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A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAM ON KNOWLEDGE ON VACUUM ASSISTED CLOSURE THERAPY IN PATIENT WITH BED SORE AMONG THE STAFF NURSES IN SELECTED HOSPITAL

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Type of Articles:

Original Research Article

Abstract:

Background: This research study aimed to assess the effectiveness of a structured teaching program on knowledge of vacuum-assisted closure therapy among staff nurses in selected hospitals.

Methods: The study utilized an evaluative approach to evaluate the impact of the structured teaching program. Data was collected through pre-test and post-test assessments among staff nurses.

Conclusion: The findings revealed a significant improvement in knowledge regarding vacuum-assisted closure therapy post-implementation of the structured teaching program.

Keywords: Nursing, Structured Teaching Program, Vacuum-Assisted Closure Therapy, Staff Nurses

Introduction:

Bedsores also called pressure ulcers and decubitus ulcers are injuries to skin and underlying tissue resulting from prolonged pressure on the skin. Bedsores most often develop on skin that covers bony areas of the body, such as the heels, ankles, hips and tailbone. People most at risk of bedsores have medical conditions that limit their ability to change positions or cause them to spend most of their time in a bed or chair. Bedsores can develop over hours or days. Most sores heal with treatment, but some never heal completely.[1]

Bed sores can affect people who spend a long time in one position, for example, because of paralysis, illness, old age, or frailty. Bed sores can happen when there is friction or unrelieved pressure on one part of the body. People who cannot make even small movements are at risk of pressure sores. The sores can affect any part of the body, but the bony areas around the elbows, knees, heels, coccyx, and ankles are more susceptible. Bedsores are treatable, but, if treatment comes too late, they can lead to fatal complications.

Treating pressure ulcers is not easy. An open wound is unlikely to heal rapidly. Even when healing does take place, it may be inconsistent, because of the damage to skin and other tissues. Less severe pressure ulcers often heal within a few weeks with proper treatment, but serious wounds may need surgery. The following steps should be taken: Remove the pressure, clean the wound, Control incontinence as far as possible, remove dead tissue, apply dressings, use oral antibiotics or antibiotic cream, in the early stages, people may treat ulcers at home, but more severe ulcers will need dressing by a health care professional.

Negative pressure wound therapy, also known as vacuum-assisted therapy; this procedure involves the attachment of a suction tube to the bedsore. The tube draws moisture from the ulcer, drastically improving the healing time and reducing the risk of infection, Wounds heal within around 6 weeks at half the cost of surgery.[3]

Many countries have conducted pressure ulcer prevalence studies, indicating the global problem of pressure ulcers. The Canadian healthcare data in this study show an overall prevalence of 23.7% and a NPU prevalence of 12.8%,The prevalence of pressure sores in intensive care units in the United States (U.S.) is estimated to range from 16.6 percent to 20.7 percent, Incidence rates of as low as 0.4% to as high as 38% have been reported in the inpatient department while prevalence has been reported as 3.5% to 69%. 2,3 In Indian setting,[4]

the prevalence of pressure ulcers in hospitalized patients has been reported to be 4.94% in a study conducted by Chauhan et al,[5]

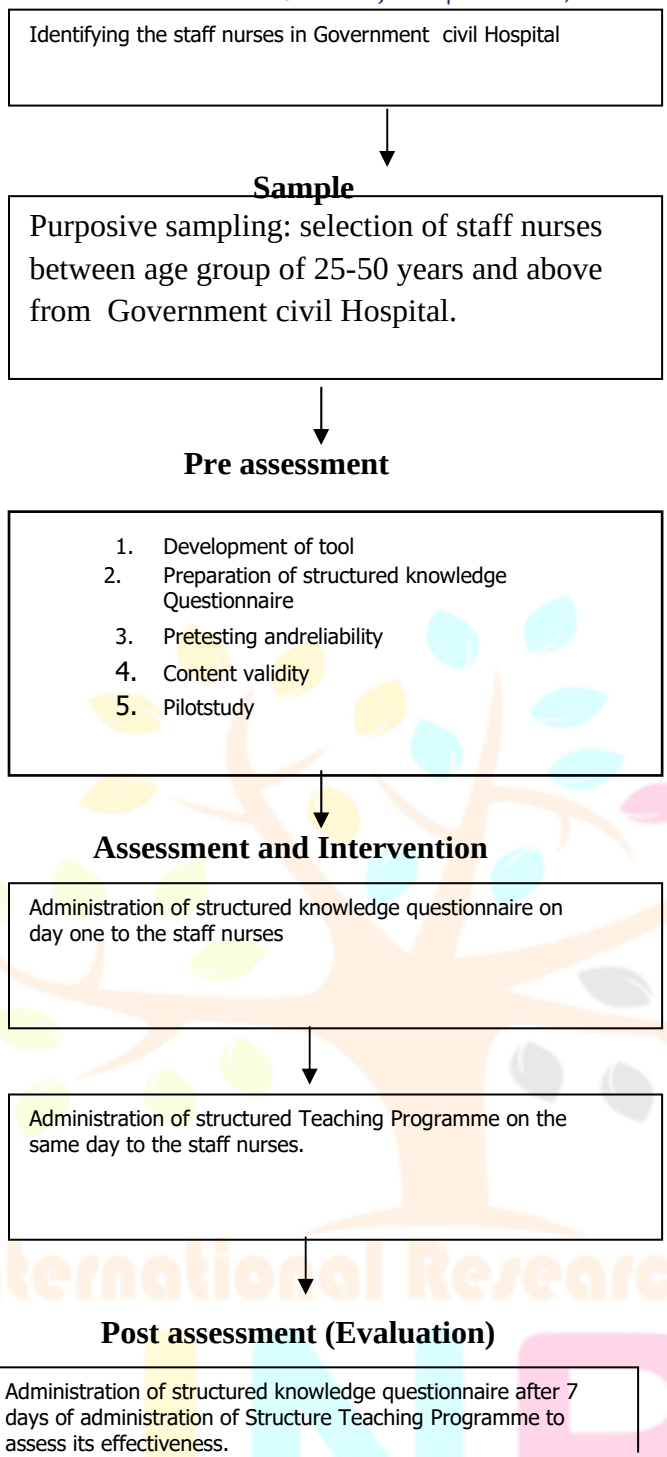
Nurses assess wounds, document findings, and apply Vacuum Assisted Closure dressings correctly. They ensure wound cleanliness, secure the dressing, and monitor infection. Nurses educate patients about VAC therapy, emphasizing adherence and addressing concerns. They prioritize pain management and provide relief. Nurses work closely with the wound care team, physicians, and other healthcare professionals to ensure coordinated care. Empathy, compassion, and effective communication are crucial for promoting wound healing.

The study aims to investigates the impact of a structured teaching program on knowledge on vacuum assisted closure therapy among staff nurses with bed sores.

Materials and Methods:

The study design One group pre-test-post-test research design,

Group	**Pre-test** Administration of Structured knowledge Questionnaire **Onday-1**	**Intervention** Administration of Structured teaching Programme **On day-1**	**Post-test** Administration of knowledge questionnaire **On day-7**
Staff Nurses	O1	X	O2



The Institutional Ethics Committee at K.G.F. Noorie College of Nursing approved the research work, granting it ethical clearance on October 14, 2020, with a certificate reference number Ref: NCI/IEC/359/2020-563.

The study was conducted at Government Hospital, a 350-bed, well-equipped facility. The target population was all staff nurses working at the hospital. The sample consisted of 60 nurses aged 21-50 years and above, selected using purposive sampling technique, a non-probability sampling approach.

The tool consists of two sections: personal data and a structure knowledge questionnaire. It covers various aspects of nursing, including age, gender, and experience. To ensure content validity, experts from medical and surgical nursing were selected. The tool's reliability was found to be 0.96, indicating its reliability. The tool's content validity was confirmed by experts' opinions and suggestions.

A pilot study was conducted in selected hospital on 10/11/2020 to 18/11/2020 to assess the reliability and effectiveness of a structure teaching program for vacuum assisted closure therapy. Eight samples were selected, and a post-test was administered after seven days. The results showed a higher post-test score of 46.00%, confirming the feasibility of the final study.

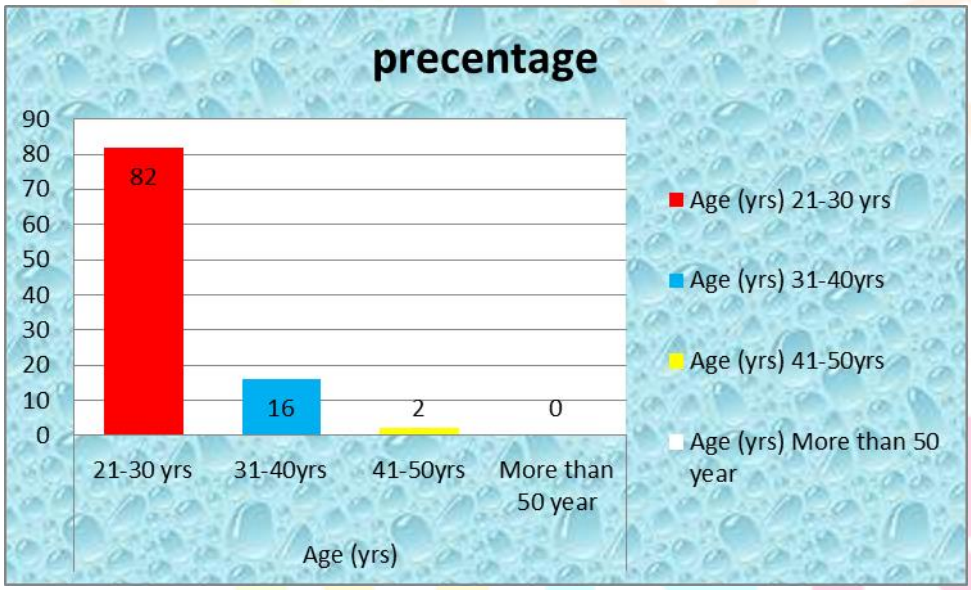
The study was conducted between 1/12/2020 and 31/12/2020 at selected hospital. The investigator personally visited respondents, explained the study's purpose, and assured their anonymity. Data was collected through a structured knowledge questionnaire and video-assisted teaching among 60 staff nurses. The post-test was conducted after 7 days. Data analysis involved categorizing, coding, tabulating, and drawing statistical inferences. The study aimed to achieve its objectives using descriptive and inferential statistics. The data was organized in a master sheet, and statistical analyses were performed.

Percentage, Frequency distribution of Staff according to age in years

n =60

s.no	characteristics	Categories	f	%
1.	Age (yrs.)	21-30yrs	49	82
		31-40yrs	10	16
		41-50yrs	01	02
		More than 50 years	00	00

The above table shows that majority of staff 82% belongs to age group of 21-30 year and only 42% age group of more than 50 years respectively.



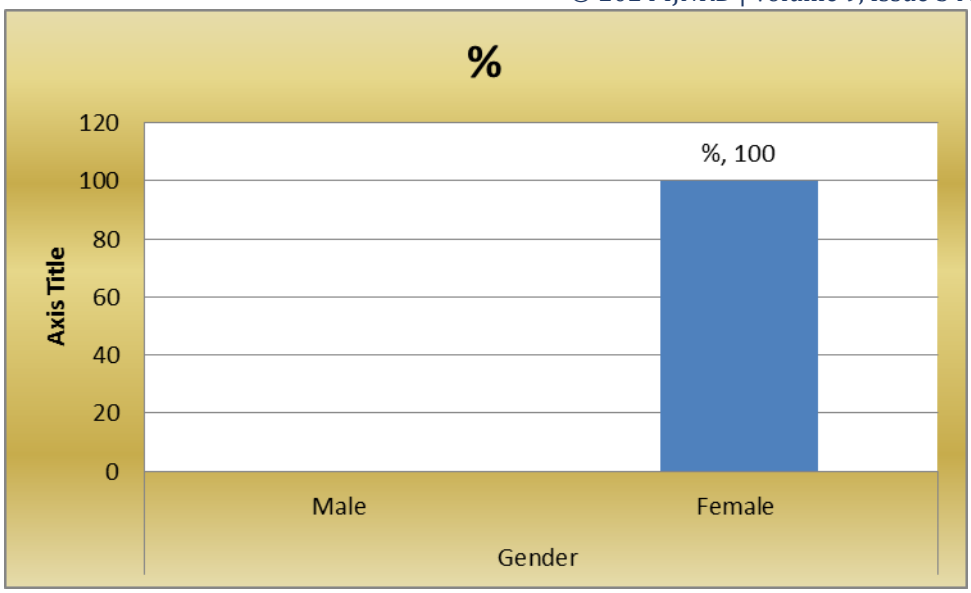
Bar diagram showing distribution of staff regarding age in year.

Percentage, Frequency distribution of staff according to gender

n=60

s.no	**characteristics**	**Categories**	**f**	**%**
2.	Gender	Male	00	00
		Female	60	100

The table shows that female is 100 percentages as in gender distribution.

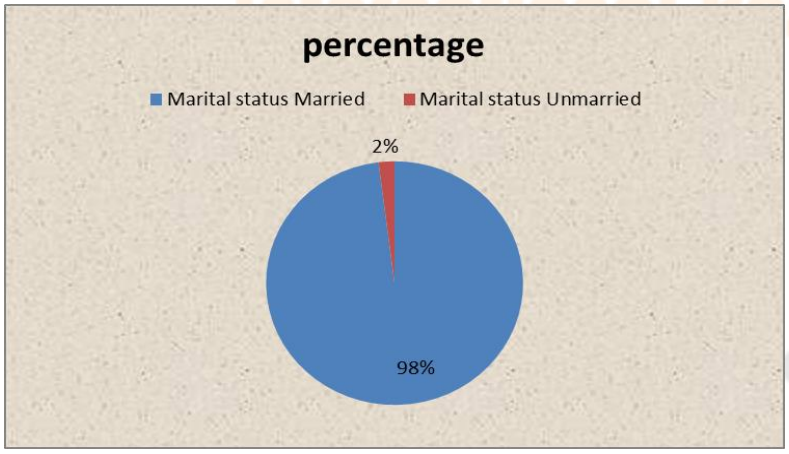


Bar diagram showing distribution of staff regarding gender.

Percentage, Frequency distribution of staff according to marital status.

s.no	characteristics	Categories	f	%
3.	Marital status	Married	59	98
		Unmarried	01	02

Table shows that majority of staff 98% belongs to marital status belongs to married and only 2% belong to married respectively.



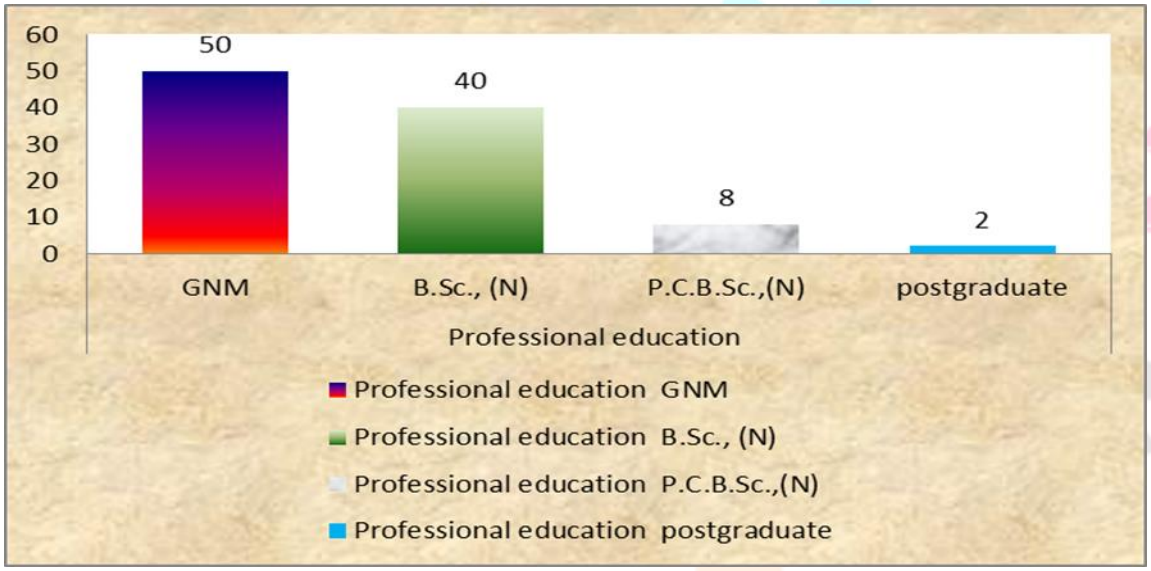
pie diagram showing distribution of staff marital status.

Percentage, Frequency distribution of staff according to professional education

n=60

s.no	characteristics	Categories	f	%
4.	Professional education	GNM	30	50
		B.Sc., (N)	24	40
		P.C.B.Sc.,(N)	05	8
		Postgraduate	01	02

Table shows that majority of staff 50% belongs to GNM (N) and only 2% belong Postgraduate respectively.



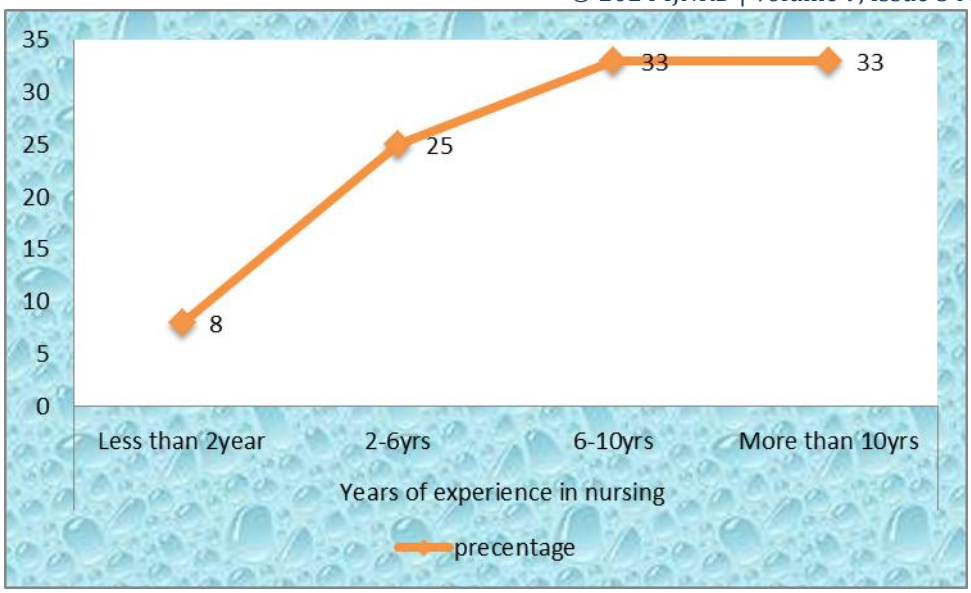
Bar diagram showing distribution of staff regarding to profession education.

Percentage, Frequency distribution of staff according to years of experience in Nursing

n=60

s.no	characteristics	Categories	f	%
5.	Years of experience in nursing	Less than 2year	5	08
		2-6yrs	15	25
		6-10yrs	20	33
		More than 10yrs	20	33

Table shows that majority of staff 33% belongs to more than 10 years and 6-10 years of experience and only 8% belong less than 5 years respectively.



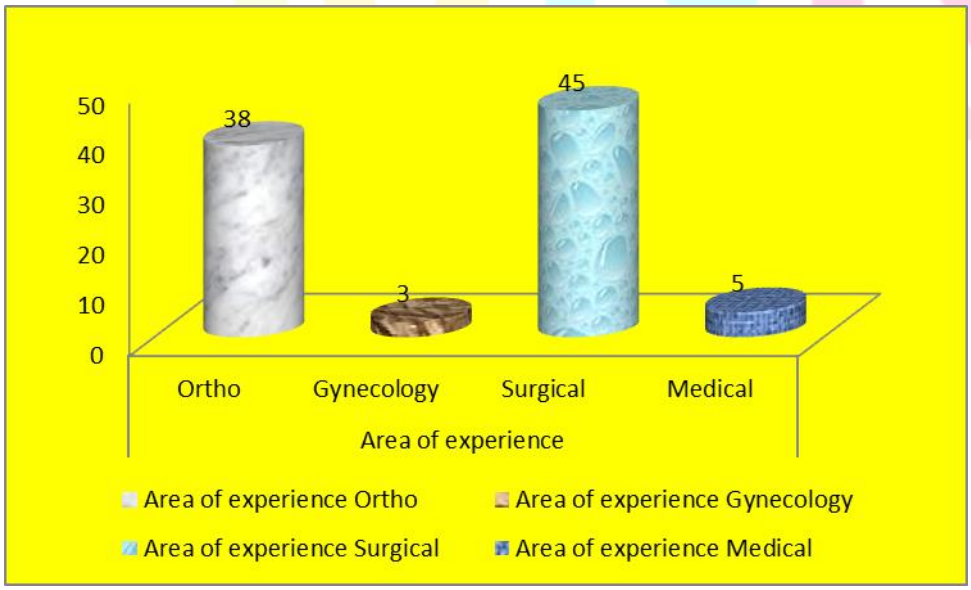
line diagram showing distribution of staff regarding years of experience.

Percentage, Frequency distribution of Staff according to area of experience

n=60

s.no	characteristics	Categories	f	%
6.	Area of experience	Ortho	23	38
		Gynecology	02	03
		Surgical	27	45
		Medical	03	05

Table shows that majority of staff 45% belongs to who got surgical ward experience and only 3% belongs who got experience in gynecology respectively.



Cylindrical diagram showing distribution of staff of area of experience.

The percentage of per-test and post-test knowledge scores of staff nurses on VAC.

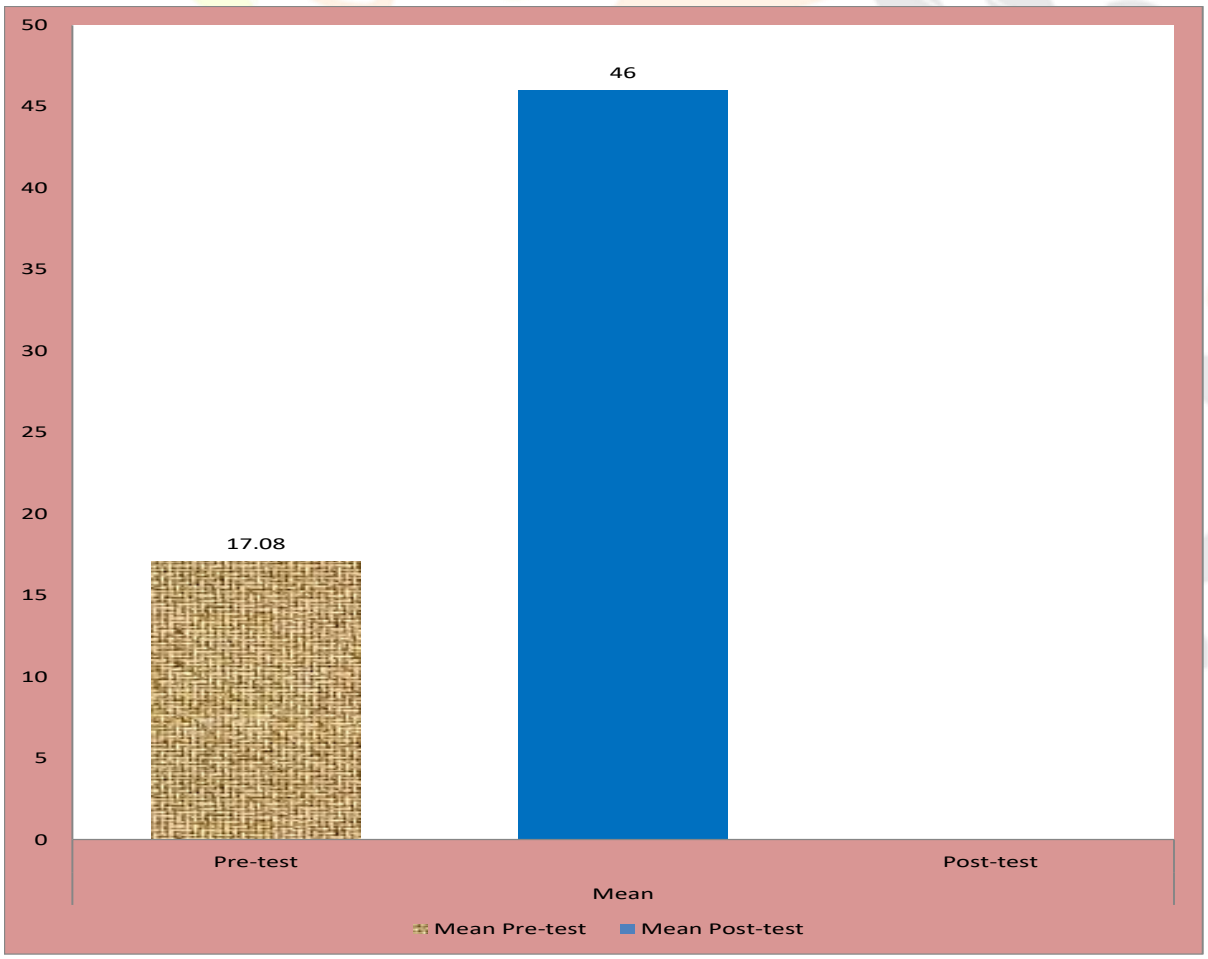
Range, mean, median and standard deviation of pre –test and post- test knowledge scores of staff on VAC.

n=60

Test	Range	Mean	Median	Standard deviation
Pre-test	12-24	17.08	17	2.72
Post-test	42-47	46.00	46	1.12

Maximum score: 47 (100%)

Table represents that the post –test knowledge score ranged from 42-47, whereas the pre-test knowledge scores ranged from 12-42. The mean post –test knowledge scores (χ^2 = 46.00) was apparently higher than the mean per-test knowledge score (χ^2=17.08).The median of post-test knowledge score (M2=46.00) was higher than median the pre-test knowledge score (M2=17.00).



Bar diagram shows mean difference between pre-test and post-test

Comparison of pre-test and post –test knowledge of staff nurses on VAC.

Paired 't' test is computed order to find the significance of difference between pre-test and post-test knowledge scores and data is presented in table -

To test the statistical difference, the following null hypothesis (H1) was stated.

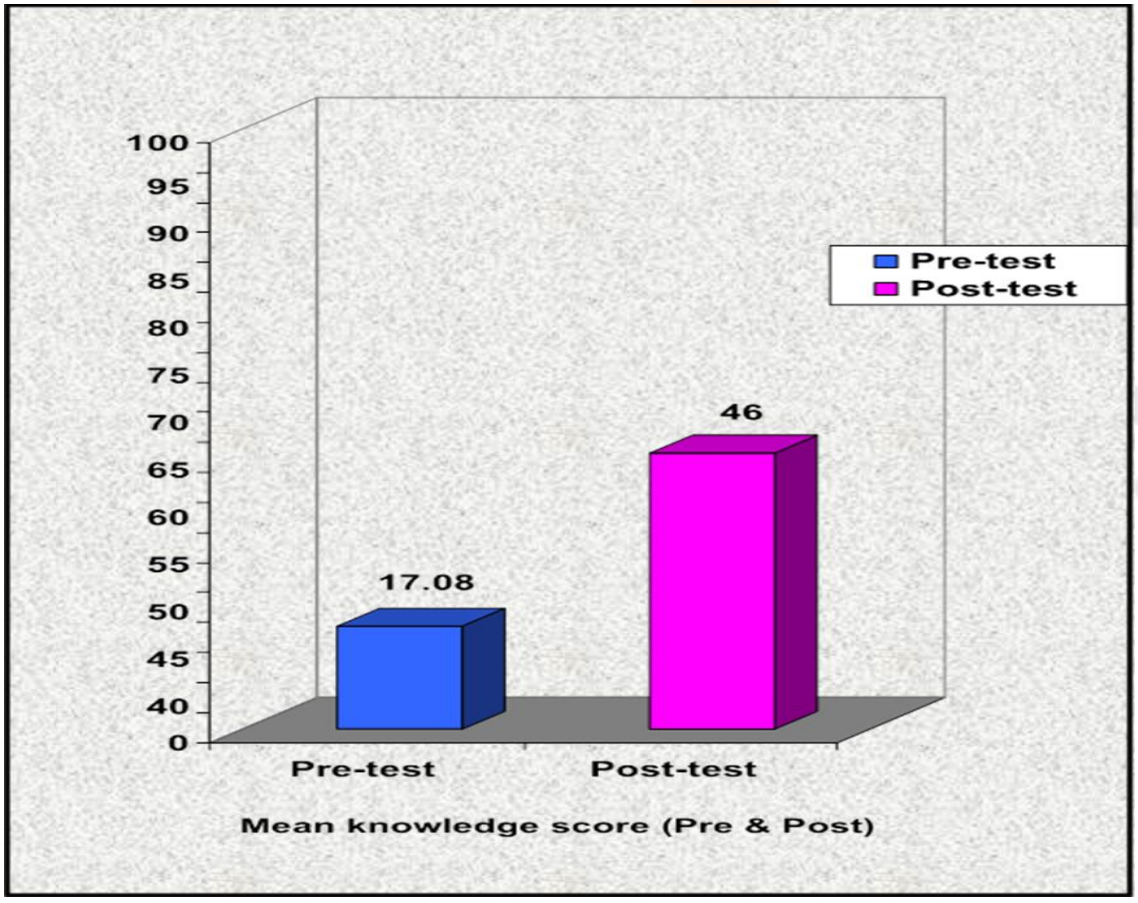
H1= the mean post –test knowledge scores of the respondents will be higher to their mean pre-test knowledge scores as measured by the structured teaching programme.

Mean, difference, standard deviation and 't' value of pre-test and post–test knowledge scores of staff nurses.

n=60

Group	mean		Difference of mean	Standard deviation		't' value paired	P value
	Pre-test	Post-test		Pre-test	Post-test		
Staff nurses	17.08	46.00	8.58	2.72	1.12	68.11	P<0.001

Table shows that computed 't' value ('t'=68.11, p<0.001) is greater than table value ('t'=2.00), which represents the significant gain in knowledge, through the structured teaching programme. Hence the null hypothesis H1 was rejected thus it suggests that the STP has been effective in increasing the knowledge of staff nurses about VAC.



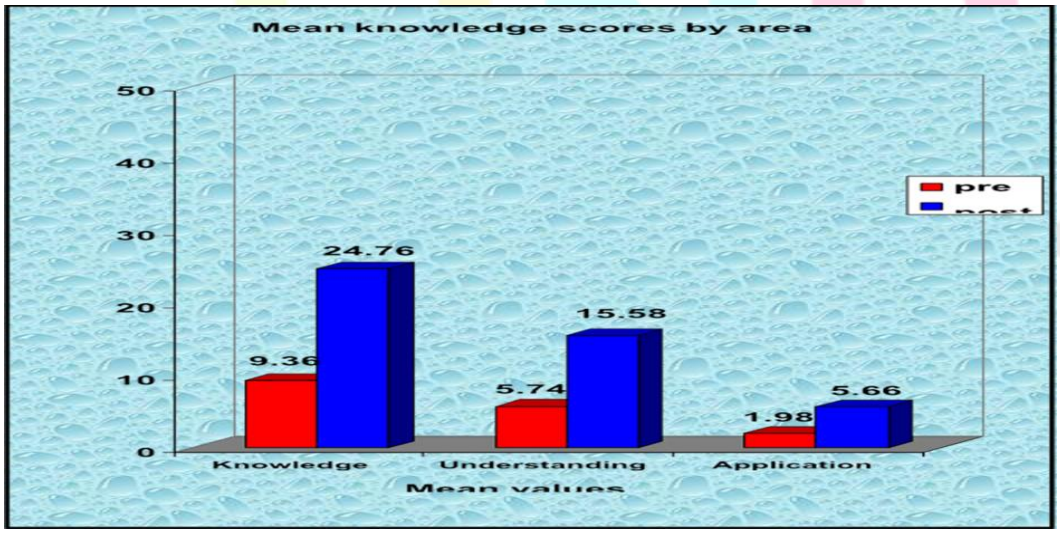
Bar diagram showing comparison of mean knowledge scores in pre-test and post-test

Comparison of mean percentage and SD between pre-test and post-test in various aspects.

n=60

Pre-Test				**Post Test**			
Sl No.	**Area**	**Mean**	**SD**	**Mean**	**SD**	**"t" value**	**P value**
1	Knowledge	9.36	2.05	24.76	0.59	48.60	P<0.001
2	understanding	5.74	1.28	1.98	0.64	55.61	P<0.001
3	Application	1.98	1.24	5.66	0.52	18.90	P<0.001

Table- shows that the mean knowledge scores of the pre-test were maximum in the area of knowledge (9.36) and minimum in the area of application (1.98). The mean knowledge scores of post-tests were maximum in the area of knowledge (24.74) and minimum in the area of application (5.66). Mean difference between possible gain and actual gain is calculated and found to be least in the area of understanding. Knowledge (24.76) indicates that the gain in knowledge in this area was maximum comparing to other areas. The mean knowledge scores are represented in bar diagram



Bar diagram showing comparison of mean knowledge scores in Pre-test & Post-test in various areas

Relationship between post-test knowledge level and demographic variable.

n=60

S.N	Demographic variable	Total score		df	χ^2 value
		<median	>median		
1.	Age	27	33	0.091	2.85
2.	Marital status	18	42	1	0.081
3.	Professional education	49	11	2	6.443
4.	Year of experience	27	33	0.091	2.81
5.	Area of experience	49	11	1	27.754

S=significant = non-significant

Table – It indicates that there is no statistically significant relationship between gain in knowledge and personal characteristics like age, marital status, professional education, experience, area of work. Hence the null hypothesis (2) is accepted.

CONCLUSION

To determine the effectiveness of a structured teaching programme. 't' test was computed and was found to the significant. Chi-square values were calculated in order to fine association between the pre-test knowledge scores and demographic variables, which was not found to be significant.

The present study conducted among staff nurses found that most of the subjects 82% belongs to the age group of 21-30year.all are females and 98% are married.50% are GNM educated as professional. Majority (33%) had 6-10 year and more than 10 years of experience. maximum subjects 38 % were having experience in Ortho ward. None of them attended any in-service education programme regarding vacuum assisted closure therapy.

Major findings

1. Most of the subjects 82% were in the age group of 21-30years and only one (2%) was 41–50-year-old.
2. All the subjects were female.
3. Among the subjects 50%were G.N.M and 2% were Post graduate.
4. Majority 33% had 6-10 year and above 10 year of experience and 8% were less than 2 years.
5. Maximum number of subjects 30% was having experience in Ortho ward and only 2% were having gynecology ward.
6. None of the staff nurses had attended any in-service education programme.

Finding related to effectiveness of structure teaching programme.

The study assessed the knowledge levels of 60 staff nurses using a structured questionnaire. The pre-test scores were highest in the knowledge area (33.44%), while the post-test scores were highest (99.04%) in the application area (0.33%). The mean difference between possible and actual percentage gains was least in the understanding area (99.04%). Most staff nurses had inadequate knowledge regarding VAC (0.50%), but post-test knowledge was adequate (76.100%). The study found no significant association between pre-test knowledge levels and demographic variables.

Implications of the Study

Nursing Practice

Nursing education

Nursing Administration

Nursing Research

Recommendation

- An extensive descriptive study can be conducted the health status on the vacuum assisted closure therapy.
- A long-term study can be conducted to find out the complications related to application of vacuum assisted closure therapy.
- A comparative study may be conducted to find out the effectiveness of planned nursing intervention with control group.
- A study can be conducted with large sample size to generalize the results of the study.
- A similar study can be done to determine the effectiveness of video assisted teaching in different population for various hazards.

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