

TO ASSESS THE ATTITUDE OF NURSES TOWARDS CATHETER CARE FOR PREVENTION OF CATHETER ASSOCIATED URINARY TRACT INFECTION AMONG PATIENTS ADMITTED IN TERTIARY CARE HOSPITAL BATHINDA (PUNJAB).



Nursing

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ABSTRACT

Healthcare associated infections (HCAI) or nosocomial infections constituting a major health problem worldwide; among them the major one is Catheter Associated Urinary Tract Infection (CAUTI) and it occurs after the admission of the patient in hospital due to the reason of other than that infection. Thus the present Study was planned to assess the attitude of staff nurses towards catheter care to prevent CAUTI among Patients Admitted in Tertiary Care Hospital, Bathinda (Punjab). **Objectives** 1.To assess the attitude of nurses towards catheter care for prevention of CAUTI among patients 2.To find out the association between attitude 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 attitude scale were used to collect the data. **Results:** depicts that out of 200 staff nurses that most of staff nurses i.e. 120 (60%) were in the age group of 21-30 years. Most of them i.e. 132 (66%) were females. About 40(20%) of staff nurses were presently working in CCU. Most of staff nurses 120(60%) were GNM by qualification. Most of staff nurses 89(44.5%) were having <2 years of experience in present area. Half of the staff nurses 118(59%) had attended training regarding infection control. Almost Half of staff nurses 92(46%) were having mild favourable attitude. There was Statistically Significant Association found between attitude and gender, professional qualification, years of experience and any training attended regarding infection control. **Conclusion:** In the present study it is concluded that most of the participants have mild favourable attitude towards catheter care for prevention of CAUTI and needs further focus and support to improve nursing care quality.

KEYWORDS

CAUTI, Catheter, Attitude, Nurses

INTRODUCTION

Healthcare associated infections (HCAI) or nosocomial infections constituting a major health problem worldwide; among them the major one is Catheter Associated Urinary Tract Infection (CAUTI) and it occurs after the admission of the patient in hospital due to the reason of other than that infection¹. The global burden of HAIs is underestimated in developing countries due to lack of surveillance systems². As per National Healthcare Safety Network (NHSN) report among UTIs acquired in a hospital, approximately 75% are associated with urinary catheter³. On the other hand, catheter associated urinary tract infection is related to the presence of catheter in bladder for a long period of time and not present at the time of admission⁴. According to CDC in 2015 reports 75% cases of patients were presented with catheter associated urinary tract infections and major public health problem in terms of morbidity and financial cost⁵. Urinary catheters should be used only when absolutely necessary. If a catheter must be used, it should be removed as soon as possible rather than increasing risk of developing infection. Previous study shows in acute care settings that most of the nurses have poor knowledge regarding CAUTI.

Nurses even don't know when and why the patient should be catheterized. Even Fakih, in 2008 found out that most of the doctors and nurses are unknown with the indication of catheterization and no proper management to monitor the presence of unnecessary catheter. Most hospitals do not have strict guidelines for the prevention of CAUTI⁶.

Nurses should have enough knowledge about insertion, maintenance, and removal or prevention of insertion. Through this she can save patients life and prevent from infection. Although catheter is used for therapeutic purposes, overuse has become common practice which increases the risk of infection.

It's observed in general settings all the patients were catheterized in ICUs even some of them were catheterized for long duration and they were not properly giving care to them. Nurses are responsible for catheter care and responsible for the utilization of standard care in the ICUs because the use of urinary catheterization in Intensive Care Unit

(ICU) can range as high as 100%⁷.

Urinary cauterization is a procedure that must be done under aseptic technique by qualified nurses otherwise it can cause CAUTI. The best way of CAUTI prevention is to avoid catheterization. Unfortunately, attention focused on different issues to reduce CAUTI. For minimizing the risk of CAUTI simple procedures should be follow like maintaining a closed catheter system, maintain urine flow and minimize the duration of catheterization⁸.

CDC reports in 2013 that 99,000 deaths occur each year related to HCAI, which is very high as compared to AIDS, breast Cancer and Car accidents related deaths combined and exceed of 40 billion dollars in health care cost⁹. Nurses are generally responsible initially for catheterizing the patients and then providing care to the catheterized patients in order to prevent the catheter-associated UTI. They need to follow appropriate and safe practices while performing procedures related to urinary catheter.

With this background, authors undertook this study to provide an insight regarding the attitude of nurses towards catheter care for prevention of CAUTI among patients in a tertiary care hospital.

It will also provide a scope for determining any non-compliance with the preventive recommendations and also improvising the infection control policy of the hospital.

Statement

To assess the attitude 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 attitude of nurses towards catheter care for prevention of Catheter Associated Urinary Tract Infection among patients.
2. To find out the association between attitude 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 attitude 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 Feb 2020

RESEARCH TOOL

A prevalidated tool comprising Socio demographic variables consist of 7 variables.

Self structured attitude scale: 3 point likert Scale consist of 15 statements.

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 self structured attitude scale was used as per likert scale. This scale was prepared based on 2009 CDC guidelines for prevention of catheter-associated urinary tract infections published by Healthcare Infection Control Practices Advisory Committee (HICPAC). This scale consists of many questions which based on attitude of nurses toward prevention of CAUTI. Feedback of the participants regarding attitude of nurses will be calculated by 3 point likert scale with all positive statements ; 1= strongly disagree, = agree and 3= strongly agree.

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 Feb 2020 in different wards of the hospital. A total of 200 staff nurses were included in study.

Table 1: Frequency And Percentage Distribution Attitude Of Staff Nurses Towards Catheter Care For Prevention Of Catheter Associated Urinary Tract Infection
N=200

Level Of Attitude	Percentage Of Scores	f	%
Moderately Favourable	(33-45)	80	40
Mild Favourable	(23-32)	92	46
Unfavourable	(1-22)	28	14

Maximum score =45

Minimum score =01

Data presented in table: 1 shows that level of attitude of staff nurses was categorized into 3 levels: Moderately favourable, Mild favourable and Unfavourable. Almost Half of staff nurses 92(46%) were having mild favourable attitude followed by 80 (40%) were moderately favourable attitude whereas 28 (14%) staff nurses reported

unfavourable attitude towards catheter care for prevention of Catheter associated urinary tract infection.

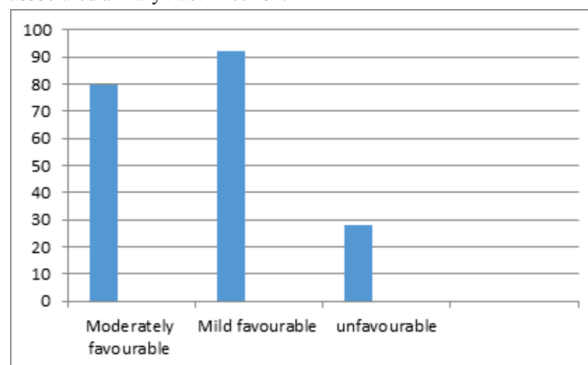


Table 2: Statement Wise Distribution On Three Point Likert Scale Of Staff Nurses Attitude Towards Prevention Of Catheter Associated Urinary Tract Infection
N=200

	Attitude Scale	SA(3) f (%)	A(2) f (%)	DA (1) f (%)
1	CAUTI is not a very serious illness	28 (14)	92 (46)	80 (40)
2	Catheter can be removed whenever it is convenient for nurses	32 (16)	83(41.5)	85 (42.5)
3	CAUTI is common problem and virtually impossible to prevent it	16(8)	98(49)	86 (43)
4	Education regarding basic catheter care to nurses helps to prevent CAUTI	98 (49)	102 (51)	0 (0)
5	Always maintain closed drainage system of indwelling catheter to prevent CAUTI	72 (36)	92 (46)	36(18)
6	Aseptic precautions may not be needed for inserting the Foley's catheter	7 (3.5)	88 (44)	105(52.5)
7	Routine screening for CA-ASB is recommended in patients with indwelling catheter	31(15.5)	96 (48)	73 (36.5)
8	It is difficult to assess the adequate position of inserted catheter	26(13)	108(54)	66 (33)
9	Development of CAUTI cannot be avoided	19 (9.5)	103 (51.5)	78(39)
10	It is unrealistic to clean hands after every contact with patient	38 (19)	87(43.5)	75 (37.5)
11	Indwelling catheterization should be as per indications.	85(42.5)	100 (50)	15(7.5)
12	Care of Foleys catheter is vital aspect of nursing care	63 (31.5)	110 (55)	27 (13.5)
13	It is difficult to stick to the guidelines of indwelling catheter care	13(6.5)	128 (64)	59(29.5)
14	Aseptic precautions may not be needed for catheter maintenance and removal the Foley's catheter	14 (7)	90(45)	96 (48)
15	CAUTI prevention should be higher priority of hospital infection control practices.	70 (35)	90 (45)	40 (20)

SA= STRONGLY AGREE

A=AGREE

DA=DISAGREE

Table 2 illustrates that about half of staff nurses agreed that CAUTI is not a very serious illness (46%). About 42.5% disagree that Catheter can be removed whenever it is convenient for nurses. Almost equal number of staff nurses (51%) agrees or strongly agree for Education regarding basic catheter care to nurses helps to prevent CAUTI. About 46% of staff nurses agreed that always maintain closed drainage system of indwelling catheter to prevent CAUTI. Equal staff nurses agree for aseptic precautions for catheter insertion and catheter removal i.e 45%. 55% of staff nurses agreed that Care of Foleys catheter is vital aspect of nursing care. Most of staff nurses agree It is

difficult to stick to the guidelines of indwelling catheter care. CAUTI prevention should be higher priority of hospital infection control practices agreed by 45% staff nurses.

Table3: Association Of Nurses' Attitude With Selected Socio-demographic Variables N=200

Socio Demographic variable	Moderately Favourable (33-45) f (%)	Mild Favourable (23-32) f (%)	Unfavourable (1-22) f (%)	χ^2 /Fischer's exact test	df	P value
a) Age (in years)						
1. 21-30	30(15)	78(39)	12(6)	8.42	4	0.077
2. 31-40	21(10.5)	32(16)	5(2.5)			
3. >40	12(6)	9(4.5)	1(0.5)			
b) Gender						
1. Male	28(14)	32(16)	8(4)	13.16**	2	0.001
2. Female	26(13)	96(48)	10(5)			
c) Area of work						
1. ICU	12(6)	23(11.5)	3(1.5)	12.43	10	0.257
2. CCU	20(10)	20(10)	0(0)			
3. Medical ward	8(4)	22(11)	2(1)			
3. Surgery ward	10(5)	24(12)	0(0)			
4. Orthopaedic ward	9(4.5)	18(9)	3(1.5)			
5. Gynae and obstetrics ward	10(5)	14(7)	2(1)			
d) Professional qualification						
1. GNM	68(34)	40(20)	12(6)	11.37**	4	0.022
2. Bsc. Nursing	26(13)	36(18)	4(2)			
3. Msc. Nursing	4(2)	8(4)	0(0)			
e) Years of Experience						
1. <2years	32(16)	43(21.5)	14(7)	12.37**	4	0.014
2. 3-5 years	26(13)	32(16)	4(2)			
3. >5 years	11(5.5)	36(18)	2(1)			
f) Any training attended regarding infection control						
1. Yes	10(5)	103(51.5)	5(2.5)	6.56*	2	0.037
2. No	14(7)	68(34)	0(0)			
g) Any training attended regarding Catheter care						
1. Yes	30(15)	42(21)	4(2)	1.816	2	0.403
2. No	61(30.5)	58(29)	5(2.5)			

* Significant at 0.05

** Significant at 0.01 level

The data presented in Table-3 showed that there is no significant association of nurses attitude with age ($\chi^2=8.42$, $p=0.077$), area of work ($\chi^2=12.43$, $p=0.257$) any training attended regarding Catheter care ($\chi^2=1.816$, $p=0.403$). However, there is the significant association of gender ($\chi^2=13.16$, $p=0.001$), professional qualification ($\chi^2=11.37$, $p=0.022$), years of experience ($\chi^2=12.37$, $p=0.014$) and any training attended regarding infection control ($\chi^2=6.56$, $p=0.037$). As the p-value of all the variables are greater than 0.05 level of significance except that of for gender, professional qualification, years of experience and any training attended regarding infection control which is shown to be highly significant.

DISCUSSION

200 staff nurses that most of staff nurses i.e. 120 (60%) were in the age group of 21-30 years. Most of them i.e. 132 (66%) were females. About 40(20%) of staff nurses were presently working in CCU followed by 38(19%) in ICU. Most of staff nurses 120(60%) were GNM by qualification followed by 68(34%) were B.sc and only 12 (6%) were having M.Sc. nursing qualification. Most of staff nurses 89(44.5%) were having <2 years of experience in present area followed by 62 (31%) having 3-5 years and 49 (24.5%) having more than 5 years of experience. Half of the staff nurses 118(59%) had attended training regarding infection control whereas most of staff nurses 124 (62%) had not attended any training regarding catheter care. Present study findings are inconsistent with study conducted by which showed the

demographic information of the participants which show that data consisted of male 0% Female 100, age of the patients 18-25 years was 64.4 % participant's s, 26-35 years was 32.5% participants, 36-50 was 3.1% participants. Education level of the participants General nursing were 69.4%, BSN/PRN were 28.8% participant and MSN 1.9% participant are married 22.% was participants and are single were 77.5%.¹⁰

In present study, few statements from attitude scale was consistent with study conducted by Gould et al which were indicated that, response of the participants about maintaining a closed drainage system prevents CAUTI 6.6 % participants were strongly disagree, 14.9 % were disagree, 21.55% were neutral, 39.9% were strongly agree and 17.1% agree. Another variable show the score of the participant about Catheter should be removed whenever it is convenient for healthcare provider (HCP) 6.1 % were strongly disagree, 15.4% were disagree, 24.1% were neutral, 33.3 % were strongly agree and 21.1% agree. The developing countries have a rate of 9.9 to 35 infections per 1000 catheter days. Studies suggest that 17 to 69% of CAUTIs can be prevented and can be reduce prevalence rates by good utilization of standard CDC guidelines.¹¹

In our study, 40% had moderately favourable attitude and only 1 4% had unfavourable attitude towards CAUTI, which was supported by Salha et al.¹² About 49% of the participants strongly agreed that education about catheter care has helped in preventing the occurrence of CAUTI and 50% agreed that CAUTI prevention should be higher priority of hospital infection control practices. About 46% of the participants have accepted that screening must be done to rule out asymptomatic bacteriuria for catheterised patients, which has now not been advised by the CDC prior to catheter insertion consistent with study conducted by Balu et al¹³. Hence, it is important that all professionals handling patients needing catheterisation must be aware of the updated and revised guidelines.

Current research showed a significant association between professional experience consistent with study conducted by Balu et al¹³.

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 200 staff nurses. In this research attitude of nurses studied towards catheter care for prevention of catheter associated urinary tract infection. It is concluded that most of the participants have mild favourable attitude 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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