



Prevention of Urinary Catheter Induced Infection in Accordance with Evidence Based Practice

Prof. Seema. Singh

HOD of the Medical Surgical Nursing, SRMMCON, DMIMS (DU), Sawangi Meghe, Wardha, Maharashtra, India

Ms. Alka. Patil

RNRM, Staff Nurse, A.V. B. R. Hospital, Sawangi (Meghe), Wardha, Maharashtra, India

Ms. Anju. Madame

RNRM, Staff Nurse, A.V. B. R. Hospital, Sawangi (Meghe), Wardha, Maharashtra, India

ABSTRACT

Background: Catheter Associated Urinary Tract Infection is currently one of the most common infections and comprises 40% of all institutionally acquired infections. Studies have indicated that nurses' lack in evidence based knowledge to deliver proper care. A prior survey conducted on nurses working in surgery wards revealed that urinary catheter care practices varied and highlighted the need for improvement of urinary catheter care. This triggered us to embark on an evidence based project on prevention of urinary catheter induced infection to improve patients' health during their hospitalization. The Evidence Based Practice (EBP) process was used as working method for the changes. One teacher and two clinical nurses had the role of facilitators in order to promote the improvement in nursing practice.

Aim: To assess the existing practices, develop evidence based norms, and investigate effects and hinders for implementation of evidence based practice for prevention of urinary catheter induced infections.

Objectives: Method: A baseline measurement was performed to check the current practice in regard urinary catheter care. Ten nurses were observed in practice and answered questions with focus on procedures, routines, attitudes and knowledge related to urinary catheter care. Based on research findings new routines were implemented on the wards in November 2012. The teacher facilitator trained the nurse facilitators about new routines; where after the nurse facilitators trained the fellow nurses in the wards. During the implementation phase the staff nurses were continuously supported by the facilitators. Follow up measurements were performed in June 2013, including 20 nurses and 10 patients.

Finding: Overall improvement of knowledge regarding on urinary catheter care of nurses was from 44.2% to 88%. The nurses' attitudes to urinary catheter care improved from 30% to 97.6%. Also nurses' job-satisfaction improved (50% to 95%). The nurses' skills of doing procedure systematically and in accordance with EBP improved from 39.1 in pretest to 99.7 % pretest. No sign of infection was found, like no pain/burning related to urinating was reported from the patients. Feedback reports of the patients show 100% satisfaction regarding care given by nurses.

Conclusion & implications for clinical nursing: This study reveals that urinary catheter care in male surgery ward based on evidence based practice had positive outcome for the quality of care, the patients' satisfaction, and nurses' satisfaction.

KEYWORDS : urinary catheter care, evidence based practice, nurses, baseline measurement

Introduction:

Evidence-based nursing (EBN) is an approach in making quality decisions and providing nursing care based upon personal clinical expertise in combination with the current, relevant research available. Evidence-based nursing is a process based on the collection, interpretation, appraisal, and integration of valid, clinically significant, and applicable research. Evidence-based practice provides opportunities for nursing care to be more individualized, more effective, streamlined, and dynamic, and to maximize effects of clinical judgment and quality care.

Urinary tract infection has long been considered the most common healthcare-associated infection (HAI), with the vast majority of these infections occurring after placement of the convenient, often unnecessary, and easily forgotten urinary catheter accounting for almost 40% of all the nosocomial infections.

Catheter-associated urinary tract infection produces substantial morbidity in hospitalized patients including signs and symptoms of discomfort, fever, malaise and unnecessary antibiotic use, which may become an important source of antibiotic resistant organisms. There are increased chances of catheter blockage, urinary tract stones and even increased risk of malignancy of the urinary tract following Catheter-associated urinary tract infection. If it gets complicated by bacteremia, it increases the cost of care tremendously besides increasing the mortality in these hospitalized patients.

Most hospitals do not have strict guidelines for the prevention of Catheter-associated urinary tract infection. Training the health care personnel and introducing the prevention of Catheter-associated urinary tract infection as a high priority in hospitals is strongly associated with decreased incidence of Catheter-associated urinary tract infection.

There are limited studies from India, which have assessed the knowledge and practice of nurses regarding indication for catheterization and methods to prevent Catheter-associated urinary tract infection. The present study was planned to assess the knowledge of various health care personnel regarding indication for catheterization and measures to prevent Catheter-associated urinary tract infection.

Approaches for prevention should include avoidance of catheter use, policies for catheter insertion and maintenance, catheter selection, surveillance of Catheter-associated urinary tract infection and catheter use, and recommendations for quality indicators.

Nurses are very often responsible for the initiation of catheterization procedures for patients within the hospital or community setting the nursing role requires contemporary information on urinary catheter selection and problem solving in the maintenance of urinary catheters. The care of indwelling urinary catheter is a common procedure or practice for nurses who are working in the hospitals therefore it is the duty of the nurses to know about catheterization and its complications and management of patients with catheterization. Nurses are the primary managers of all the routine care and problem solving associated with patients who have indwelling urinary catheters.

The apparent gaps in nursing knowledge and practice of catheter care suggest the need for urgent educational programs on catheter care practices for nurses within this service and the initiation of an area-wide standardized policy in catheter selection and management.

Changes in reimbursement policies should focus attention on the use of indwelling catheters in the surgical care unit as well as their role in hospital-acquired urinary tract infections. Implementation of an

evidence-based prevention program can significantly reduce both the prevalence of indwelling catheterization and the incidence of hospital-acquired catheter-associated urinary tract infection

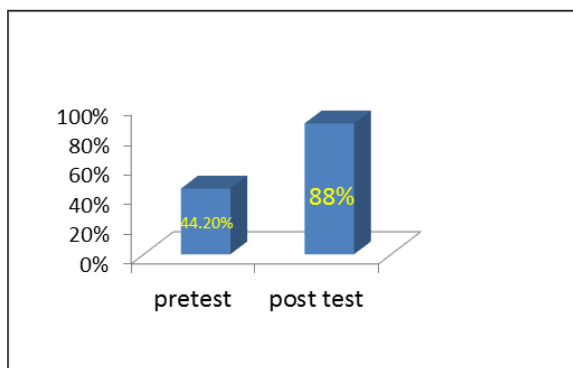
Method:

The study design used for present study was multiple method design. The study was conducted with the help of one teacher facilitator and two nurse facilitators from the male surgery ward. The existing routine of urinary catheter care and attitude was observed and knowledge of nurses was assessed. The new routine of urinary catheter care was developed based on Evidence Based Practice. Teacher facilitator trained nurse facilitators about new routines and these nurse facilitators imparted training to fellow nurses working in the male surgery ward. Teacher facilitator and nurse facilitator also participated in focus group interview to discuss the progress of implementation of new routine of urinary catheter care in the ward. Patient Satisfaction and nurse's satisfaction was also observed the old routine care and newly developed routine.

Result:

Findings of knowledge score of nurses regarding prevention of urinary catheter induced infection:

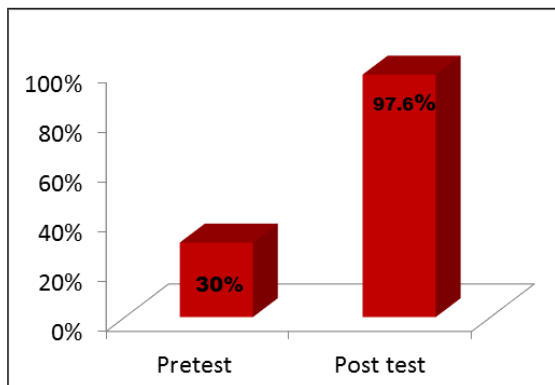
The graph no.1 shows overall improvement of knowledge score regarding prevention of urinary catheter induced infection among nurses was from 44.2% to 88%.



Graph no.1

Findings of Attitude of nurses regarding prevention of urinary catheter induced infection :

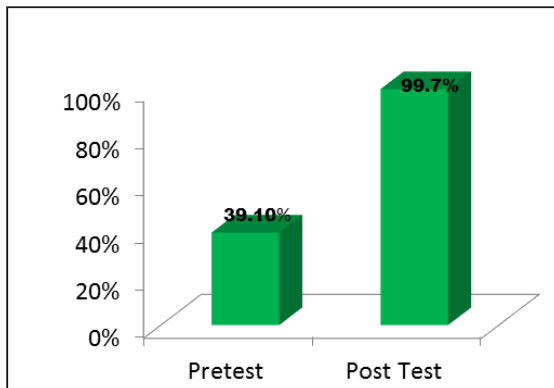
The graph no.2 shows the nurses' attitudes towards prevention of urinary catheter induced infection from 30% to 97.6%.



Graph no.2

Findings of skills of nurses in doing catheter care to prevent urinary catheter induced infection :

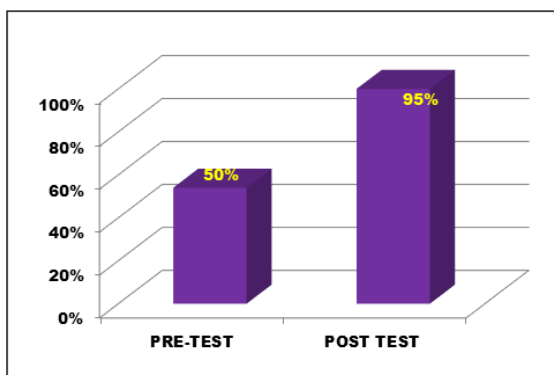
Graph no.3 shows the nurses' skills of doing procedure systematically and in accordance with EBP improved from 39.1 in pretest to 99.7 % pretest. No sign of infection was found, that is no pain/burning / discomfort related to urinary catheter and while urinating was reported from the patients.



Graph no.3

Findings of nurse's job-satisfaction

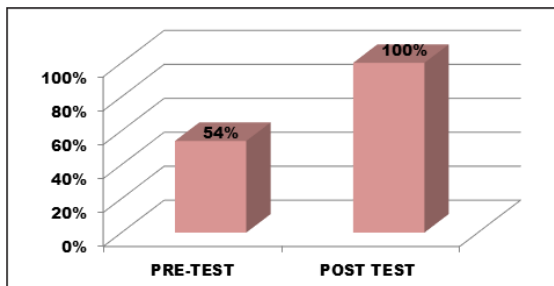
Graph no.4 shows the nurse's job-satisfaction improved from 50% to 95%.



Graph no.4

Findings of the Patients Satisfaction

Graph no.5 shows the feedback report of the patients satisfaction in pretest was 54% and 100% in post test regarding care given by nurses.



Graph no.5

Discussion:

This study reveals that urinary catheter care in male surgery ward based on evidence based practice had positive outcome, there was no signs and symptoms of urinary catheter induced infection found in ward and nurses also learnt the evidence based practice to follow the new routine for the care. Greater professional satisfaction from working as the part of a team and experiencing the effective practice in daily routine and patients were also satisfied with the care provided.

Ensuring the effective use of evidence-based practices in real-world clinical settings is challenging. Nurses play a key role in the implementation of such practices, especially practices aimed at preventing healthcare-associated infection.

This practice can be implicated in other wards also where patients with urinary catheter are admitted. Regular evidence based orientation, policies and procedures, and documentation issues must all be

linked in a congruent process for long-term positive patient outcomes to be sustained to prevent urinary catheter induced infection.

Conclusion:

Although great strides in the prevention of urinary catheter induced infection have been made, research still needs to be done to solve unanswered questions and problems surrounding urinary catheter induced infection. Specifically, around good practice and prevention, focusing on first, if a catheter is necessary, if so, then steps taken to continually assess the need for an indwelling catheter at least daily if not more often, the use of alternative approaches and adherence to good infection control practices, including proper hand hygiene based on current evidence based practices.

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