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2018

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Meghan Miller



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March 26, 2018

Abstract

Title:

Does an Educational Intervention for a Nurse-Driven Indwelling Urinary Catheter Protocol Increase Nurses' Knowledge and Compliance to the Protocol?

Primary Investigator:

Meghan Miller, BSN, RN

Purpose:

Catheter-associated urinary tract infections (CAUTI) are responsible for approximately 40% of all hospital acquired infections. Over the past several years, hospitals have developed tools attempting to decrease CAUTI rates. Research suggests that nurse-driven protocols are effective in reducing CAUTI rates. The purpose of this project was to evaluate the effectiveness of an educational intervention related to a nurse-driven urinary catheter protocol in increasing registered nurses' (RN) knowledge and compliance to the protocol.

Methods:

This study utilized a quasi-experimental pre-test, post-test and compliance self-report, to assess RNs' knowledge and compliance to a nurse driven-urinary catheter protocol at a Southwest Florida hospital. RNs attended a nurse-driven protocol educational intervention, in which they completed both pre and post surveys and a compliance self-reports. The surveys and compliance self-reports were administered through SurveyMonkey. RNs reported compliance to the protocol on a Likert-type scale from 1-5. A paired sample t-test was done to compare the pretest and posttest results. A second paired sample t-test was done to compare the compliance self-reports completed before and after the educational session.

Results:

Thirty-two RNs participated in the study. The mean compliance prior to the educational intervention was 4.2, which increased to 4.7 after the educational intervention. The mean score on the pretest was 77%, increasing to 92% on the posttest.

Discussion:

Overall, the educational intervention was successful in increasing RNs' knowledge and compliance to the nurse-driven urinary catheter protocol.

Conclusion:

The results suggest that providing education to RNs is critical. Reported compliance to the nurse-driven urinary catheter protocol is a critical step in increasing patient safety and decreasing the risks of CAUTIs.

Major Professor:

Mandy Bamber, Ph.D., RN

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Introduction

Hospital acquired infections (HAI) are prevalent in United States (U.S.), despite the development of national guidelines aimed at preventing such infections (Alexitis & Broome, 2014). The Centers for Disease Control (CDC) and prevention reported that there were approximately 722,000 HAI in acute care hospitals in the U.S. in 2011 (Magill et al., 2014). HAI mortality rates during hospitalization exceeded 10% (Magill et al., 2014). In 2008, the Centers for Medicare & Medicaid Services (CMS) made the decision to no longer reimburse hospitals for the cost of treating certain HAI (Saint et al., 2013; Mori, 2014).

Catheter-associated urinary tract infections (CAUTI) are considered “reasonably preventable” by CMS and are one of the HAI chosen to be included for non-payment (Saint, Greene, Kowalski, Watson, & Krein, 2013). Urinary tract infections (UTI) are responsible for 40% of all HAI in the U.S. (Gokula, Smolen, Gaspar, Hensley, Benninghoff, & Smith, 2012). More than 80% of UTI are related to the use of indwelling urinary catheters (Gokula et al., 2012). Klevens et al. (2007) reported that approximately 561,667 hospitalized patients developed CAUTI in the U.S. in 2002. Hospitals spend millions of dollars each year on CAUTI; moreover, they increase patient mortality and length of stay.

Cost of treatment for CAUTI can range from \$1200 to more than \$2700 (Gokula et al., 2012). In addition to the cost of treating CAUTI, there is increased cost associated with diagnosis of CAUTI and increased length of hospital stay. Hospitals spend an estimated \$390 million to \$450 million dollars annually on CAUTI (Scott, 2009). In addition to the increased financial burden CAUTI place on hospitals, they can also cause significant morbidity and

mortality in patients (Schneider, 2012). Kelvens et al. (2007) estimated that 13,088 deaths in 2002 were associated with CAUTI in the U.S.

Although indwelling urinary catheters are necessary for some patients, it is estimated that between 21% -31% of catheterized hospital patients do not meet criteria for indwelling urinary catheters (Knoll, Wright, Ellingson, Kraemer, Patire, Kuskowski, & Johnson, 2011). Over the past several years there has been an increase in policies and protocols aimed at decreasing the number of patients and days with indwelling urinary catheters. One type of protocol which research suggests is effective in reducing CAUTI rates, is the nurse-driven protocol. Some of these nurse-driven protocols are designed to provide guidelines that enforce stricter monitoring of catheter necessity, whereas other protocols allow nurses to remove urinary catheters when certain criteria are met. By implementing a nurse-driven protocol, patients have indwelling urinary catheters discontinued earlier, decreasing the risk of infection and overall hospital costs.

In an effort to increase patient safety at a Southwest Florida hospital, a nurse-driven urinary catheter protocol was implemented using evidence-based practice (EBP). Prior to the implementation of the nurse-driven educational intervention, a copy of the policy was given to every RN in the facility through the Health Stream Learning System. They were to read the policy and electronically sign a statement verifying they had read the new policy. No further education was provided related to the urinary catheter protocol.

Problem Statement

Despite the implementation of the nurse-driven urinary catheter protocol, urinary catheters continued to be left in place longer than necessary and inserted unnecessarily. Moreover, noncompliance with the new protocol affects hospital costs on preventable CAUTI and more importantly, increasing risk of patient safety. It was unclear how often the new

protocol was being used, how many nurses were aware of the new protocol, and how familiar the RNs were with the details of the protocol. Therefore, it was important to assess the RNs knowledge of the protocol and provide education to ensure urinary catheters are used appropriately, increasing patient safety and decreasing spending.

Purpose

The purpose of this project was to test the effects of an education intervention on a nurse-driven urinary catheter protocol to increase patient safety and decrease CAUTI rates. Patients with long-term indwelling urinary catheters were at a greater risk of CAUTIs; therefore, there is a need for such an intervention. We intend to accomplish this purpose through protocol training for the RNs, which aims to increase their knowledge, and therefore, compliance to the nurse driven urinary catheter protocol.

Clinical question and specific aims.

Does an educational intervention for a nurse-driven indwelling urinary catheter protocol increase nurses' knowledge and compliance to the protocol? Our specific aims are to:

1. Examine the effects of an educational intervention on RNs' knowledge of the indwelling urinary catheter protocol. We hypothesize that the educational intervention will increase the RNs' knowledge of the indwelling urinary catheter protocol.

2. Examine the effects of an educational intervention on RNs' compliance of the indwelling urinary catheter protocol. We hypothesize that the educational intervention will increase the RN's compliance of the indwelling urinary catheter protocol.

Review of literature

A literature search was conducted in three databases through October 2017, using the search terms "Nurse-driven protocol," "Urinary catheter," "CAUTI," and "Foley protocol." The

three databases included: CINAHL, PUBMED, and ScienceDirect. Studies were included if they were written in English and available in full-text. Articles that were not peer-reviewed or published more than ten years ago were excluded. The articles included in the literature review were published between 2011 and 2016.

Inappropriate Use of Urinary Catheters

Many times, urinary catheters are placed unnecessarily based on subjective assessments, such as fragility and acute illness, rather than meeting objective criteria for use (Fakih, Heavens, Grottemeyer, Szpunar, Groves, & Hendrich, 2014; Knoll et al., 2011; Meddings, Rogers, Macy, & Saint, 2010). Other times, indwelling urinary catheters remain in place despite them being no longer indicated, which increases the chance of CAUTI (Fakih et al., Knoll et al., 2011; Lo et al., 2014). Research suggests a decrease in CAUTI rates when urinary catheters are removed once they are no longer clinically indicated (Fakih et al., 2014; Knoll et al., 2011; Lo et al., 2014).

Strategies have been identified and implemented in different healthcare settings, aimed at decreasing inappropriate insertion of urinary catheters and increasing timely removal (Fakih et al., 2014; Knoll, et al., 2011). Quality improvement programs in an acute care veteran's hospital were implemented that focused on decreasing unnecessary placement, use, and removal of not indicated urinary catheters in the emergency department (ED) and acute care settings (Fakih et al., 2014). Teams of healthcare providers were formed that included physicians, nurses, and nurse educators (Fakih et al., 2014; Knoll et al., 2011). Knoll et al. (2011) implemented the intervention in three phases. The intervention included a bundle, which provided staff education and implementation of an electronic urinary catheter order template that required providers to select an appropriate indication. Weekly unit-specific feedback and daily checklists for nurses were provided, and a dedicated urinary catheter nurse was appointed to conduct daily audits, who

verified the need for indwelling urinary catheters (Knoll et al., 2011). Fakhri et al. (2014) implemented guidelines for urinary catheter placement in the ED and provided education on the appropriate use of urinary catheters to ED staff members, including physicians, nurses, and technicians.

Both research teams found that their interventions were effective in decreasing unnecessary use of urinary catheters (Fakhri et al., 2014; Knoll et al., 2010). Knoll et al. (2011) found a reduction in non-indicated indwelling urinary catheters by 13.8%. In the ED, newly placed urinary catheters decreased from 9.1%, prior to the intervention, to 6.1% post intervention (Fakhri et al., 2014). The appropriateness of urinary catheter placement increased from 74% to 91.4% after the intervention (Fakhri et al., 2014).

Impact of State and National Initiatives

Before CMS implemented the no-payment policy for CAUTI associated costs, there was one statewide initiative aimed at reducing CAUTI rates (Saint et al., 2013). Consequently, the no-payment policy triggered several state and national initiatives in an attempt to decrease CAUTI rates (Saint et al., 2016; Saint et al., 2013). In 2007, the Michigan Health and Hospital Association launched the Keystone Bladder Bundle Initiative, which was implemented in 52% of Michigan hospitals (Saint et al., 2013). The initiative aimed to reduce CAUTI rates by using alternatives to indwelling urinary catheters, ultrasound bladder monitoring, insertion care and maintenance, removal prompts, and nurse-driven removal protocols (Saint et al., 2013). Michigan hospitals that participated in the program had a 30 % reduction of indwelling urinary catheter use (Saint, et al., 2013). Saint et al. (2013) compared the rates of current U.S. CAUTI prevention practices with those in Michigan. The results suggested that Michigan hospitals used CAUTI prevention practices, ultrasound bladder monitoring, removal prompts, and nurse-driven

removal protocols, more often than hospitals in other states. Moreover, CAUTI rates decreased significantly (25%) between 2009 and 2010 in participating Michigan hospitals. Rates decreased in other states, but were much less significant at 6% (Saint et al., 2013).

The Agency for Healthcare Research and Quality (AHRQ) aimed to reduce CAUTI rates and implemented the national Comprehensive Unit-based Safety Program (Saint et al., 2016). Nine hundred twenty-six hospitals participated in the program, which was based on the Keystone Bladder Bundle Initiative (Saint et al., 2016; Saint et al., 2013). The program provided educational information and tools to hospitals which emphasized the importance of daily assessment of catheter necessity, education on the importance of aseptic technique during catheter insertion, and the use of necessity checklists (Saint et al., 2016). Hospital units that participated in the program showed a reduction of 22.3% in CAUTI rates over the course of a year (Saint et al., 2016).

Nurse-driven protocols

Nurse-driven interventions have been identified as a key factor in CAUTI prevention (Alexaitis & Broome, 2014; Dy, Major-Joynes, Pegues, & Bradway, 2016; Goukla et al., 2012; Mori, 2014; Olson-Sitki, Kirkbride, & Forbes, 2015; Quinn, 2015). Multiple studies have been conducted to evaluate various nurse-driven urinary catheter protocols. These studies have included protocols that focused on the management of urinary catheters (i.e. initiation, care, and discontinuation), the use of bladder ultrasonography and intermittent bladder catheterization (Alexaitis & Broome, 2014; Dy, Major-Joynes, Pegues, & Bradway, 2016; Goukla et al., 2012; Mori, 2014; Olson-Sitki, Kirkbride, & Forbes, 2015; Quinn, 2015). Most of the nurse-driven protocols implemented have concentrated on discontinuation of indwelling urinary catheters without a provider's order (Dy, Major-Joynes, Pegues, & Bradway, 2016; Goukla et al., 2012;

Mori, 2014; Olson-Sitki, Kirkbride, & Forbes, 2015). Currently, nurses must call providers for an order to remove indwelling urinary catheters. Quinn (2015) developed and implemented a program which provided nurses with a tool to evaluate the need to discontinue indwelling urinary catheters; however, it remained that the nurses must call providers for an order for discontinuation. Nurse-driven protocols allow nurses to discontinue urinary catheters without a physician's order if certain criteria are met (Dy, Major-Joynes, Pegues, & Bradway, 2016; Goukla et al., 2012; Mori, 2014; Olson-Sitki, Kirkbride, & Forbes, 2015).

Nurse-driven urinary catheter protocols have shown promise. Research on such protocols suggests that they are effective in reduction of unnecessary catheter use and CAUTI rates. Results have varied from a 9.9% -20% reduction rate in urinary catheter use and CAUTI rates have decreased nearly 50% (Mori, 2014; Olson-Sitki, Kirkbride, & Forbes, 2015; Dy, Major-Joynes, Pegues, & Bradway, 2016; Quinn, 2015). Moreover, Quinn (2015) reported a \$60,000 cost savings in the first year the protocol was in place.

Quality Improvement and Nursing Education

Implementation of new policies results in several challenges: which may include timely, effective, and accurate education for nurses. Absent or deficient policy education negatively affects nurses' knowledge and adherence to said policy (Mathers, 2011). Providing guidelines and education about new policies, improves nurses' knowledge and leads to increased coherence to policies and procedures (Gordon, 2015; Mathers, 2011; Schneider, 2012).

Following an in-service training, nurses' management of central venous devices improved by 20% (Mathers, 2011). Several researchers have reported that indwelling urinary catheter guidelines, educational interventions, and skills validations were effective in reducing CAUTI rates (Gordon, 2015; Wolforde & Castro, 2013). Wolforde & Castro (2013) reported

that CAUTI rates decreased by 50% following a hands-on educational intervention and validation checkoff for urinary catheter insertion and care. Moreover, research suggests that indwelling urinary catheter educational interventions were effective in improving nurses' protocol, insertion, management, and removal knowledge (Schneider, 2012). Research supports that effective, timely, and scientifically accurate CAUTI education improves patient outcomes (Gordon, 2015; Mathers, 2011; Schneider, 2012; Wolforde & Castro, 2013).

Limitations

There were multiple limitations noted throughout the research. Researchers of all studies included in this literature review gathered data from single-institution settings (Alexaitis & Broome, 2014; Knoll et al., 2011; Mathers, 2011; Mori, 2014; Quinn, 2015; Schneider, 2012). Included studies were not randomized controlled trials and results may not be generalizable to all United States hospitals because participation was voluntary (Saint et al., 2016). Additional limitations included: short duration between baseline data collection and implementation, a majority of data gathered was self-reported, and nonresponse bias (Fakih et al., 2014; Gordon, 2015; Schneider, 2012 Quinn, 2015; Saint et al.). Despite these limitations, research supports that nurse-driven urinary catheter protocols with an educational intervention are effective in increasing nurse adherence and decreasing CAUTI rates.

Summary and Gaps

While research results are promising, gaps remain in the literature. Specifically does an indwelling urinary catheter nurse-driven protocol educational intervention increase policy compliance and decrease the incidence of CAUTI? Researchers have conducted many studies that have assessed the effectiveness of different protocols and programs that attempted to reduce unnecessary catheter use and decrease CAUTI rates. Research suggests that reducing the

number of non-indicated urinary catheters, CAUTI rates decrease use (Fakih, Heavens, Grotmeyer, Szpunar, Groves, & Hendrich, 2014; Knoll et al., 2011; Meddings, Rogers, Macy, & Saint, 2010). The unnecessary use of indwelling urinary catheters and CAUTI rates decreased in every study included in this literature review. Decreasing unnecessary use of indwelling urinary catheters improves patient safety and decrease hospital spending.

Conceptual and theoretical framework

The theoretical framework that was used to guide this study was Erickson's Modeling and Role-Modeling in Nursing Practice Theory. The premise of this theory is that nurses care for each patient as an individual and recognize each patient and their individual needs (Allgood, 2014). Erickson's theoretical framework was chosen because patients with urinary catheters in place must be evaluated on an individual basis. Nurses must recognize patients' need for, or discontinuation of, indwelling urinary catheter. Therefore, a nurse-driven urinary catheter protocol educational intervention was developed and implemented that employed Erickson's Modeling Theory, which guided RNs to assess patients' urinary catheter needs on an individual basis.

Methodology

Design

A quasi-experimental pretest-posttest design was utilized. The RNs' had their knowledge of the nurse-driven indwelling urinary catheter protocol and their compliance to the protocol assessed via SurveyMonkey prior to the introduction of the intervention. After completion of the pretest, the RNs' attended one of two monthly staff meetings, which were held on the same day. The educational intervention took place twice, once during each staff meeting, which lasted approximately 30 minutes. The nurse-driven indwelling urinary catheter protocol was

thoroughly explained using visual aids and incorporated current best evidence. Trainings were conducted by an expert RN employed at the hospital. Two months after the conclusion of the protocol training, participating RNs completed the posttest online, via SurveyMonkey. The total time requirement for the participants, including training, the online pretest, and posttest, was approximately one hour.

Sample

The study took place on the hospital's cardiac units. A convenience sample of 40 RNs were recruited to participate in the study by emailing surveys. Inclusion criteria included RNs working on cardiac units, who were full-time, part-time, or per diem. Exclusion criteria included float nurses, agency nurses, and any non-RN nurses (i.e. Licensed Practical Nurses). Thirty-seven nurses participated in the pre-test and pre-compliance self-report. Of these 37 participants, 32 completed the post-test and post compliance report.

Data collection

There were two data collection points. The first data collection occurred prior to the educational intervention, which included a demographic questionnaire, a knowledge-based pretest, and protocol compliance self-report. The second data collection point occurred two months after implementation of the educational intervention and included a questionnaire to determine if participants attended the nurse-driven indwelling urinary catheter educational session, a knowledge-based posttest, and protocol compliance self-report. Pre- and posttests required participants to use a unique identifier that was used to match the pre and posttests.

Measures.

Demographic data was collected online via SurveyMonkey immediately at the start of data collection. The knowledge pre/post-test (Appendix A) and protocol compliance self-report

(Appendix B) were developed by the primary investigator and was reviewed by several experts in the field.

Indwelling urinary catheter protocol pretest/posttest.

The pretest/posttest was an 8-item multiple choice quiz, that assessed RNs knowledge related to the nurse-driven indwelling urinary catheter protocol. A quantitative score was given based on the number correct vs the number incorrect.

Protocol compliance self-report

The compliance self-report tool was a 9-item instrument that specifically assessed RNs' compliance to the CAUTI prevention protocol on indwelling urinary catheters. Each of the 9 items had a five-point Likert-type response scale (1 = never, 5 = Always). A composite score of one indicated a person was not in compliance with the protocol, while the highest score of 5 indicated a person was always in compliance with the protocol.

Data analysis

Demographic data was collected and analyzed to determine the participants' age, gender, education level, and years of experience. The pretest/posttest quiz, and pre/post compliance self-report was compared using a dependent samples t-test to determine if the educational intervention produces a change in mean scores of study participants. The unique identifier was used to match pre and posttests in order to perform matched pairs analysis. Microsoft Excel was used to perform the data analysis.

Results

Demographics

Pretest and compliance self-reports were sent to 40 RNs working on cardiac units, there was a response rate of 92.5% (N=37). Posttest and self-report compliance return rate was 86%

(N=32). There was 14% attrition. Cause of the attrition is unknown and could result in bias. Of all participants, 94% were female, 6% were male (table 1), and primarily Caucasian (81%; table 2). A majority of the participants were between the ages of 20 and 30 years old (62%; table 3) and years of nursing experience varied, with a mode of 1-5 years (table 4). Additionally, most participants (63%) highest level of education was a Bachelor's degree (table 5).

Table 1

Gender	N	%
Male	2	6.25
Female	30	93.75

Table 2

Ethnicity	N	%
Caucasian	26	81.25
African American	0	0
Latino/Hispanic	2	6.25
Asian	0	0
Other	4	12.5

Table 3

Age	N	%
20-25	10	31.25
26-30	10	31.25
31-35	3	9.375
36-40	0	0
41-45	3	9.375
46-50	1	3.125
51-55	0	0
56-60	0	0
61-65	5	15.625
66-70	0	0
>70	0	0

Table 4

Highest level of education	N	%
Diploma	0	0
Associate's degree	10	31.25
Bachelor's degree	20	62.5
Master's degree	2	6.25
Doctoral degree	0	0

Table 5

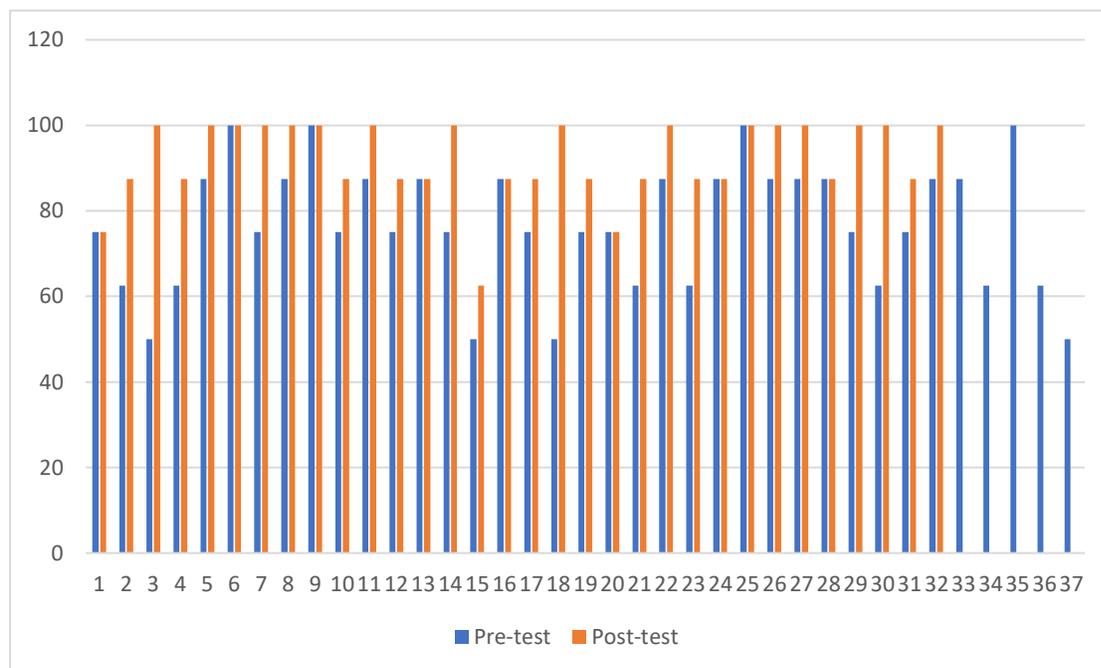
Years of nursing experience	N	%
<1	6	18.75
1-5	15	46.875
6-10	5	15.625
11-15	0	0
16-20	0	0
21-25	5	15.625
26-30	0	0
31-35	1	3.125
>35		0

Protocol Knowledge

There was a 15% increase in pretest-posttest mean scores, 76.7% to 92.2%. The difference in pretest-posttest scores were significant ($p < .001$; table 6). Results support that the nurse-driven urinary catheter educational intervention was effective. Individual results can be reviewed in Graph 1.

Table 6

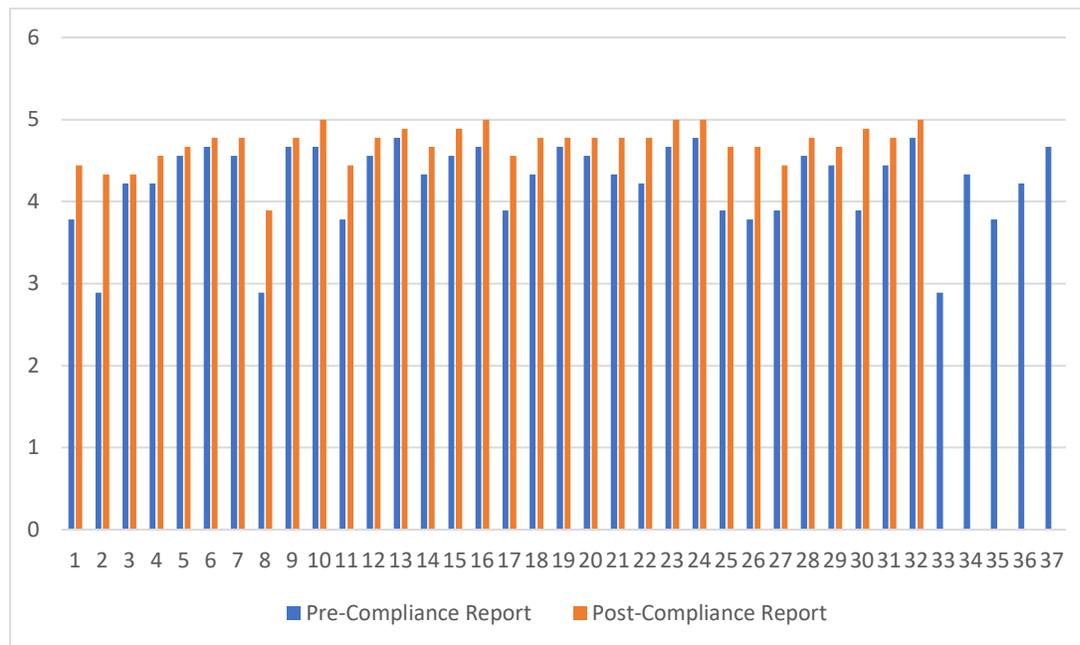
Variable	Mean	SD	T score	Significance
Pre-test	76.69	14.0		
Post-test	92.19	9.39	-6.16	P = < .001

Graph 1: Pretest-Posttest Results**Protocol Compliance**

Similar to the educational intervention pretest-posttest, self-reported compliance significantly increased ($p < .001$; table 7) after implementation of the educational intervention. Prior to the intervention mean scores of the compliance self-report were 4.24 and post-intervention, mean scores increased to 4.70. Results support the effectiveness of the nurse-driven urinary catheter educational intervention on RN compliance. Individual results can be reviewed in Graph 2.

Table 7

Variable	Mean	SD	T score	Significance
Pre-compliance self-report	4.24	0.49		
Post compliance self-report	4.70	0.24	-7.54	P = < .001

Graph 2: Pre-Post Compliance Self Report Results

Discussion

We aimed to first, examine the effects of an educational intervention on RNs' knowledge of the indwelling urinary catheter protocol. Results indicated that the educational intervention increased the RNs' knowledge of the indwelling urinary catheter protocol. This outcome supports our first hypothesis. By increasing RNs' knowledge of the protocol, RNs will be more aware of when urinary catheters are no longer indicated and will know when the catheters can be removed without a physician's order. Our second aim was to examine the effects of an educational intervention on compliance to the indwelling urinary catheter protocol. Results showed a significant increase of 0.46 from the pre-compliance self-report to the post compliance

self-report, which supports the hypothesis. Increasing compliance to the policy will decrease the number of days patients have urinary catheters in place as well as prevent unnecessary indwelling urinary catheter use.

Implications for Practice

The results suggest that providing education to RNs is critical. Reported compliance to the nurse-driven urinary catheter protocol is a critical step in increasing patient safety and decreasing the risks of CAUTIs. The nurse-driven urinary catheter protocol was developed to decrease CAUTI risks for patients. When the protocol is not followed, indwelling urinary catheters are placed unnecessarily and remain in place when they are no longer indicated, leaving patients vulnerable to infection. CAUTI account for a large portion of HAI each year, which increase hospital costs. While CMS no longer reimburses hospitals for CAUTI it is imperative that steps are taken to decrease CAUTI rates to prevent unnecessary spending. By increasing compliance to the urinary catheter protocol, CAUTI risks, as well as, hospital costs will be decreased.

Limitations

This study had several limitations. First, compliance self-reporting was a significant limitation. When self-reporting compliance, questions may have been interpreted differently by each participant and it relied on the honesty of the participants. Using the Likert-type scale for the compliance self-report was also a limitation. Participants could have interpreted the scale differently, where one person might give a question a rating of 2 another participant with the same opinion might rate it as a 3. Another limitation was the t-test for the compliance self-report. The t-test was able to show the average change from the pre to post compliance self-report. However, the data from the compliance self-report was not continuous, therefore, a chi-

squared test would have been a more valuable way to analyze this data. Compliance rates were not analyzed in this study; therefore, further research should be done using chart audits to track compliance to the protocol. Moreover, CAUTI rates should be examined to determine if increased compliance decreases infection rates.

Conclusion

Catheter-associated urinary tract infection cost hospitals a significant amount of money each year and cause patient harm. Research suggests that nurse-driven urinary catheter protocols are effective in decreasing CAUTI rates. Providing RNs with protocol education increases knowledge and compliance. Our results supported that an educational intervention for nurses was effective in increasing knowledge and compliance to the nurse-driven indwelling urinary catheter protocol at one hospital.

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Appendix A**Pre-posttest questions**

1. Appropriate indications for urinary catheter use include all of the following, except
 - Epidural catheter in place
 - Comfort for end of life care
 - Incontinence
 - Acute urinary retention

2. Nursing may initiate the removal of the urinary catheter, without a physician, order if the patient
 - Had a surgical procedure 12 hours ago
 - Is more than 24 hours post-operative after hip surgery and does not have a urology consult
 - Has an order for strict I&O monitoring and is unable to cooperate with measuring urine
 - Has gross hematuria with potential for clots

3. Notify physician if patient has not voided within ____ hours post urinary catheter removal
 - 8
 - 6
 - 12
 - 4

4. Unnecessary urinary catheters should be removed by
 - 6 am
 - 11 am
 - midnight
 - 2 pm

5. Catheter related assessment and interventions must be documented
 - Every 4 hours
 - Once per shift
 - One time daily
 - Every 6 hours

6. Nurses may insert or continue the use of a urinary catheter with a physician's order in which of the following?

- Incontinent patient who is 72 hours post-op with no urology consult
- Patient requests a urinary catheter
- Comfort care/end of life care
- Critical care patient transferring out of the unit and does not meet the criteria to continue urinary catheter

6. A bladder scan should be performed for which of the following?

- Patient has urinary catheter in place and has hematuria
- Patient has not voided 1 hour post urinary catheter removal and has no complaints of discomfort
- Patient voids spontaneously 2 hours after urinary catheter removal
- Patient is incontinent post urinary catheter removal

8. Patients should be assessed every _____ to determine if appropriate criteria are met for continuation of urinary catheter use.

- day
- shift
- 4 hours
- 8 hours

Appendix B

Compliance Self-Report

	<i><u>In the last two months....</u></i>	Never	Almost Never	Sometimes	Almost Always	Always
	Question	1	2	3	4	5
1	Overall I am adhering to the CAUTI prevention policy					
2	I assess every shift for the continued use of indwelling urinary catheters					
3	I initiate the removal of the urinary catheter according to the approved protocol if the patient no longer meets the criteria for a urinary catheter					
4	I follow Lippincott Procedures for the insertion of indwelling urinary catheters					
5	I follow Lippincott Procedures for the maintenance and daily care of indwelling urinary catheters					

6	I follow Lippincott Procedures for the removal of indwelling urinary catheters					
7	If I have determined the need is no longer met for an indwelling urinary catheter I initiate and document removal using the CAUTI protocol in the IPOC					
8	Following the removal of an indwelling urinary catheter I assess and document the patient's urinary function using the protocol Post Catheter Assessment					
9	I document all catheter related assessments and interventions (including removal), every shift, in the EMR using appropriate fields on the genitourinary tab of 1 view					