

To Assess the Practices of Nurses Towards Catheter Care for Prevention of Catheter Associated Urinary Tract Infection Among Patients Admitted in Tertiary Care Hospital Bathinda (Punjab)

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Abstract

Nursing is an art science and an essential health care profession in which the skilled knowledgeable persons are committed to provide care to sick peoples and strive for the, protection and promotion of health and prevention against diseases and helps to minimize the risk and risk related injuries .Thus the present Study was planned to assess the practices of staff nurses towards catheter care to prevent CAUTI among Patients Admitted in Tertiary Care Hospital, Bathinda (Punjab) **Objectives** 1.To assess the Practices of nurses towards catheter care for prevention of CAUTI among patients 2.To find out the association between practices of nurses towards catheter care for prevention of CAUTI among patients with their socio demographic variables. Descriptive survey design was used. A Quantitative Non experimental Approach was adopted to conduct the Study. 200 staff nurses were selected using Non Probability convenience Sampling Technique .The present study included staff nurses working in intensive care units, cardiac care unit, surgery, medical, orthopaedic and gynaecological and obstetrical wards. A prevalidated tool comprising Socio demographic variables and Self structured practice checklist were used to collect the data. **Results:** depicts that that majority of staff nurses i.e. 87 (79.09%) were in the age group of 21-30 years. Most of them i.e.78 (70.91%) were females. About 31(28.18%) of staff nurses were presently working in surgery ward followed by 26 (23.64%) in CCU, almost equal number of staff nurses 23(20.91%) and 21 (19.09%) were working in ICU and orthopaedic ward respectively whereas only 9 (8.18%) working in Gynae and Obstetrics ward. Most of staff nurses 57(51.82%) were Bsc.Nursing by qualification .Most of staff nurses 57 (51.82%) were having 3-5 years of experience in present area. Half of the staff nurses 59(53.64%) had attended training regarding infection control. Most of the staff nurses 71(64.55%) were having Adequate level of practices. There was Statistically Significant Association found between practices and professional qualification and any training attended regarding CCB. **Conclusion:** In the present study it is concluded that most of the participants have adequate level of practices towards catheter care for prevention of CAUTI and needs further focus and support to improve nursing care quality.

Key Words: CAUTI, CCB,Catheter, Attitude, Nurses

Introduction

Nursing is an art and an important health care profession in which skilled people are committed to providing sick people and striving to prevent,

protect and promote health and disease prevention and help reduce risk and related injuries. ¹ According to the Nursing Urological Nursing Association and Associate Urological Nursing (2008), Nurses 'awareness of the use of the nurses' procedure and

the use of an internal catheter are essential. Nurses' intervention can reduce catheter-related infections during hospitalization². According to the CDC in 2015 reports of 75% of patients presented with a catheter associated with urinary tract infections and a major public health problem related to illness and financial costs³. Urine catheters should only be used if necessary. If a catheter is to be used, it should be removed as soon as possible rather than increase the risk of infection. Previous research shows in critical care situations that most nurses have little knowledge about CAUTI.

Nurses do not even know when a patient should be placed and why a catheter. Even Fakih, in 2008 found that most physicians and nurses were not aware of any signs of catheter implantation and no management should monitor the presence of an unnecessary catheter. Many hospitals do not have strict guidelines for preventing CAUTI⁴.

Nurses must have sufficient knowledge of the insertion, repair, removal or prevention of installation. In this way he can save the lives of patients and prevent infections. Although catheter is used for therapeutic purposes, overuse has become a common practice that increases the risk of infection.

It is noteworthy that under normal circumstances all patients had a catheter inserted into the ICUs and even some had their intestines implanted for a long time and were not properly cared for. Nurses are responsible for catheter care and are responsible for the use of general care in ICUs because the use of urine catheterization in the Intensive Care Unit (ICU) can be up to 100%⁵.

Urinary cauterization is a procedure that should be performed under an aseptic procedure by trained nurses otherwise it can cause CAUTI. The best way to prevent CAUTI is to avoid catheterization. Unfortunately, attention is focused on various issues in order to reduce CAUTI. To reduce the risk of CAUTI simple procedures should be followed such as keeping the catheter system closed, maintaining urine flow and reducing the length of catheterization time⁶.

The CDC reports in 2013 that 99,000 HCAI-related deaths each year, which are much higher compared to AIDS, breast cancer and auto accident-related deaths combined and exceeded \$ 40 billion in health care costs.⁷

It is thought that the duration of the catheter stay in the urine is very important for the concern of the

catheter associated with urinary tract infections. Less chances of insertion of the internal catheter and immediate removal may reduce the risk of catheter-related infections⁸. Studies show countless literature that supports the most common and most common type of infection in hospitalized patients with a urinary tract-related infection.⁹

Nurses are usually initially responsible for injecting patients with a catheter and then providing care to patients implanted with a catheter to prevent catheter-associated UTI. They need to follow proper and safe procedures while performing procedures related to the urinary catheter.

Through this domain, the authors conducted this study to provide insight into the practices of nurses in catheter care in order to prevent CAUTI among patients in a tertiary care hospital. It will also provide an opportunity to determine any non-compliance with prevention recommendations and improve hospital infection control policy.

Statement

To assess the practices of nurses towards catheter care for prevention of Catheter Associated Urinary Tract Infection among patients Admitted in Tertiary Care Hospital, Bathinda (Punjab)

Objectives

1. To assess the practices of nurses towards catheter care for prevention of Catheter Associated Urinary Tract Infection among patients
2. To find out the association between practices of nurses towards catheter care for prevention of Catheter Associated Urinary Tract Infection among patients with their socio demographic variables.

Materials and Methods

Research approach: Quantitative non experimental approach

Research design: Cross sectional Descriptive survey study was used to assess the practices of nurses towards catheter care for prevention of catheter associated urinary tract infection. A cross-sectional is that study that collects information from a population at specific time of period.

Setting: The setting for this research was Medical, Surgical, Orthopaedic, ICU, CCU, Gynae and Obstetrics wards of Adesh hospital, Bathinda.

Population: Data was collect from all staff nurses who were working in Medical, Surgical, Orthopaedic, ICU, CCU, Gynae and Obstetrics wards of Adesh hospital, Bathinda.

Sampling: Convenience sampling technique was used to enroll all the staff nurses in the study

Study time: The data was collected in the Month of Oct 2020

Research Tool

A prevalidated tool comprising Socio demographic variables consist of 7 variables

Modified catheter care bundle checklist: Catheter insertion (16 steps)

Catheter care on going (14 steps)

Urine collection care (6 steps)

Catheter removal (14 steps)

SPSS version 21 is statistical computer software for data analysis. The data will be analysis on SPSS version 21. Cross sectional descriptive study was done on frequencies, tables, charts, graphs.

Data Collection Procedure

In this study modified checklist was used. This observational checklist developed by the national institute of health and modified by researcher. Total steps of procedure is 50 and for each step yes or no marked with score 1or 2. Maximum score was 50 and minimum 0.

DAY/ TIME	PROCEDURE DONE	METHOD OF DATA COLLECTION	OUTCOME
Day 1 st	Catheter insertion	observational checklist	Insertion of catheter observed
Day 2 nd	Catheter care twice a day	observational checklist	Catheter maintenance care observed

DAY/ TIME	PROCEDURE DONE	METHOD OF DATA COLLECTION	OUTCOME
Day 3 rd	Catheter care twice a day	CAUTI assessment	Physical signs and symptoms assessed
Day 4 th	Urine sample collection for culture	observational checklist	Steps of Sample collection observed
Day 5 th	Catheter care twice a day or removal	CAUTI assessment	Physical signs and symptoms reassessed or observed for catheter removal
Day 6 th	Culture Report / Catheter care twice a day or removal	CAUTI assessment	Urine culture report ,Physical signs and symptoms reassessed or observed for catheter removal
Day 7 th	Catheter removed	--	observed for catheter removal

Ethical Consideration

Ethical principle was performed during research study. Permission was taken from the Ethical committee of Desh Bhagat University. I was taken permission from the medical superintendent of Adesh hospital. Give complete information to the participant related to research. It makes sure that no harm will be given to the participant. Study was beneficial. All nurses were having open opportunity to participate in research. No one was being forced to participate in research. Informed consent will be signed by nurses. Before signing consent nurses will be informed about purpose, methodology, risk and benefits of investigation

Results

The present study was carried out in the month of Oct 2020 in different wards of the hospital. A total of 110 staff nurses were included in study.

Table 1: Frequency and Percentage distribution of Practices Staff nurses towards catheter care bundle for prevention of CAUTI. N=110

Level for catheter care bundle	Percentage of scores	f	%
Inadequate	(0-42)	18	16.36
Adequate	(43-47)	71	64.55
Excellent	(48-50)	21	19.09

Maximum score =50

Minimum score =00

Data presented in table: 1 shows that level of staff nurses towards CCB was categorized into 3 levels: inadequate, adequate and excellent. Most of staff nurses 71 (64.55%) were having adequate level followed by 21 (19.09%) were excellent whereas 18 (16.36%) staff nurses reported inadequate level towards catheter care bundle for prevention of CAUTI.

Table 2: Mean, Median, Range, Standard deviation of CCB scores of practices of staff nurses towards catheter care bundle for prevention of CAUTI

N=110

Overall Catheter care bundle	Mean±SD	Median	Range
	45.109±2.379	45	43-47

Data presented in table: 2 indicate that mean score of staff nurses was 45.109±2.379; median was 45 with range 43-47.

There is no significant association of nurses compliance with age ($\chi^2=2.511$, $p=0.643$), gender ($\chi^2=1.418$, $p=0.492$), area of work ($\chi^2=2.794$, $p=0.947$), years of experience ($\chi^2=5.998$, $p=0.199$), any training attended regarding infection control ($\chi^2=2.652$, $p=0.265$). However, there is the significant association of professional qualification ($\chi^2=12.878$, $p=0.012$) and any training attended regarding CCB ($\chi^2=5.995$, $p=0.165$) As the p- value of all the variables are greater than 0.05 level of significance except that of for professional qualification ($p=0.012$) and any training attended regarding CCB ($p=0.165$) which is shown to be highly significant.

Discussion

Similar study conducted by Assanga PA et al with total population 95 staff nurses were selected variables were 71% (67) were females with males being 29%

(28). The age distribution was; 42.1% (40) were 30 to 39 years, 34.7% (33) were 40 to 49 years, 17.9% (17) were 20 to 29 years and 5.3% (5) were 50 to 59 years. Higher diploma holders were 53.7% (51), diploma holders were 22.1% (21), Bachelor's degree holders were 23.2% (22) and Master in nursing degree holders were 1.1% (1). Half 50% (47) of staff nurses attended training regarding infection control.¹⁰

Almost half of nurses had a bachelor degree in this study. This is consistent with a study conducted by Opina and Oducado (2014)¹¹, who found that 76.7% of nurses in Philippines were holding a bachelor degree, and contradicted with another study conducted by Sobeih and Nasr (2015)¹² who reported that 75.5% of nurses in Egypt have a diploma in nursing.

Most of the staff nurses in this study attended an educational or training program on infection control. A similar result was found by Mukakamanzi (2017)¹³, who revealed that 69.2% of nurses had training on infection control practices. While this result contradicted with Sobeih and Nasr (2015)¹², who stated that all nurses did not attend any training regarding infection control

The result of the present study revealed that the majority of nurses had adequate level toward CAUTI prevention. This finding is inconsistent with Sobeih and Nasr (2015), who stated that only 12.5% of the studied nurses had competent level of practices as regards urinary catheter care while this result contradicted with Selim et al. (2018)¹⁴ and Mukakamanzi (2017), who found that a high percentage of nurses has shown a good implementation of different practices towards catheter CAUTI prevention.

Limitations

The Sample size was small, as many participants were not be able to include in the study due to the COVID-19 pandemic, hence a large sample size be required in order to generalize these results to the whole population

Conclusion

The study was conducted in Adesh hospital Bathinda among 110 staff nurses. In this research practices of nurses studied towards catheter care for prevention of catheter associated urinary tract infection. It is concluded that most of the participants have adequate practices towards catheter care for prevention of

CAUTI and needs further focus and support to improve nursing care quality. Many nurses agreed to take active part to enhance their knowledge and change attitude to improve quality care. All the health care personnel should have regular training regarding prevention of CAUTI, and all efforts should be made by hospital authorities to include prevention of CAUTI in its high priority list.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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