



ORIGINAL ARTICLE

Study the Performing Principles of Sterilization Hints in Catheterization at Operating room in Qazvin Education Hospital 2010

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ABSTRACT

Urinary catheterization is one of the main methods of treatment and patient care. Making extensive use of a urinary catheter as a tool to assist in patient care can be enhanced bacteriuria. Therefore, this Study was done to performing principles of sterilization in catheterization at operating room in Qazvin education hospital 2010. This study occurred with standardized questionnaire by trained personnel in operating room at educational Qazvin hospital. In this study, 40 patients and nurses were participated, which 10% were male and 90% were female. The average age of nurses and patients, was (1.10 ± 24.5) and (2.97 ± 37) respectively. In this study, Catheterization procedure, being sterile equipment, personal skills and disinfection procedures evaluated "good" and catheterization environment evaluated "Moderate". According to the study, significant relationship was observed in, age, sex, level of education nurses, catheterization procedures, maintaining sterile catheterization equipment, using right techniques, creating perfect environment, disinfection procedures in catheterization, past medical history, history of previous catheterization, patient sex, and catheterization technique. With raise up individuals awareness can be decreased substantially the amount of infections. It was found that the observance of sterility hints in catheterization and disinfection of equipment, as well as the skill and experience of nurses, most important points that can reduce significantly infection of Catheterization.

Keywords: Principles of sterilization, Catheterization, Operating room, Qazvin

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INTRODUCTION

One of the main methods to care and treatment patients is urinary catheterizations which is accompanied occurrence of bacteria in the urine (bacteriuria) and incidence adverse symptoms and reduce the quality of health services. It's important to use safety proceedings and cost-effectiveness in reduce or prevent appearing complications. One of these proceedings is, using antiseptic solution. It seems that using water, is preferable in terms of economically, ease of access, lack of complications on disinfectant solutions [1]. The use of urinary catheters, in different medical department of the hospital, for drain urine of patients undergoing major abdominal surgery, such as abdominal hysterectomy, cesarean section, and are prostatectomy or bladder control in patient with urinary incontinence can be increase the bacteria in these patients [2]. Urinary tract infection is the most common nosocomial infections that occur after putting the items in the urinary tract or catheterization [3]. Use of urinary catheters is considered as one of the most important predisposing factors for nosocomial infections, especially when they stay long-term. Complications resulting from catheter use, sometimes involving "blood infection" or death [2].

Complications arising from the use of catheters in the urinary tract can be classified into two groups.

Group I:

Complications in short-term and long-term use of a catheter may occur, such as fever, acute pyelonephritis, bacteria in the urine.

Group II:

Complications in Long-term use may occur, such as:

Obstruction, urinary tract stones; Acute inflammation of kidneys, Localized infection of the tissues around the urethra, kidney failure. If catheters stay long time in urinary tract at bladder cancer patient: the risk of bacteria in the urinary increasing 39 times more than those without a catheter (4).

Due to occur complications of long-term catheter use, measures and methods that reduce the effects of particular concern were interest and they are: Nothing to use a catheter, in male condom catheter, generally reduces the Infection rates rather than placing a catheter into the urethra. The interstitial use of a catheter, use a sterile catheter or cleaned at every three to six hours to drain the urine immediately after its removal by the patient or their nurses, reduction in urinary catheter survival time, use catheter above the pubic area (suprapubic), use catheter with a closed system and use of antimicrobial substances [4].

Due importance and role of catheters at bacterial exacerbation in urine and its related complications among chronic renal inflammation, chronic pyelonephritis, urinary stone formation and production of stone in the bladder, and death due to complications [5].

This study was aimed to determine performing principles hints of sterilization in catheterization at operating room in Qazvin education hospital 2010.

METHODS AND MATERIALS

This sectional study type was descriptive – analytic. According to a study carried out in England by Aboza et al 2004, they estimated prevalence of urinary tract infections 63 percent. In this study, 40 participants were considered. That it was calculated by taking the 95% confidence interval, study of accuracy 0.04, the original 36 participants and 4 more for the lost data. A standard questionnaire was prepared with specialist's opinion in this regard and according to previous studies. Then were completed by trained personnel at the clinical centers in Catheterization time. In this study age, sex, type and disease history, previous Catheterization history and Catheterization individual education as independent variables and sterilization of catheterization instrument, How do person the catheterization, environment of Catheterization, Method of disinfecting patient and Catheterization as dependent variables, were examined. Data were analyzed with statistical software (SPSS) and Chi-squared test.

RESULTS

Most nursing staff that participated in the study was women (90%). Most nurses aged were between 21-30 years (57.5%). The average age of nurses who participated in this study was 24.5 ± 1.10 .

Most nurses, who had done catheterization, had expert (BBS) and technician education with 65% and 22.5% abundance respectively.

90 percent of patients who had catheterization were women and 10 percent were men.

Most of the patient's ages, were 21-30 years; with 42.5% prevalence and mean age of 2.97 ± 37 .

55% of patients were free of disease and 59.5% of patients had a catheterization history.

Catheterization technique used, skills nursing staff in Catheterization and use of

Sterile catheterization equipment was reported as good. But the state of Catheterization was moderate.

According to the results shown in Table 1 it was also good in disinfection procedures of Catheterization equipment's. The relationships between true catheterization procedures, sterilization of equipment, personal techniques, environmental and Catheterization procedures with demographic of nursing staff was shown in Table 1.

There was no significant association between ages of nurses with environment Catheterization and sterilization procedures for patients. But a significant relationship was observed at probability level (95%) in: education level and nurses gender, with catheterization procedure, sterilizing equipment, individual Catheterization techniques and disinfection of patient and catheterization environment.

Table 1: Relationships between demographic variables and studied factors.

Disinfection Method		Catheterization Environment		Interpersonal Skills		Sterile Supplies		Catheterization Technique		Factor
P.value	X2	P.value	X2	P.value	X2	P.value	X2	P.value	X2	
0.001	19	0.001	25	0.001	25	0.001	25	0.001	24	Sex
0.09	16	0.07	26	0.05	17	0.05	17	0.04	22	Age
0.0010	33	0.001	32	0.001	37	0.001	37	0.001	32	Education

DISCUSSION

Nasiriani et al (2009) studied the effect of Water and Betadine at the rate of bacteriuria when washing the perineal at Catheterization time and showed that there was no significant difference in bacteriuria and microorganisms of generating bacteriuria [1].

Mousavian et al (2004) examined the prevalence of bacterial urinary tract infections after Catheterization and showed that 43.6% of patients were addicted to bacteriuria at the end of Catheterization. In addition,

the highest rates of bacteriuria observed in ages (39-30) years (28.9%) and lowest at ages 69-60 years (2.6%), respectively [2].

Basamy and colleagues (2007) studied the effect of catheter and urinary tract disinfection ointment Povidone Iodine 10% on the rate of bacteriuria in men hospitalized in Neurology ward. They reported that the prevalence of infection in the treatment group and control group was 20 and 4.29 percent ($0.035 = p$), respectively. And In this study there was a significant relationship between prevalence Bacteriuria and disease severity in Intervention group ($p= 0.028$) and Control group ($p= 0.048$) [3].

Seyed Alavi et al [5] studied the rate of urinary tract infections in with and without bladder catheterization postoperative anterior Colporrhaphy and Stated that the rate of urinary tract infection in the catheterization group was 45% and in other group was 20%(5). Dadmanesh et al [6]) examined the urinary tract infection rates in intensive care unit patients in Tehran 501 hospital. The results of this study showed that urinary tract infections in patients with catheter had shown a direct correlation with the duration of Catheter use, age, sex, duration of hospitalization and previous urinary tract infection history . Ebouza et al [7] studied the prevalence of nosocomial infection, clinical symptoms and outcomes of them in England hospitals. Most prevalence of infection had been identified with factors such as: use of urinary catheters, female, presence of obstructive, history of urinary tract manipulation. A highest infection rate (63.1%) was observed in the urinary catheterization and escalated, when the number catheterization day increased.

SUGGESTION

The results of this study determined that performing principles hints of sterilization during catheterization and sterilization of instruments, the skill and experience of the nurses in this job, was a main points which can significantly reduce the infection urinary after catheterization.

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