

KNOWLEDGE AND PRACTICE OF STAFF NURSES ON PREVENTION OF UTI AMONG PATIENTS WITH AN INDWELLING CATHETER IN SELECTED HOSPITAL BHUBANESWAR

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ABSTRACT

The non-experimental research study was aimed to assess the knowledge & practice of staff nurses on prevention of UTI among patients with an indwelling catheter in Bhubaneswar with objectives to assess the level of knowledge of staff nurses on prevention of UTI among patients with an indwelling catheter, to assess the level of practice of staff nurses on prevention of UTI among patient with an indwelling catheter, to find the association between knowledge and practice of staff nurses with a selected socio-demographic variable. "Cronbach's Alpha" formula was used to calculate the reliability. The value for knowledge was 0.84 & practice regarding prevention of UTI was 0.8. Which indicates the tool was reliable and acceptable. The study was based on a questionnaire method with 250 samples selected by random sampling technique. A self-structured questionnaire was used for knowledge with score poor (1-21), Average (22-42), Good (43-64), Very good (65-84). Practice with a score very poor (0-5), poor (5-10), good (11-15). Initially, the level of knowledge and practice of staff nurses were assessed by an administered questionnaire. In the analysis, there was statistically remarkable to the association between practices of staff nurses with the selected socio-demographic variable at p-value 0.0005. This study conducted that there was a

strongly significant association between the ages of the staff nurses with practice regarding the prevention of CAUTI.

Keywords: CAUTI, staff nurse, Knowledge, Practice.

INTRODUCTION

“Without health, life is not life, it is only a state of languor and suffering- an image of death.” According to the medical dictionary, UTI is the infection of the kidney, ureter, bladder, or urethra. UTI is a common bacterial infection that affected any part of the urinary tract.¹ Evidence-based risk factors for Catheter-associated UTI include prolonged catheterization under symptomatic UTI and disconnection of the drainage system, lower professional training of catheter insertion under bacteriuria.² In catheter-associated urinary tract infection, the incidence of infection for Escherichia coli was 24%, Candida was 24%, Enterococcus was 14% Pseudomonas was 10%, and Klebsiella was 10% and remaining part with other organisms.³ Common symptoms included a frequent urge to urinate and painful burning sensation while micturition. It also includes other symptoms like back pain, nausea, vomiting, fever, cloudy urine, dark urine, fatigue or malaise, cramping.⁴

Infection in the urinary tract account 32% of all healthcare-associated infection and is the most common hospital-acquired i.e., hospital-acquired infection. The prevalence of asymptomatic bacteriuria has been estimated to range from 2% to 10% in various studies globally. The prevalence rate of UTI (including both asymptomatic bacteriuria and symptomatic infection) in pregnant women in India is reported to range from 3%.⁵ Similar research was done by Giles M et al. J Clin Nurs.2019 by using a cluster-controlled pre-post study included a “No CAUTI” catheter care bundled in 4 acute care hospitals in New South Wales, Australia. IDC was pointed on prevalence and duration data were collected at the bedside on 1,630 adult patients at pre-intervention and 1677 and 1551 at 4- and 9-months post-intervention. IDC prevalence was identified, from 12% pre-intervention to 10% of all inpatients at 4 and 9 months. Hospitals with higher pre-intervention prevalence showed larger decreases; up to 50% when pre-intervention prevalence was 16%.⁶

A cross-sectional study was conducted at nine hospitals in Rawalpindi and Islamabad, Pakistan regarding urinary catheterization and CAUTI in tertiary care hospitals. A total of 768 individuals

were approached during data collection and an interviewer-administered questionnaire was used, reports suggested that 354(98.88%) doctors and 112(88.18%) nurses gave the reasonable ($p=0.041$).⁷ A study was conducted by Zhu C, et al. J Hosp Infect.2019 in which immobile indoor patients were selected as a sample through cross-sectional investigation. The study was revealed infection of catheter-associated urinary tract infection was 2.25 per 1000 urinary catheter-days.⁸ The international study had shown that UTI was very common in women. Therefore, 1 in 5 adult women was experienced UTI during her life span and was extremely common. The survey study was conducted in the year of 2006 – 2007 which showed E. coli were caused 43.5% of UTIs (25.2% in men & 74.8% in women) from January to march, 36.9% of UTIs (29.2% in men and 70.8% in women) in April- June 2006, 36.8% of UTIs(23.9% in men and 76.1% in women) in January- March 2007, 48% of UTIs (27.1% in men and 72.9% in women) in July- September 2007 respectively.¹¹

METHODS:

The design of the present study is a Non-Experimental descriptive design. The main study was conducted in IMS and SUM Hospital, Bhubaneswar. A total of 250 staff nurses were included in this study. The selection of participants was done by using a simple random sampling technique. Participants of this study were staff nurses who working in IMS and SUM Hospital, Bhubaneswar. It consists of 7 self-structured questionnaires that record demographic characteristics of responded participants that are age, gender, educational status, area of work, years of experience, and previous history of UTI for assessing the knowledge it consists of 21 self-structured questionnaires. For each question, option a carries 1 mark, option b carries 2 marks, option c carries 3 marks & option d carries 4 marks respectively. For assessing the practice of staff nurses, it consists of 15 self-structured questionnaires. For scoring each question, the correct answer carried 1 mark and the wrong answer carries 0 marks.

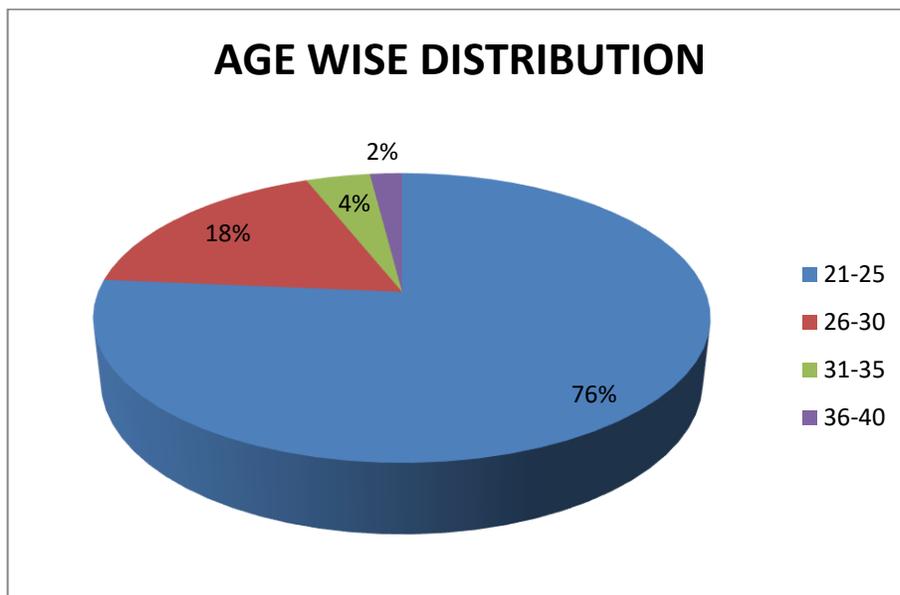
Inclusion criteria for study participants were: staff nurses who will be working in the general ward, OBG ward, orthopedic ward, ICU, those who were qualified registered staff nurses and midwifery, and those who were willing to participate in the study. “Cronbach’s Alpha” formula was used to calculate the reliability. The calculated value for knowledge was 0.84 & practice regarding prevention of UTI was 0.8. Which indicates the tool was reliable and

acceptable. Participants were co-operative and interested in the part of this study and the researcher did not face any difficulty in conducting a study among the staff nurses.

RESULT:

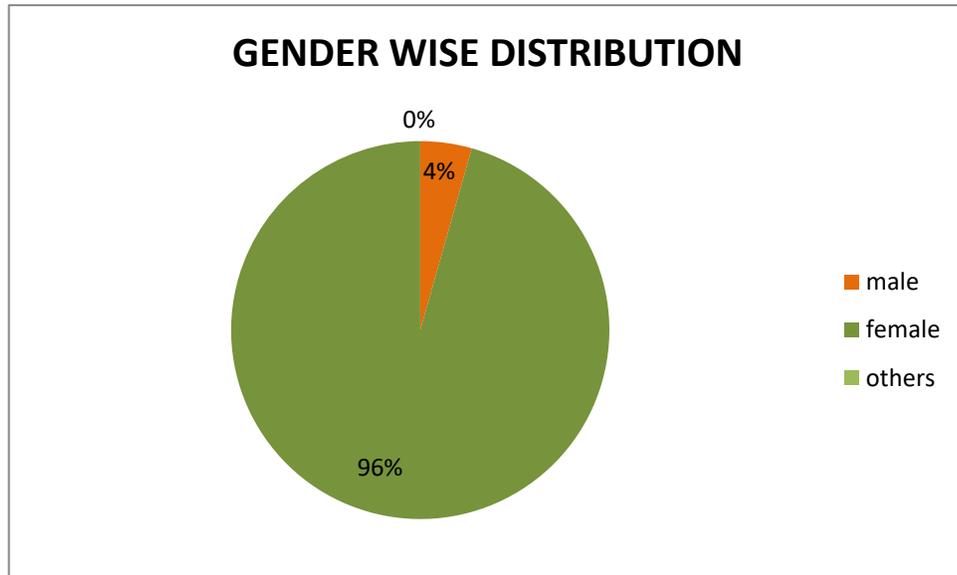
Distribution of the samples according to socio-demographic variables by using frequency and percentage.

Fig 1: Pie Chart showing the percentage and frequency distribution of variables in terms of age between four groups.



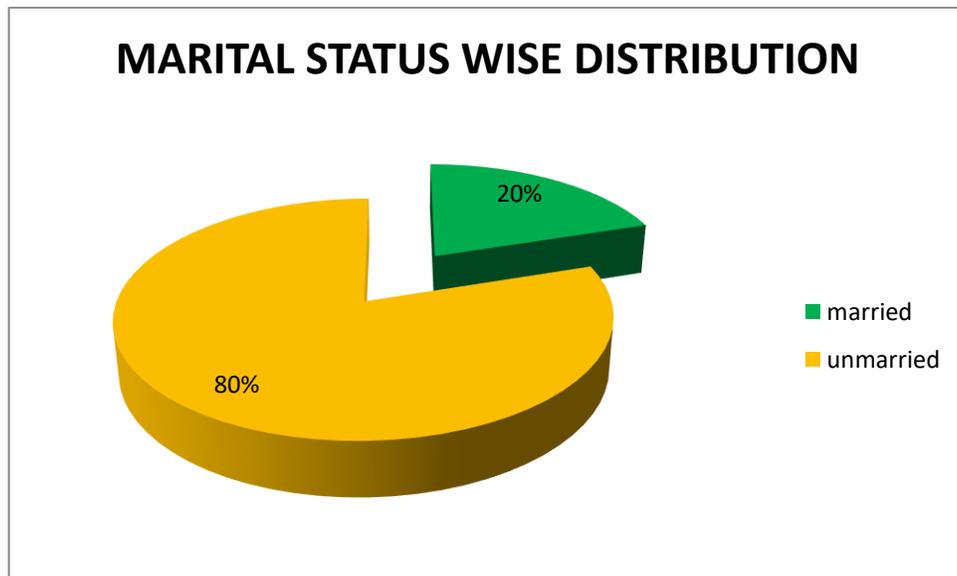
The above diagram showed that 76% of staffs were between the group of 21 to 25 years of age, 18% of staffs were between the group of 26 to 30 years of age, 4% of staffs were between the group of 31 to 35 years of age, 2% of staffs were between the group of 36 to 40 years of age.

Fig 2: Pie chart showing the percentage and frequency distribution variables in terms of gender between 2 groups.



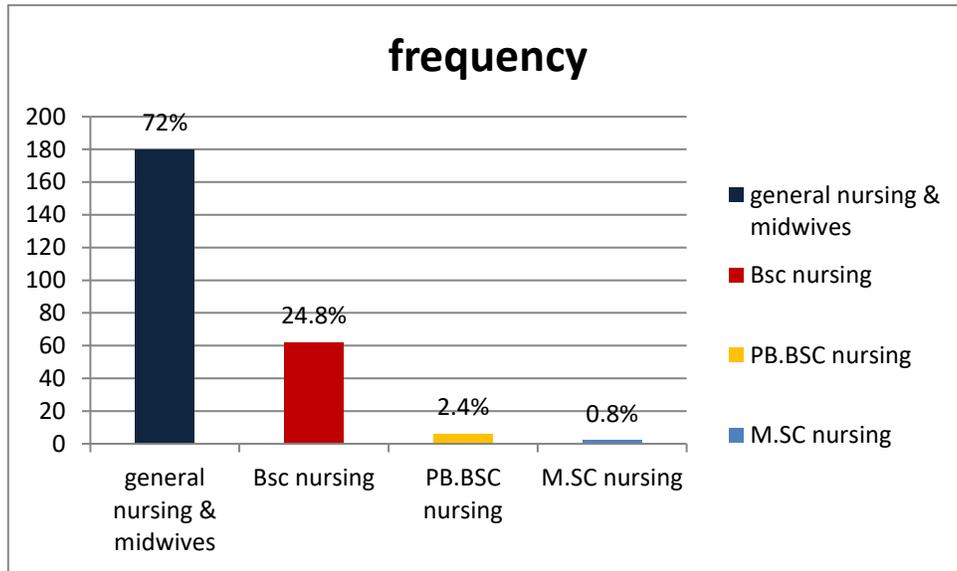
The above diagram showed that 96% of staff were female and 4% of staff were male.

Fig 3: Pie chart showing the percentage and frequency distribution of demographic variables in terms of marital status between 2 groups.

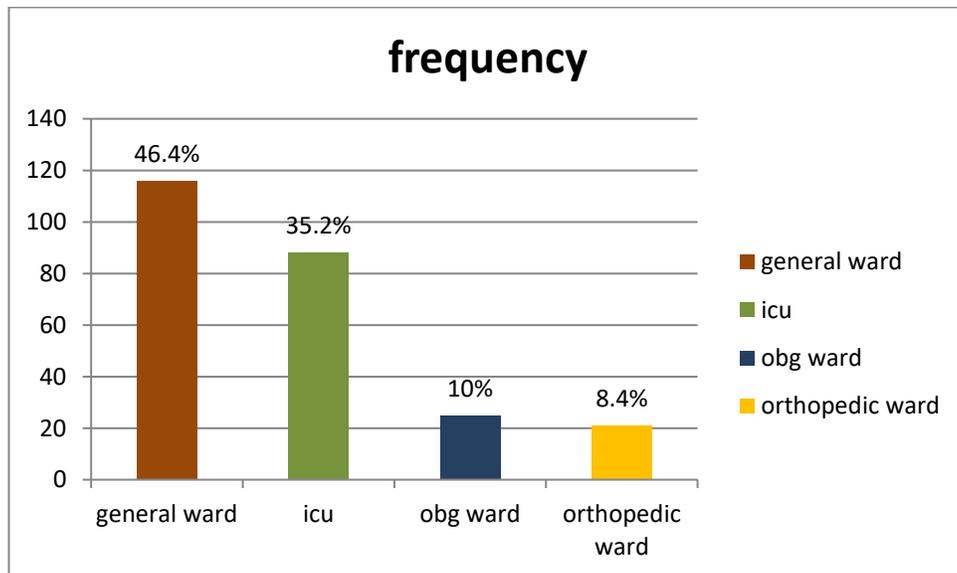


The above diagram showed that 80% of staff were unmarried and 20% of staff were married.

Fig 4: Cylindrical diagram showing the percentage and frequency distribution of demographic variables in terms of educational status between 4 groups.

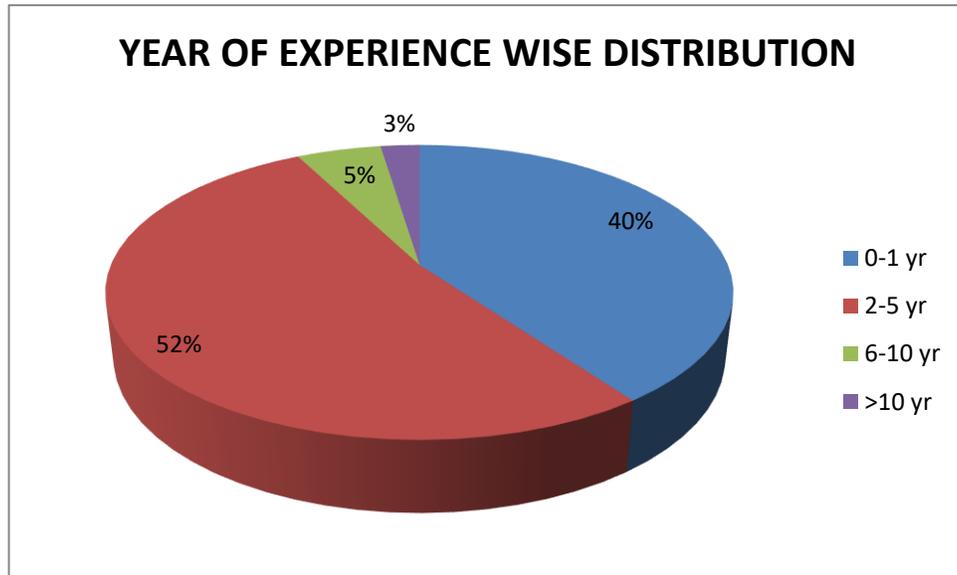


The above diagram showed that 72% of staff were general nursing and midwives, 24.8% staffs were Bsc nursing, 2.4% were PB.BSc Nursing, 0.8% staffs were M.Sc nursing.



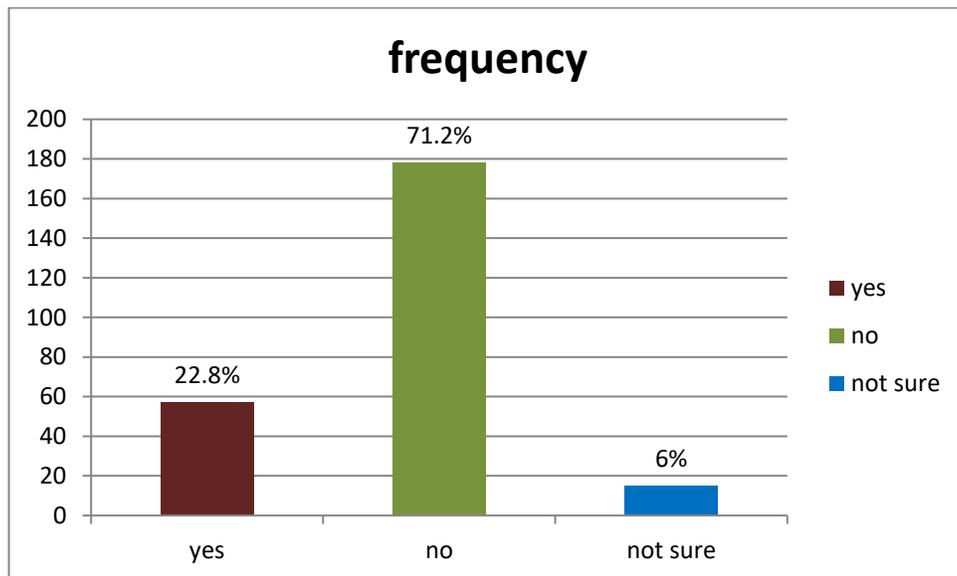
The above diagram showed that 46.4% of staffs were working in the general ward, 35.2% of staffs were working in ICU, 10% staff were working in the OBG ward and 8.4% of staff were working in the orthopedic ward.

Fig: 6 Pie diagram showing the percentage and frequency distribution of demographic variables in terms of year of experience between 4 groups.



The above diagram showed that 52% of staff were 2-3 years' experience, 40% of staff were 0-1 years experience, 5% of staff were 6-10 years of experience, 3% of staff were >10 years of experience.

Fig 7: Bar diagram showing the percentage and frequency distribution of demographic variables in terms of the history of UTI between 3 groups.



The above diagram showed that 71.2% of staff were no history of UTI, 22.8% of staff were a history of UTI, and 6% of staff were not sure about the history of UTI.

Table 1: This section describes the finding related to the association between knowledge of staff nurses with selected socio-demographic variables.

Sl no	Df	Chi-square	P-Value
Age	2	5.77	0.05
Gender	1	2.05	0.15
Marital status	1	2.22	0.13
Educational Status	2	0.43	0.80
Area of Work	3	3.23	0.36
Years of Experience	2	3.93	0.14
History of UTI	2	4.32	0.11

The data in table 4.8 showed that calculated chi-square value of age, gender, marital status, Educational status, Area of work, years of experience and History of UTI were 5.77, 2.05, 2.22, 0.43, 3.23, 3.93 and 4.32 at 2, 1, 1, 2, 3, 2, 2 degrees of freedom (df).

Table 2: This section describes the finding related to the association between practices of staff nurses with socio-demographic variables.

Sl no	Df	Chi-square	p-Value
Age	2	15.04	0.0005**
Gender	1	0.28	0.65
Marital status	1	0.68	0.40
Educational status	2	2.18	0.33
Area of work	3	5.78	0.12
Years of experience	2	1.98	0.37
History of UTI	2	2.75	0.25

P<0.05** (Extremely statistically significant)

This table showed that the chi-square value of age was 15.04 which were significant levels at 2 degrees of freedom (df) which implied there is an association between Age and practice of staff nurses, which is extremely statistically significant.

The calculated chi-square value of gender, marital status, educational status, area of work, year of experience, history of UTI were 0.28, 0.68, 2.18, 5.78, 1.98, 2.75 respectively which implies there was no association between gender, marital status, educational status, area of work, years of experience, history of UTI with the practice of staff nurses.

DISCUSSION

The current study revealed that age group of 21-25 years of age (76.4%), the maximum samples are unmarried (80%), maximum (72%) staff education to the general and midwives, majority of the staff (46.4%) are working in the general ward, maximum (52.4%) of the staff belong to 2-5 years experience and majority (71.2%) staff don't have UTI. The findings of the study reveal that are 21 self-structured questions regarding knowledge of CAUTI. The average knowledge 153 (61.2%) and good knowledge 97 (38.8%). 15 self-structured questions are there for practice on the prevention of CAUTI. Every question was scoring as 1 mark for the right answer and 0 marks for the wrong answer. The maximum staff nurses' good practice 244 (97.6%) and poor practice 6 (2.4%).

A similar study conducted by Ms. Nimmy Saji's (2018) distribution of subjects according to socio-demographic variables. All the age group 18-19 years of age (100%), majority of samples were Christian (60%), maximum (88.3%) Nuclear family, maximum (61.66%) resides in rural, maximum (57%) of the father have secondary education and the majority (49%) belongs to another job.¹³ A similar study conducted by Vinod Prabhu, V. and Selvaraj Pandian, R. (2012) The American College, Tamil Nadu, the study revealed that the people of Paliyar tribe were far away from the use of antibiotics. The Paliyar tribe revealed that they were lack of knowledge about the predisposing factor for the development of UTI.¹⁴ A similar study conducted by Dine L, Erdil F, that was the effect of educational intervention in changing nursing practice and preventing catheter-related infections. Mean score of nursing practices 45.7 before the intervention and 66.5 after the intervention ($P < 0.05$).¹⁵ A similar study conducted by Mr. Prasanna Deshpande, Karnatak, March 2006 revealed that 8 (15.68%) staff nurses explained procedures to clients 10 (19.60%) staff nurses washed hand before wearing gloves and cleaning perineal tissue. 24 (47.05%) applied betadine and urethral meatus 23 (45.09%) recorded the practice of staff nurses. The mean practice score of staff nurses was 15.35 (69.77%).

CONCLUSION:

Based on the finding of the study the following conclusion is concluded. The finding showed that there was a strong association between the ages of the staff nurses with practice on the prevention of CAUTI. Most of the samples had been average knowledge and good practice. This finding indicated that staff nurses should be more educated about UTI.

Ethical permission: Not required

Conflict of interests: None

Funding: None

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