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Nonfatal Strangulation Continuing Education Program for Forensic Nurses

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Walden University

College of Health Sciences

This is to certify that the doctoral study by

Pamela Holtzinger

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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The Office of the Provost

Walden University
2019

Abstract

Nonfatal Strangulation Continuing Education Program for Forensic Nurses

by

Pamela Holtzinger

MS, Towson University, 2011

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

August 2019

Abstract

Patients experiencing nonfatal strangulation during intimate partner violence (IPV) are suffering the consequences of unrecognized injuries and delayed life-threatening medical sequela. Forensic nurses offer expertise in the physical assessment and documentation to a variety of assault victims including those impacted by IPV. This project addressed whether an educational program on nonfatal strangulation increased the knowledge and assessment skills of forensic nurse examiners. The purpose of this doctoral project was to develop a continuing education program on the topic of nonfatal strangulation for forensic nurse examiners. The project design was created using Knowles's adult learning theory principles. The content outline was guided by the International Association of Forensic Nurses Nonfatal Strangulation Toolkit as well as input from content experts on nonfatal strangulation. The evaluation of the project was through pre- and posttest scores. The nonfatal strangulation continuing education training resulted in a statistically significant increase in participants' posttest scores (z -value= -3.064; p value =.002) indicating that the training material and teaching modality positively affected the participants test scores. This continuing education program on nonfatal strangulation increased knowledge of forensic nurse examiners and its application in the field might contribute to positive social change by increasing the identification of IPV and providing appropriate intervention.

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Dedication

I dedicate this to my husband and children who encouraged and supported me through countless hours of coursework while I pursued my dream for higher education.

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I would like to acknowledge my committee members Dr. Barbara Niedz, Chair, Dr. Anna Valdez, Member, and Dr. Faisal Aboul-Enein, URR for their guidance in completing the project. I would also like to acknowledge Dr. Whitehead for recognizing the value of the project and encouraging me to continue.

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Section 1: Introduction

Introduction

Patients experiencing nonfatal strangulation during intimate partner violence (IPV) are suffering the consequences of unrecognized injuries and delayed life-threatening medical sequela. Strangulation is a form of asphyxia produced by impeding blood flow through the neck using external compression (Sturgeon, 2015). The complex nature of IPV assaults produce a broad range of physical and emotional health concerns making it difficult to detect strangulation related injuries (Sorenson, Joshi, & Sivitz, 2014). Health care providers, in particular forensic nurses, are trained to use screening questions to identify health-related risks associated with IPV. However, many health care providers are unaware of the prevalence for obscure injury and delayed death associated with nonfatal strangulation (Foley, 2015).

Forensic nurses offer expertise in the physical assessment and documentation to a variety of assault victims, including those impacted by IPV. In 2016, the International Association of Forensic Nurses (IAFN) published documents acknowledging the need for nonfatal strangulation training for forensic nurses. Despite the recognized need for the specialty training, there is no standardized educational training program to address the knowledge and skills critical to effectively evaluate patients with a history of nonfatal strangulation.

The purpose of the DNP project was to provide a continuing education program that will improve forensic nurse knowledge and skills to effectively respond to victims of

nonfatal strangulation. The targeted training for forensic nurses offers expanded knowledge to prevent missed symptom identification for the nonfatal strangulation patients. Improved skills assessment through standardized evaluation approaches improves identification of occult medical conditions and offers documentation which can be used as supporting evidence in criminal court proceedings (Sturgeon, 2015). The continuing education program was created to address the critical need for nonfatal strangulation training specifically for forensic nurses.

Problem Statement

Domestic violence, including IPV, affects one in four women (Maryland Network Against Domestic Violence [MNADV], 2017). Nonfatal strangulation is a common method used in IPV assaults (Mcquown et al., 2016). In 2015, the local domestic violence shelter completed nearly 1,000 domestic violence screenings on IPV victims. Data from these screenings indicated that the reported history of strangulation by an intimate partner was identified most often in the high-danger patients. Despite the elevated risk for injury, there has been a lack of training specific to the medical-legal consequences of nonfatal strangulation (Sturgeon, 2015). Complete and accurate documentation is critical to the medical and legal process.

Forensic nurse examiners are experts trained in the evaluation of patients impacted by violence. For decades, forensic nurses have evaluated patients impacted by violence (IAFN, 2017). However, the forensic nurse training curriculum does not include the complex medical evaluation of patients experiencing nonfatal strangulation (Maryland Board of Nursing, n.d.). Forensic nurse examiners may not recognize the serious risk of

occult injuries such as the progressive edema of neck structures, carotid dissection, and vascular embolism that can be associated with nonfatal strangulation assaults (Vilke & Chan, 2011). The gap in knowledge related to the proper evaluation, evidence collection, and documentation has led to missed injury identification and inadequate evidence collection for prosecution (Sturgeon, 2015). Furthermore, many medical providers, including forensic nurses, are unaware of the lethality risks associated with a history of nonfatal strangulation without visible injuries (Foley, 2015). The wide range of health problems are often difficult to detect and are missed by untrained clinicians (Sorenenson, Joshi, & Sivitz, 2014). As a result, patients with higher risk of injury are not evaluated for health needs. Additionally, patients experiencing nonfatal strangulation are 750% more likely to be a victim of homicide if no interventions are initiated (Training Institute on Strangulation Prevention, 2017). In this DNP project, I addressed a critical need to offer training to prepare forensic nurses to respond to one of the most lethal forms of IPV. The DNP project offered one key strategy to improve the knowledge and assessment skills of forensic nurses to effectively evaluate victims of nonfatal strangulation.

Purpose

The purpose of this project was to provide a continuing education program that would improve the forensic nurse response to victims of nonfatal strangulation. Although many health care providers are trained to use screening questions to identify IPV, they are often unaware of the significantly high risk of injury and homicide associated with a history of nonfatal strangulation. The consequences of nonfatal strangulation events can result in minor to significant trauma, including superficial injuries of the skin, injuries to

the deeper anatomical structures of the neck, and neurological insults (Plattner, Bolliger, & Zollinger, 2004; 2005). A detailed physical assessment including reported complaints such as difficulty breathing, coughing, voice changes, loss of consciousness, vision changes, and involuntary loss of urine and stool should be included in the evaluation. Symptoms that have subsided are often under-reported unless questioned specifically by the clinician (IAFN, 2016). In this DNP project, I addressed the current gap in continuing education for forensic nurses to evaluate patients of nonfatal strangulation.

Targeted training for forensic nurses offers expanded knowledge to prevent missed symptom identification for the nonfatal strangulation patients. Improved skills assessment including documentation through standardized evaluation approaches offers the opportunity to identify and respond to the medical needs of the patients while also providing written and photographic evidence which can be used in criminal court proceedings (Sturgeon, 2015). Additionally, the education offers the opportunity to improve the medical-legal response by connecting patients to critical services within the medical and legal community. The development of the continuing education program met a critical need for forensic nurses to offer specialty evaluation and response specific to nonfatal strangulation. The practice-focused question that guided the DNP project was: Will an educational program on nonfatal strangulation increase the knowledge and assessment skills of forensic nurse examiners?

Nature of the Doctoral Project

The purpose of the DNP project was to address a critical gap in forensic nurse training related to the evaluation, documentation, and evidence collection of patients with a

history of nonfatal strangulation. Implementation of the DNP project took place at an acute care facility in a rural community hospital with forensic nurse examiners. The hospital's leadership approved the implementation of a new training specific to nonfatal strangulation education. This education program included a didactic session followed by skill building exercises to evaluate the mastery of patient evaluation skills and demonstration of newfound knowledge. The nonfatal strangulation education program included practical testing of the participants' acquired skills and knowledge through a post-program written exam created from the content outline and a competency-based checklist to evaluate core assessment and documentation skills. Evaluation of the project's success was measured by the post-training evaluation scores of the forensic nurses. The evaluation focused on critical components of patient assessment and interventions related to nonfatal strangulation.

The U.S. Department of Justice (DOJ) and the International Association of Forensic Nurses has supported nursing education for nonfatal strangulation through the development of the Nonfatal Strangulation Toolkit which outlines education recommendations for forensic nurse examiners (DOJ, 2016). The toolkit served as the foundation for this project. I utilized other sources of evidence to complete this project including a comprehensive online literature search using nursing, allied health, and related forensic databases. The review of evidence for this project included content-specific sources of publications from the Training Institute on Strangulation Prevention (TISP) and the IAFN. The anticipated results from the continuing education program were improved assessment, documentation, and evidence collection in nonfatal strangulation cases.

Significance

The stakeholders for this project were many. Staff nurses, forensic nurses, medical providers, the legal system representatives, patients, legislators and community members impacted by intimate partner violence. Providing nonfatal strangulation training for forensic nurses offers a template for standardized assessment and response to the specialty population. Development of the training has the potential to advance the forensic nursing scope by providing a template for other forensic nurses. The project has immediate transferability to other similar programs that offer full service forensic programs. The project offered improved patient medical-forensic assessments, advocacy, support through testimony, and improved evidence collection. Improved patient evaluation may also be instrumental in linking the patients to critical services within the medical and legal communities to mitigating factors that may result in further harm including homicide.

Summary

Nonfatal strangulation has emerged as a significant indicator for homicide in intimate partner violence cases. Unrecognized signs and symptoms lead to poor health outcomes for survivors. Education and skills training are necessary for practice change (White & Dudley-Brown, 2012). Trained clinicians who understand the significance of occult injury and the medical risks associated with nonfatal strangulation are better equipped to assess for pertinent symptoms. The DNP project offered education and skills training necessary for forensic nurse examiners to appropriately identify and respond to IPV patients at high risk for complications of nonfatal strangulation. In section 2, I will review the context for the proposed DNP project.

Section 2: Background and Context

Introduction

This DNP project offered an educational training program to provide forensic nurses with knowledge and skills critical to effectively evaluating nonfatal strangulation patients. The practice focused question for this project was: Will an educational program on nonfatal strangulation increase the knowledge and assessment skills of forensic nurse examiners? In this section, I will review the theory that guided the project's design, the context and relevance of this project to fill the identified gap in forensic nursing practice, and my role as the DNP student.

Concepts, Models, and Theories

I designed the DNP project as an educational program for adult learners. The adult learning theory offers constructs that align with the intent of the project's scope. The adult learning theory guided the development and implementation of the capstone project. According to Knowles (1984), adult learners exhibit characteristics that can be categorized into five assumptions. The five assumptions describing adult learner characteristics include self-concept, adult learner experience, readiness to learn, orientation to learning, and motivation to learn. Using the adult learning theory with experienced forensic nurses was appropriate as it aligned with the characteristics of the nurse population. Adult learning theory considers the experiences of the learner as they relate to the learning project, the autonomy of the experienced nurse, and the motivation behind the new process (Knowles, 1984). The DNP educational program design included the five assumptions of the adult

learning theory as they relate specifically to the forensic nurse population and the new continuing education program (Table 1).

Table 1

Adult Learning Theory Assumptions Related to DNP Educational Program

	Adult Learning Theory Assumption	Application to DNP Project
Self-Concept	Adult learners are independent and self-directed in learning.	Participants will be invited to attend. Opportunity to ask questions and clarify learning points.
Adult Learner Experience	Adult learners draw from experience to learn new information.	Encourage participants to share experiences related to subject matter. Use of familiar case-based scenarios.
Readiness to Learn	Adult learners engage in learning when it relates them socially and professionally.	Using current nurse workgroup. Highlight the current gap and training objectives for the educational program.
Orientation to Learning	Adult learners focus on immediate learning needs that are problem focused.	Problem focused training on nonfatal strangulation.
Motivation to Learn	Adults are self-motivated to learn.	Communicate the importance of learning the new material. Outcomes focused objectives that can be implemented immediately into practice to improve patient outcomes.

Terms and Definitions

The following terms were defined for use throughout the staff education project.

High Danger Patient: A patient that has a high risk of homicide related to domestic violence. This is determined by using the lethality assessment screening tool (MNADV, 2016).

Medical-Forensic Examination: An examination performed by a forensic nurse examiner for the purposes of medical evaluation, treatment for illness or injury, and consideration for evidence collection (MBON, 2018).

Nonfatal Strangulation Tool Kit: A document produced by the International Association of Forensic Nurses to provide forensic nurses with a guide on assessment techniques, documentation, and evidence collection for nonfatal strangulation patients (IAFN, 2016).

Strangulation: A form of asphyxia because of external pressure to the neck. For the purposes of this project, the term is used to describe the act during intimate partner violence events (TISP, 2017).

Relevance to Nursing Practice

I conducted the literature search on the practice problem of nonfatal strangulation using electronic databases including CINAHL, Medline, and EBSCO. I included articles less than 10 years old with exception of seminal research critical to understanding the current problem. I conducted the literature search using key terms *strangulation, nursing education, adult learning, intimate partner violence, and domestic violence*. I used Boolean operators “and” and “or” were used between terms to provide articles related to the specific content of this project.

I focused on the education of forensic nurses on the topic of nonfatal strangulation. The following summary offers evidence on the relevance through discussion of nonfatal strangulation as a health and safety issue and the influence of forensic nurse certification

requirements and state regulations as it related to the development of this education program.

Nonfatal Strangulation

Nationally, over eight million women and four million men have reported being assaulted by an intimate partner (CDC, 2017). Nonfatal strangulation is a common form of IPV and is unequivocally one of the most lethal acts of domestic violence (TISP, 2018). Of the identified high-danger cases of IPV, 68% will experience nonfatal strangulation by a partner (TISP, 2018). Anyone experiencing nonfatal strangulation during any IPV has a 750% increased risk of being killed by his/her partner (Sturgeon, 2015). The complexity of power and control over the victim dramatically influences the patient's ability to communicate adequately with medical responders. Approximately 50% of nonfatal strangulation victims have no visible injury (Smock, 2017). The lack of visible injury often leads the patient and untrained medical providers to minimize the violence further exposing the victim to serious health consequences (TISP, 2017). Devastating injuries such as carotid dissection and stroke can happen months after the nonfatal strangulation event (Smock, 2017). Other related consequences of nonfatal strangulation can include neurological deficits/symptoms, respiratory complaints, or musculoskeletal injuries (Vilke & Chan, 2011). Blunt neck trauma in cases such as nonfatal strangulation that occur in IPV cases may not produce outward signs of injury relative to the lethality risk. However, careful evaluation and documentation of findings can identify potential life-threatening injuries that require intervention (Armstrong, 2016).

Nonfatal strangulation is a violent and potentially fatal mechanism that impedes blood flow to the brain and deprives the brain of needed oxygen (Mcquown, et al., 2016). Documentation of symptoms and injuries after the strangulation act are valuable to the legal process. Medical-forensic examination records and photo-documentation are often used to request legal protection orders and are used later during legal proceedings (IAFN, 2017).

The IAFN recently released the Non-Fatal Strangulation Toolkit that outlines recommendations for the examination and assessment of patients who have experienced nonfatal strangulation (IAFN, 2016). Prior to the release of this toolkit, there was a lack of published training recommendations for forensic nurses to evaluate patients experiencing nonfatal strangulation. The recommendations within the toolkit identify best-practice standards that provided the framework used to create the educational plan specific to the needs of forensic nurses. Understanding the complex medical presentation in domestic violence cases is critical to adopting new practice approaches. Targeted training offers the best platform for greater understanding of the complexities inherent with intimate partner violence cases especially those involving acts of nonfatal strangulation (Strack & Gwinn, 2015). With additional specialty training forensic nurses have the unique position to evaluate nonfatal strangulation patients, provide needed resources specific to the health and safety needs, and testify as expert witnesses to the injuries.

Certification and Regulations

Forensic nursing practice is regulated by the state Board of Nursing and Forensic Nurse Examiners are considered expanded practice clinicians (Maryland Board of Nursing

[MBON], 2018). Forensic nurses are required to complete specified didactic training and clinical hours prior to certification (IAFN, 2018). Prior to certification, forensic nurses complete hundreds of hours of training. However, the entry level training for forensic nurse certification does not include standardized training for nonfatal strangulation patients.

In 2016, the state legislative assembly enacted a law to mandate all law enforcement officers receive training on nonfatal strangulation and to develop a protocol for referral of patients to be evaluated by a medical provider (HB 1371, 2016). Since implementation of the new law, patients who report nonfatal strangulation are referred to the nearest acute care hospital for medical evaluation. While the law provided mandatory training to all law enforcement officers in the state, education on nonfatal strangulation was not developed for forensic nurse examiners. The increased number of patients seeking an examination after nonfatal strangulation highlighted the need for a standardized education of forensic nurses in addition to the law enforcement training. Creation of an educational training specifically for forensic nursing staff bridged a gap in knowledge needed to provide a standardized approach to medical-forensic care.

The improved response of law enforcement to domestic violence victims has prompted patients to more routinely seek medical evaluation and treatment. Forensic nurse examiners who respond to patients seeking assessment for illness or injury subsequent to intimate partner violence may not be aware of obscure symptoms and lethality associated with nonfatal strangulation. This DNP project offered a standardized training program that addressed the identified educational gap for forensic nurse examiners.

Local Background and Context

The project team created the training program to meet the educational need for forensic nurses at the local acute care facility in a rural community. The facility is the only acute care organization in the jurisdiction. The mission of the organization is to positively contribute to the health and well-being of area residents. The project team designed the project to ensure the medical-legal response to patients of nonfatal strangulation align with the vision of the organization to provide excellent quality and service to patients. The organization offers access to forensic nurse services 24 hours a day. There were 12 forensic nurses at the site who were targeted for the educational training.

Patients presenting to the acute care setting after nonfatal strangulation were not receiving a comprehensive medical-forensic examination by specially trained forensic nurse examiners. Forensic nurses trained to evaluate patients of domestic violence including injury documentation were unaware of the hidden risks that can manifest days or weeks after a strangulation event (TISP, 2016). Obscure medical symptoms have resulted in devastating health outcomes for patients such as undetected carotid aneurysm, arterial thrombus formation, stroke, and death (Strack & Gwinn, 2015). Nonfatal strangulation in domestic violence cases is prevalent and highly predictable for future homicides related to the violence (IAFN, 2017). The local domestic violence shelter reported an increased number of strangulation reports from patients. Alarming, these patients were not evaluated by the acute care facility for nonfatal strangulation injuries. The identified gap in service for these patients prompted legislative and protocol changes to protect patients from further harm including death (HB 1371, 2016). The state-wide protocol change requires

immediate referral of victims for medical-forensic evaluation. The number of patients seeking a medical-forensic exam since the legislative and protocol changes have prompted the need for training of forensic nurse examiners. Forensic nurses offer a unique perspective in the evaluation of nonfatal strangulation cases. The specialty training of forensic nurses supports not only the evaluation and documentation of illness and injury; it has also been instrumental in linking patients to critical services within the medical and legal community (IAFN, n.d.). The targeted training for forensic nurses offers expanded knowledge to prevent missed symptom identification for the nonfatal strangulation patients, thus decreasing poor health outcomes associated with non-treatment.

Role of the DNP Student

My role in the DNP capstone project was to develop the continuing education program including assessment, planning, implementation, and evaluation of the project. As part of this project, I submitted the training program for continuing education hours and approval by the American Nurses Credentialing Center. I was responsible for development of the project using the assessment, planning, implementation, and evaluation process.

In 2015, I completed specialty training on nonfatal strangulation through the Training Institute on Strangulation Prevention. The 4-day training provided comprehensive education for the multidisciplinary team including law enforcement, advocacy, and medical participants. Since that time, I have testified in legal proceedings as an expert in strangulation. The increased number of requests has highlighted the need for nonfatal strangulation education and training for other forensic nurses. My motivation to develop a specialized training program was because of the lack of standardized training available to

forensic nurse examiners. To overcome potential biases, the developed training material included recent published peer-reviewed resources and tools. Additionally, several key stakeholder experts were invited to participate in the training material development.

Role of the Project Team

This DNP project team included content experts on nonfatal strangulation. Experienced forensic nurse examiners provided input into the training curriculum development. Consultation with a trained medical provider, law enforcement, legal representation, the state crime lab and advocacy augmented the core skills training for the nurses. Key stakeholders were surveyed prior to finalizing the program curriculum. The program curriculum was submitted to the IAFN. The IAFN is accredited as an approver of continuing nursing education by the American Nurses Credentialing Center's Commission (ANCC) on Accreditation. To meet ANCC requirements, the planning committee completed all appropriate documentation through consultation with the Continuing Education Manager during the completion process. The training program was reviewed to ensure the educational program content aligned with the current community protocols. The IAFN awarded 6 continuing education hours for the training allowing it to be offered multiple times within a 2 year period.

Summary

In Section 2, I discussed the evidence outlining importance for a continuing education program on nonfatal strangulation for forensic nurse examiners. Knowles's theory of adult learning served as the framework for the project. Section 3 includes the planning, implementation and evaluation of the education program.

Section 3: Collection and Analysis of Evidence

Introduction

The purpose of this DNP project was to develop a continuing education program to provide forensic nurses with knowledge and skills critical to effectively evaluate patients who have experienced nonfatal strangulation and collect evidence critical to the criminal justice process. In the following section, I will review sources of evidence that supported the design of the project and the proposed method used to analyze the results of the project.

Practice-Focused Question

Approximately 25% of women and 8% of men are assaulted annually by an intimate partner (National Institute of Justice, 2015). Nonfatal strangulation is common and accounts for up to 20% of deaths related to intimate partner violence (Armstrong & Strack, 2016). A retrospective study of over 1500 patients seeking medical forensic examinations after intimate partner violence or sexual assault showed that individuals were likely to report nonfatal strangulation (Mcquown et. Al, 2016). Forensic nurse examiner training had not included the evaluation of nonfatal strangulation until the release of the second edition of the National Training Standards for Sexual Assault Medical Forensic Examiners (U.S. Department of Justice, 2018). The updated publication outlined the voluntary recommendations for training of forensic nurse examiners to properly evaluate patients for nonfatal strangulation (U.S. Department of Justice, 2018).

The practice focused question for the DNP project was: Will an educational program on nonfatal strangulation increase the knowledge and assessment skills of forensic nurse examiners? The development of an educational program designed for forensic nurse

examiners provided the concepts and skills required to evaluate the complex presentation of nonfatal strangulation.

Sources of Evidence

Forensic nurse examiner education required for certification does not include a curriculum designed to evaluate patients presenting with a history of nonfatal strangulation. It is critical for the forensic nurses to have specialty knowledge and skills to provide competent medical and forensic evaluations on this population. The risk of negative health outcomes for patients include the risk of unidentified brain anoxia, carotid dissection, vessel aneurysm, stroke, and death (Strack & Gwinn, 2017). Forensic nurses who encounter patients after physical violence have a unique opportunity to prevent further harm through thorough improved knowledge and skills specific to the medical-forensic evaluation after nonfatal strangulation.

Published Outcomes and Research

I researched the practice problem for the DNP project using the CINAHL, Medline, and EBSCO databases. I excluded articles greater than 10 years old apart from seminal research critical to understanding the practice focused problem. Key terms used for the research were *strangulation*, *nonfatal strangulation*, *nursing education*, *adult learning*, *intimate partner violence*, and *domestic violence*. Boolean operators “and” and “or” were also used between the terms to narrow the article list to the specific content of this DNP project.

Evidence Generated for the Doctorate Project

Participants. The participants for this DNP project were the certified forensic

nurse examiners employed with an acute care community hospital. The participants were chosen based upon the request from the forensic nurse examiners to understand best practice approaches to evaluation of patients with a presenting history of strangulation. Hospital leadership approved the development and training of all forensic nurse examiners on the topic of nonfatal strangulation to meet the identified gap. The training included 12 members of the forensic nurse examiner team.

Procedures. The education program followed the DNP Manual for Staff Education. As outlined by Hodges (2011), I completed the project using the process of planning, implementation, and evaluation. Accordingly, the next subsections will detail the planning, implementation and evaluation aspects of the project.

Planning. During the planning phase, I developed a series of teaching modules to address the knowledge and skills gap for forensic nurses. To address the practice-focused question for this DNP education project, I relied on several recent evidence-based publications to create the outline of the educational curriculum and to guide the evaluation rubric standards. The IAFN, the Training Institute on Strangulation Prevention (TISP), and the Office on Violence Against Women (OVAW) are experts in the field of violence against women and have a strong relationship with forensic nurse examiners. These organizations publish documents offering expert guidance and research related to forensic nursing practice. The IAFN provides clinical practice guidelines for forensic nurses through published national protocols (IAFN, 2018). The TISP provides national training specifically related to the subject of nonfatal strangulation to a variety of disciplines (TISP, 2018). The OVAW has worked with the IAFN to create the National Training Standards

for Sexual Assault Medical Forensic Examinations (OVAW, 2018). The collective recommendations drawn from the National Training Standards for Sexual Assault Medical Forensic Examinations, the Nonfatal Strangulation Toolkit, and protocols published by the IAFN provided the outline of the education program (see Appendix A). A pretest and posttest were developed to test knowledge acquisition (see Appendix B). Although development of a skills-based competency is a voluntary recommendation from the OVAW (2018), a clinical skills rubric was developed from the outline to evaluate skills acquisition following the didactic training (Appendix C).

The selected nationally recognized organizations compile research and resources to support clinical practice of forensic nurses. I conducted an evaluation of the peer-reviewed literature related to nonfatal strangulation to assess for strengths and weaknesses of each publication. I used the evaluation of the selected literature to determine how the collection of publications would be used to improve the knowledge and skills of the nurses when evaluating the patient population.

The structure of the training program reflected recommendations outlined within the Nonfatal Strangulation Toolkit published by the International Association of Forensic Nurses (2017). The toolkit outlined specific topics of education and sample tools for documentation of nonfatal strangulation assessments. The published toolkit and the collective research offered a comprehensive training specifically designed for forensic nurses. The tool kit provided documentation templates that outline comprehensive assessment parameters for patients. The tools and assessment parameters were integrated into the educational modules and skills checklist for forensic nurses to assess skills

competencies according to referenced experts. Post training testing measured the level of knowledge of the learners derived from the didactic training materials. The written test was administered before and after the educational program to offer a comparison evaluation of the results.

Implementation Plan. The doctoral project included 12 forensic nurse examiners from a local hospital. The selected participants for the DNP project self-identified the educational gap in forensic nurse education through forensic nurse practice council discussions. The organizational leadership supported the educational program development as part of the professional development of the forensic nurse examiners. The DNP project addressed the specific gap in knowledge and skills identified by the local team of forensic nurses; however, the training is appropriate to other practicing forensic nurses.

The DNP project delivery strategy offers a 6-hour educational training including a 4-hour didactic lecture, pre- and post-test evaluation for 1-hour total (see Appendix A and B), and a skills competency evaluation for 1 hour (see Appendix C). The skills competency was evaluated through rubric analysis at the completion of the classroom training. The educational program was offered and conducted by the local organization with invitations sent by email to the forensic nurse examiner participants. Although other nursing disciplines could benefit from the educational training program, the purpose of the DNP project was to increase the forensic nurse examiner's knowledge and skills.

The educational program was offered initially to meet a current educational gap for forensic nurse examiners. However, the educational program content could be repeated when needed. The education program was submitted and approved for continuing

education hours through the American Nurse's Credentialing Center (ANCC, 2018). Key periodic formative evaluations throughout the planning stages ensured the project's objectives were being met (Polit & Beck, 2008). Through the development of the educational program, I solicited input from key stakeholders and leadership to ensure the content and training structure remain aligned with the organizational values.

Evaluation. Several evaluation approaches were used for the DNP project. The evaluation of the participant's knowledge of core critical concepts were measured through pre- and post-training testing. Participants were evaluated on the performance of skills outlined in the educational program using a newly created competency rubric derived from the Nonfatal Strangulation Toolkit resources (2017). In accordance with the adult learning theory, participants were offered remediation as needed to successfully meet the outlined objectives for the skills competency portion of the evaluation (Knowles, 1984).

After completion of the training, only aggregate data that were deidentified of personal information was evaluated by the faculty. A significant limitation of the data collection is the lack of current data collected by the organization. I sought permission to report deidentified data points to the administration of the organization.

The summative evaluation of the project was completed by the training faculty utilizing the evaluation tools required by the ANCC provider. An analysis of the testing, skills rubric findings, and the summative evaluation from the participants was evaluated for impact and applicability to the practice problem. Data were shared with key stakeholders to determine the need for revisions to the educational program and evaluate the methodology of the program. In accordance with the standards of ANCC (2018), nursing contact training

hours were awarded to all participants upon successful completion of the education program.

Protections. Participants who completed all of the educational program requirements were issued continuing education hours. I used the Staff Education Manual to obtain required approval fully committing to following the manual requirements. The facility completed Walden's site approval documentation for the DNP project. Each participant was provided with Walden's Consent Form for Anonymous Questionnaires outlining use the participant's anonymous and confidential aggregate data from the pre and posttest as part of the DNP project. The project was approved by the organization's IRB and the Walden University IRB prior to implementation. The IRB approval number for this study was 03-27-19-0602846.

Analysis and Synthesis

I used descriptive statistics to summarize information about the 12 forensic nurse participants. I completed a Wilcoxon sign rank test to compare the series of the written test results to provide statistical evaluation of the participants' knowledge of critical concepts and identification of medical and forensic needs in nonfatal strangulation cases. The training faculty administered evaluation tools at the conclusion of the training and as recommended by the ANCC guidelines. The participants were asked to identify how they would apply the knowledge to their practice after the educational program was completed. I conducted a post-training summary of the participant responses and the skills rubric checklist per ANCC requirements. All participants achieved 100% on the return demonstration of skills checklist.

Summary

Early recognition and intervention of nonfatal strangulation survivors are critical to improve health and safety outcomes. This project offered the development of a standardized continuing educational program to address the critical gap in knowledge and skills of forensic nurse examiners. This innovative approach to provide a medical-forensic examination after nonfatal strangulation employed assessment and skills evaluation approaches outlined according to best-practice recommendations from the IAFN. The improved evaluation scores after the 6-hour training demonstrated effectiveness in nonfatal assessment knowledge and skills. Incorporation of a nonfatal strangulation training into the forensic nursing education curriculum suggests an improvement of forensic nurse skills assessment for this population.

Section 4: Findings and Recommendations

Introduction

There is an educational gap in the specialty training addressing the medical evaluation of patients after nonfatal strangulation. This DNP project provided one option to close the educational gap specifically for forensic nurses through the development of a continuing education program on the clinical evaluation and response to patients with a history of nonfatal strangulation. I developed materials necessary to address the nursing assessment, documentation, and interpretation of findings after nonfatal strangulation. The continuing education program provided six continuing education contact hours through the International Association of Forensic Nurses. The IAFN is an approved provider of continuing nursing education through the American Nurses Credentialing Center's Commission on Accreditation. The education program included a pre- and post-test for all participants and offered an interactive case scenario to evaluate clinical skills application of each participant. The pre- and post-test scores were evaluated using nonparametric testing with the Wilcoxon sign rank test. The purpose of the DNP project was to address the practice focused question: Will an educational program on nonfatal strangulation increase the knowledge and assessment skills of forensic nurse examiners?

Early recognition and appropriate evaluation of nonfatal strangulation patients are critical to prevention of poor health sequelae including death. In November 2016, the IAFN published the Nonfatal Strangulation Toolkit which outlined recommendations for forensic nurses on assessment techniques, documentation of assessment findings and evidence collection considerations (IAFN, 2016). The publication was the first of its kind

to guide forensic nurses on best-practice approaches to improve care of patients who have experienced nonfatal strangulation. Since the time of publication, there has been a need for accessible standardized training to fill the identified gap in education for forensic nurse examiners.

Findings and Implications

There were 12 forensic nurse examiners who participated in the educational project without prior formal education on the topic of nonfatal strangulation. All participants were female. With a small sample of 12 participants, the data were not normally distributed, thus I conducted a Wilcoxon Sign rank test to evaluate the 20 question pre and post-test scores for the 12 forensic nurses. Using the negative mean rank of 0.00 and the positive mean rank of 6.50, a significant increase in test scores was demonstrated. The nonfatal strangulation continuing education training caused a statistically significant increase in participants' posttest scores. The Wilcoxon sign rank test z-value was -3.064 and the *p* value was .002 indicating the training material and teaching modality positively affected the participants test scores.

The training faculty conducted a post didactic skills evaluation session with all the participants. The goal of the skills station was to evaluate the application of the learning through simulated case presentations. The skills competency stations used manikin heads with moulage and using one of two case studies. Photography equipment, wound measurement scales, masks, gloves, evidence kits, and documentation examples were at each evaluation station. Each participant was guided by the trainers through the case-based scenario correlating with the competency checklist. All participants achieved 100%

compliance using the skills competency checklist (Appendix C). Of the 12 participants, nine of the participants successfully completed the checklist on the initial challenge. The remaining three participants were successful after corrective support by faculty during the evaluation process.

Course evaluations were completed by all participants upon completion of the program. The evaluations denoted a high level of satisfaction with the training activities and presenters. Of the 12 participants, 11 (92%) indicated they would change their practice as a result of the education. The evaluation and feedback from the participants supported the overall educational value of the training program.

Recommendations

The continuing educational program for forensic nurses fulfilled a critical need for specialized training on nonfatal strangulation. The DNP project was developed to address the gap in education specifically for forensic nurse examiners who assess patients with the complaint of nonfatal strangulation. Access to similar training opportunities is needed to provide the forensic nurses with knowledge and skills assessment standards to competently perform these evaluations according to best practice standards. Periodic evaluations of the participants post-training may be helpful in determining continued educational needs and provide the opportunity to update skills assessments according to the skills checklist.

Specific recommendations for the post training period target evaluation of the forensic nurse participants and evaluation through the organization's quality improvement initiatives. Individual forensic nurse evaluation can provide details from the user than may impact future training opportunities. Conducting a 3-6-month post-training survey of each

participant to evaluate the nurses' use of the skills in practice, the attitudes about the usefulness of the training and other generalized feedback that could provide valuable validation of the training or identify other considerations for future training. Conducting an organizational quality improvement initiative to review cases of nonfatal strangulation would be recommended to provide an evaluation of the overall project impact. Case review can identify missed opportunities for education while also evaluating adherence to best-practice standards regarding patient assessment, evidence collection, documentation, and follow up care guidelines.

The development of jurisdictional or organizational procedures, policies, or practice guidelines should be part of the post training activities. Ensuring organizational support to address specific patient needs is critical to meeting the complex health and safety needs of the patients. Clearly, identifying the role of the forensic nurse in the evaluation of nonfatal strangulation patients in jurisdictional or organizational protocols promotes improved multidisciplinary response. Interprofessional collaboration facilitates timely care interventions critical to this complex population of patients.

Contribution of the Doctoral Project Team

As project leader I was responsible for the coordination and collaboration of the team members. I collected and submitted all required documentation for ANCC approvals. Conference calls and virtual meetings were coordinated between the training faculty to share information and complete the training materials to meet all objectives. The participating faculty offered additional resources and reviewed all the testing materials. Each faculty member participated in the development of the educational plan including the

development of the skills station interactive sessions. Post training debriefing among the trainers occurred immediately after the training to review the execution of the course objectives. The debriefing provided teaching faculty members with the opportunity to evaluate the training flow, content, and student feedback. Based upon the participant feedback and assessment of the skills evaluations, the training faculty agreed to repeat the training to other forensic nurses. The training faculty was invited by other forensic programs in the region to schedule a repeat of this training to other programs. Additional training provides the opportunity to further disseminate knowledge to more forensic nurse examiners while also evaluating future training needs. Subsequent to the submission of the training program, I was contacted by the ANCC provider to discuss expanding the post evaluation to include a 3-6 month survey of the participants to solicit feedback on specific data points including application of the new education, recognition of nonfatal strangulation cases, and overall value of the training. The plan for a scheduled survey of the participants via an email survey was included as per the recommendation from the continuing education staff. The ANCC approval for this project is through April 2021.

Strengths and Limitations of the Project

The limited number of available training faculty impacted the number of participants for the training program. A trained faculty member conducted the individual skills evaluation for each participant. In order to ensure all of the participants were able to complete the skills station requirements, I restricted the number of participants and subsequently produced a smaller sample size. Participants were all from a convenience sample of local forensic nurses. All participants had an increased score from pretest to

posttest evaluations. However, the results were after a single training. The results of the small sample may not be generalizable to other groups of forensic nurse participants. The evaluations denoted 11 of the 12 participants identified they would change their practice as a result of the 6-hour educational training and one participant did not answer the question. All participants successfully completed all the requirements on the skills checklist with faculty after the didactic training.

Post-training discussion with faculty allowed for open dialogue to evaluate factors impacting the training program. One recommendation addressed evaluating the sustainability of the learning through a participant survey within 3 to 6 months post training to evaluate nurse attitudes regarding nonfatal strangulation assessment. Although this was not part of the original design, the creation of a follow up survey could provide valuable information on the long-term impact of the program's goals. Descriptive data could be gathered to either support the project design or may offer information on redesign considerations.

A limitation to this project is the limited amount of research related to standards for nonfatal strangulation evaluation. As new research and promising practice guidelines emerge, the educational training should be re-evaluated to determine the alignment with the new recommendations. Additionally, there is limited research related to pediatric specific evaluations. Although pediatric nonfatal strangulation was included within the curriculum, the training program concentrated predominantly on the adult patient. The potential to expand the training to include pediatric specific education will be explored using the

existing curriculum as a template. Any future additional training programs will be designed to broaden the scale of the training objectives.

The training faculty agreed that additional trainings offer the opportunity to strengthen the evaluation results. Although the design was created for a local jurisdiction, the training content is easily adaptable to other jurisdictions. The established project design allows for minor changes to adapt to jurisdictional policies. The adaptability of this project offers the potential to provide the continuing education program to many other forensic nurse examiners practicing in other communities while maintaining the standardized evaluation approach according to the best-practice recommendations. The 6-hour continuing education program will be offered multiple times over the 2-year approval period. However, if there is a need in the future to change the training content, a new training program will be submitted for ANCC approval.

Section 5: Dissemination Plan

The results from this DNP project will be shared with the participating organization's leadership. The DNP project results will be documented and submitted to the IAFN as a future conference presentation. The DNP training project has approval for six continuing education hours through ANCC extending from April 2019 to April 2021. The educational program offered in the DNP project can be offered multiple times to meet the need.

The DNP project would be appropriate as a conference presentation at the annual IAFN educational conference. Sharing the project results with a larger audience of forensic nurses has the potential to expand knowledge and identify other gaps. Using evaluations from subsequent training events, the aggregate data will assist others in determining the best application to other venues and locations. Although the DNP project targeted forensic nurse education, other settings to consider for specialty training include nursing staff working in emergency services, women's health services, children's services, and elder care services. The positive feedback from the participants of the project expedited collaboration with other forensic nurse groups to schedule repeat training in other forensic nurse clinical settings.

Analysis of Self

The journey to complete the DNP project expanded well over several years. The discovery of this unique need required a great deal of stamina and reflection to complete. The delicate nature of the subject matter made discussions with nonmedical personnel difficult and in many cases stalled progress on the project. I anticipated physical,

emotional, and financial barriers for the project and initiated a work plan to overcome the identified barriers identified early in the process. Anticipating challenges through interviews with key stakeholders assisted with process flow. Meeting with my local delegate to address education for law enforcement officers on understanding the significance of nonfatal strangulation lead to crafting new regulation that mandated training for law enforcement. I embraced the opportunity to work with legislators to promote understanding and action to positively impact community health and safety. It took years to establish a broad scope of influence to facilitate changes necessary for the adoption of new protocols regarding nonfatal strangulation. The development of the nonfatal strangulation training for forensic nurses was the next reasonable step to fulfilling the multidisciplinary team education. The broad community education initiatives have improved patient care and access to protective services to prevent further harm.

Summary

There is a strong correlation between nonfatal strangulation during IPV incidents and the future risk of harm including death. Forensic nurse examiners who evaluate patients after nonfatal strangulation require the knowledge and skills to adequately assess for signs and symptoms related to the assault. The IAFN supports the education and training of forensic nurses to assess patients after nonfatal strangulation (IAFN, 2017). The lack of a standardized training curriculum for forensic nurse examiners has impacted forensic nursing assessment. The development of a nonfatal strangulation continuing education program for forensic nurse examiners is one option to address the knowledge gap and skills acquisition needed to adequately care for this population.

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Appendix A: Overview of Curriculum

Non-Fatal Strangulation for Healthcare Providers		
Learning Outcome: Learner will state an improved broad understanding of the necessity for the nonfatal medical-forensic examination and the appropriate medical evaluation, documentation and treatment of patients experiencing this type of violence.		
Content Outline	Time Frame: in minutes	Learner Engagement Strategies(s):
Case Exemplar Review from Law enforcement and medical perspectives	30	<input checked="" type="checkbox"/> Analyzing case studies <input checked="" type="checkbox"/> Small group discussion <input checked="" type="checkbox"/> Providing opportunities for problem-based learning
Anatomy and Mechanism of Strangulation Discuss the anatomy of the neck and head. Discuss the mechanism of strangulation history: manual and ligature Medical Forensic Response Lethality assessment tool to identify risk factors MDT protocol to encourage medical evaluations Importance of pre-hospital and hospital staff education Research related to nonfatal strangulation Discuss various studies used to support medical evaluation of nonfatal strangulation. Assessment and recommended Use of standardized documentation tools	75	<input checked="" type="checkbox"/> Integrating opportunities for dialogue or Q&A <input checked="" type="checkbox"/> Providing opportunities for problem-based learning
Injury identification and Occult Injury Evaluation Case driven injury identification and evaluation of nonfatal strangulation photos. Review proper terminology of injures and identify consideration of common occult findings. Techniques to assist w/assessment	75	<input checked="" type="checkbox"/> Integrating opportunities for dialogue or Q&A <input checked="" type="checkbox"/> Analyzing case studies <input checked="" type="checkbox"/> Providing opportunities for problem-based learning

<p>Use of ALS and enhancement software Patient reports of symptoms Evidence Collection Considerations Recommendations for evidence guidelines Discuss touch DNA evidence Timing considerations</p>		
<p>Advocacy Role Importance of trauma informed approaches Medical accompaniments with advocates Understanding the emotional needs of the survivor Safety risks and patient rights Evolution of legal process</p>	60	<input checked="" type="checkbox"/> Integrating opportunities for dialogue or Q&A <input checked="" type="checkbox"/> Including time for self-check or reflection <input checked="" type="checkbox"/> Providing opportunities for problem-based learning
<p>Clinical skills evaluation Station to complete skills evaluation. Evaluation of nonfatal strangulation Determine proper evidence collection Completion of documentation according to best practice recommendations. Appropriate referrals including medical follow up and continuum of care needs.</p>	120	<input checked="" type="checkbox"/> Analyzing case studies <input checked="" type="checkbox"/> Small group discussion <input checked="" type="checkbox"/> Providing opportunities for problem-based learning <input checked="" type="checkbox"/> Integrating opportunities for dialogue or Q&A <input checked="" type="checkbox"/> Including time for self-check or reflection
	Total Contact hours: 6	

Appendix B: Pre and Posttest

Please choose the best answer.

1. Physical consequences after nonfatal strangulation may include the following:
 - a. Bradycardia
 - b. Cardiac arrest
 - c. Unconsciousness
 - d. Vessel rupture
 - e. All of the above
 - f. None of the above
2. Nonfatal strangulation is defined as any obstruction of breathing through an external or internal force.
 - a. True
 - b. False
3. Mechanisms of strangulation include all but the following:
 - a. Compression of the carotid artery ganglion
 - b. Internal obstruction of the trachea
 - c. Compression of the jugular vessels
 - d. Sustained compression of the carotid arteries
4. The use of an alternate light source is recommended to document injury not visible to the examiner under normal lighting conditions.
 - a. True
 - b. False
5. The amount of pressure required to occlude the carotid arteries is approximately:
 - a. 4.4 pounds of pressure
 - b. 11 pounds of pressure
 - c. 11.4 pounds of pressure
 - d. 33 pounds of pressure
6. Providing safety planning options for intimate partner violence patients after a nonfatal strangulation event is critical because the examiner understands the risk for attempted homicide will increase:
 - a. 43%
 - b. 45%
 - c. 600%
 - d. 700%
7. Patechial hemorrhage after nonfatal strangulation may be seen during the physical evaluation:
 - a. Above the area of strangulation
 - b. Below the area of strangulation
 - c. Directly under the area of constriction

- d. Anywhere in and above the area of constriction

Questions 7-10 refer to the following scenario. *A 21-year-old female presents to the ED with a complaint of head and neck pain after being “choked” her boyfriend 6 hours ago. Police were called to the residence and took pictures of the patient at that time.*

8. What information should be included in the evaluation by the forensic nurse examiner?
 - a. Vomiting during or immediately after the “choking” event.
 - b. Loss of memory surrounding the event.
 - c. Last menstrual period
 - d. Answers A & B only
 - e. Answers A, B, & C
9. Which of the following would the forensic nurse examiner include in the evaluation?
 - a. Cranial nerve assessment
 - b. Photography
 - c. Pulse oximetry
 - d. A, B, and C
 - e. All but B since police have photos
10. According to the recommendations published by the Institute on Strangulation Prevention, what would be the “gold standard” recommendation on radiographic studies for this patient if she reports loss of consciousness, difficulty breathing and swallowing, and the loss of bladder control?
 - a. CT of the neck with contrast
 - b. MRI of the neck
 - c. MRA of the neck
 - d. CT Angiography of carotid/vertebral arteries
11. What would the best “gold standard” recommendation for radiological studies of this patient if she was also pregnant?
 - a. CT of the neck with contrast
 - b. Carotid doppler ultrasound
 - c. MRI of the neck
 - d. CT Angiography of the carotid/vertebral arteries
 - e. None of the above
12. Patients surviving nonfatal strangulation will always exhibit symptoms of life-threatening injuries within the first 72 hours of the assault.
 - a. True
 - b. False
13. Which of the following is NOT correct about the hyoid bone?

- a. A fracture of the hyoid bone is more common in hangings.
- b. The amount of pressure required to fracture the hyoid bone is approximately 35 pounds
- c. The hyoid bone's main function is to support swallowing.
- d. The hyoid bone is not connected to any other bone.

Questions 14-17 refer to the following scenario.

A 13-year-old male presents to the ED with law enforcement because the child's teacher saw markings on the side of his neck and face. The patient reports that he was held "up against the wall" by dad 12 hours ago. Child reports hands around his neck while dad lifted him off the ground because "he was so mad".

- 14. The child states that he has a "scratchy throat" and a weak intermittent cough. What is your priority with this patient?
 - a. Evidentiary swabs since touch DNA is time limited.
 - b. Contact Child Protective Services.
 - c. Referral to the medical provider.
 - d. Photographic documentation of the injuries.
- 15. Evaluation of the pediatric patient after nonfatal strangulation
 - a. Is not as concerning as the adult patient population for injuries.
 - b. Requires an understanding of child's verbal and cognitive skills.
 - c. Is less likely to yield evidence.
 - d. All of the above.
- 16. The following should be included in the evaluation of this patient.
 - a. Head to toe assessment of all skin surfaces.
 - b. Evaluation of both eyes with the nine cardinal gazes.
 - c. Oral examination.
 - d. Evaluation of both ears.
 - e. All of the above
 - f. All except A & D
- 17. Discharge instructions for patients after an evaluation can include:
 - a. Instructions to monitor and document symptoms
 - b. Safety planning needs
 - c. Need for follow up examination up to 14 days if needed
 - d. All of the above
 - e. None of the above
- 18. Subconjunctival hemorrhages are characterized by pinpoint ruptures caused by venous engorgement and capillary rupture.
 - a. True
 - b. False

19. Symptoms of hypoxia and unconsciousness associated with nonfatal strangulation events include all the following except:
- a. Loss of memory
 - b. Involuntary loss of bladder and/or bowel control
 - c. Unexplained injuries
 - d. Changes in hearing (hearing loss, ringing)
20. Photographic images should be taken only in areas where the forensic nurse examiner visualizes physical findings.
- a. True
 - b. False

Appendix C: Skills Competency Checklist

Forensic Nurse ID: _____ Date of Evaluation: _____

Skills Checklist Areas	Standard Met/Educator Initials
Preparation	
Assembles appropriate items for examination type.	
Reviews medical history/ medical record for medicines/allergies, medical history, and HPI. Ensures medical evaluation for urgent medical needs is completed. Receives handoff report from primary nurse/provider.	
States requirements for reporting to law enforcement, CPS	
Procedure	
Obtains consent from patient/authorized individual. Discuss assent with pediatric patients.	
Conducts medical-forensic history and questions related to nonfatal strangulation.	
Perform the cranial nerve assessment	
Perform symptom assessment	
Conducts Examination: Head to toe examination and documents findings on body map. (Physical and reported symptoms) Focused assessments to include anatomic structures and documentation of injury or medical conditions: Face and neck Oral exam Scalp and ears Eye exam Hand/finger assessments	
Evidence Collection Considerations: Identify potential evidence collection (when appropriate) <u>Touch DNA</u> - Dons facemask and sterile gloves. -Uses single swab with minimal sterile water to swab in a rolling motion over area. -Changes gloves between collection areas. -Seals envelopes with evidence swab and labels envelopes appropriately. <u>Finger swabs</u> -Dons gloves -Uses one moistened swab per hand using sterile water.	

<p>-Seals envelopes with evidence swabs and labels appropriately.</p> <p><u>Body substances</u></p> <p>-Consider use of the alternate light source (ALS) for substances.</p> <p>- Discuss the limitations of alternate light source use and findings.</p> <p>-Collect swabs of suspected substances or areas visualized with ALS and label envelope appropriately.</p> <p><u>Underwear</u></p> <p>Collect underwear/panty worn by patient during the assault. Seal inside of evidence bag and label appropriately.</p> <p><u>Buccal swabs/Patient DNA standard</u></p> <p>-Collect 2 buccal swabs from patient. Rub both swabs vigorously on the inside of both cheeks. Cap swabs/allow to air dry. Seal envelope and complete label documentation.</p>	
<p>Photography Documentation: Discuss identification and labeling of photos. Storage considerations Use of scales/labels 360 views of neck. Oral examination views. Eyes with all gazes. Complete hand photos with hand map include both sides of each hand. Document all areas of injury.</p>	
<p>Post Examination Activities</p>	
<p>Documents injury using appropriate and standardized language. Completes documentation record.</p>	
<p>States the importance of peer review of documentation, photography, interpretation of findings, and compliance with national standards.</p>	
<p>Discusses patient charges/costs Identify resources to assist with costs (CIC Board, other regional resources)</p>	
<p>Release of record/Photography</p>	
<p>Discussion patient rights regarding information sharing with law enforcement/CPS/attorneys/other agencies.</p>	
<p>Discuss appropriate discharge instructions:</p>	

Evaluation of symptoms follow up evaluation & care, referrals sources.	
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Forensic Nurse Name		Signature	
Educator Name		Signature	