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## A study to assess the knowledge regarding catheterization among staff nurses and nursing students in Narayana medical college hospital, Nellore

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### Abstract

**Introduction:** Catheterization is performed as a sterile, medical procedure by trained, qualified personnel, using equipment designed for this purpose, except in the case of intermittent self-catheterization, where patient have been trained to perform the procedure themselves. Urethral catheterization requires a physician's order. The nurse must use strict aseptic technique. Organizing equipment before the procedure prevents interruptions. Apply all the nursing measures to induce urination before the catheterization of bladder. The main complications of urinary catheterization are ascending urinary tract infection, tissue trauma during the insertion of the catheter. Nursing staff plays an important role in delivering quality patient care.

**Methods:** A Non-Experimental descriptive research was adopted for this study. The study was conducted in selected hospital, Nellore district. 30 samples were selected by using non probability convenience sampling technique. Structured questionnaire were used to assess the knowledge regarding catheterization among staff Nurses and Nursing students.

**Results:** The study results shows that with regard to knowledge regarding catheterization among staff nurses, 5(33.3%) had inadequate knowledge, 7(46.7%) had moderately adequate knowledge, 3 (20%) had adequate knowledge, whereas in nursing students, 5(33.3%) had inadequate knowledge, 9(60%) had moderately adequate knowledge, 1 (6.7%) had adequate knowledge.

**Conclusion:** The study concluded that majority of staff nurses and nursing students had inadequate knowledge regarding catheterization So there is a need to improve knowledge both by the student nurses and as well as staff nurses.

**Keywords:** Knowledge, catheterization, nursing students, staff nurses

### 1. Introduction

Catheterization is performed as a sterile, medical procedure by trained, qualified personnel; using equipment designed for this purpose, except in the case of intermittent self-catheterization, and where patient has been trained to perform the procedure themselves. Urethral catheterization requires a physician's order. The nurse must use strict aseptic technique. Organizing equipment before the procedure prevents interruptions. Apply all the nursing measures to induce urination before the catheterization of bladder. The main complications of urinary catheterization are ascending urinary tract infection, tissue trauma during the insertion of the catheter. Nursing staff plays an important role in delivering quality patient care.

The catheter size should be determined by the size of client's urethral canal. When the French system is used the larger the gauge number. The larger the catheter size generally children's, require a 8 to 10 Fr, women require a 14 to 16 Fr, whereas men requires a 16 to 18 Fr. To prevent trauma, the smallest effective catheter size is preferred. The expected time required for the catheterization will determine the catheter material selection. Plastic catheter are suitable only for intermittent use due to their inflexibility. Latex and rubber catheters are recommended for use up to 3 weeks.

The prevalence rate of urinary catheterization in hospitalized patient is estimated at 12.6% in each year. Million of Americans diagnosed with bladder dysfunction primarily older adults in acute care hospital long term care setting or their home use a urinary drainage system to drain and collected the urine.

In catheterized person between 20 – 30% of patients developed bacteriuria, 2 – 6% develops the symptoms of UTI 1 – 4% bacteremia and of their 13 – 30% die.

**2. Objectives**

- To assess the level of knowledge regarding catheterization among staff nurses.
- To assess the level of knowledge regarding catheterization among nursing students.
- To compare the level of knowledge regarding catheterization between staff nurses and nursing students.
- To find out the association between the level of knowledge regarding catheterization among staff nurses, nursing students with their selected socio demographic variables.

**3. Materials and Methods:** A Non-Experimental descriptive research was adopted for this study. The study was conducted in selected hospital, Nellore district. 30 samples were selected by using non probability convenience sampling technique. Structured questionnaire were used to assess the knowledge regarding catheterization among staff Nurses and Nursing students.

**3.1 Sample Size:** 30 samples were selected by using non probability convenience sampling technique. Among them 15 were staff nurses and 15 were student nurses.

Data were obtained by the following methods:

- A) Through questionnaire method by interviewing the samples for assessing their sociodemographic variables
- B) Self-administered questionnaire were used to assess the knowledge regarding catheterization

**3.2 Ethical Clearance:** There was no drug administration or invasive procedure involved in the study. A written Permission was obtained from the institutional authority and ethical committee. Written informed consent was obtained from samples who participated in the study and Confidentiality and anonymity of the subjects was maintained throughout the study.

**4. Results**

**Table 1:** Distribution of Demographic Variables of staff nurses (N=15)

S.no	Demographic Variables	Staff nurses (n-15)	
		f	%
1	<b>Age</b>		
	21-25 years	15	100
2	<b>Gender</b>		
	Female	15	100
3	<b>Educational qualification</b>		
	GNM	7	46.7
	B.SC(N)	8	53.3
4	<b>Professional experience</b>		
	Below 1 year	8	53.3
	1-3 years	7	46.7
5	<b>Source of information</b>		
	Text books	3	20
	Mass media	4	26.7
	All the above	8	53.3
6	<b>CNE programme related to bowel wash</b>		
	Attended	6	40
	Not attended	9	60

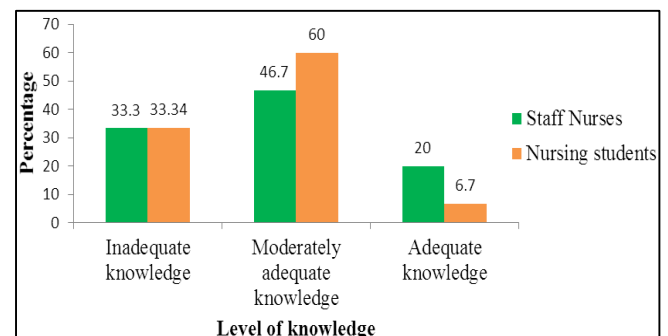
**Table 2:** Distribution of Demographic Variables of student nurses (N=15)

S.no	Demographic Variables	Student nurses (n-15)		
		f	%	
1	<b>Age</b>			
	18-19 years	6	40	
	20-21 years	8	53.3	
	22-23years	1	6.7	
	2	<b>CNE programme related to bowel wash</b>	15	100
		Not Attended		
3	<b>Educational qualification</b>			
	BSC	15	100	
4	<b>Source of information</b>			
	Text books	3	20	
	Curriculum	6	40	
	Journals	2	13.3	
	All the above	4	26.7	

**Table 3:** Comparison of level of knowledge on catheterization between staff nurses and nursing students

S. No	Level of Knowledge	Staff Nurses (n=15)		Nursing Students (n=15)	
		f	%	f	%
1	Inadequate knowledge below (50%)	5	33.3	5	33.3
2.	Moderately Adequate knowledge (50%-70%)	7	46.7	9	60
3.	Adequate knowledge (more than 70%)	3	20	1	6.7

Table no.3 Shows that comparison of level of knowledge on catheterization between staff nurses and nursing students (30 samples), staff nurses, 5(33.3%) had inadequate knowledge, 7(46.7%) had moderately adequate knowledge, 3 (20%) had adequate knowledge, whereas in nursing students, 5(33.3%) had inadequate knowledge, 9(60%) had moderately adequate knowledge, 1 (6.7%) had adequate knowledge.



**Fig 1:** Percentage distribution of staff nurses and nursing students based on level of knowledge

**Table 4:** Comparison of mean knowledge score and standard deviation among staff nurses and nursing students. (N-30)

Sample Categories	Mean	Standard Deviation
Staff Nurses	15.7	4.32
Nursing Students	14.4	3.5

Table.no-4 Shows that with regards to comparison of level of knowledge regarding catheterization between staff nurses and student nurses. In staff nurses, the mean value is 15.7 with standard deviation of 4.32 and nursing students the mean value is 14.4 with standard deviation of 3.5.

#### 4. Discussion

The aim of the present study was to assess the knowledge regarding catheterization among staff nurses and nursing students

##### Findings of the Study Based On Objectives

- Findings related to comparison of the level of knowledge regarding catheterization between staff nurses and nursing students.

Table no.3 Shows that comparison of level of knowledge on catheterization between staff nurses and nursing students (30 samples), staff nurses, 5(33.3%) had inadequate knowledge, 7(46.7%) had moderately adequate knowledge, 3(20%) had adequate knowledge, whereas in nursing students, 5(33.3%) had inadequate knowledge, 9(60%) had moderately adequate knowledge, 1(6.7%) had adequate knowledge.

**Londa Mody (2009):** Conducted a study on knowledge among staff nurses and nursing students regarding catheterization in nursing home at NHS in south Michigan. 500 samples were participated in this study. The result shows that More than 80% of nurses and nursing students were aware of measures such as cleaning the genital area, use the gloves and hand washing with catheter manipulated. 59% nurses and 30% aids are have less aware regarding catheterization. The study concluded that staff nurses and student nurses having adequate knowledge regarding catheterization.

##### Findings related to Association between the level of knowledge of staff nurses regarding catheterization with their selected socio demographic variables.

There is a significant association between the demographic variables such as education have significant association with level of knowledge of staff nurses and age, gender, working experience, source of information and attended any in service education have no significant association with level of knowledge of staff nurses regarding catheterization.

##### Findings related to Association between the level of knowledge of nursing students regarding catheterization with their selected socio demographic variables.

There is no significant association with level of knowledge of nursing students and demographic variables such as age, course, source of information, and attended any workshop

**5. Conclusion:** The study concluded that majority of staff nurses and nursing students had inadequate knowledge regarding catheterization. So there is a need to improve

knowledge both by the student nurses and as well as staff nurses.

#### 6. Recommendations

On the basis of findings of the study the following recommendations are being made.

- A similar study can be replicated on a large sample to generalize the findings.
- An experimental study can be conducted to assess the knowledge regarding catheterization.
- Similar study can be done on different hospital settings.
- A comparative study can be undertaken to compare the knowledge of staff nurses and nursing students regarding catheterization.

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