# **International Journal of Public Health Excellence (IJPHE)**

Vol. 2, No. 2, May 2023, pp. 524~527

Journal Homepage: https://ejournal.ipinternasional.com/index.php/ijphe ISSN: 2809-9826, DOI: 10.55299/ijphe.v2i2.369

# Connection Implementation Urinary Catheter Foley Installation Happening Infection Channel Urinary Inpatients Inpatient at Efarina Hospital Etaham Berastagi Karo Regency

## Sri Wahyuni Tarigan \*

\* Department of Nursing, Faculty of Health, Universitas Efarina, Indonesia

#### **Article Info**

## Article history:

Received February 05, 2023 Revised February 24, 2023 Accepted March 30, 2023

# Corresponding Author:

Sri Wahyuni Tarigan Department of Nursing, Faculty of Health, Universitas Efarina, Indonesia

Email:

sriwahyunitarigan@gmail.com

### **ABSTRACT**

Infection channel urinary tract (UTI) is infection caused by developing breed microorganisms inside channel urine, though consists from various liquids, salts and products waste, usually urine is not contain bacteria, viruses or microorganisms other. If bacteria going to biological urine or kidney and develop breed in the urine, it happens infection channel bladder (UTI). Design study This is descriptive with Cross sectional approach. Total sample obtained is 50 people. Done data analysis with using the chi-square test know connection implementation Foley catheter insertion with happening infection channel urinary. Result study is known as many as 25 of 31 people (80%) patients take care stay with proper placement of a foley urinary catheter No happen infection channel urinary tract, whereas 6 of 31 (20%) patients take care stay with proper placement of a foley urinary catheter experience infection channel urine. As many as 7 of 19 people (36%) patients take care stay with Incorrect placement of a foley urinary catheter Good No happen infection channel urinary tract, while 12 of 19 (64%) patients take care stay with Incorrect placement of a foley urinary catheter good experience infection channel urinary. Result analysis statistics show There is Connection Implementation Urine Foley Catheter Installation with Happening Infection Channel Urinary (p = 0.002). and OR value = 7.143.

## Keywords:

Insertion of Foley, Urine Catheter, Infection Channel Urinary

This article is licensed under a <u>Creative Commons Attribution-</u>ShareAlike 4.0 International License.



#### 1. INTRODUCTION

Infection channel urine is infections that occur throughout tract urinarius, from urethra until kidney. Including UTI is urethritis, cystitis, pyelonephritis, and associated gutter-associated infection or UTI catheterization [7]. Infection channel urinary tract (UTI) is infection caused by developing breed microorganisms inside channel urine, though consists from various liquids, salts and products waste, usually urine No contain bacteria, viruses or microorganisms other. If bacteria going to biological urine or kidney and develop breed in urine, there you go infection channel bladder (UTI) [10].

A number of study show bacteriuria happen in time 4 days | If use system catheterization open and 30 days when worn system closed, Complications catheterization in period long including inflammation kidney chronic pyelonephritis chronic, nephrolithiasis, infection channel urine symptomatic with pyelonephritis, bacteremia, sepsis, and even death (Craven, 2008). A number of causative factor happening infection channel urine related catheter among them is depending on the method and duration catheterization, quality maintenance catheters and susceptibility patient. UTI incidence on use catheter after 4-5 days is 50%, after 7-9 days by 75% and after 2 weeks is 100% [5].

Infection This can about man nor Woman from all age in children, adolescents, adults, or age continue. But from second type gender, apparently Woman more often compared to man with number general population 5-15%. Research data epidemiology clinic report almost 25-35% of all man mature Once had a UTI for his life [10]. The more ever installation catheter will increase risk occurrence of UTI, 50% of patients who use catheter for 7-10 days will have a UTI and will increase more than 90% if its use more than 30 days [1].

Level of knowledge and understanding of each nurse different different, so is it attitude and behavior nurse who doesn't the same be one factor reason quality Urinary foley catheter care. Research by [11] regarding connection between quality maintenance catheter with incident infection nosocomial channel bladder "explains that there is connection between quality maintenance catheter with incident infection nosocomial channel urine.

Indicator quality urinary foley catheter care is based on knowledge and attitude nurse to standard operational home procedures (SOP). Sick about Urinary foley catheter care. Research conducted by [13] with title influence maintenance catheter indwelling urine model AACN (American association of critical care nurses) against bacteriuria in RSUP H. Adam Malik Medan which shows bivariate test results show that maintenance catheter the indwelling urine of the AACN model is significant lower bacteriuria compared to group control. Based on description background behind above, researcher interested for do research entitled connection implementation installation of foley catheter urine with happening infection channel urine in patients take care stay at Efarina Hospital Etaham Berastagi Karo Regency.

#### Formula Problem

Is there connection implementation installation of Foley urinary catheter with happening infection channel pee at home Efarina Hospital Etaham Berastagi Karo Regency?

## 2. METHOD

## Research design

Research design is plan compiled research such shape so that study can obtain answer to question study For data collection. Research design that will used in research This is study descriptive with Cross sectional approach for know connection ever use of foley catheters with happening infection channel pee at Efarina Hospital Etaham Berastagi Karo Regency.

## **Location and Time of Research**

# **Research Locations**

Study This carried out at Efarina Hospital Etaham Berastagi Karo Regency.

#### **Research Time**

Research Time started from Month July until with September 2022.

#### 3. RESULTS AND DISCUSSION

From the results is known as many as 16 of 20 people (80%) patients take care stay with proper placement of a foley urinary catheter No happen infection channel urinary tract , while 4 of 20 (20%) patients take care stay with proper placement of a foley urinary catheter experience infection channel urinary tract and as many as \$ in 15 (33%) patients take care stay gang Incorrect placement of a foley urinary catheter Good No happen infection channel urinary tract , whereas 10 of 15 (67%) patients take care stay with Incorrect placement of a foley urinary catheter Good experience infection channel urine. Analysis results statistics show There is Connection Implementation Urine Foley Catheter Installation with Happening Infection Channel Urinary (p = 0.007).

According to researcher based on theory and results study related on so can concluded that there is connection between installation catheter with incident infection channel urine matter This caused Because installation less catheter Good so will make it easy microorganisms for enter into the system urination that causes it happened infection. This 32 p can prevented naturally with technique installation aseptic catheter as well as maintenance good catheter. Accordingly with the theory put forward by [8] that maintenance catheter is something action nursing in look after catheter with antiseptic for clean end urethra and tube catheter part outside as well as maintain patent smoothness Genre urine on the system drainage catheter. Catheterized patient can experience infection channel urine through various way. Maintenance catheter is important action for control infection. Treatment got the wrong catheter cause entry microorganisms. Areas that have risk entry microorganisms This is area insertion catheter, pouch drainage, connection hoses, valves and connections between hose and bag.

This accordingly with research by [6] regarding " relationships between quality installation catheter with incident infection nosocomial channel bladder" explained that there is connection between quality installation catheter with incident infection nosocomial channel urine. Most bacteria enter through extraluminal (66%), can happen inoculation direct moment catheter entered or can happen Then If bacteria from the urethral meatus rises (ascends) along surface outside mucosal catheter periurethra. Intraluminal mechanism occurs Because ref uks bacteria from urobag or from the meeting area catheter with urobag that has contaminated. Contamination can happen Because lack of intraluminal happen Because ref uks bacteria from urobag or from the meeting statue katctcy gang urobag that has contaminated. Contamination can happen Because less hygiene hand officer medical moment replace urobag Bacteria can colonize & bladder urine in 3 days since entry bacteria through route extraluminal mapun intralumina. [1]. Patients with the diagnosis of stroke, cervical fracture, tretraplegia, inferior paraplegia, heart, CRF, and DM is a risk tall

happening infection nosocomial channel urine Because exists limitations mobilization physique and decline Power immune. Installed catheter will raises irritation, trauma and becoming vansmission entry of an infectious agent. OR values obtained as many as 7,143 which means implementation installation no catheter Good chance 7,143 times experience infection channel urine. Research conducted by [20] regarding "Influential Factors To Incident Infection Channel Urinary Inpatients Age 20 Years To Top With Catheter Settled in Tugurejo Hospital Semarang" Dalam results study This obtained There is influence between times of use catheter with incident.

Infection Channel Urinary tract (UTI) in patients using catheter settled (p value = 0.0001), with RP 81.00 meaning patient with long use catheter > 3 days own opportunity For experienced UTI by 81 times compared with patient 3 days, there influence between maintenance my catheter use catheter with incident Infection Channel Urinary tract (UTI) in patients using catheter settled (p value = 0.009), with value of RP 19.00 which means that patient with installation the catheter which the catheter No treated in a manner routine every day have odds 19 times for experience UTI incidence was compared with patient with installation of the catheter treated in a manner routine Patients wearing the catheter will too have risk 3 times more big treated at home Sick longer and also usage antibiotics longer, even reported Organism cause of UTI due catheterization is organisms that have resistant to Lots antibiotics.

Research results This in line with the theory put forward by [9] that installed Catheter Very influential incident infection channel urine . Installed 1 time cause infection 1.7%, intermittent 3.5%, meanwhile when put a dower catheter as much as 10%, Installation catheter in the system open incident fever more often than system closed. When catheter installed for 2 days infection can occurs 15%, if 10 days to 50%.

#### 4. CONCLUSION

From the results study is known part big patient take care stay aged » 40 years (77.1%), type sex male — male (54.3%), level high school education (69,280) and employment farmers (42.9%). Research results is known of 35 patients take care stay there are 14 people (40%) | experience infection channel bladder (UTI). From the results analysis statistics is known There is connection implementation installation of Foley urinary catheter with happening infection channel urine in patients take care stay with value p0=007.

## **ACKNOWLEDGEMENTS**

Author thanks to all of my team so that this article can be written and published and to Head Study Program of Department of Nursing, Faculty of Health, Universitas Efarina.

#### REFERENCES

- Bongard FS. (2008). Influence of functional MDRI gene polymorphisms on Pglycoprotein activity in CD34 hematopoietic stem cells. Haematologica, 87(6), 564-568.
- [2] Blondeau. Diagnosis, prevention, and treatment of catheter associated urinary tract infection in adults: 2007 international clinical practice guidelines from the infectious diseases society of America. Clinical Infectious Diseases 2010, 50; 625—663.
- [3] Craven, RF, & Hirnle, CJ (2008). Fundamentals of nursing: human health and function (3rd ed ). Philadelphia: JB Lippincott Company
- [4] Hootonet . al..Urinary tract infection in patients with indwelling catheter. Phil J Microbiol Infect Dis 2010; 22(2): 65-74.
- [5] Jawetz , Melnick and Adelberg's Medical Microbiology. Edition 23. Jakarta : Publisher book EGC medicine , 2009
- [6] Newman, DK., (2010). Prevention and Management of Catheter Associated UTIs. Independently Developed by McMahon Publishing Infectious Disease Special Edition. 13-20.
- [7] O'Donnell, JA, Hoffmann, MT, 2008. How to manage nursing home patients With or without cathererization, Geriatric, 57,: 45-58
- [8] Perry, PA & Potter, AG 2008. Textbook of Fundamentals of Nursing : Concept , Process, and Practice . Issue 4, Volume 2. Transfer Language : Komalasari . Jakarta : EGC.
- [9] Sudoyo . (2009). Textbook of Science Disease In , volume II, edition V. Jakarta: Interna Publishing.
- [10] Sukandar , E., (2004), Infection Channel Urinary Patient Adult . Science Textbook Disease In , Vol I. Jakarta : Publishing Center of FK UI
- [11] Tambyah, Paul A and Dennis G. Maki. (2009). The Relationship Between Pyuria and Infection in Patients With Indwelling Urinary Catheters A Prospective Study of 761 Patients. In: Arch Intern Med. 160: 673-677.
- [12] Tjokroprawiro, (2009). Comparison Use Antibiotics in Treatment Patient Infection Channel Urinary Undergoing Hospitalization in a Hospital in Yogyakarta in 2004 and 2006. Indonesian Islamic University, Yogyakarta.

- [13] Leuck, Anne-Marie & Wright, Deborah & Ellingson, Leann & Kraemer, Linda & Kuskowski, Michael & Johnson, James. (2012). Complications of Foley Catheters-Is Infection the Greatest Risk?. The Journal of urology. 187. 1662-6. 10.1016/j.juro.2011.12.113.
- [14] McAteer, C & Sullivan, R & McRory, C & O'Domhnaill, O & Murphy, D & Rehman, M & Muller, T & Gallagher, M & Miranda, J & Parihar, Vikrant & Mulpeter, K. (2021). 95 DOCUMENTATION OF URINARY CATHETER INDICATION AND INSERTION PROCEDURE FOR MEDICAL INPATIENTS AT A UNIVERSITY TEACHING HOSPITAL. Age and Ageing. 50. ii9-ii41. 10.1093/ageing/afab219.95.
- [15] Saifullah, Muhammad & Anwar, Moin & Noor, Hanan & Subhani, Ghulam & Javed, Safdar. (2020). Chronic indwelling foley catheter, a risk factor for catheter associated urinary tract infection.. The Professional Medical Journal. 27. 2300-2304. 10.29309/TPMJ/2020.27.11.4821.
- [16] Kanjanawasri, S. & Gulgusol, N. & Manapatanasatien, T. & Punjamawat, A.. (2019). Factors affecting urinary tract infection in foley catheter retained patients in King Narai Hospital. Journal of the Medical Association of Thailand. 102. 100-105.
- [17] Nouri, Saeed & Sharif, Mohammad & Hosseinpour, Mehrdad & Farokhi, Shima & Sharif, Mohammad. (2015). A Comparison Between Foley and Nelatone Urinary Catheters in Causing Urinary Tract Infection in Animal Models. Nursing and midwifery studies. 4. e24363. 10.5812/nms.24363.
- [18] Tian, J. & Yang, L. & Wu, S.. (2017). Prevention of Catheter-Associated Urinary Tract Infection by Urinary Catheters Coated with Gatifloxacin and Cortex Phellodendrichinensis. Medical Journal of Wuhan University. 38. 505-507 and 511. 10.14188/j.1671-8852.2017.03.035.
- [19] Gentile, Paul & Jacob, Jesse & Ashraf, Shanza. (2020). Implementation of a Female External Urinary Catheter Reduces Indwelling Urinary Catheter Use and Catheter-Associated Urinary Tract Infections. Infection Control & Hospital Epidemiology. 41. s482-s483. 10.1017/ice.2020.1158.
- [20] Dhariwal, L & Salamon, CG. (2019). A Prospective Randomized Control Trial Comparing Continuous Urinary Drainage to a Urinary Catheter Valve in Women Being Discharged with a Foley After Urogynecologic Surgery. Journal of Minimally Invasive Gynecology. 26. S11. 10.1016/j.jmig.2019.09.040.
- [21] Jiang, Wei & Song, Yunling & Zhang, Huanhuan & Huang, Rongzhong & Yin, Ying & Tan, Botao. (2020). Inappropriate initial urinary catheter placement among older Chinese hospital inpatients: An observational study. International Journal of Nursing Practice. 26. 10.1111/ijn.12791.
- [22] Kırmusaoğlu, Sahra & Yurdugül, Seyhun & Metin, Ahmet & VEHİD, Suphi. (2017). The Effect of Urinary Catheters on Microbial Biofilms and Catheter Associated Urinary Tract Infections. Urology journal. 14. 3028-3034.
- [23] Homeyer, Katie & Goudie, Marcus & Singha, Priya & Handa, Hitesh. (2019). Liquid-Infused Nitric-Oxide-Releasing Silicone Foley Urinary Catheters for Prevention of Catheter-Associated Urinary Tract Infections. ACS Biomaterials Science & Engineering. 5. 10.1021/acsbiomaterials.8b01320.
- [24] Jain, Hanish & Hartigan, Elizabeth & Tschopp, Joseph & Suits, Paul & Paolino, Kristopher. (2020). Catheter-Associated Urinary Tract Infections (CAUTIs) Reduction: A Multidisciplinary Approach. Infection Control & Hospital Epidemiology. 41. s154-s154. 10.1017/ice.2020.674.
- [25] Sultan, Ibrahim & Kilic, Ahmet & Arnaoutakis, George & Kilic, Arman. (2018). Impact of Foley Catheter Placement by Medical Students on Rates of Postoperative Urinary Tract Infection. Journal of the American College of Surgeons. 227. 10.1016/j.jamcollsurg.2018.08.182.