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Feasibility and Implementation of the Columbia-Suicide Severity Rating Scale for Assessing
At-risk Adult Patients in the Emergency Department

by

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Abstract

Background: Suicide is the tenth leading cause of death in the United States. Individuals who ultimately commit suicide often seek healthcare in the year prior to their death for unrelated medical complaints without detection of suicidal ideation. The Emergency Department (ED) has been identified as a key stakeholder in detecting suicide risk. Research supports the use of a universal evidence-based screening tool for all patients who present to the ED in order to identify those at risk for future suicide attempt, and to provide appropriate follow-up resources.

Aims: The aim of this scholarly project was to promote a practice change by implementing the Columbia Suicide Severity Rating Scale (C-SSRS) in an effort to identify adult patients at risk for future suicide attempt as part of the ED assessment, and to provide either inpatient or outpatient follow-up resources as indicated by the C-SSRS. A second aim was to increase nursing staff knowledge of suicide risk and prevention and increase their confidence in utilizing the C-SSRS for assessing at-risk patients.

Methods: This project was two-fold and included: 1) administration of a pre-test to ED staff prior to an educational module provided by the hospital, followed by a post-test for assessing staff knowledge and confidence in suicide risk assessment using the C-SSRS; and 2) implement the C-SSRS in the ED to all adult patients as a means for detecting at-risk adult patients for future suicide attempt and provide outpatient follow-up resources.

Findings: Descriptive statistics were used to analyze the demographic data of the nurse and patient samples. A paired t-test with repeated measures was used to analyze the ED nurses' satisfaction and confidence scores for the pre- and post- tests. The results of the pre- and post- tests were clinically significant and showed an increase in nursing knowledge and confidence in suicide risk assessment using the C-SSRS. The findings will be disseminated to the ED and

administrative staff (RNs, NAs, CNO) and to local and regional psychiatric nursing conferences and relevant psychiatric/mental health journal for manuscript submission.

Linking Evidence to Action: This study supports the implementation of a universal screening tool, the C-SSRS, for suicidal risk assessment in the general population of ED adult patients.

Health care providers should perform the C-SSRS on all adult patients to identify those at-risk for suicide and provide appropriate follow-up resources. Education of suicide prevention and the use of the tool is important to ensure nurses feel confident in assessing for suicide risk. Future studies should be done that evaluate the efficacy of the C-SSRS in ED nurses' practice.

KEYWORDS: suicide, suicide prevention, universal screening tool, Columbia Suicide Severity Rating Scale, suicide assessment, suicide risk, emergency department, adults, risk assessment, feasibility, nursing, patient

Suicide has reached epidemic levels in the United States, increasing by 30% since 1999, and is the tenth leading cause of death among all ages nationally and the eleventh cause of death among all ages for the state of Kentucky (Centers for Disease Control and Prevention [CDC], 2018). The CDC (2018) reported that suicide occurs at a rate of 13.4 per 100,000 persons nationally compared to 16.8 per 100,000 persons in Kentucky; and costs an estimated \$51 billion in lost wages and medical expenditures combined. In addition, the CDC (2018) reported that 3.9% of the U.S. adult population, which is an estimated 9.3 million adults, have had thoughts of suicide, or suicidal ideation, within the past year; thus placing a significant proportion of the general population at risk for future suicide attempts.

Of those 9.3 million, 45,000 persons died due to a completed suicide in 2016; and even more striking, 54% of those who died had no known mental health condition (CDC, 2018). A study by Bowers et al. (2017) reported that at least one in ten persons had been seen in the emergency department (ED) in the two months prior to their death for a non-related medical complaint, and 40% had been seen in the ED within the last year of their lives (Boudreaux et al, 2013). These significant findings illuminate the need for proper screening and risk assessment of all patients in the ED; in addition to identifying all healthcare workers, particularly ED workers, as key stakeholders in the fight to decrease deaths by suicide.

In 2001, the Surgeon General released the National Strategy for Suicide Prevention in response to the growing deaths by suicide (Graves, Mackelprang, Natta, & Holliday, 2018). This call to action was directed towards state governments to develop programs that would educate those identified as key stakeholders, such as educators and health care providers, in the prevention of suicide and how to assess those at risk. In 2012, a subsequent report was released by the Surgeon General which emphasized the need for suicide screening in primary care and

emergency departments due to statistics showing that 75-80% of individuals who completed suicide had been seen by a healthcare provider in the year prior to their death (Chock, Tanner, Bommersbach, Geske, & Bostwick, 2015). In response, Washington became the first state to mandate suicide education and training for a wide array of health care providers and educators (Graves et al, 2018). Although Kentucky mandates suicide prevention training and education for licensed clinical social workers, occupational therapists, behavioral health therapists, educators, and law enforcement; the state does not mandate educational or training requirements for health care workers such as nurses, doctors, or advanced practice nurses (Graves et al.). This lack of knowledge among key providers of care on suicide prevention and risk assessment for all patients is a real barrier to reducing the escalating number of deaths caused by suicide.

Despite this barrier, the Joint Commission released a report that required hospitals to assess all in-patients for suicide risk related to multiple sentinel events involving deaths by suicide within the hospital (The Joint Commission on Accreditation of Hospital Organizations [JCAHO], 2016). Though important and well-intended, this requirement did not provide any evidence-based guidelines in regards to educating staff nor how to assess suicide risk among patients. This has led in many clinical settings to the adoption of a “yes/no” question for the assessment of current suicidal thoughts in EDs across the nation. According to the evidence, this format is not only insufficient, but is also not an accurate means for assessing future suicide risk (Antai-Otong, 2016; Boudreaux et al, 2013). Thus, pointing to the need for suicide prevention education of hospital medical and nursing staff; and the need for a reliable and valid tool for the assessment of suicide risk.

Problem Statement

Suicide is the tenth leading cause of death in the United States among all ages according to the CDC (2018), and the rate of completed suicide continues to climb. Many of those individuals who have completed suicide visited the ED in the year prior to their death for a non-related complaint (Boudreaux et al, 2013). Data suggest that the ED is an ideal setting for recognizing this at-risk population (Betz et al., 2016). An evidence-based and validated tool such as the Columbia Suicide Severity Rating Scale (C-SSRS), should be used to identify those individuals requiring further resources to impact current suicide rates (Posner et al, 2011).

Purpose

The purpose of this scholarly project was to evaluate the implementation of an evidenced-based screening tool, the C-SSRS, for risk assessment of suicidal ideation in the ED. The aims of this project were twofold: first, to determine the ED nurses' knowledge and of suicide prevention and risk assessment, their perception of the feasibility of screening patients in the ED, and their confidence related to the administration and use of the scale. Secondly, this project sought to identify adult patients at-risk for a future suicide attempt and to provide appropriate follow-up resources, either inpatient or outpatient, for those at moderate to high-risk based on the screening tool interpretation. It was the intention of this project to increase the nurses' confidence and knowledge of suicide risk assessment and impact future suicide rates.

PICO

When developing this scholarly project, the following question served as the foundational basis: Is the use of a validated screening tool for suicide risk assessment, such as the Columbia-Suicide Severity Rating Scale, feasible in the Emergency Department (ED) setting and is it more effective at identifying at-risk patients than the current yes/no practice utilized in many EDs?

Literature Review

In order to answer this PICO question, a critical appraisal of the literature was performed which served as a foundation for this scholarly project. The ED serves as a frontline and primary source of care for many patients who seek medical care (Asarnow, Babeva, & Horstmann, 2017). Most notably of which is the underserved, those without insurance or of lower socioeconomic status (Asarnow et al, 2017). The literature also highlighted that a large proportion of individuals who committed suicide had been treated for unrelated medical complaints within the past year, oftentimes treated and evaluated within the ED. These factors underscore the need for ED healthcare providers to identify and detect individuals at high risk for future suicide attempts; even though many EDs do not currently perform routine screening of patients for suicidal ideation (Boudreaux et al, 2013). While there are many risk factors associated with suicide, such as depression, chronic pain, and substance abuse, the greatest single risk factor is the history of a prior failed attempt (Antai-Otong, 2016). The only way to determine these specific factors and detect high- risk patients is through universal assessment and appropriate screening with a reliable and valid tool (Antai-Otong, 2016; Boudreaux et al., 2013).

Implementing a Screening Tool in the ED

Ten pilot and quasi-experimental studies were chosen for review and evaluation, as each study addressed the development and/or implementation of a screening tool that assessed high risk patients in the ED. An extensive three-phase longitudinal cohort study performed by Boudreaux et al (2016) used best evidence to develop a universal tool, the Patient Safety Screener-3 (PSS-3), which addressed three variables. The first variable, current depression, was used as a segue and did not factor into a positive screen; the remaining two, active suicidal ideation within the past two weeks and a lifetime suicide attempt were used to determine a positive or negative screen for high suicide risk. The researchers began this study in response to

the lack of screening in the ED, the limited research supporting the use of a universal screening tool, and the lack of a validated tool for use (Boudreaux et al, 2013).

Prior to the Boudreaux study, Folsie & Hahn (2009), used a four- item risk questionnaire (RSQ-4) derived from the 14-item Risk of Suicide Questionnaire (RSQ-14) used in a previous study. Four questions were chosen of the 14 because of their high validity to determine future suicide attempts and current suicidal ideation: past and present thoughts of suicide, prior self-destructive behavior, and current stressors (Folsie & Hahn, 2009). The researchers were also searching for a tool that was feasible within the ED setting, one that required fewer resources, such as time and personnel, and was easy to administer and interpret by those not trained in mental health specifically.

Other studies were conducted to develop and explore a universal screening tool in response to the Joint Commission Sentinel Event Alert (2016) released concerning suicide events occurring within the hospital setting (Desjardins, Cats-Baril, Maruti, Freeman, & Althoff, 2016). In a randomized cross-sectional study performed by Desjardins et al (2016), a suicide risk assessment tool was developed to model the gold standard of suicide risk detection: a psychiatrist's evaluation. This tool, in contrast to the PSS-3, was a self-administered questionnaire in electronic form via a tablet. The researchers developed this tool to address the limited resources and high patient volumes associated with the ED, with the rationale of being a tool that was time and resource saving, in addition to being thorough enough to resemble an evaluation done by a psychiatrist.

The C-SSRS for risk assessment and follow-up

Despite these multiple studies of various promising tools, the Columbia Suicide Severity Rating Scale (C-SSRS) was the first, and is still the only scale, to address the full range of

thoughts and behaviors that indicate a patient's risk for a future suicide attempt (The Columbia Lighthouse Project, 2016). The C-SSRS is the most studied and reliable tool of its kind and due to its ease of use and its efficiency, is able to minimize the need for unnecessary referrals by clearly identifying patients who need further resources. For these reasons the C-SSRS was the screening tool used in this project.

A study by Posner et al. (2011) found the C-SSRS to have good convergent and divergent validity with a Cronbach's alpha of 0.94 and 100% sensitivity and specificity for actual and interrupted suicide attempts. Arias et al. (2014) found that the use of the C-SSRS in discharge call backs increased suicide attempt detection by 40% when compared to the standard "yes/no" screening question. When compared to the PHQ-9 (Patient-Health Questionnaire-9), Na and associates (2018) found the C-SSRS to be significantly better at predicting a suicide attempt with high sensitivity and specificity, labeling it the "gold standard" for suicide risk assessment.

Based on these quantitative studies, the literature indicated screening within the ED is feasible and does in fact identify those at high risk for future suicide attempts with the use of a well-validated and reliable tool. However, screening alone does not reduce future attempts. The quasi-experimental study performed by Miller and colleagues (2017) noted there was not a significant difference in risk reduction between the treatment as usual phase and the screening phase. In contrast, there was a 30% reduction in suicide attempts between the treatment as usual and the screening with intervention phase of the study; along with a 5% reduction in suicide attempt risk between the screening phase and the screening with intervention phase. These results indicated that while a universal screening tool can reduce the number of suicide attempts by identifying at risk patients, screening alone cannot make a substantial decrease nor a

statistically relevant reduction in suicide attempts, thus substantiating the need for follow-up resources for any patient with potential suicide risk.

Barriers to Implementing a Screening Tool in the ED

Despite this increasing amount of evidence in the literature for the need to assess suicide risk with a screening tool in the ED, there remain many barriers to initiating standard protocols. Desjardins et al. (2016) cited that many clinicians feel that universal screening of every ED patient simply increases the burden on already busy EDs with something that is difficult to predict. Clinicians feel more evidence is needed to determine valid and reliable methods for risk screening that equal the gold standard of a psychiatrist's evaluation for suicide prevention. When discussing barriers to screening in their study, Folse & Hahn (2009) highlighted the myth that many nurses and clinicians still believed: the misconception that talking about suicide encourages suicide. However, this myth was unfounded based on the evidence in the literature (Folse & Hahn).

In Ronquillo et al. (2012) meta- analysis of the literature, the researchers deduced that the current research and studies showed no reduction in mortality from universal screening. However, their findings also reinforced the recurring theme of concern over increasing wait times and patient burden in overly crowded EDs. The review also found that assessment scales can successfully quantify risk; but scales should be used cautiously, and should not replace sound clinical judgment. Ronquillo and colleagues concluded that most ED clinicians, to include physicians and nurses, needed additional training to properly assess for suicidal ideation and that social and emotional support must be considered during the assessment; a feature which is lacking in current assessment tools being used.

Petrik et al. (2015) conducted a qualitative study that specifically addressed clinician's attitudes and perspectives of barriers and facilitators towards universal screening using a three-item questionnaire. Their study found that many hospitals do not have psychiatric services, which caused patients to wait extended periods of time for a proper mental health evaluation from a psychiatric clinician, thus prolonging disposition in the ED due to lack of mental health resources- inpatient or outpatient. Time was habitually listed as a factor; citing busy EDs with physically sick patients do not have the time that suicidal patients require. In addition to these factors, nurses and physicians also mentioned their lack of expertise in proper evaluation of suicidal ideation and the need for a valid tool that was reliable and sensitive (Petrik, Gutierrez, Berlin, & Saunders, 2015).

While these are valid concerns, these findings supported the use of the C-SSRS for the project. The literature showed screening alone was not adequate for reduction in death by suicide (Miller et al, 2017). Patients must receive follow-up interventions if found to be moderate to high risk for suicide. The C-SSRS clearly indicates who needs follow-up resources and what type. The tool is brief and easy to use, therefore addressing the concerns of limited time in busy ED settings. Finally, the C-SSRS provides an educational tool-kit specific to the population being assessed to provide discharge planning information [dispositions, referrals] to clinicians and/or nurses (Columbia Lighthouse Project, 2016).

Conceptual Framework

Due to this project having characteristics of both a process improvement and process evaluation, the Donabedian Model was chosen for the conceptual framework to guide the project. Because the hospital ED already screened all patients for current thoughts of suicide, the implementation of the C-SSRS for suicide risk assessment was an improvement to their previous

process. The project also entailed process evaluation by assessing if the implementation of the tool was effective and feasible in this setting.

The Donabedian Model evaluates the quality of care in three ways: by assessing the structure or setting, the process or care delivered, and the outcome(s) or restoration of function (Ayanian & Markel, 2016). The application of this model to the project evaluated the use of the C-SSRS in the ED as well as the nurses who administered it for the setting; this determined if the setting was appropriate and if the nurses were confident in the administration. To evaluate the process, the project examined the administration of the C-SSRS for the evaluation of suicide risk severity; factors that were evaluated pertained to the feasibility of the study [e.g., what went well and what did not; what needs to change to improve the process]. Finally, for the outcome portion of the framework, the project evaluated if patients were assessed for risk and if follow-up resources were provided for the moderate to high-risk patients. Another variable examined related to outcomes was if the nurses' confidence increased from the beginning to the conclusion of the project. The use of the Donabedian framework helped evaluate if the implementation of this practice change improved the previous process of identifying adult patients at risk for suicide.

Methods

Setting and Organization

Based on the literature identifying the ED as a feasible and ideal location for suicide risk assessment, a project was implemented in a suburban hospital in the southeastern United States. The hospital ED has 40 beds with an average volume of 150 patients per day, which are predominantly an adult population. All patients who presented to the ED prior to the implementation of this project were previously screened at ED triage with a "yes/no" question

for current thoughts of suicide and patients with positive answers were placed on a 72- hour hold for psychiatric evaluation. The hospital lacks inpatient psychiatric services, which required the use of a mobile evaluation team for a psychiatric consult. At completion of the consult/evaluation, the patient was either discharged to home if low- risk or transferred to an inpatient psychiatric/mental health facility as deemed necessary by the mental health evaluator.

This project sought to identify at-risk patients for suicidal ideation (SI) that would otherwise go undiagnosed. The addition of the C-SSRS for risk assessment ensured that those who had passive thoughts of SI were given follow-up resources for suicide prevention. The previous “yes/no” question used did not determine risk for future attempt and therefore likely had little impact on reducing future suicide rates. The hospital provided a mandated system wide educational module for the ED nurses on suicide risk assessment. It was the aim of the educational intervention to increase nurses’ knowledge and confidence in suicide risk assessment, promote adherence, and reduce suicide rates through identification and early intervention.

Participants

This project consisted of two sets of participants. The feasibility study involved a convenience sample of hospital ED staff nurses; 33 nurses voluntarily completed the demographics survey provided in SurveyMonkey from an online link posted in the ED group’s private social media page. Approximately 15% of respondents were male with the other 85% being female. The majority of the participants, 40 %, had been a nurse in the ED for 5-10 years, with 27% being a nurse for 2 or less years. In regards to education, 58% had their bachelor’s degree, while 24% had either completed some graduate school or had a graduate degree. Lastly, 55% were between 25-34 years old. (Refer to Table 1)

Table 1

Nurse Demographics

Variables	n = # of Participants, (%)
Gender	Male, n=5 (15.15)
	Female, n=28 (84.85)
Educational Attainment	Associate Degree in Nursing, n= 6, (18.18)
	Bachelor Degree in Nursing, n= 18, (57.58)
	Some graduate school, n= 5, (15.15)
	Completed graduate school, n= 3, (9.09)
Years as an ED Nurse	Less than 2 years, n=9, (27.27)
	2-5 years, n=6, (18.18)
	5-10 years, n=13, (39.39)
	10-15 years, n=2, (6.06)
	Over 15 years, n=3, (9.09)
Age	18-24, n=1, (3.03)
	25-34, n=18, (54.55)
	35-44, n= 10, (30.30)
	45-54, n= 3, (9.09)
	55-64, n= 1, (3.03)

The implementation of the C-SSRS included all adult patients who presented to the ED, regardless of their chief complaint. Data pertaining to completion of the C-SSRS were collected from this sample over a one-week period and then compared to the same week of patient data

from previous suicide assessment question from one year ago. The total number of patient visits during the 2-week timeframe was approximately 1,817 adult patients. Inclusion criteria included: at least 18 years old and able to read and write English. Exclusion criteria included: anyone with a cognitive impairment, acutely psychotic, or if patient presented to the ED unconscious. Of those 1,817 patients who presented to the ED during the two weeks, 883 of those were screened by the “yes/no” question in 2018 with four persons being placed on a 72 hour hold per a positive response to “yes/no” question. In 2019, 934 patients were screened per the C-SSRS, which resulted in three persons being placed on a 72 hour hold. This sample ranged in age from 19-74 years old and was predominantly Caucasian males.

Intervention

This scholarly project examined the knowledge and confidence of ED nurses regarding the hospital system implementation of a standardized suicidal ideation assessment tool. Prior to the implementation of the C-SSRS for adults presenting to the ED, the ED nurses completed a hospital mandated educational module on the background of the tool, the administration, and scoring of the tool. A pre-test was administered by the DNP student, prior to the educational module, which evaluated the nurses’ current knowledge, perception, and confidence about suicide risk assessment and screening (see Appendix A). The pre-test on average took less than two minutes to complete. Once the education module was completed, implementation of the tool began with the ED nurse administering and scoring the C-SSRS at ED triage. On average the screening took approximately one minute to complete and score. Patients were then identified as either “no risk”, “low risk”, “moderate risk”, or “high risk” per the C-SSRS scoring criteria; and following the C-SSRS toolkit the appropriate intervention was identified. For example, patients who were acutely suicidal (scores “Yes” to questions 4, 5 and 6), the 72- hour hospital process

was followed, for all other responses an appropriate intervention (e.g., behavioral health consult; follow-up resources) was determined at discharge.

Design

A pretest-posttest design along with a retrospective chart review was used for this project. The means from the Confidence and Feasibility Scale pre-tests were compared to the means of the post-tests to determine statistical significance. This was performed to determine if the educational intervention improved nursing knowledge and confidence surrounding suicide screening. In addition, a retrospective chart review was performed for one week in 2019 after the C-SSRS was initiated and compared to the same week of the prior year, 2018, when the “yes/no” question was used to determine suicidal ideation. This was performed to compare the use of an evidence based tool versus a “yes/no” format.

Data Collection

A data report was compiled per the hospital analytics department for the DNP student for the one-week time period chosen by the DNP student for 2018 and 2019. Data that were provided included: age, ethnicity, gender, chief complaint, number of ED visits within the past calendar year, and whether the patient was placed on a 72-hour hold. The data were then compared to the same week of the year prior to determine if more patients were identified as at risk for suicide.

Following a two-month period of using the C-SSRS, the ED nurses completed the post-test on their perceptions of the feasibility and their confidence with implementing the C-SSRS, in addition to their knowledge of suicide risk assessment. All data, such as nursing demographics, pre-tests, and post-test scores were collected at this time.

Ethical Consideration and IRB

This project was submitted for IRB approval and was identified as a quality improvement, non-human subjects project per the university's Human Subject Protection Program and the hospital's research council. The data collected via medical records review were provided by the hospital analytics department and de-identified prior to the DNP student receiving the data. Participation for the nurses was anonymous and strictly voluntary. Health Insurance Portability and Accountability Act [HIPAA] procedures were followed and confidentiality and anonymity were maintained.

Measures

For the feasibility portion of the project, a Likert scale created for this study by the DNP student was used to assess nurses' knowledge and confidence (see Appendix A). The 6-item scale evaluated the degree of confidence the nurses had assessing suicide risk pre- and post- education and implementation of the C-SSRS tool. It also assessed the nurses' current knowledge of suicide assessment pre- and post-education intervention, and finally the nurses' perception of the importance of suicide risk screening.

After completion of the education module, the C-SSRS was included as part of the nursing triage assessment. This evidence-based tool has high reliability and validity (Cronbach's alpha of 0.94 and 100% sensitivity and specificity for actual and interrupted suicide attempts) (Posner et al., 2011). It consisted of six self-report items. The scale tool kit provided exact sentences for ED triage nurses to ask the patient about suicide, increasing its ease of use. The C-SSRS was in public domain, and included an educational tool-kit for a multitude of professions from educators to law enforcement to health care providers to use. Included on the color-coded scale were instructions for appropriate disposition based upon the patient's response. For instance, if a patient answered "no" to the first two questions, he/she was assessed at low risk

and no follow-up action was required; if the patient responded “yes” to the first two questions, but “no” to the third, the scale directed the clinician to consider a behavioral health consult. A copy of the C-SSRS is included in Appendix B.

Results

A paired-samples t-test for repeated measures was conducted to analyze the ED nurses' confidence scores for the pre- and post-tests and evaluated the impact of the educational intervention. Histograms revealed a normal distribution, therefore meeting the assumptions for use of a t-test. There was a statistically significant increase in the scores from pre-test (M= 8.71, SD= 2.15) to post-test (M= 10.42, SD= 2.16), t(20)= -2.36, p=.029). SPSS software was used for data analyses.

Descriptive statistics were used to analyze the data from the suicide screening assessments for the one-week in 2018 “yes/no” screening question and the one-week in 2019 C-SSRS scores. The 2018 data revealed that four individuals required a 72 hour hold; 50% were African American and 50% were Caucasian. This sample was predominantly male and only one presented with a chief complaint of “suicidal.” Additionally, on average the 2018 patients had less than one visit to the ED for a different complaint the previous year. In contrast, the 2019 one-week data revealed three persons were placed on a 72-hour hold, two of whom had a chief complaint of “suicidal.” All of the participants were Caucasian and the majority were male, and averaged 2.3 visits to the ED in the past calendar year (see Table 2).

Table 2

Socio-demographics of ED Patients who meet criteria for 72-hour hold after Suicide Assessment
2018& 2019

Variables	2018	2019
Age	M= 47 years	M= 28 years
Gender	Male, n=3 (75%) Female, n=1 (25%)	Male, n=2 (67%) Female, n=1 (33%)
Race	African Americans, n=2 (n=50%) Caucasian, n=2 (50%)	African Americans, n=0 Caucasians, n=3 (100%)
Chief complaint	Suicidal, n=1 Drug overdose, n=1 Manic behavior, n=1 Hallucinations, n=1	Suicidal, n=2 Drug overdose, n=1
Number of ED visits	M=.75 visits	M=2.3 visits

Discussion

Based on the results from the Confidence and Feasibility Scale, the educational intervention did improve nursing knowledge and confidence surrounding suicide risk assessment. The average score improved from M= 8.71 pre-test to M=10.42 post-test and was statistically significant ($p=.029$). This aligns with the current research that the lack of education and training in suicide assessment/prevention hinders clinicians from properly assessing patient suicidality risk. In Heyland, Delaney, & Shattell's (2018) 'Call to Action', they identified provider's confidence and self-efficacy to be a substantial barrier to suicide assessment and

screening. They found that providers felt confident in their ability to screen for suicide, but not in determining SI risk (i.e., risk stratification) or providing counseling. This finding suggested that providers were confident in determining if a patient was suicidal, yet were not confident in actually determining the patient's risk level, such as low- or high-risk (Heyland et al.). This further supported the importance of educating clinicians on the use of a tool that stratifies risk for the provider. Heyland et al. also reported that nurses were more likely to engage in suicide screening than physicians, stressing their role as key stakeholders and the importance of increasing their confidence through education on suicide screening.

In addition to improving nursing knowledge and confidence surrounding suicide screening, this project further supports the evidence for the use of the C-SSRS. Interestingly, there was a slight reduction in patients identified as high risk for suicide, thus requiring a 72 hour hold and subsequent hospitalization using the C-SSRS versus the 'yes/no' question. This may be due to the short timeframe of data collection, pointing to the need to expand the timeframe to include six months or one year of data for a more thorough assessment of the new screening process. It is also possible that because the C-SSRS is more specific and sensitive; it can detect low risk from moderate or high-risk, thereby ensuring that only those who are at higher risk for SI are hospitalized.

The findings were also consistent with the literature in that 40% of patients are seen in the ED the year before their death (Bowers et al, 2017). The sample for 2018 averaged just under one visit in the past year, while the three patients identified in 2019 had an average of 2.3 visits within the prior year. Based on these results and the literature, we could hypothesize that those identified in 2019 were actually at higher risk for future attempt and that the ED is an appropriate setting to assess for SI.

In addition to their number of prior ED visits, each of the patients placed on a 72-hour hold for both 2018 and 2019, presented with a chief complaint that indicated a higher risk for future suicide attempt. Factors such as depression, specifically bipolar depression, and substance abuse carry higher rates of suicide attempts and completions (Antai-Otong, 2016). Additionally, both samples were predominantly male and Caucasian, which are risk factors placing them at greater risk for suicide attempts/completion (CDC, 2018).

The results from this project were consistent with the literature, in that 1) nursing confidence and knowledge can be increased through education of suicide risk assessment; and 2) a well validated and reliable tool that stratifies risk can be effective in identifying patients at risk for future suicide attempts. Additionally, these findings mirrored current literature related to risk factors associated with SI, such as male, Caucasian as well as multiple prior ED visits in the past year (e.g., 2.3 visits/year). The data also supported the practice change, highlighting that screening in the ED is feasible and effective, validating this quality improvement project.

Limitations

There were several limitations for this study. The sample size for the Confidence and Feasibility Scale was small (N=33) and attrition became an issue with seven nurses (21% of the participants) not completing the post-test. In addition, the scale used to measure knowledge and confidence was created for this project and subsequently the psychometric properties of this measure were not evaluated. The scale was also a self-report which can contribute to response bias in that the participants may have answered in a way that they believed the investigator or administrators wanted them to answer. The data collection timeframe of the project was short in duration, eight weeks for the confidence and feasibility assessment involving the nurses, and one week for evaluating the suicide screening assessment in 2018 and 2019. Lastly, due to the

hospital's decision to implement the C-SSRS system wide, the education module was provided by the hospital's education team, thus limiting the DNP student's involvement/input into the content of the educational model.

Conclusion

In conclusion, this project contributed to the current literature supporting a practice change for suicide risk assessment screening in the ED; and affirmed that the use of a well-researched and validated tool, like the C-SSRS, was both feasible and effective in identifying patients at risk for suicide. By identifying these patients, early intervention can be initiated and resources can be provided to those that might otherwise lack means or the knowledge to receive appropriate psychiatric/mental health care. Lack of knowledge about suicide and suicide interventions is often a barrier for nurses in regards to suicide prevention; it was the intent and the outcome of this project to increase nurses' knowledge and confidence of suicide risk assessment through the administration of an educational intervention. This project addressed a gap in the literature by implementing suicide screening in the ED, and provided additional evidence to support practice change and improve the current process of suicide assessment in the ED to potentially save lives.

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Appendix A

Feasibility and Confidence Scale

Scoring Instructions:

- 0- Not at all
- 1- Somewhat
- 2- Adequate
- 3- Very

Please score the following questions from 0-4.

Pre-Questions:

1. How confident do you feel about assessing all patients for suicide risk presenting to the ED?
2. How would you rate the current practice of a yes/no question for evaluating at-risk patients for suicidal ideation?
3. What would you rate your responsibility as an ED nurse to assess for suicide risk?
4. How would you rate your current knowledge about suicide risk assessment and the tools available?
5. Do you think it is feasible to use a screening tool for suicide risk assessment in the ED, yes or no?
6. How confident are you that the C-SSRS will effectively identify patients at-risk for suicide?

Post-Questions:

1. How confident do you feel about assessing all patients for suicide risk presenting to the ED?
2. How would you rate the current practice of a yes/no question for evaluating at-risk patients for suicidal ideation?
3. What would you rate your responsibility as an ED nurse to assess for suicide risk?
4. On a scale of 0-10 how confident are you in your ability to use the C-SSRS and interpret the results?
5. Do you think it is feasible to use a screening tool for suicide risk assessment in the ED, yes or no?
6. How confident are you that the C-SSRS will effectively identify patients at-risk for suicide?

Appendix B

Columbia Suicide Severity Rating Scale for Emergency Department Triage

Ask questions that are bolded and <u>underlined</u> .	Past month	
Ask Questions 1 and 2	YES	NO
1) <u>Have you wished you were dead or wished you could go to sleep and not wake up?</u>		
2) <u>Have you actually had any thoughts of killing yourself?</u>		
If YES to 2, ask questions 3, 4, 5, and 6. If NO to 2, go directly to question 6.		
3) <u>Have you been thinking about how you might do this?</u> E.g. “I thought about taking an overdose but I never made a specific plan as to when where or how I would actually do it....and I would never go through with it.”		
4) <u>Have you had these thoughts and had some intention of acting on them?</u> As opposed to “I have the thoughts but I definitely will not do anything about them.”		
5) <u>Have you started to work out or worked out the details of how to kill yourself? Do you intend to carry out this plan?</u>		
6) <u>Have you ever done anything, started to do anything, or prepared to do anything to end your life?</u> Examples: Collected pills, obtained a gun, gave away valuables, wrote a will or suicide note, took out pills but didn’t swallow any, held a gun but changed your mind or it was grabbed from your hand, went to the roof but didn’t jump; or actually took pills, tried to shoot yourself, cut yourself, tried to hang yourself, etc. If YES, ask: <u>Was this within the past three months?</u>	Lifetime	
	Past 3 Months	

Item 1 Behavioral Health Referral at Discharge

Item 2 Behavioral Health Referral at Discharge

Item 3 Behavioral Health Consult (Psychiatric Nurse/Social Worker) and consider Patient Safety Precautions

Item 4 Immediate Notification of Physician and/or Behavioral Health and Patient Safety Precautions

Item 5 Immediate Notification of Physician and/or Behavioral Health and Patient Safety Precautions

Item 6 Over 3 months ago: Behavioral Health Consult (Psychiatric Nurse/Social Worker) and consider Patient Safety Precautions

Item 6 3 months ago or less: Immediate Notification of Physician and/or Behavioral Health and Patient Safety Precautions