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A quasi experimental study to assess the effectiveness of video teaching programme on knowledge regarding the prevention of surgical site infection among staff nurses at selected hospitals of District Kangra, Himachal Pradesh

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Abstract

Introduction: A surgical site infection (SSI) is an infection that occurs after surgery in the part of the body where the surgery took place. Surgical site infections can sometimes be superficial infections involving the skin only surgical site infections (SSIs) are the second most common cause of hospital-acquired infection. Surgical site infections (SSIs) are a leading cause of patient morbidity and mortality.

Aim: The study was carried out to assess the effectiveness of video teaching programme on knowledge regarding the prevention of surgical site infection among the staff nurse.

Methodology: A quantitative research design was used to assess the knowledge of 60 staff nurses at the selected hospitals of district Kangra by Non-Probability Purposive sampling technique. A self-structure questionnaire tool was used to assess the knowledge.

Results: The results of study revealed that there was no significant association of level of knowledge with the socio-demographic variables i.e. age, marital status, occupation, years of experience, previous knowledge regarding the prevention of surgical site infection. But there was significant value i.e. $p < 0.05^*$ had association between qualification of staff nurses had impact on the knowledge regarding the prevention of surgical site infection.

Conclusion: Hence, it is concluded that the majority of staff nurses having good knowledge regarding the prevention of surgical site infection.

Keywords: Surgical site infection, staff nurses

Introduction

Surgical site infections have now emerged as the most common and most costly cause of health care-associated infection. Thus, hospitals and health care providers must constantly pursue and improve adherence with evidence-based strategies for preventing these devastating infections^[1]. Globally, Surgical site infection (SSI) rates have been found to be from 2.5% to 41.9%. In Western countries, 2 to 5% of patients undergoing clean surgery and up to 20% of patients undergoing intra-abdominal surgery will develop SSIs^[2]. As per report published by WHO (2011), limited resource countries, like India, only have published data on SSI rates stratified by level of wound contamination. This current multicentre study, conducted between January 2005 and December 2011 in 10 hospitals in 6 cities of India, is the first to analyse SSIs rates within 11 types of surgical procedures stratified according to the ICD-9 and National Healthcare Safety Network (NHSN)^[3].

Material and methods

A quantitative research approach was used to accomplish the objectives of study. A quasi experimental research design was used to study to assess the effectiveness of video teaching programme on knowledge regarding the prevention of surgical site infection among staff nurses. The study was conducted at selected hospitals of district Kangra, Himachal Pradesh. The purposive sampling technique was used for selecting the sample from staff nurses and sample size was 60.

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Data collection procedure

- The data has been collected in month of July, 2021 in civil hospital Palampur and civil hospital Nagrota bagwan district kangra, Himachal Pradesh.
- Permission for research study was taken from Principal of Netaji Subhash College of Nursing, Palampur.
- Ethical clearance has been taken from the ethical committee of Netaji Subhash College of Nursing, Palampur.
- Permission was taken from medical superintendent of selected hospital of District Kangra.

- All participants were informed that their participation in the study was voluntary, and they can refuse to participate and can withdraw from study at any time.
- Apart from this, written informed consent was taken from each staff nurse, and permission has been taken from the authorities.
- Confidentiality and anonymity of the study subjects was being taken care of.
- Structured questionnaire was used for data collection.

Result**Table 1:** Frequency and percentage distribution of socio demographic variables of staff nurses

S. No.	Socio-Demographic variables	Frequency	Percentage (%)
1	Age (in years)		
	22-25	12	20.00%
	26-29	14	23.33%
	30-33	10	16.66%
2	Marital status		
	33 and above	24	40.00%
	Married	35	58.33%
	Unmarried	20	33.33%
3	Qualification		
	Widow	05	8.33%
	GNM	43	71.66%
	Post basic (N)	10	16.6%
4	Occupation		
	B.SC(N)	07	11.66%
	M.SC(N)	00	0.00 %
	Government job	60	100%
5	Years of experience		
	Private job	00	0.00%
	1-2 years	10	16.66%
	3-4 years	17	28.33%
6	Working area		
	5-6 years	14	23.33%
	7 years and more	19	31.66%
	ICU	05	8.33%
7	Previous knowledge		
	Emergency	15	25.00%
	General ward	29	48.33%
	OPD	11	18.33%
	Yes	60	100%
	No	00	0.00%

Table no. 1: shows frequency and percentage distribution of staff nurses according to their socio demographic variables. The inferences made are: With respect to age, maximum of staff nurses 40% were in age group of 33 and above years, 23.33% were in the age group of 26-29 years, 20.00% were in the age group of 22-25 years, 16.66% were in the age group of 30-33 years. Regarding distribution of marital status, 58.33% staff nurses were married, 33.33% staff nurses were unmarried, 8.33% staff nurses were widow. Qualification based distribution showed, maximum of staff nurses 71.66% were GNM, 16.66% were post basic(N), 11.66% were B.SC(N). According to type of occupation, maximum of staff nurses 100% were Government employee. According to years of experience, 31.66% staff nurses were having 7 years and above experience, 28.33% staff nurses were having 3-4 years' experience, 23.33% staff nurses were having 5-6 years' experience, 16.66% staff nurses were having 1-2 years' experience. According to working area, 48.33% staff nurses were working in general ward, 25% staff nurses were working in emergency, 18.33% staff nurses were working in OPD, 8.33% staff nurses were

working in ICU. According to the previous knowledge, all 100% staff nurses having knowledge prevention of surgical site infection.

Table 2: Frequency and percentage distribution of pre test knowledge scores of staff nurses.

Level of Knowledge	Pre Test Knowledge Score	f	%
Good	21-30	17	28.33
Average	11-20	47	78.33
Poor	01-10	00	00

Maximum score=30, Minimum score=00

This table 2 depicts the frequency and percentage of pre-test knowledge score of staff nurses regarding the prevention of surgical site infection. Maximum, 78.33% of staff nurses were having average knowledge, 28.33% staff nurses were having good knowledge and none of them was having poor knowledge regarding the prevention of surgical site during pre test.

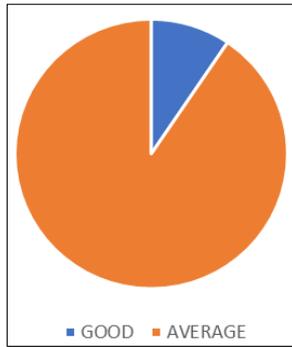


Fig 1: Level of knowledge

Table 3: Frequency and percentage distribution of post test knowledge scores of staff nurses.

Level of Knowledge	Post Test Knowledge Score	N=60	
		F	%
Good	21-30	45	75
Average	11-20	15	25
Poor	01-10	00	00

Maximum score=30, Minimum score=00

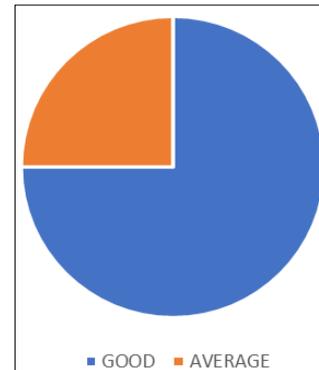


Fig 2: Level of knowledge

Table 4: Association of socio-demographic variables of staff nurses with their level of knowledge

S. No.	Socio-Demographic variables	Average	Good	Poor	Chi Test (χ^2)	Df	P Value
1	Age (in years)						
	22-25	09	03		3.655 ^{NS}	3	0.301
	26-30	12	02				
	31-35	09	01				
30 and above	20	04					
2	Marital status						
	Married	31	04		1.648 ^{NS}	2	0.439
	Unmarried	16	04				
Widow	05	00					
3	Qualification						
	GNM	38	05		9.017*	3	0.029
	Post basic(N)	06	04				
	B.SC(N)	05	02				
M.SC(N)	00	00					
4	Occupation status						
	Government	35	25		NA	1	NA
5	Years of experience						
	1-2 years	06	04		4.261 ^{NS}	3	0.235
	3-4 years	12	05				
	5-6 years	12	02				
7 years and more	10	09					
6	Working area						
	ICU	02	03		3.494 ^{NS}	3	0.321
	Emergency	08	07				
	General ward	19	10				
OPD	09	02					
7	Previous knowledge						
	Yes		00	00	NA		
	No		00	00	NA		

Significant at 5% level (i.e., $P < 0.05$). Not significant at 5% level (i.e., $P > 0.05$)

Table 3: shows the computed chi-square of socio-demographic variables and the level of knowledge of staff nurses. The data revealed that there was significant association of level of knowledge with qualification of staff nurses and they were found statistically significant at 0.05

The table 3 depicts the frequency and percentage of post-test knowledge score of staff nurses regarding the prevention of surgical site infection. Maximum, 75% of staff nurses were having good knowledge, 25% staff nurses were having average knowledge and none of them was having poor knowledge regarding the prevention of surgical site infection during posttest.

level of significance. Thus, it revealed that qualification of staff nurses had some impact on level of knowledge of staff nurses. The data revealed that there was no significant association of level of knowledge with the socio-demographic variables i.e. age, marital status, occupation,

years of experience, previous knowledge regarding the prevention of surgical site infection.

Discussion

According to objectives

Objective 1: To assess the pretest and posttest knowledge scores regarding the prevention of surgical site infection among staff nurses at selected hospitals of district Kangra Himachal Pradesh. In pre-test knowledge score mean was (18.11%), median was (18) and (3.14) SD. The staff nurses regarding prevention of surgical site infection (28.33%) were having good knowledge, (78.33%) were having average knowledge.

In posttest knowledge score mean was (23.75 %), median was (25%) and SD was (3.36). Posttest knowledge regarding prevention of surgical site infection (75%) of staff nurses were having good knowledge, (25%) were having average knowledge, 0% were having poor knowledge regarding prevention of surgical site infection.

Objectives 2: To compare the pre-test and posttest knowledge scores regarding prevention of surgical site infection among staff nurses at selected hospitals of district Kangra Himachal Pradesh the knowledge means pretest score 18 and posttest was 25 and t value obtained was found to be statistically very highly significant (13.24) at $p < 0.0001$ level of significance. The posttest knowledge score was high as compare to pretest knowledge score, which shows the effectiveness of planned video assisted teaching programme.

Objective 3: To find out the association of posttest knowledge scores with selected demographic variables. The data revealed that there was no significant association of level of knowledge with socio demographic variables i.e. age, marital status, occupation, qualification, years of experience, pervious knowledge regarding surgical site infection.

Conclusion

From the result of the study it was concluded that implementation of video teaching program showing effectiveness of the tool to enhance the knowledge of staff nurses regarding prevention of surgical site infections. Qualification were significantly associated with post-test knowledge score ($P < 0.05$).

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