

Hospital Acquired Urinary Tract Infections: Literature Review

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A urinary tract infection is a widespread infection involving the genitourinary system. The genitourinary system includes the anatomy of the urethra, kidneys, and bladder. Urinary tract infections, also known as UTIs, are a mutual healthcare problem involving all ages of people from nationwide. To prevent these types of infections, hospitals must have up-to-date guidelines for employees to utilize to have the correct methods to keep patients safe from infection. Literature reviews that have quantitative data within them help to prioritize and fix the already once attempted aim of this specific research, which in the end, helps to better the safety of all patients. Through quantitative data, a researcher can recognize similar variables. Through these studies, literature reviews allow researchers to evaluate these outcomes and determine what changes must be made to make the solution effective for all patients (Houser, 2023). Finding ways to improve or modify the way that urinary tract infections are acquired will also cut down on the re-admission of patients due to symptoms occurring from the lingering infection.

Risk Factors for Hospital-Acquired Non-Catheter Associated Urinary Tract Infection

This research study relates the characteristics of UTI-related events that happened at a hospital. Specifically, this study compares the data between deaths in the hospital and hospital-acquired, also known as nosocomial infections. These urinary tract infections are not connected closely with a Foley catheter being introduced within the urethra. The goal of the author is to essentially decrease the number of death, prolonged hospital stays, decrease the number of re-admissions, and further complications associated with these infections while establishing what risk factors play a role in a higher percentage of urinary tract infections (Aloush et al., 2019). Within this research study, the authors found a direct relationship between the signs and

symptoms that urinary tract infections portray during a hospital stay, and there are an increased number of deaths within the hospital due to these abundant infections.

Key Points

In this study about hospital UTIs, the author used convenience sampling, with a case-controlled strategy, to gain data from this quantitative examination. By investigating nearly 189 patients, 83 of who had non-CAUTIs (non-catheter-associated UTIs), the researchers focused on finding the statistical significance of antibiotic treatment with UTIs within 24 hours of the use. All of the patients in this research were from Middle East countries. After getting consent from the patients, the nursing staff worked diligently to accumulate information. By interviewing the patients individually, the nurses could gather a more meticulous report regarding their experiences with infection. Over a year, most of the data was collected (Aloush et al., 2019, p. 750). Through this information collected over a year, they concluded that comorbidities increased the risk of non-CAUTIs and significantly worsened symptoms, and essentially prolonged hospital stays. This data was gathered minimally over a year, concluding with three variables. “The variable included age, presence of comorbidities, and antibiotic administration within 24 hours of symptom onset, which presented as statistically significant, as the p-value was .00 for all three variables (Aloush et al., 2019, p. 750). The nursing staff decided to take preventative measures by using precise screening for the comorbidities of the patients within the study.

Assumptions

From the information collected, the authors ponder a substantial correlation between a precise set of variables and hospital-acquired UTIs, which were not linked with Foley catheters.

After discovering this information, the authors knew that administering antibiotics to the patients as soon as possible was the best way for the patients to fight the infection. The researchers believed that if the nurses knew which variable to look for by screening each patient, they could administer antibiotics quicker than usual. By dispensing these antibiotics quicker, it would decrease the number of infections in the patients, limit their hospital stays, and minimize the death percentages within the hospital (Aloush et al., 2019).

Deficit/Conclusion

After concluding the researcher's information in this study, it is crucial to truly understand how urinary tract infections work and the damage they can do to the human body. If hospitals want to decrease the number of UTIs, they should factor in the crucial variables that made such a substantial difference in the research data (Aloush et al., 2019). Overall, the nurses should screen patients to determine if they think the patient is going to acquire a nosocomial infection to prevent a more extended hospital stay further, decrease further complications, and prevent chances of acquiring readmission after discharge. The nurses must provide essential education to the patients, which will benefit the safety and overall safety of the hospital's patients. If the system fails to where the screening process does not work, the patient will be seen more frequently for urinary tract infections and other problems. Throughout the information provided, we can agree with the authors that the solutions for these problems are valid and are on the right track to help patients who are dealing with the complications of urinary tract infections.

Reducing Inappropriate Antibodies for Urinary Tract Infections in Long-Term Care: A Replication Study

In this article, the central purpose that the authors tried to prevail over the readers was to minimize the overall usage of unwarranted antibodies for asymptomatic urinary tract infections (UTI) within long-term care health facilities. The article states that the older population was more vulnerable to contracting urinary tract infections due to having a weaker immune system and an enlarged dehydration intake. Because the body is taking in additional antibodies, the older adult population faces the threat of having adverse drug reactions, experiencing resistance to the various drugs they are on, and possibly a growth with diarrhea due to the antibiotic. We can defend the older adult population from developing this avoidable drug usage by finding a safer resolution for helping the human body battle against bacterial illnesses, such as UTIs (Cooper et al., 2019).

Key Points

This article used a particular type of sampling to convey the usage of unnecessary antibodies for asymptomatic urinary tract infections in long-term care facilities. This study used convenience sampling with a pre-post design to gain information from this quantitative research. By examining a 120-bed long-term care facility, the researchers focused on finding the statistical significance of the over usage of antibiotics that were treating urinary tract infections. This statistical information was collected in the Midwest of the United States. It primarily looked at patients admitted longer than 30 days within the hospital for the diagnosis of obtaining a urinary tract infection (Cooper et al., 2019). It is vital to the authors that staff receives the correct education on the differences between UTIs and asymptomatic bacteriuria (ASB). A urinary tract

infection is a common infection that occurs in the human body when a bacterium enters the urethra and, in return, it, infects the urinary tract. Bacteriuria is when there is a presence of bacteria in the urine, and it can be categorized as symptomatic or asymptomatic. “Urinary tract infections are commonly suspected in residents of long-term care facilities, and it has been common practice to prescribe antibiotics to these patients, even when they are asymptomatic” (Genao, 2012).

A patient with asymptomatic bacteriuria is defined as having colonization with one or more organisms in a single urine specimen with no signs, symptoms, or infection (Cooper et al., 2019). “A diagnosis of symptomatic bacterial UTI requires the presence of localizing genitourinary symptoms with significant colony counts of bacteria in the patient’s urine” (Genao, 2012). In this article, the authors want to prioritize the precedence of inappropriate antibiotic usage for urinary tract infection patients, reduce treatment costs, improve the well being of resident healthcare outcomes, and enhance the patient's overall quality of life. The authors of this article composed monthly reports of antibiotic usage by examining not only the patient's charts but also by utilizing the patient's laboratory values and surveillance forms and by analyzing which patients received antibiotic treatment, alongside the reason the client was taking the particular medication. The Cooper Urinary Tract Infection Program offered an algorithmic process supported by education to the healthcare staff to prevent inaccurate urinary tract infection diagnoses. (Cooper et al., 2019). After collecting data over two months "for both pre and post-intervention, the authors concluded that The Cooper Urinary Tract Infection Program presented a statically significant method to prevent unnecessary antibiotic prescription with a p-value resulting in 0.02" (Cooper et al., 2019, p. 20). Due to this information being provided, the

authors concluded that they could reduce the UTI rates, unnecessary antibiotic treatments, and most urinalysis reports for these patients.

Assumptions

Based on the information gathered and analyzed, the authors thought there was a remarkable correlation between the use of CUTIP and appropriate antibiotic usage to assist with the recovery of UTIs (Cooper et al., 2019). Because there is such an increased usage of antibiotics for urinary tract infections, the authors truly believed that there was a better way of handling the antibiotics that were going to these patients that had urinary tract infections, as opposed to those that did not. This study highly impacts residents who reside within long-term care facilities.

Deficit/Conclusion

This method will minimize the possibility of unnecessary costs related to healthcare, improve the patient's entire recovery time, and help improve the entirety of the health of the patient. Based on the information the article provides readers, much pressure is put upon the nursing staff. The nurses are responsible for adequately examining the risks of administering an unnecessary antibody to someone within the older adult population. Suppose nurses want to decrease the overall UTI rates and better the chances of recovery in the older adult population. In that case, they should utilize the CUTIP to determine which treatment option is best for treating UTIs and ASBs (Cooper et al., 2019). If nurses take the extra step to screen UTI signs and symptoms to prevent further health complications, it will improve patients' overall health and recovery.

Quantitative Result of a National Intervention to Prevent Hospital-Acquired Catheter-Associated Urinary Tract Infection

There are numerous ways that a human can obtain a urinary tract infection. One way someone can encounter a UTI is by wiping the buttocks back to front, sexual intercourse, and bacteria in the urinary tract. Women are more susceptible to encountering a urinary tract infection due to their urethra being shorter. This article focuses on the risks a catheter brings to patients and their health. Catheters can cause a hospital-acquired catheter-associated urinary tract infection (CAUTI). This article looked at acute care, long-term care, and critical hospitals to examine the effect of cross-media interventions for CAUTI in hospitals associated with high rates of hospital-acquired infections (Meddings et al., 2019). Using this quantitative study, the article's authors try and find interventions to prevent these repercussions from occurring and decrease the overall number of CAUTI reported.

Key Points

This study used a quasi-experimental design with a nonrandomized, clustered, pre, and post-comparison design to receive access from this study (Meddings et al., 2019). The authors of this article received data from “387 participating hospitals from 23 states in the United States” (Meddings et al., 2019 para. 8). Of those 387 participating hospitals, only “361 provided CAUTI-related data” (Meddings et al., 2019 para. 8). By looking over the extensive data that was provided, these factors within the research contribute to CAUTIs to decrease the infection rate percentages. The researchers concluded that 25% of the facilities reported zero CAUTIs post-intervention. The authors did not mention a p-value for this research study. “A 95% normal-based confidence interval,” CI, was calculated (Meddings et al., 2019 para. 32). This data

signifies that this study is statistically substantial due to only having a 5% chance of being inaccurate.

Assumptions

The information collected during this quantitative study shows a relationship between the percentage of CAUTIs and how hospitals managed the infection control protocols (Meddings et al., 2019). Because there is an increased percentage of CAUTIs, the article authors believed that there were interventions that healthcare workers could use to properly prevent these infections from occurring. After examining the factors of the article, the authors wanted to put to the test the "STRIVE project" (Meddings et al., 2019). The STRIVE project focuses on hygiene, proper use of protective personnel equipment, and efforts to expand the knowledge of the Center for Disease Control's protection protocols (Meddings et al., 2019). Using the STRIVE initiative, the article's authors believed they could drastically impact how hospitals properly handle and sterilize their catheters before inserting them into the urethra opening (Meddings et al., 2019). With the outcome of this research study, it was anticipated to benefit healthcare facilities nationwide.

Deficit/Conclusion

In conclusion, the evidence of this study shows that nursing staff needs to consider that CAUTIs have become preventable if healthcare workers take the appropriate steps to do so for the patient's safety. If nurses want to care for the well-being of their patients, they should prioritize safety and infection control for their patients. Hospitals should utilize the STRIVE initiative to look at all the potential risks that will improve catheter insertion protocol (Meddings et al., 2019). Nurses must have the proper training to prevent infections from happening in their

patients. By utilizing the STRIVE project with patients, nurses would prevent complications such as kidney infections, urosepsis, and further bodily infection.

Conclusion

Urinary tract infections (UTIs) are a substantial concern for most patients nationwide. Each of these studies aimed their primary focus on UTIs as a generalized problem, but all three topics had specific factors that concerned UTIs. All three of these articles showed excellent quantitative studies, which can also be utilized to improve hospital patient care and reduce the infection rate that happens with urinary tract infections. All three-research articles demonstrated an improvement in patient care and their outcomes.

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