($\chi^2_{cal} = 8.5$ $p > 0.05$) at 0.05 level of significance.

Section D

Evaluate the effectiveness of video- assisted teaching on needle stick injury regarding knowledge and attitude of staff nurses working in Krishna hospital, karad.

Mean knowledge score after administrating the video-assisted teaching has increased than that before administrating the video-assisted teaching. The difference in mean is 5.66. The paired “t” value is 13.337 giving “p” value < 0.0001 which is considered to be extremely significant, indicates significant improvement in knowledge regarding needle stick injury. Mean Attitude score after administrating the video-assisted teaching has increased than that before administrating the video-assisted teaching. The difference in mean is 11.46. The paired “t” value is 8.059 giving “p” value < 0.0001 which is considered to be extremely significant, indicates significant change in attitude regarding needle stick injury.

5. Discussion

Similar conclusion drawn from Study conducted in selected hospitals of Hassan. An evaluative research approach with quasi- experimental Pre test and Post test control group design adopted. The study includes 60 staff nurses who were selected as sample by non probability purposive sampling technique. Demographic data, structured knowledge, attitude questionnaire and video assisted teaching (VAT) were implemented for data collection procedure. Both descriptive and inferential statistics were employed to analyze the data. The data analysis was carried out on the basis of objectives and hypothesis of the study and has been presented on the sample characteristics. Overall mean knowledge scores (pre test=13.53, post test= 26.66) and mean attitude scores are (pre test= 43.39, post test= 74.92). Knowledge (43.90%) and attitude (54.60%) scores of staff nurses were less before administration of VAT. After administration of VAT the scores of knowledge (88%) and attitude (83.20%) increased significantly. There was no association between knowledge and attitude level with selected demographic variables. The Independent ‘t’ value (knowledge= 26.67, attitude= 16.32)

was greater than table value at $p < 0.001$ level of significance. This indicates that VAT was significantly effective in increasing the knowledge and attitude level of staff nurses.

6. Summary

The primary aim of the study was to evaluate the effectiveness of Video-assisted teaching programme on knowledge and attitude regarding needle stick injury among staff nurses working in Krishna hospital, Karad.

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