**REDUCING INFECTIONS IN THE DIALYSIS DEPARTMENT**

STUDENT NAMES

INSTITUTIONAL AFFILIATION

COURSE NAME AND NUMBER

INSTRUCTORS NAME

DATE

**The PICOT Question**

For patients undergoing dialysis at the dialysis department (P), can optimization of nursing infection preventive measures through direct supervision and step wise check-list use during and after dialysis (I) compared to the practices (absence of step-wise checklist use) (C) reduce the number of infections to the lowest cases possible and by at least 50% (O) over a period of nine weeks (T)?.

**Evidence Based Solutions**

Center for Disease control (CDC), through research and evaluation has come up with interventions, auditing tools and checklists for use in BSI infection prevention (CDC, 2020). Strict implementation and adherence of such interventions and protocols have been shown to be a solution to BSIs. These interventions reduce infection rates by 20-50% (Fisher, 2020). Lee et al (2018) discovered that the main causative problem of BSIs was inconsistent hemodialysis tunneled catheter care (HTC) protocol in the dialysis units, lack of standardized audits for the protocols and lack of patient education. Through proper implementation of infection control protocols such as ‘scrub the hub’ protocols, standardized audits, nurse and patient education, infections were reduced by up to 50% (Lee K. G., 2018). Another investigation applied strict implementations of the aseptic techniques and sterile dressing coupled with nurses training and patient education towards infection control. This resulted to more than 50% infection reduction in a 24-chair dialysis unit within a month (Hoffman, 2018).

**Nursing Interventions**

The CDC in conjunction with the American Society of Nephrology’s Nephrologists Transforming Dialysis Safety Initiative came up with interventions which are considered the gold standard preventive measures for BSIs. When implemented strictly, nurses can optimally prevent BSIs. This study aims at carrying out full implementation of these interventions. These interventions include; hand hygiene, catheter exit-connection and disconnection using aseptic technique and antiseptic use, catheter lumen and hub care and the assessment of these techniques every three months with nursing staff training and audits. Other nursing interventions include early patient referral to nephrologists, more specialized teams, and vascular access coordinators, implantation of early-stick grafts and early peritoneal dialysis (Fisher, 2020).

**Patient Care**

Patient care before, during and post-dialysis is key in infection prevention. Prior to vascular access, it is important to remove any restrictive jewelry and clothes from the patient’s arm. Other clinicians should be informed so as to avoid procedures such as blood pressure measurements and venipunctures on the same arm. When examining the patient, nurses should always disinfect their hands and put on gloves as an infection preventive measure. The vascular access should be checked for patency and smooth blood flow at least three times daily (Rushing, 2019).

Post dialysis, the patient should be moved in a manner that will avoid any trauma or pressure on the arm. The vascular access should be checked on a daily basis for signs of infection such as swelling, tenderness, open sores and purulent discharge. Patent education on self-care and infection prevention is paramount and this is the responsibility of his/her nurse. Patient self-care is key in preventing infections associated with dialysis and proper practice effectively reduces infections (Rushing, 2019)

**Health Care Agency**

CDC in collaboration with the National Safety Healthcare Network (NHSN) developed a surveillance and feedback platform for data sharing and comparisons from different facilities in the US. This plays a role in informing policy making towards mitigation methods (CDC, 2020). Agency for Healthcare Research and Quality also provides support to researches and facilities aiming at reducing BSIs (AHRQ, 2020).

**Nursing Practice**

Dialysis associated BSIs is a significant issue in nursing practice. In the US, BSIs arise mainly due to the failure to strictly implement and stick to the nursing protocols put in place for dialysis infection control. This largely depends on nurses and can be solved through strict nursing practice, regulations and standardized audits in dialysis units. This will lead to reduced infections, reduced hospitalizations, better clinical outcomes and reduced hospital bill burdens to patients (Fisher, 2020).

**References**

AHRQ. (2020, June 08). Retrieved from https://www.ahrq.gov/patient-safety/settings/esrd/resource/clinicalcare.html

CDC. (2020, June 07). Retrieved from https://www.cdc.gov/dialysis/prevention-tools/audit-tools.html

Fisher, M. G. (2020). Prevention of Bloodstream Infections in Patients Undergoing Hemodialysis. . Clinical Journal of the American Society of Nephrology, 132-151.

Hoffman, S. (2018). Reducing Blood Stream Infections from Tunneled Dialysis Catheters. . . Nephrology Nursing Journal.

Lee, K. G. (2018). Reducing tunneled catheter-related infection in hemodialysis patients with nationwide standardization of catheter care protocol. The journal of vascular access, 110-111.

Lee, K. G. (2018). Reducing tunneled catheter-related infection in hemodialysis patients with nationwide standardization of catheter care protocol. . The journal of vascular access, 110-111.

Rushing, J. (2019). Caring for a patient’s vascular access for hemodialysis, . Nursing Management, 47.