



**Research Article**

**EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING CATHETER CARE TO PREVENT URINARY TRACT INFECTION AMONG SECOND YEAR BASIC B.SC. NURSING STUDENTS OF B.V.V.S SAJJALASHREE INSTITUTE OF NURSING SCIENCES, BAGALKOT**

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**ABSTRACT**

Urinary tract is most common site of nosocomial infection, accounting for more than 40% of the total number reported by acute care hospital and affecting an estimated 6,000,00 patients per year.

**Methodology:** An evaluative approach with pre-experimental one group pre-test post-test design was used for the study. A structured knowledge questionnaire was used to collect the data. A sample of 50 2<sup>nd</sup> year B.Sc. Nursing students was selected simple random sampling technique. The data collected before and after the administration of STP were analyzed using descriptive and inferential statistics.

**Results:** Majority (64%) of the respondents had poor knowledge on catheter care to prevent the urinary tract infection. Significance of difference between the pre-test and post-test knowledge scores was found to be highly significant [ $t= 20.82, p<0.05$ ]. There was no significant association found between post-test knowledge scores of the 2<sup>nd</sup> year B.Sc. Nursing students and their socio-demographic variables. **Conclusion:** The overall findings of the study revealed that there was a significant increase in the knowledge of 2<sup>nd</sup> year B.Sc. Nursing students after the administration of STP. Hence it is concluded that the STP was highly effective in improving the knowledge of 2<sup>nd</sup> year B.Sc. Nursing students.

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**INTRODUCTION**

**Background of the Study**

Urinary tract infection account for 32% of all health care – associated infection and are the most common nosocomial infection in intensive care units. Urinary catheters are used routinely in ICUs, usually for frequent and accurate monitoring of urinary output. Once inserted, catheters tend to remain in place after appropriate indications for their use. Urinary infection in critically ill patient are associated with increase in length of stay and mortality.<sup>1</sup>

Nurses are the ones who work round the clock and are responsible for monitoring the urinary catheters. It is vital that nurses develop the required skill to allow them to assess patients thoroughly before inserting a urinary catheter and to ensure all other options have been investigated. A descriptive study was conducted on 108 enrolled nurses working in medical and surgical ward of sub-acute Hospital in Hong Kong.

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A questionnaire was given to 108 nurses on knowledge about urinary catheter and their management. Seventy-nine questionnaires were returned. The response rate was 73.15%. The overall result revealed that enrolled nurses' knowledge of urinary catheter selection and management was poor.<sup>2</sup>

Preparation of student nurses regarding the catheter care becomes vital to prevention of urinary tract infection when they are posted to medical surgical wards. A study was conducted on impact of an interactive workshop on the management of urinary catheterization on nurses. There was a significant improvement in mean test scores after the workshop when compared with pre-workshop scores. It is concluded that interactive lecture workshops based on best practice techniques for the management of urinary catheterization help improve nurses' knowledge. Such educational initiatives also help to overcome deficiencies in initial nurse training where preparation for quality catheter care can be lacking.<sup>3</sup>

The investigator during the clinical experience in various wards observed many patients with indwelling catheters for longer period and nurses were least bothered to monitor the catheter care. Most of the patients' catheters were not secured which resulted in pulling pressure and trauma to the urethra.

Almost all the patients' catheters were on the floors while sitting on the chair or bathing or changing linen of the bed which resulted in ascending urinary tract infections and they had to be put on strong antibiotics. With adequate information on the importance of catheter care the nursing staff would make greater commitment to lower the incidence of catheter induced urinary tract infections.

Moreover, clinical experience also revealed that the patient with catheter, developed more infections. Hence the investigator feels the need for bringing about awareness among student nurses regarding prevention of urinary tract infection in patients on indwelling catheter. Further this study will help the nursing students in gaining an insight regarding care of patient with indwelling urinary catheter.

### Statement of the Problem

"A Study to assess the effectiveness of structured teaching programme on knowledge regarding catheter care to prevent urinary tract infection among second year Basic B.Sc. nursing students of B.V.V.S Sajjalashree institute of nursing sciences, Bagalkot".

### Objective of the Study

1. To assess the existing knowledge of second year B.Sc. nursing students regarding care of Urinary Catheter.
2. To evaluate the effectiveness of structured teaching program among second year B.Sc. nursing students regarding care of urinary catheter comparing pre and post-test scores.
3. To find out the association between post-test knowledge level of second year B.Sc. nursing students regarding care of urinary catheter and their selected demographic variables.

### Hypothesis

**H<sub>1</sub>:** There is a significant difference between mean post-test and pre-test knowledge scores of 2<sup>nd</sup> year B.Sc. nursing students regarding care of urinary catheter at 0.05 level of significance.

**H<sub>2</sub>:** There is a significant association between the post-test knowledge scores of 2<sup>nd</sup> year B.Sc. nursing students regarding care of urinary catheter and their selected socio-demographic variables at 0.05 level of significance.

## METHODOLOGY

**Research approach:** An evaluative approach was used for the present study.

**Research design:** Pre-experimental one group pre-test, post-test design.

### Variables under the Study

**Dependent Variable:** Knowledge of 2<sup>nd</sup> year B.Sc. nursing students regarding care of urinary catheter.

**Independent Variable:** Structured teaching programme on care of urinary catheter

**Socio-demographic Variables:** Age, sex, sources of information, attendance of urinary catheter care demonstration, previous experience with care of urinary catheter.

**Setting of the Study:** The present study was conducted in 2<sup>nd</sup> year B.Sc. Nursing class of BVVS Sajjalashree Institute of Nursing Sciences, Navanagar, Bagalkot.

### Population

**Universal Population:** The universal population of this study consists of all 2<sup>nd</sup> year B.Sc. Nursing students studying in various nursing colleges of Karnataka.

**Accessible Population:** The accessible population of this study consists of 2<sup>nd</sup> year B.Sc. Nursing students of BVVS Sajjalashree Institute of Nursing Sciences, Navanagar, Bagalkot.

**Sample size:** A total of 50 2<sup>nd</sup> year B.Sc. Nursing students who met the criteria formed were selected as sample for the study.

### Criteria for Selection of Sample

**Inclusive criteria:** The study includes the 2<sup>nd</sup> year B.Sc. Nursing students, who are;

- Second year B.Sc. nursing students in age between 17-22 years.
- Both males and females, who are willing to participate in the study.
- Second year B.sc nursing students who are studying in B.V.V.S Sajjalashree institute of nursing sciences, Bagalkot,
- Second year B.sc nursing students, who are able to speak and read English

**Exclusive criteria:** The study excludes the 2<sup>nd</sup> year B.Sc. Nursing students;

- who are not available at the time of study.
- who are selected for pilot study.

**Sampling Technique:** Simple random sampling technique.

**Description of the final Tool:** The structured questionnaire was used for this study which consists of two parts:

**Part I:** Consists of items seeking information regarding socio-demographic characteristics of 2<sup>nd</sup> year B.Sc. Nursing students.

**Part II:** Consists of 40 items pertaining to knowledge regarding care of urinary catheter among 2<sup>nd</sup> year B.Sc. Nursing students.

**Scoring of the Items:** The maximum obtainable scores were 40. To find out the association between the selected socio-demographic variables and knowledge scores, respondents are categorized in to five groups.

Category	Score
Very good	33-40
Good	25-32
Average	17-24
Poor	9-16
Very poor	0-8

**Data collection procedure:** Pretest knowledge questionnaire was administered on day one. Then STP was administered on the same day after one hour of pre-test. On the 8<sup>th</sup> day after the administration of STP the post test was conducted using the same questionnaire at the same place.

**Plan of Data Analysis:** The data obtained was analyzed in terms of achieving the objectives of the study using descriptive and inferential statistics.

## RESULTS

Part I: Assessment of knowledge of the 2<sup>nd</sup> year B.Sc. nursing students regarding care of urinary catheter.

**Table 1** Level knowledge of the 2<sup>nd</sup> year B.Sc. nursing students regarding care of urinary catheter

N=50			
Level of knowledge	Range of scores	Number of respondents	Percentage (%)
Very good	33-40	0	0
Good	25-32	0	0
Average	17-24	16	32
Poor	9-16	32	64
Very poor	0-8	2	4
<b>Total</b>		<b>50</b>	<b>100</b>

Assessment of the level of knowledge of the 2<sup>nd</sup> year B.Sc. Nursing students reveals that majority (64%) of the 2<sup>nd</sup> year B.Sc. Nursing students had poor knowledge regarding care of urinary catheter.

**Part II:** Significance of the difference between the pre-test and post-test knowledge scores of the 2<sup>nd</sup> year B.Sc. Nursing students.

**Table 2** Significance of the difference between the pre-test and post-test knowledge scores of the 2<sup>nd</sup> year B.Sc. Nursing students

Knowledge area	Test	Mean	SD	Paired t-value
Care of urinary catheter	Pre test	14.72	4.31	
	Post test	34.08	5.53	20.82*

\*Significant (p<0.05)

Findings reveal that the difference between mean pre-test (14.72±4.31) and post-test (34.08±5.53) knowledge scores of 2<sup>nd</sup> year B.Sc. Nursing students found to be statistically significant at 0.05 level of significance [t= 20.82, p<0.05].

**Part III:** Association between the post-test knowledge scores of 2<sup>nd</sup> year B.Sc. Nursing students and selected socio-demographic variables.

**Table 3** Association between the post-test knowledge scores of 2<sup>nd</sup> year B.Sc. Nursing students and selected socio-demographic variables.

Sl. No	Socio-demographic variables	Df	Chi-square value	Table value	Significance
1.	Age in years	1	0.30	3.84	P>0.05 NS
2.	Sex	1	1.75	3.84	P>0.05 NS
3.	Religion	1	0.32	3.84	P>0.05 NS
4.	Parental education	1	0.29	3.84	P>0.05 NS
5.	Family type	1	0.018	3.84	P>0.05 NS
6.	Family income	1	0.41	3.84	P>0.05 NS
7.	Source of Information	1	0.0024	3.84	P>0.05 NS

Df – Degree of freedom NS – Not significant

Findings reveal that there is no significant association between post-test knowledge scores of the 2<sup>nd</sup> year B.Sc. Nursing students regarding care of urinary catheter and their socio-demographic variables.

## DISCUSSION

The findings of the study were discussed according to the objectives which were stated. The present study has showed that the difference between mean pre-test (14.72±4.31) and post-test (34.08±5.53) knowledge scores of 2<sup>nd</sup> year B.Sc. Nursing students regarding care of urinary catheter found to be statistically significant at 0.05 level of significance [t= 20.82, p<0.05].

Similar findings were observed in an experimental study conducted by Kalafat J, Elias M (2007) to evaluate the effectiveness of in service education programme among Nurses in Louisville, Kentucky<sup>4</sup>. The results revealed that, the experimental groups showed significant gains in knowledge about care of urinary catheter.

## CONCLUSION

From the present study it was found that STP was very effective teaching method. The investigator as a nurse felt the need that student nurses should be educated well before they are posted to wards, so that they could act responsibly to practice the catheter care meticulously to prevent urinary tract infection.

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**Conflict of Interest:** Author has no conflict of interest.

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