2019

Best practice suicide screening/assessment tools for the emergency department

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This is to certify that the doctoral study by

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The Office of the Provost

Walden University
2019

Abstract

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MSN, Jacksonville University, 2015

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Project Submitted in Partial Fulfillment

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Abstract

Patients presenting to the emergency department (ED) often suffer from more than physical ailments when seeking care and treatment. Some of these patients have emotional ailments and suicidal ideation when they come to the local ED. The lack of recognition of at-risk patients by health care providers can lead to poor patient outcomes and death. The focus of this project was to understand which valid and reliable suicide assessment tools described in the literature were considered the best evidence-based instruments to identify ED patients who were at risk for suicide. Peplau's theory of interpersonal relations guided this project. A systematic review of the literature was conducted to assess tools that were used for the identification of at-risk patients. Analysis of the included literature was conducted using Melnyk's levels of evidence and a preferred reporting items for systematic reviews and meta-analyses tool to catalogue the articles retrieved. Ten articles were included in the study. Final analysis of the articles identified the need for 100% of patients to be assessed for suicide risk upon arrival at the ED. The instrument identified to meet the need for the local organization was the Columbia-Suicide Severity Rating Screening tool. The findings of this project might promote social change by providing insights into best practice assessment tools to support improved assessment of suicide risk for ED patients.

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Dedication

To the one who always loves, supports and challenges me to be the best of my ability my husband, Tom. Forever, I will. Me.

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Section 1: Nature of the Proposal

Introduction

The nature of this doctoral nursing program project was a systematic review of the literature focusing on which valid and reliable suicide assessment tools were considered the best evidence-based instruments in the current literature to identify emergency department patients who are at-risk for suicide. Because nursing is the first point of contact in the emergency department through the triage process, identification and appropriate use of the best evidence-based tool will help with early recognition of patients with suicidal ideation and lead to better patient outcomes.

Social change is an integral part of the nursing metaparadigm. Nursing must ensure that all patients have the right to equal access to all services regardless of race, sex, and ability to pay, and still maintain patient safety (McEwen & Wills, 2014). Because suicide now ranks in the top 10 causes of death (Centers for Disease Control and Prevention [CDC], 2016), it was imperative that a strong focus was placed on the selection of an appropriate screening tool to identify patients at-risk for suicide. Many of the individuals who committing suicide were either adolescents (National Institute of Mental Health [NIMH], 2013) or adults (Ahmedani et al., 2014) who had been seen by a healthcare provider (either primary care or emergency departments) within 6 months of their death. Suicide is a social issue that has a significant impact on families after their loved one's death, and nurses must ensure equal care occurs regarding healthcare specific to the at-risk patient. The positive social change from this project may be a reduction in

completed suicide attempts due to early identification of the at-risk patient by nursing in the emergency department.

Problem Statement

According to the CDC, there has been an increase in suicide since the beginning of the 21st century (CDC, 2018). Although nursing practice works diligently to identify and protect patients, patients at risk for suicide were often overlooked in the healthcare settings due to many factors. The factors involved lack of training for staff to properly assess, competing priorities, and attitudes among some healthcare workers related to suicidal ideation (King, Horowitz, Czyz, & Lindsay, 2017). Emergency rooms have become the gateway to health care resources in the United States (Morganti et al., 2013), which therefore makes it difficult to treat each patient to the fullest extent based on the fear of slowing emergency department throughput (Boudreaux et al., 2016). The World Health Organization (2018) estimated that 800,000 people commit suicide yearly. Also, it is estimated that one in five patients had been treated in the emergency department within one month of their deaths by suicide (NIMH, 2017a). The Joint Commission, the primary accrediting body for most hospitals in the United States, identifies suicide as one of the most common sentinel events that occurs either directly in healthcare facilities or within 48 hours of discharge (Joint Commission, 2018). If nurses do not correctly identify at-risk patients when triaging, patients may not be afforded an evaluation and treatment plan by the on-duty emergency room physician, the telehealth, or contracted services on call, leaving the emergency room physicians as the primary decision makers for disposition of the potentially at-risk patient (Ronquillo, Minassian, Vilke, & Wilson, 2012). The

pressures in the emergency room of overcrowding, the lack of mental health experience and competent skill sets, and other undefined variables when the suicidal patient presents can attribute to suicide being one of the most common sentinel events emerging from the emergency departments (Joint Commission, 2016).

This doctoral nursing project was significant to the practice of nursing because the early identification of at-risk patients can lead to early interventions improving outcomes for patients. An evidence-based tool to aid the nurse in early identification would be significant for both patient safety and positive social change.

Purpose Statement

Although there were many reliable and validated tools for suicide assessment, none have been identified as the gold standard for use leading to a gap in practice for nursing (Mills & Kroner, 2008). Although many risk factors (i.e., history of previous suicide attempts, lethal plan, stressors, and psychiatric diagnoses) were referenced in the tools currently in use (Ronquillo et al., 2012), research had failed to identify the exact variables (i.e., does the patient have a credible plan, any prior attempts, or psychiatric diagnoses) to be utilized that predict suicidal risk (Ronquillo et al., 2012). The current practice for looking at predictors in emergency departments that treat all populations including child and adolescent patients that might be at-risk for suicidal ideation did not include any evidence of current family situations and factors (Leon et al., 2017). The current gap in practice was likely due to the lack of recommended suicide assessment tools with exacting variables defined and the use of evidence-based clinical practices for use in the emergency department. The proposed outcome for this project was to identify

an evidence-based best practice tool to properly screen at-risk patients that is appropriate to use in the emergency department.

Practice-Focused Question

The project was focused on the following question that guided the systematic review:

> PFQ: Which valid and reliable suicide assessment tools are considered in the current literature to be the best evidence-based instruments to identify emergency department patients who are at-risk for suicide?

If the systematic review did not identify one best tool, then hopefully it would identify the critical factors necessary to properly evaluate the at-risk patients.

The Current Gap in Practice

It is estimated worldwide that every 40 seconds someone commits suicide (Vedana et al., 2017). The relevance to nursing practice was high as the biggest predictor of a suicide attempt was either a plan or previous attempt. Because one of the largest predictors of at-risk behavior was the previous attempt, there was a high probability that this specific patient population had been seen in an emergency department prior (Vedana et al., 2017). Current evidence-based research shows that several risks for suicidal patients had been identified but that nursing did not always recognize the key risk factors (Department of Veterans Affairs, 2012). In addition, the current practice for looking at predictors in emergency departments that treat child and adolescent patients who might be at-risk for suicidal ideation did not usually include any evidence of current family situations and factors (Leon et al., 2017).

Nature of the Doctoral Project

The Walden University *Manual for Systematic Review* (Walden University, 2017) guided the context and process for this DNP project. The context for this doctoral project was the emergency room where many patients at-risk for suicide first present themselves for care and treatment. The required assessment of all patients presenting to the emergency room is a regulatory standard that reads "that all general hospitals that are treating individuals for emotional or behavioral disorders, to identify patients at risk for suicide" according to The Joint Commission National Patient Safety Goals (Joint Commission, 2018). This required standard did not identify the best tool to assess patients who present for care and treatment but did state that there are three expectations for following the standard: A risk assessment must be used that is inclusive of factors that may or may not increase the risk for suicide. The patient's immediate safety needs must be addressed along with a plan for treatment. Last of all, patients must receive information upon discharge regarding access to a crisis hotline (Joint Commission, 2018). Also, because the gateway to treatment at a general hospital was the emergency department, this would be an expectation in all emergency departments. The campaign for Zero Suicide was also required as a part of participation in the initiative that all emergency department patients be screened (Suicide Prevention Resource Center, 2018). The campaign for Zero Suicide has several links to suicide screening tools but they did not identify the most reliable and valid tools; therefore, this was used as a resource for the systematic review. (Suicide Prevention Resource Center, 2018). One of the possible barriers that could have affected research was that many of the at-risk for suicide tools

that were currently in use focus on depression. Although depression can undoubtedly be a significant factor in the suicidal patient, it is not always the primary factor necessary to be present for a patient to be suicidal (NIMH, 2013). Nursing needs to have the correct tool to be able to distinguish between depression tools that might be used in a behavioral health setting and tools that would be effectively used in the emergency departments determining suicidal ideation (NIMH, 2013).

To complete the systematic review of the literature, I used several research sources through the Walden Library. Inclusion and exclusion criteria were defined using only peer-reviewed research written in the English language. I used a PRISMA flow diagram (Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009) to document the literature selection process. The summary findings table to review and organize the literature were from the *Cochrane Handbook for Systematic Reviews* (Higgins & Green, 2011). I used Melynk's hierarchy of evidence to grade the evidence (Melynk & Fineout-Overholt, 2011).

Significance

The use of the systematic literature review to determine the best evidence-based tools for identification of at-risk patients for suicide will benefit not only the patient but also the medical care team in the emergency department. The nurse who is the first line caretaker for the patient will be better prepared to identify suicidal ideation and address care and safety with the physician supporting improved care for the patient. The physician will also have a reliable tool to discuss the patient's suicide plans with both the patient and the expert consultant who will handle the mental health evaluation. The

largest benefit will be to the patient who can articulate their feelings leading to immediate safety, a potential diagnosis, and the ability to participate in a plan for care.

Many of the patients presenting to the emergency department complain of physical symptoms when they may also be presenting because they have thoughts of suicide (CDC, 2017). Causes can range from substance abuse to a traumatic event to feeling isolated, and that drives the suicidal thoughts (CDC, 2017). The ability for nursing to be able to identify at-risk patients will not only serve to improve patient care and outcomes in the emergency department but should create the platform for further research as to the best tool for in-patient care. Any changes to patient outcomes that can be completed using an evidence-based clinical practice will advance not only nursing care but also drive positive social change. The positive social change would be an added intended benefit from this research project allowing for a decrease in overall rates of suicide.

Summary

In summary, the increasing incidence of suicide in the United States will be affected positively if emergency department nursing staff in conjunction with physicians can easily and quickly assess a patient for suicidal ideation. Because suicide is one of the top 10 causes of death in the United States (CDC, 2016) with over 800,000 deaths annually worldwide (World Health Organization, 2018), this is an important social issue for all societies today. The impact that suicide leaves on survivors can be life-long and possibly allow others to move into the same undiagnosed trajectory if not diagnosed early.

Section 2: Background and Context

Introduction

In a recent study, high rates of healthcare use by suicidal patients were shown to occur before the attempt or ideation (Ahmedani et al., 2014), and often that use was in the form of emergency room visits (Ahmedani et al., 2014). Therefore, nursing can affect patient care and outcomes leading to social change based on the frequent use of healthcare services that most often start in the emergency room. The practice-focused question that this project did address was:

PFQ: What suicide assessment tools were considered in the current literature to be the best evidence-based instruments to identify at-risk patients for suicide in the emergency department."

Section 2 isfocused on the methodologies for the systematic literature review that I conducted. I also address the theoretical framework, relevance to current nursing practice, background, and my role as the DNP student. In this systematic literature review I looked at evidence-based suicide screening tools that were currently being used.

Concepts, Models, and Theories

The theoretical framework for this project was H. Peplau's theory of interpersonal relations (Peplau, 1952). Peplau's landmark middle-range theory of interpersonal relationships was appropriate for the framework of this DNP project. The development of a relationship between the nurse and patient is imperative for the nurse to be able to reduce the patient's anxiety and gain trust and for the patient to confide in the nurse as to all presenting symptoms, even if some are not physical. Often, many emergency

department patients had an unrecognized risk of suicide that was incidental to their chief complaint (Boudreaux et al., 2016). Peplau's theory also looked four elements that make up the theory: person, environment, health, and nursing (Peplau, 1952). Also, the theorist discussed that the relationship develops between the nurse and the patient as they move through sequences: from stranger to a resource provider to the teacher, counselor, surrogate, leader, and then to a technical expert as recognized by the patient (Purdy & Poppen, 2016). Even though the nature of the emergency room visit is typically brief, nurses must become experts at Peplau's theory of interpersonal relationships to ensure positive and appropriate outcomes. Methods to improve interpersonal relationships can be as simple as offering the patient a glass of water, a warm blanket, using direct eye contact, and remaining directly engaged without the use of electronics when the nurse senses there may be more to the patient visit than a physical issue.

Some of the concepts that helped to shape and define the theoretical framework of Peplau's theory of interpersonal relationships were the need for care, collaboration, trust, and respect between the nurse and the patient. Even though Peplau's theory had been considered an abstract concept and one dimensional by some, the relationship between the patient and the nurse cannot be discounted (Senn, 2013). Nurses must recognize what specific concepts may give the patient a propensity to have suicidal ideation:

1. Is the patient male?
2. Has the patient had a prior suicide attempt?
3. Is the patient socially isolated?
4. Does the patient have limited resources?

5. Are chronic medical issues leading to depression?
6. Does the patient lack a support system?
7. Has the patient experienced childhood traumas?
8. Has the patient had a high rate of usage of emergency room services?

(Ronquillo et al, 2012).

These concepts can all lead the patient's inability to cope with life's stressors effectively, and the nurse must have the perspective of a theoretical framework to identify this clearly and appropriately address the patient. Therefore, Peplau's (1952) theory of interpersonal relationships allows for the ability of the nurse to combine nursing theory with clinical assessment practice.

The evidence-based practice model that I used for the literature review was the advancing research and clinical practice through close collaboration model developed by Melynk and Fineout-Overholt (2011). This model worked effectively with the systematic review of the literature as they both require several steps. The steps are as follows: enjoyment of learning and improving, formatting a project question, collecting evidence, critically reviewing and appraising the literature, and integrating the best evidence-based clinical information, evaluation, and then educating to drive practice outcome changes.

Definitions of Terms

Suicidal ideation: Sudden or persistent thoughts of ending a person's own life.

Therapeutic relationship: Relationship between nurse and patient.

EmergencynNursing: Nurses working in the emergency department.

Suicide attempt: Attempt to end a person's own life.

Throughput: Patient flow through the emergency department.

Relevance to nursing practice

Nursing can make a positive impact on decreasing the numbers of suicide attempts by early recognition and interventions with at-risk patients. This doctoral project consisted of a systematic review of the literature looking for the best tool for identification of suicidal patients by nurses in the emergency department.

Although previous reviews had been completed, there were limited evidence-based criteria for early identification because of the underreporting of attempts that occur (Ahmedani et al., 2014). Therefore, many gaps in current practice needed to be identified and a tool defined for use. This systematic review of the literature defined the tool and provide recommendations to conduct additional research.

Local Background and Context

On a local level, the Tennessee Suicide Prevention Network estimates that there is an average of three people who die by suicide in that state daily. In the calendar year 2016, 1,110 people died by their own hand, and the number has continued to steadily increase for the past 35 years (Tennessee Suicide Prevention Network, 2018).

On an institutional level, the local enterprise has many emergency departments and free-standing emergency centers. Therefore, the crisis with suicidal patients has been a factor in many of the service lines. First and foremost, correct identification of this patient population was difficult at best in the emergency department because most of the at-risk patients present with medical symptoms, and it is not always clear if they have suicidal ideation. It is often left to the nurse to discover the at-risk nature of their visit.

Also, because the organization covers a large portion of the United States, it is important for this project to be inclusive of all demographics, ensure that all regulatory requirements for patient assessments are met, and be certain that the mission and values of the organization remain intact.

Role of the Doctor of Nursing Practice Student

In my current practice as a DNP student with many years of experience as a registered nurse, I work for a large health care company in the United States. My current role is as a consultant to all facilities (i.e., hospitals, free-standing emergency departments, off-site clinics, and ambulatory surgery centers) for all regulatory, licensing, and accreditation matters. In my current role, issues were often noted with nearly every facility's emergency department related to throughput. When throughput was an issue, patients did not always get the treatment they needed or were seeking. Therefore, it was imperative that the nurse be able to identify at-risk patients quickly and thoroughly.

My role as a DNP student brings this well-known issue a new sense of purpose for the organization related to the treatment of at-risk populations that are seen in the hospitals daily. My motivation stems from the fact that this is a treatable disease process when recognized early. I did not define any potential bias affiliated with conducting this systematic review of the literature at this time.

Summary

In summary, suicidal ideation is a risky behavior that can be identified in the emergency department if the staff is trained to use an effective tool for the identification

of this specific patient population. The use of a tool that force functions the appropriate questions and screening will ensure better outcomes for at-risk patients.

Section 3: Collection and Analysis of Evidence

Introduction

Because there has been no decrease since the beginning of the 21st century in patients who commit suicide (CDC, 2018), the nature of this study was a systematic review of the literature that focused on the identification of appropriate screening tools to use in the assessment of the at-risk patient in the emergency department. Early identification of at-risk patients using a proper screening tool should result in more positive outcomes and lead to a decrease in suicides completed nationally.

In Section 3 of the project, I focused on the practice question, the sources of evidence, how the data was analyzed, and the synthesis of the project. The methodologies used for data collection and article reviews were critical to ensuring the integrity of the project, and this section defines the plan of action.

Practice-Focused Question

The practice-focused question was:

PFQ: Which valid and reliable suicide assessment tools were considered in the current literature to be the best evidence-based instruments to identify emergency department patients who were at-risk for suicide?

Sources of Evidence

In this systematic review of the literature I sought to identify best practice assessment tools used for identification of at-risk patients for suicidal ideation. I used the following databases for research: CINAHL, Medline, ProQuest, PubMed, Cochrane Database of Systematic Reviews, and Ovid, all accessed through the Walden Library.

The systematic literature review begin with the following word combinations entered the search engines as recommended by the Walden Librarian: *suicide*/AND *emergency department* (7,769), *suicide*/AND *emergency nursing* (416), *suicide*/AND *screening tool* (473), *suicide*/AND *emergency care* (2,101), *suicide prevention*/AND *nursing* (2,375), *suicide prevention*/AND *emergency care* (177), *suicidal ideation*/AND *nursing* (2295), *suicidal ideation*/AND *screening* (4,441), and *suicidal ideation*/AND *screening tools* (462). The total number of articles were 20,509 available to review, and after screening for duplicates and inclusion and exclusion criteria, this left 10 to review.

The inclusion and exclusion criteria included only peer-reviewed research written in the English language, and other inclusions and exclusions were identified during the literature review. Literature included for use in this systematic review was documented using a PRISMA flow diagram (Moher et al., 2009). The PRISMA flow diagram identifies the number of records reviewed, screening of the records that occurred, studies that were included to form the denominator and studies that were excluded because they did not meet criteria.

Literature was reviewed and organized using a summary of findings table following the recommendation of the *Cochrane Handbook for Systematic Reviews* (Higgins & Green, 2011). The quality of the evidence was graded using the Melnyk's hierarchy of evidence and included in the summary of findings table (Melnyk & Fineout-Overholt, 2011). Melynk's hierarchy of evidence consisted of several levels of grading from the least reliable research to most valid as evidenced below:

- Level I: Evidence from a systematic review of all relevant randomized controlled trials or evidence-based clinical practice guidelines based on systematic reviews of the randomized controlled trials.
- Level II: Evidence obtained from at least one well designed randomized control trial.
- Level III: Evidence obtained from well-designed controlled trials without randomization, quasi-experimental.
- Level IV: Evidence from well-designed case-control and cohort studies.
- Level V: Evidence from systematic reviews of descriptive and qualitative studies.
- Level VI: Evidence from a single descriptive or qualitative study.
- Level VII: Evidence from the opinion of authorities and reports from expert committees (Melynk & Fineout-Overholt, 2011).

Analysis and Synthesis

I conducted analysis and synthesis to identify all strengths, weaknesses, and any gaps that the research identified. All the prior steps should have led to valid and reproducible research that included a recommendation for screening tools. This recommendation for the screening tools met the project purpose and helps to fill the current gap in practice for nursing.

Summary

The systematic literature review did reveal a tool for nurses to use to accurately identify at-risk suicide patients who present to the emergency department for treatment

and care and made the recommendation for additional research. I conducted an in-depth, comprehensive review of current literature. Nursing will be able to use this research to improve the care and treatment of all patients presenting to the emergency department to ensure their safety and to improve clinical outcomes using evidence-based research.

Section 4: Findings and Recommendations

Introduction

Suicide is a factor not only nationally but also on the local level. Hospital emergency rooms are a setting that people often use for medical care. It was estimated that 20% of fatalities as a result of suicide had visited an emergency room within 1 month of their deaths (NIMH, 2017). The practice-focused question that this systematic review of the literature focused on was:

> PFQ: Which valid and reliable suicide assessment tools were considered in the current literature to be the best evidence-based instruments to identify emergency department patients who were at-risk for suicide?

Therefore, the current gap in practice that had previously been identified in this article was nursing's lack of easy recognition of key risk factors for this patient population (Department of Veterans Affairs, 2012). Identification of the appropriate assessment tools that will help nurses to more readily recognize at-risk patients was crucial. The identification of a proper tool took into consideration that factors like home environment and knowledge of prior attempts could improve the ability of the nurse to properly intervene (Leon et al., 2017), serving as the main purpose for this review.

Sources of Evidence

This systematic review of the literature garnered information to try to identify the best practice assessment tool for at-risk patients to present to the emergency department. The sources of evidence were gathered through research conducted at the Walden University Library with the helpful resources of the library informationists. I used several

scholarly search engines in this systematic review: CINAHL, Medline, ProQuest, PubMed, Cochrane Database of Systematic Reviews, and Ovid. The literature review began with the following word combinations: *suicide*/AND *emergency department, suicide*/AND *emergency nursing, suicide*/AND *screening tool, suicide*/AND *emergency care, suicide prevention*/AND *nursing, suicide prevention*/AND *emergency care, suicidal ideation*/AND *nursing,* and *suicidal ideation*/AND *screening.* The analytical strategies were the core of this review and included search strategies that helped to define the inclusion and exclusion criteria for this paper. These strategies helped to identify sentinel literature that was imperative for the success of the project.

Exclusion Criteria

Research articles were excluded if they were (a) non-English language literature, (b) non-peer reviewed research, (c) not specific to the at-risk patient in acute distress (d) research that was not applicable or could not be applied to emergency room settings, and (e) did not address specific suicide assessment tools.

Table 1

Articles of Exclusion

Author/Year	Article of exclusion: Titles	Rational for exclusion
Diamond, G.S. et al. (2017).	Comprehensive screening for suicide risk in primary care	Screening for suicide risk was not applicable for use in the emergency department.
Hawes, M. et al. (2017).	The Modular Assessment of Risk (MARIS) for Imminent suicide.	This study focused on patients that had already been identified as high-risk for suicide in a psychiatric hospital. The tool is utilized currently to predict safe discharges.
Inagaki, M. et al. (2014).	Interventions to prevent repeat suicidal behavior in patients admitted to an emergency department for a suicide attempt: A meta-analysis.	The meta-analysis focused on patients that had a previous suicide attempt and what interventions could prevent additional attempts.
Lento, R.M. et al. (2013)	Using the Suicide index score to predict treatment outcomes among psychiatric inpatients.	The data was obtained using participants that were already hospitalized in an in-patient setting.
Perry, A.E. et al. (2010)	Screening tools assessing risk of suicide and self-harm in adult offenders: A systematic review.	Subjects for this study were adult offenders that were incarcerated and not applicable to emergency room setting.
Poznanski, E. O. et al. (1997)	Psychometric properties and clinical utility of the scale for suicidal ideation with inpatient children.	Focus was on inpatient children and not on acute onset of ideation presenting to the emergency department.
Rimkeviciene, J. et al. (2016).	Assessment of acquired capability for suicide in clinical practice.	The study identified that the clinical utility was limited at best.
Rimkeviciene, J. et al. (2019).	Development and validity of the personal suicide stigma questionnaire (PSSQ): A new tool to assess stigmatization among those that are suicidal.	Study focused strictly on the stigma of a person with suicidal ideation. Not the identification of the at-risk patient.

Inclusion Criteria

The criteria for inclusion consisted of (a) literature written in the English language, (b) only peer reviewed literature, (c) research less than 5 years old (unless considered classic research or the research related to the development of the original tool), (d) settings that would be applicable to emergency department care and services, and (e) research specific to suicide and the assessment of the at-risk patient. Although there were large numbers of literature available, the majority were not specific to the scope of this paper.

Table 2

Articles of Inclusion

Author/Year	Level of evidence using Melnyk	Study design	Setting	Participants	Outcome
Batterham, P. *et al.* (2015)	Level 1	Systematic Literature review	Australia	Adult patients that self-reported suicidal ideation in population-based research	Beck Scale for Suicide Ideation (BSSI) and the Adult Suicidal Ideation Questionnaire (ASIQ) both met the criteria for validity
Beck, A., et al 1999	Level 2	Longitudinal study	Evaluated at University of Pennsylvania between 1975-1994	*n* =3.701 outpatients	Scale for Suicide Ideation (SSI)
Boudreaux, E.D., *et al.*	Level 4	Case Control	Eight hospitals in	*n* =236,791 ED Patients	Research showed that

(2017).		study	seven U.S. states.	visit records.	the use of a universal suicide screening tool was feasible and resulted in double the number of patients identified to be at-risk for suicide.
Cutcliffe, J.R., (2004).	Level 7	Descriptive Design Study/Case Reports using expert opinions	Various settings all involving teams of experts in psychiatric hospital settings.	Psychiatrists, senior clinical nurses, and senior nursing academics	As of publication of this article, no wide scale research has been completed. Expert opinion in this research concluded that the Nurses' Global Assessment of Suicide Risk (NGASR) is a reliable tool
Cwik, J.C., *et al.* (2017).	Level 6	Descriptive Design Study	German college students/and users of social media. Conducted in Germany.	*n*= 503 students 453 females 50 males. The tool that was the focus of this study was the Cognitions Concerning Suicide Scale (CCSS). This	Three factor structure with the factors being: Right to commit suicide, interpersonal gestures, and resiliency were identified. Additional

				tool assesses attitudes toward suicide and one's risk.	studies need to be completed to determine if effective to identify at-risk patients.
Horowitz, L.M., *et al.* (2012).	Level 6	Case Report/Case Series	Three metropolitan pediatric emergency departments that were associated with teaching hospitals.	*n*= 524 patients aged 10-21 who presented to the pediatric emergency department.	The researchers utilized the brief four question Ask Suicide-Screening questions (ASQ) tool. They were able to validate that the tool can identify pediatric patients at-risk for suicide that present to the emergency department.
Kerr, D., *et al.* (2014).	Level 2	Randomized control study	Adolescent girls in the Northwestern United States that were involved with the juvenile justice system	*n= 166 females that were in state mandated foster care programs. The girls were 13-17 years of age and varied ethnic backgrounds.*	That the use of the Columbia Suicide Screening Tool (C-SSRS) was a valid tool to utilize with this patient population.
Posner, K. et al., (2011)	1st study was a Level 7	1st study was a Case report/Case Series using	1st study- Adolescent suicide attempters	*n*= 124 adolescent suicide attempters	The outcomes evidenced that the

		expert opinions			Columbia Suicide Severity Rating Scale (CSSRS) showed that this tool is effective for the use as an assessment tool for at-risk patients presenting to the emergency department.
	2nd study was a Level 2 3rd study was a Level 6	2nd study was a randomized Control 3rd study was a Case report/Case series	2nd study- depressed adolescents 3rd study- adults presenting to the emergency department.	*n*= 312 depressed adolescents *n*= 237 adults presenting to an emergency department	
Range, L., (2004)	Level 7	Case Report	Review of the original study by Beck, A., et al. (1979).	*n* =3.701 outpatients	Beck Scale for Suicide Ideation (SSI) research shows high internal validity.
Ronquillo, L., *et al.* (2012)	Level 1	Literature Review	Reviews of Case studies and reports	Systematic review of the literature with 1326 articles narrowed to 51 for final review.	Modified sad persons score was reviewed along with the Manchester self-harm rule. Research shows these tools identify low risk patients and not the high risk as needed for the emergency room setting.

Findings and Implications

I conducted the analysis of the systematic review of the literature related to assessments of patients being at-risk for suicide using Melnyk's levels of evidence (Melynk, & Fineout-Overholt, 2011). The use of Melnyk's levels of evidence directed the hierarchy of the 10 articles reviewed. The inclusion and exclusion chart were written for ease of use for the reader to quickly determine the importance of the research. The second section discusses the actual findings and implications from the systematic review of the literature. Unanticipated limitations included were that several articles that were reviewed discussed the tools that were available for use and the methodology for use but no research to determine the validity of the tools was evidenced. Therefore, they had to be excluded from the review. Although excluded, this literature was helpful in determining the targeted review that was finally conducted with the use of the PRISMA diagram (see Appendix).

Level 1: Systematic Review

According to Melynk's level of evidence, Level 1 was the systematic review and meta-analysis of randomized controlled trials (Melynk & Fineout-Overholt, 2011). The research conducted by Batterham et al. (2015) consisted of a systematic review of the literature focused on measures of suicidal ideation and associated behaviors. This review was conducted using a two-stage methodology: Stage I identified measures that would be a part of the final review and Stage II contained evaluation of the criteria (Batterham et al., 2015). The measures that the researchers identified had to contain items that assessed suicidal ideation, that could be self-reported, and were only from an adult population. In

Stage II, the assessment had to be easy to understand and not be time consuming, it could measure the patient's actual intent, and it was easily available. The research yielded 19 measures that were identified and were evaluated in Stage II. The final outcomes were that two suicide assessment screens were recommended by the research; The Beck Scale for Suicide Ideation (Beck & Steer, 1991) and the Adult Suicidal Ideation Questionnaire (Reynolds et al., 2009), even though they did not meet all of the initial Stage I criteria of being easily accessible, as both have financial costs associated with their use (Batterham et al*.,* 2015). In addition, the researchers recommended that additional research be conducted using the same evaluation criteria that they utilized.

Ronquillo et al. (2012) conducted a review of the literature looking at methods of screening for patients' presenting with suicidal ideation to the emergency department. The criteria for inclusion was that the tool must be appropriate for use in the emergency department and for use on an adult population only and the tool needed to identify who was at the lowest risk. Their research determined that there was not a gold standard for a tool to identify the at-risk patient for suicide in the emergency department. Therefore, the researchers for this study focused on identification of patients who were at low risk for suicide when presenting to the emergency department. This research looked at the effectiveness of the Modified Sad Persons score (Hockberger & Rothstein, 1988). The goal of this tool was to recognize high risk for suicidal ideation and who needs to be immediately hospitalized whether voluntarily or involuntarily and who can be referred and treated in an out-patient setting. This tool consisted of 10 questions or queries making it relatively quick and easy to use. The second tool that was analyzed in the same

study was the Manchester self-harm rule (Cooper, Kapur, Dunning, Guthrie, Appleby, Mackway-Jones, 2006). This tool consisted of only four questions, making it simple and quick to use, especially in the emergency department setting.

Both tools have several disadvantages as the Modified Sad Persons score requires a digital tool for patient answers to give a finalized score, and because the tool was created in a psychiatric setting for an emergency room, it may not transfer to the acute care setting like an emergency department. The second tool, the Manchester self-harm rule, asks a question specific to the use of benzodiazepine, which was recognized as high usage in the market that the tool was first tested in, but this did not prove true in every market, making the tool less reliable. The researchers concluded that additional research needs to be conducted to validate the use of either of these tools in the acute care emergency room settings (Ronquillo et al*.,* 2012).

Level 2: Randomized Controlled Trials

The research conducted by Beck et al., (1999) was a longitudinal cohort study consisting of 3,701 outpatients who were evaluated between 1975-1994 at the University of Pennsylvania. Two screening tools were reviewed: The Beck Scale for Suicide Ideation (Beck et al., 1979), and The Beck Hopelessness Scale (BHS) (Beck et al., 2015). The Beck Scale for Suicide Ideation (BSI) was then researched as BSI in current state and BSI at the worst portion of a patient's life. The study defined the importance of assessing not only the patient's current propensity for committing suicide but also assessing for the severity of past ideation (i.e., plan in place or attempt). This single item

of deliberate self-harm had been named by several researchers as the greatest predictor of additional episodes of self-harm after discharge (Hawton, Zahl, Weatherall, 2003).

According to the research by Beck et al., (1999), the greatest predictor of suicide was the Beck Scale for Suicide Ideation that was focused on the worst point in patient lives. This evaluation proved that the validated BSI tool was a valuable predictor of suicide ideation in patients who had long-term risks of suicide (Beck et al., 1999).

Kerr, Gibson, Leve, & DeGarmo, (2014) conducted research using the Columbia Suicide Severity Scale (C-SSRS) (Posner et al., 2011) looking at the use of the scale as a predictor for suicide with adolescent girls. This was a relatively small randomized control study with 166 participants (81 in one cohort and 85 in the other) (Kerr et al., 2014). Several arms of the study were completed from a 7-12-year period starting at the baseline suicide attempt history through thoughts of suicide to attempts into early adulthood. This study looked at a cohort over time and the use of the Columbia -Suicide Severity Rating Scale (C-SSRS) completed repeatedly resulting in the validation of the tool both retrospectively and current (Kerr et al., 2014).

Posner et al., (2011) developed the Columbia -Suicide Severity Rating Scale (C-SSRS) which is a standardized methodology for assessing for suicidal ideation and identifying the behaviors associated with suicidal risks. One of the benefits of this tool for use in the emergency department was that there were different versions of the tool based on the use. For the purpose of this review the tool had to focus on patients' presenting to the emergency department. Posner et al., (2011) developed a brief version of the tool with only three to six questions making it ideal for the often-brief encounter in

the ED. Although the original study consisted of three different types of research studies in this section, we will focus on the second study that was a randomized control study that had 312 participants that were adolescents at the time, ranging in age from 11-17 years of age. All the participants had at least one episode of major depressive disorder and they were all administered the C-SSRS multiple times. The predictive validity of the tool was obtained through this study matching the outcomes for the other two studies that are discussed in different areas of the paper as they fell into other Levels of Melynk's Evidence (Melynk, & Fineout-Overholt, 2011).

Level 3: Controlled Trials With no Randomization

In this systematic review of the literature no Level 3 studies were reviewed or utilized.

Level 4: Case Control or Cohort Studies

Boudreaux et al. (2015) conducted randomized controlled trials looking at how to improve suicide risk screening and improve the accurate detection in acute care emergency room settings. The study was conducted in three phases using interrupted time series design looking at 236,791 patient records from eight different emergency departments in seven states from 2009-2014. Phase 1 of this large-scale study focused on patients that received the treatment as usual, Phase 2 consisted of universal screening, and finally Phase 3 involved universal screening and interventions. The Patient Safety Screener-3 was the screening tool utilized in the study. This tool assesses signs of depression, any active thoughts of suicide that have occurred, or an actual suicide attempt within the last six months (Boudreaux et al., 2015). This tool was chosen because it has

been rated and validated as reliable as the Beck Scale for Suicide Ideation and for it's ease of use in the emergency department setting (Boudreaux et al., 2015).

Limitations to this study were identified by the researchers in the following way; the study was not blinded to the research assistants possibly allowing for their individual bias to enter and skew the study results causing concern for this author to recommend the tool.

This research is considered landmark research because it was the first study to look at the importance of universal suicide screening in the emergency department and the screenings ability to identify at-risk patients for suicide (Boudreaux et al., 2015). Final results showed that the use of 100% screening for patients could lead to an additional 10,000 patients being identified yearly as suicidal in through the emergency department visit (Boudreaux et al., 2015) therefore, making a strong case for 100% screening of all patients presenting to the emergency department for treatment and care.

Level 5: Systematic Review of Descriptive and Qualitative Studies

In this systematic review of the literature no Level 5 studies were reviewed or utilized.

Level 6: Single Descriptive or Qualitative Study

Researchers Cwik et al., (20175) researched the Cognitions Concerning Suicide Scale (CCSS) that was developed by Biblarz et al., (1991). This study consisted of 258 participants from January of 2014 – April 2015 in Germany. The CCSS tool consists of 20 questions that were answered by the patient self-reporting their answers via a Likert Scale scoring from 0 to 5. The tool was developed in the English language but was

translated for use with German patient and then translated back to English for publication (Biblarz et al., 1991). The CCSS tool had a high test and retest reliability score of rtt=0.80. Although this test has high reliability, the use in the emergency department setting would be limited due to the nature of the test being self-reported without screening being conducted by a health care professional. In order to obtain risk scores for all patients' and to interpret the scores, even though the tool only had 20 questions would be self-restricting due to the number of patients seen daily in the ED.

In the third study that Posner et al. (2011) conducted to try and validate the predictability of the Columbia-Suicide Severity Rating Scale (C-SSRS). Again, the research consisted of three studies and study number three was a single descriptive study. Study 3 consisted of evaluating post-evaluations conducted by emergency department providers at three locations. Participants were 237 patients' presenting to the emergency department for psychiatric care that were at least 18 years of age. The *n* consisted of those patients that had a suicide attempt, those that stated intent to complete self-harm, and those that engaged in self-harming behavior but did not voice suicidal intentions. The use of the tool with this patient population exhibited 100% scores in specificity and sensitivity in the identification of actual attempts in one's lifetime and the score for interrupted attempts was 99% specificity and 94% sensitivity (Posner et al., 2014). The final conclusion was that the use of the C-SSRS in evaluation of patients presenting to the emergency department found that when a prior suicide attempt had been identified by the tool, it had a four-time greater accuracy of predicting additional actual attempts (Posner

et al., 2014). This makes the C-SSRS tool highly valuable for use in the emergency department.

The final Level 6 study that was reviewed by this author looked at the Ask Suicide Screening Questions (ASQ) tool. Authors Horowitz et al., (2012) studied the results of 524 pediatric patients presenting to the emergency room between September of 2008 and January of 2011. The participants were between the ages of 10-21 years of age and to one of the three enrolled pediatric teaching institutions. The ASQ tool consisted of four questions based on behavior and ideation (Horowitz et al., 2012) thus identifying ease of use in the pediatric emergency room setting. The research was based on the use of the ASQ tool with the Suicidal Ideation Questionnaire (SIQ) (Reynolds et al., 2009) serving as the standard for criteria. Results of the use of the four question ASQ tool showed high propensity for accuracy with a 97% result of identifying participants with suicidal ideation (Horowitz et al., 2012). In addition, it showed the patients not at-risk were helped by not over diagnosing that could result in unnecessary care and potentially more trauma to the patient (Horowitz et al., 2012). The greatest advantage of the tool is that it can be administered in under two minutes allowing for high volume pediatric emergency departments the benefit of not burdening patients and parents with lengthy questions prior to diagnosis. The limitation to the tool was that it was only researched on the pediatric emergency department.

Level 7: Expert Opinion

The first article reviewed for the Level 7 evidence (Melynk & Fine-Out, 2011) was looking at the Nurses' Global Assessment of Suicide Risk (NGASR) tool (Cutcliffe

& Barker 2004). This tool was designed with 15 questions to be asked of the patient and that all information could be garnered during triage or admission process with easy tallying of scores to determine risk. One benefit that was identified with the use of the tool was building the level of knowledge and confidence for the novice nurse to better understand patients that might present with thoughts of suicide (Cutcliffe & Barker, 2004).

Limitations to the NGASR study were that there have been no wide scale research projects conducted looking at the validity of the scale. Author's Cutcliffe and Barker only used an expert panel (i.e., senior nurses and senior nursing academics) to review the tool and render their expert opinions on the use and outcomes. This type of validation only involves face and content validity not criteria-based research. Therefore, additional research needs to be conducted related to the use of the tool in patients' presenting to the emergency department.

Author Range (2004) looked at many tools that were in use to identify patients at-risk for suicide. Her first review was of Beck's Scale for suicide ideation (Beck et al., 1979). Again, this tool has 19 questions for the patient to respond to and it is scored using a Likert Scale of 0-2. This tool focuses on active, passive, and preparations for suicide (Range, 2004). This tool had scored with consistent internal validity on numerous occasions with Range quoting Alpha= .89 from Beck's research (Beck et al, 1979). One interesting finding was that when the Beck tool for suicidal ideation was delivered to the patient electronically, the patient appeared to be more honest than when the clinician verbally asked the questions (Range, 2004). This opens an entire new idea for research.

The article was written using much of the author's own expert opinion and then by backing it with facts from other researchers. Her conclusions address that there were many tools available and that it is up to the clinician to ensure the use of the correct tool for the population is utilized. Factors to consider for success in identification is the age of the patient, ease of use for the tool, cost of the use of the tool, and finally setting for use of the tool (Range, 2004).

In the 2nd study conducted by Posner et al., (2011) from their initial work that contained three separate studies all related to the use of the Columbia-Suicide Severity Rating Scale (C-SSRS), it was a medication efficacy trial with 312 adolescents (age 12-18 years of age) with a past attempt for suicide within 90 days of the start of the study. This study focused on the C-SSRS in comparison to Beck's Scale for Suicide Ideation and Beck's Lethality Scale for criteria. The Suicide Evaluation Board (panel of experts in suicide) looked at all cases but did not actively participate in the trial instead relying on the final statistical analysis of the data gathered from the study. The C-SSRS tool had a 99.4% specify and 100% sensitivity in identification of attempts from the subjects and most importantly, a 100% sensitivity for both the actual attempts and interrupted attempts (Posner et al., 2014). Therefore, the use of the tool as intended was again validated as effective.

Recommendations

This systematic review of the literature was completed looking for a proposed best tool to answer the following question:

PFQ: Which valid and reliable suicide assessment tools were considered in the current literature to be the best evidence-based instruments to identify emergency department patients who were at-risk for suicide?

This significant gap in practice as identified by the systematic review of the literature and the findings listed above could be addressed by the following proposed solutions:

1. Mandatory education for all nurses in the United States that have daily contact with patients who might be at-risk for suicide.
2. Development of national and state policies related to mandatory screening of at-risk patients in the emergency room as well as mandatory regulatory requirements from accreditation bodies (i.e., The Joint Commission).
3. Research and identify strategies to help nurses assess patients without the necessary use of a predictive tool (i.e., use of eye contact and asking correct questions to determine true nature of visit) and clear understanding that suicide is preventable by all practitioners in the emergency department.

The first item identified was the need for mandatory yearly nursing education in assessing for the at-risk patient in all 50 states and U.S. territories for nurses who have daily contact with patients. Currently, in the U.S. only a couple of states require annual CEU education related to suicidal ideation (i.e., Washington State; Kuebel, 2016). State Nursing Licensing Boards need to mandate this education be completed yearly much like many currently do related to opioid crisis and human trafficking.

The second item identified was the need for additional health care policies that recognize that suicide had reached crisis levels in this country having shown growth over

the last 10 years with no reductions in deaths (CDC, 2016). Although The Joint Commission had made a regulatory requirement related to suicidal patients, it has not mandated screening for all patients presenting to the emergency department (Joint Commission, 2018). The issue of facilities not screening patients often is reflective of the initial purpose of this research; finding the best tool to identify patients at-risk for suicide in the emergency departments and making it available consistently.

The last gap in practice identified was the education around patients that present to the emergency room for care and treatment and how to recognize without the use of a predictive tool. Nurses need to be aware of what exactly was bringing patients to the emergency room as it is estimated that 45% of people that died by lethal suicide had contact with a health care provider with in one month of their death (Luoma et al., 2002). Many patients will present to the emergency department complaining of other physical symptoms when it is often the emotional issues bringing them in with manifestations of the physical body (Ahmedani et al., 2014). Nurses need to understand what questions were important in the absence of a tool and how to connect with the patient in what a very brief encounter is often. The importance of non-verbal (i.e., eye contact), verbal (i.e., asking the needed questions), and attitude were often discussed in all areas of effective communication (Kee et al., 2018).

Strengths and Limitations of the Project

The systematic review of the literature showed many strengths and limitations with the research that had been conducted prior. Although there is still much work to do this systematic review of the literature did identify several strengths related to a few tools

that can be utilized in the emergency room. The first strength of the review was that the articles reviewed were peer-reviewed, written in English, and met the criteria for Melynk's Levels of Evidence (Melynk & Fineout- Overholt, 2015). The two highest levels of evidence reviewed Level 1 (a systematic review of the literature) and Level 2 (randomized control trials) identified two tools that had the most validated research using the highest level in the hierarchy: Columbia-Suicide Severity Rating Scale (Posner et al., 2014) and the Beck Scale for Suicide Ideation (Beck & Steer, 1991). Both tools had been tested and validated for use in the emergency department setting with several identified strengths: both had ease of use, simple to utilize and understand, had cross-cultural validation, and validated reliability that was consistent in several research studies.

Although the two prior tools had several strengths there were still many limitations in the research. Bowers et al., (2017) identified a tremendous gap in research being conducted specific to emergency department patients for assessments related to suicidal ideation and this author found the same concerns. There still was not an identified gold standard tool recommended for utilization in emergency departments nationally (Mills & Kroner, 2000) and the review did not identify any that would fit all circumstances (i.e., adult versus pediatric use). Additional limitations to the use of these two tools was the cost associated with the use and the tools were both currently in paper form and not electronic for ease of dissemination. Other general limitations noted in the research used for the systematic review of the literature were that several of the articles were in lower hierarchy levels of research. Many used expert opinions which were at the

lowest Level 7 and several others fell in Levels 5 & 6 making them also less valuable to the review (Melynk & Fineout- Overholt, 2015).

The recommendation from this DNP student is that the Columbia-Suicide Severity Rating Scale (C-SSRS) be utilized in the emergency room departments of the local organization. This would require additional research that meets all of the much needed criteria for ease of use, low cost, ease of dissemination, and highly reliable for a predictor of suicidal risk for patients presenting to the emergency department, and current research recommends 100% of screening for all emergency room patients (Boudreaux et al., 2014). Additional studies especially more systematic reviews of the literature and meta-analysis need to be completed.

Section 5: Dissemination Plan

The plan to disseminate this information will be to share with senior nursing leaders at the corporate level in order to drive the needed changes of education and resources. This is especially important for nurses currently on the frontlines of the emergency department throughout the United States where the organization operates emergency departments. Sharing of this literature review will drive the discussion and actions needed as this research has the potential to change patient outcomes for the better. These changes will be driven using evidence-based assessment requirements for all patients presenting to the emergency department. The identification of these patients is necessary to change the ever-rising numbers of patients committing suicide annually (CDC, 2018). Once approved, stakeholder meetings will be held to identify using a Gantt chart for the timelines and resources needed for effective rollouts. All use of the recommended tool will need to be properly vetted through the corporate legal team to ensure all licensing and copyright issues are addressed prior to the initial roll-out of the tool. In addition, the large volumes of patients who are cared for and treated in our emergency rooms will potentially allow for additional research to even further validate the tool on an larger scale.

Analysis of Self

The importance of the subject of at-risk patients for suicide who present to the emergency department for care and treatment was the driving factor for this systematic review of the literature. As a doctoral student learner, the importance of identifying a critical need to nursing practice was the foundation of this entire program. The

identification of the practice problem, the methodical plan for change, and implementation was what has helped to create the terminal degree of the doctorally prepared nurse (American Association of Colleges of Nursing, 2006). As a doctoral candidate, I have worked to ensure full comprehension of the process and, most importantly, how to research and determine the question that needs to be answered. This program will effectively guide me in my work roles and process improvements for better patient outcomes and in promoting my long-term professional goals of excellence in the management and delivery of improved patient outcomes.

The completion of this project has challenged me in several areas. As an adult learner, the most needed characteristics are critical thinking and the ability to self-direct. The self-directed portion of my learning has often been challenged by the competing needs of my current role, but I have had to learn how to manage and multitask in the most effective of ways (i.e., blocking of time to study, forgoing immediate wants for long term goals, and, most importantly, challenging myself to meet timelines). The completion of this project has given me confidence to know that my ideas are backed up by the most relevant research and that I am valued enough to now require that "seat at the table" with other scholarly leaders in my organization.

Summary

The main goal of this systematic review of the literature was to find the answer to the project question:

PFQ: Which valid and reliable suicide assessment tools were considered in the current literature to be the best evidence-based instruments to identify emergency department patients who were at-risk for suicide?

In more than one study, the literature identified, the Columbia-Suicide Severity Screening Tool (Posner et al., 2014) as one of the more effective tools. This tool seems well-suited to meets the needs of the local healthcare system and will be recommended to leadership for inclusion in the organization's emergency departments. Suicide is a national epidemic, and recommend additional research, funding, and more national focus on this devastating public health concern.

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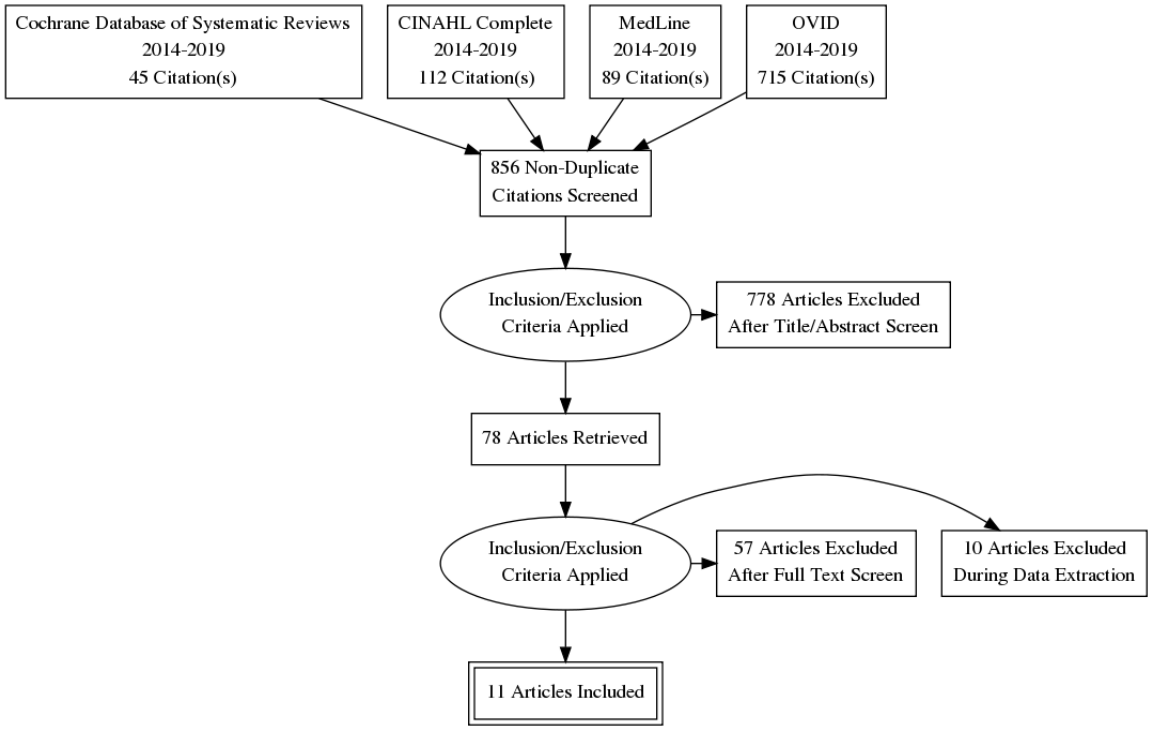
Appendix: PRISMA Diagram



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and MetaAnalyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097