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"EFFECTIVENESS OF EXHIBITION CUM DEMONSTRATION ON KNOWLEDGE AND SKILLS REGARDING SUTURING TECHNIQUE AMONG NURSING STUDENTS OF PARUL INSTITUTE OF NURSING."

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ABSTRACT

Background of the study: A suturing technique typically used for closing a wound, the simple skin suture is one in which the surgeon performs separated stitches, meant to hold the edges of the wound together.

Objectives of the study were to assess knowledge regarding suturing techniques among selected nursing students in nursing institute, to assess skills regarding suturing techniques among selected nursing students in nursing Institute ,to evaluate effectiveness of exhibition cum demonstration method regarding suturing techniques on knowledge and skill among selected nursing students in nursing institute and to find out the association between the pre-test levels of knowledge and skills on suturing techniques among selected nursing students with their selected demographic variables.

METHOD: Non-probability purposive sampling technique was conducted among 165 among the nursing students. They were selected by non-probability purposive sampling technique were to assess knowledge regarding suturing techniques, to assess skills regarding suturing techniques ,to evaluate effectiveness of exhibition cum demonstration method regarding suturing techniques on knowledge and skill among selected nursing students in nursing institute and to find out the association between the pre-test levels of knowledge and skills on suturing techniques among selected nursing students with their selected demographic variables. The structured knowledge questionnaire was used for the assessing. The collected data was analyzed and interpreted based on true experimental design.

RESULTS: In this study the level of knowledge regarding suturing techniques among nursing students in pre-test that 45 nursing students, constituting 27.3% of the total sample had poor knowledge, 109 nursing students, constituting 66.1% of the total sample had average knowledge, 3 nursing students, constituting 1.8% of the total sample had good knowledge, 8 nursing students, constituting 4.8% of the total sample had very good knowledge. Nursing students in post-test that 7 nursing students, constituting 4.2 % of the total sample had poor knowledge, 18 nursing students, constituting 10.9 % of the total sample had average knowledge, 1 nursing students, constituting 0.6 % of the total sample had good knowledge, 139 nursing students, constituting 84.2 % of the total sample had very good knowledge. The other study for the level of skill regarding suturing techniques among nursing students in pretest that 119 nursing students, constituting 72.1% of the total sample had poor skill, 46 nursing students, constituting 27.9 % of the total sample had average skill, 0 nursing students, constituting 0% of the total sample had good skill, 0 nursing students, constituting 0% of the total sample had

very good skill. Nursing students in post-test that 0 nursing students, constituting 0 % of the total sample had poor skill, 11 nursing students, constituting 6.7 % of the total sample had average skill, 1 nursing students, constituting 0.6 % of the total sample had good skill,153 nursing students, constituting 92.7 % of the total sample had very good knowledge skill. The finding reveals that there is the association between the knowledge and skills with their selected demographic variables.

KEYWORDS: Exhibition, Demonstration, Knowledge, Skills, Suturing Technique, Nursing Students.

INTRODUCTION: Suturing skills teaching, medical student, medical school, undergraduate, basic surgical skills and knowledge, systematic review. Efficient and cost-effective teaching of suturing skills to medical students in the future. The acquisition of Basic Surgical Skill (BSS) is an essential element of a nurse's professional development, ensuring safety and confidence in the clinical environment (1). The General Medical Council (GMC) requires all graduates to have proficiency in skin suturing, local anesthetics, hand washing, surgical protective equipment and wound care (2). Paradoxically, medical degrees lack adequate BSS teaching. Incorporate suturing in their curriculum (3). In our 14 experience, surgical societies step up to fill this gap by organizing extracurricular activities, usually with the help of local faculty. Lack of teaching, in combination with the absence of evidence-based guidelines, have led to substance BSS performance in newly qualified nurse's (4,5). Even through entry to surgical programmes remains a popular career choice, medical students are often discouraged by the intensely competitive nature of the admission process (6,7). The necessity to self-organize hand-on surgical training in order to meet the bare minimum graduate requirements introduces additional barriers to an already challenging medical degree. It creates inequalities as self-organising depend on local resources, networking, and the good will of qualified surgeons. However, even after admittance into surgical programmes, novices face significant problem in skill training, including limited time, new technologies, techniques with steeper learning curves, increased patient expectations, heightened medical litigation and operating time pressures.

MATERIAL AND METHODOLOGY:

Research Design: In the present study: Quasi Experimental Research Design (One group pre-test post-test) was adopted for the present study to assess knowledge and skills regarding suturing technique among selected nursing students in Nursing Institute of Vadodara.

Inclusion Criteria:

- 2nd sem B.Sc. nursing
- 2nd year GNM students of Parul Institute of Nursing.
- Who are willing to participate in the study.
- Present on the day of data collection.

Exclusion Criteria:

- Other than 2nd sem B.Sc. Nursing and 2nd year GNM students of Parul Institute of Nursing.
- Who are not willing to give consent.
- Who are not present at the time of data collection.

Data Collection:

For the data collection, we used the systemic approach first, we applied for ethical approval then we took permission from the Principal sir. Then we obtained permission from the

respected class coordinator of the class. Then we got permission we take a pretest of the students and for assessment of the skill level of suturing. After obtaining formal administrative approval from the interference resulting from the concerning authorities and informed consent from the samples the investigators collected the data from the students using knowledge questionnaire. Then we performed an exhibition and demonstrated the suturing techniques after 3 days we conducted a post-test knowledge assessment of those selected students.

RESULT:

SECTION- A

Table 1: Frequency and percentage distribution of demographic variable of the nursing students. N=165

Sr. No	Demographic Variable	Category	Frequency f	Percentage %
1	Age	17-20 Years	128	77.6
		21-24 Years	37	22.4
		25-28- Years	00	00
2	Gender	Male	59	35.8
		Female	106	66.2
		Others	00	00
3	Have you ever attended any workshop or training on suture.	Yes	00	00
		No	165	100
4	Do you know about suture technique.	Yes	14	8.5
		No	151	91.5

The presented research study aims to explore and understand various demographic characteristics and knowledge levels of nursing students with regard to suturing techniques. The study involves a sample of nursing students, and key demographic variables such as age, gender, attendance of previous workshops or training programs on suturing, and knowledge about suturing techniques are investigated.

Key Findings:

1. **Age Distribution:**
    - The majority of the nursing students fall within the age range of 17-20 years (77.6%), with a smaller percentage in the 21-24 years category (22.4%). Notably, there are no respondents in the 25-28 years category.
2. **Gender Distribution:**
    - The study demonstrates a diverse gender distribution among nursing students, with 35.8% identified as male and 66.2% as female. No respondents fall into the 'Others' category.

3. **Previous Workshop/Training Attendance:**
    - Interestingly, none of the nursing students reported attending any previous workshops or training programs related to suturing techniques. The entire sample (100%) indicated that they have not attended such programs.
4. **Knowledge about Suturing Technique:**
    - A small percentage (8.5%) of nursing students reported having knowledge about suturing techniques, while the majority (91.5%) indicated a lack of familiarity with this skill.

SECTION- B

Table 2: Frequency and percentage distribution level of knowledge regarding suturing techniques among selected nursing students.

N=165

Level of knowledge	Pre-test		Post-test	
	Frequency f	Percentage %	Frequency f	Percentage %
Poor knowledge	45	27.3	7	4.2
Average Knowledge	109	66.1	18	10.9
Good Knowledge	3	1.8	1	0.6
Very Good Knowledge	8	4.8	139	84.2

Table 2 provides a comprehensive overview of the frequency and percentage distribution of knowledge levels pertaining to suturing techniques among a group of nursing students. The data is presented in two phases: the Pre-test, conducted before a designated instructional period, and the Post-test, administered after the completion of the instructional intervention.

Pre-test:

- **Poor Knowledge:** Prior to the instructional intervention, 45 nursing students, constituting 27.3% of the total sample, exhibited a limited understanding of suturing techniques, categorizing them under the "Poor knowledge" level.
- **Average Knowledge:** The majority of students, numbering 109 and representing 66.1%, demonstrated an average level of knowledge regarding suturing techniques during the Pre-test phase.

- **Good Knowledge:** A small fraction, comprising 1.8% (3 students), possessed a good understanding of suturing techniques.
- **Very Good Knowledge:** A limited number of students, 4.8% (8 individuals), showcased a very good level of knowledge in the pre-intervention phase.

Post-test:

- **Poor Knowledge:** Following the instructional intervention, the number of students with poor knowledge significantly decreased to 7, representing a notable improvement at 4.2%.
- **Average Knowledge:** Although the majority still demonstrated an average level of knowledge, the count decreased to 18 students, constituting 10.9% of the sample.
- **Good Knowledge:** The count remained relatively stable at 1 student (0.6%) post-intervention, indicating that only a small proportion maintained a good level of knowledge.
- **Very Good Knowledge:** The most significant improvement was observed in the "Very Good Knowledge" category, with 139 students, or 84.2%, showcasing a highly proficient understanding of suturing techniques.

SECTION- C

Table 4: Association between the pre-test levels of knowledge on suturing techniques among nursing students with the selected demographic variables.

N=165

Sr. No	Demographic Variable	Category	Pretest (Knowledge Score)				Chi-Value	df	p-Value
			Poor	Average	Good	Very Good			
1	Age	17-20 Years	34	86	1	7	0.025	3	0.257*
		21-24 Years	11	23	2	1			
		25-28 Years	0	0	0	0			
2	Gender	Male	18	38	1	2	0.801	3	0.849
		Female	27	71	2	6			
		Others	0	0	0	0			
3	Are you attaining any previous workshop/ training	Yes	0	0	0	0	0.255	2	0.561
		No	45	109	3	8			

	programme of suture?								
4	Are you know about the suturing technique?	Yes	4	8	1	1	2.745	3	0.433

Table 4 presents the association between the pre-test levels of knowledge on suturing techniques among nursing students and selected demographic variables. The table includes four demographic variables: Age, Gender, Attendance at previous workshops/training programs on sutures, and Knowledge about suturing techniques.

1. **Age:**
    - The age categories are 17-20 years, 21-24 years, and 25-28 years.
    - The distribution of pretest knowledge scores varies across age groups, with the majority falling into the "Average" category.
    - The Chi-square test indicates a non-significant association between age and pretest knowledge scores.
2. **Gender:**
    - The gender categories include Male, Female, and Others.
    - Pretest knowledge scores are distributed differently among genders, with a higher proportion of females in all knowledge categories.
    - The Chi-square test shows a non-significant association between gender and pretest knowledge scores.
3. **Attendance at previous workshops/training programs on sutures:**
    - Responses include Yes or No.
    - Those who attended previous workshops or training programs tend to have higher pretest knowledge scores.
    - The Chi-square test suggests a non-significant association between attendance at workshops/training programs and pretest knowledge scores.
4. **Knowledge about suturing techniques:**
    - Responses include Yes or No.
    - Participants who indicate knowledge about suturing techniques generally have higher pretest knowledge scores.

- The Chi-square test indicates a significant association between knowledge about suturing techniques and pretest knowledge scores (* indicates significance).

Table 4: Association between the pre-test levels of Skill on suturing techniques among nursing students with the selected demographic variables.

N=165

Sr. No	Demographic Variable	Category	Pretest (level of Skill)				Chi-Value	df	p-Value
			Poor	Average	Good	Very Good			
1	Age	17-20 Years	93	35	0	0	0.081	1	0.776
		21-24 Years	26	11	0	0			
		25-28 Years	0	0	0	0			
2	Gender	Male	41	18	0	0	0.316	1	0.574
		Female	78	28	0	0			
		Others	0	0	0	0			
3	Are you attaining any previous workshop/ training programme of suture?	Yes	0	0	0	0	0.216	1	0.461
		No	119	46	0	0			
4	Are you know about the suturing technique?	Yes	12	2	0	0	1.406	1	**0.236***

Table 4 illustrates the association between pre-test levels of skill in suturing techniques among nursing students and selected demographic variables, including age, gender, attendance at previous workshops/training programs on sutures, and knowledge about suturing techniques. The distribution of pretest skill levels varies across demographic categories, with certain groups showing a predominance of lower skill levels. While there are some disparities observed, particularly among age groups and genders, the associations between demographic variables and pretest skill levels are mostly non-significant. Notably, a slight significance is observed in the association between pretest skill levels and knowledge about suturing techniques, indicating that those with prior knowledge tend to have higher skill levels. Overall, the table offers valuable insights into the factors influencing pre-test skill levels in suturing techniques among nursing students, highlighting areas for potential focus in educational.

DISCUSSION:

The frequency and percentage distribution of demographic variables of students. According to their age the majority of the nursing students fall within the age range of 17-20 years (77.6%),

with a smaller percentage in the 21-24 years category (22.4%). Notably, there are no respondents in the 25-28 years category. As per gender distribution among nursing students, with 35.8% identified as male and 66.2% as female. No respondents fall into the 'Others' category. Interestingly, none of the nursing students reported attending any previous workshops or training programs related to suturing techniques. The entire sample (100%) indicated that they have not attended such programs. A small percentage (8.5%) of nursing students reported having knowledge about suturing techniques, while the majority (91.5%) indicated a lack of familiarity with this skill.

CONCLUSION:

Suturing technique are the most important practice among nursing student. It needs a big effort by nursing student to learn the proper knowledge and skill of suturing technique. From the above findings it was considered that almost all nursing student having adequate knowledge and skill about suturing technique. It was concluded that pre-test the knowledge and skill regarding sutures technique among nursing student revealed that the majority 72.1% of nursing student had poor 61 skill, 27.9% had average knowledge and 0% had good skill. Post-test student are the 0% had the poor skill, 6.7% had average skill 0.6% had the good skill and 92.7% had very good knowledge skill.

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CONFLICT OF SUPPORT:

No author has conflict of interest.

AUTHOR'S CONTRIBUTION:

Author 1- Approval and finalization of the study's conception and design, as well as manuscript drafting.

Author 2- Collection and analysis of data as well as interpretation of results.

ETHICS APPROVAL:

Permission taken from Parul university Institutional Ethics Committee for Human Research PU-IECHR

Approval Number: PUIECHR/PIMSR/00/081734/6005

References

1. A one-day surgical-skill training course for medical students' improved surgical skills increased (biomedcentral.com)
2. BSP01 (cambridgesurgsoc.co.uk)
3. (PDF) Suture Materials and Suture Techniques (researchgate.net)
4. History of Sutures - Health Beat (jamaicahospital.org)
5. (Web-based learning media the skills of suturing rupture perineum of midwifery students PubMed (nih.gov))