2020

Perinatal Staff Education on Opioid Use Disorder

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This is to certify that the doctoral study by

Theresa Engle

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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Walden University
2020

Abstract

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by

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MS, University of Alabama at Birmingham, 2008

BS, University of Phoenix, 2006

Project Submitted in Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

August 2020

Abstract

According to the Centers for Disease Control and Prevention, opiate use disorder (OUD) crosses all demographic areas, ethnicities, and social classes. In 2016, over 42,000 Americans died from opiate overdose with more than two million Americans having OUD. The need to care for patients with OUD has crossed all realms of nursing, including the perinatal specialty. Framed within the Iowa model of evidence-based practice, the purpose of this project was to develop a perinatal staff education program on OUD focusing on addiction as a brain disorder with care of the perinatal woman and identification and treatment of the newborn with neonatal abstinence syndrome related to OUD. Three content experts evaluated the evidence, which consisted of using a dichotomous scale (not met = 1, met = 2) to evaluate the curriculum objectives relative to the content and determining a content validity index score of the 15 item pre-/posttest using a Likert scale. Descriptive statistics were used to report the results of the curriculum plan evaluation, with a score of 2 meaning all objectives reflected the content of the curriculum while the validity index scale analysis resulted in an I-CVI of .85 indicating the questions were relevant to the objectives. Results of the curriculum evaluation and pre-/posttest item validation showed the education program to be ready for implementation. The potential impact of an increase in the nurses' knowledge on OUD might facilitate social change through the provision of evidence-based practice within a caring environment, thus improving patient outcomes and the human condition.

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Dedication

I would like to dedicate this project to all healthcare providers. Our love and compassion for human life can influence the outcomes for so many individuals. We are to help those struggling, which includes the opiate misusing patient. May we treat each patient with dignity and respect to help improve patients' lives.

I would also like to dedicate this to my dad who, I am sorry you did not live to see me finish this through. Your unexpected passing forced me to continue. I love you and miss you greatly.

Acknowledgments

The first person I would like to acknowledge is Dr. Joan Moon. Without your support and encouragement, I could never have completed this project. Thank you for never giving up on me and not letting me give up. Your passion and knowledge shines through in all that you do. God blessed me greatly by having you be my project chair. I cannot thank you enough for all the time and energy you put into revising, re-revising, and again revising my work. Your diligence is appreciated beyond words. I also would like to thank Dr. Hayden as my second committee member and Dr. Ingram-Jones as my URR, for all your time, knowledge, and support throughout this process.

Next, I would like to acknowledge my children and grandchildren for their patience and support during this long process. Without your understanding I could not have done this project. All the time when I could not participate in activities because I was busy working on this project never once did you guys make me feel like I was being less than a mother. Thank you for that. I love you all. I also would like to thank my aunt Debbie for her assistance with formatting. When I could not figure it out, you prevented me from throwing in the towel. Thank you for that. I also, would like to thank my friend Lisa Sanchez for all her hard work on formatting. Without your help I could not have provided the finished product.

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Section 1: Nature of the Project

Introduction

According to the Centers for Disease Control and Prevention (CDC, 2015), opiate addiction crosses all demographic areas, ethnicities, and social classes. In their initiative, Helping to End Addiction Long-Term. The National Institutes of Health (NIH, 2018) claimed that in 2016 over 42,000 Americans died from opiate overdose and more than 2 million Americans were addicted to opiates. The State of Ohio, in 2018, was ranked third in opiate related deaths (NIH, 2018). In 2015, the State of Ohio was ranked fifth in the United States for total health care costs due to opiate abuse (Matrix Global Advisors, 2015).

With the increase in opiate misuse, the nursing profession interacting with patients with opiate misuse disorders has crossed all realms of nursing, including the perinatal specialty. Opiates were the second most abused drug in pregnant women, leading to the high incident of infants born with neonatal abstinence syndrome (NAS), which increased from 20 cases per 10,000 live births to 155 per 10,000 live births from 2006 to 2015 (National Institute on Drug Abuse [NIDA], 2018; Ohio Department of Health [ODH], 2018). In the rural hospital where this Doctor of Nursing Practice (DNP) project was completed, the number of infants born to mothers with opiate use disorder increased from three infants in 2013 to 20 infants in 2018 (personal communication, Neonatal Intensive Care Unit [NICU] educator, April 5, 2019).

A financial impact existed with the issue of opiate use disorder. The Matrix Global Advisors (2015) declared that the total healthcare costs from the opiate epidemic

for this Midwest state was $1.076 million. The NIDA (2018) stated the total charge for the NAS infants born in the state of Ohio for 2015 was $133,138,341.00.

The evidence-based literature showed that a lack of knowledge by healthcare professionals regarding opiate use disorder as a disease can lead to negative interactions between nursing personnel and the opiate misusing patient (Birtel, Wood, & Kempa, 2017; Kulesza et al., 2016; Morley, Briggs, & Chumbley, 2015; van Boekel, Brouwers, van Weeghel, & Garretsen, 2013). Negative thoughts have led to inappropriate and inadequate care of opiate misusing women and their infants (Seybold, Calhoun, Burgess, Gilbert, & Casto, 2014; van Boekel et al., 2013), which have delayed or caused the patient to not seek treatment (Alexander, 2017; Birtel et al., 2017; Fonti, Davis, & Ferguson, 2016; Kulesza et al., 2016; Morley et al., 2015; van Boekel et al., 2013). The negative feelings the substance misusing patients perceived from their healthcare providers have led to decreased compliance in following their plan of care both prenatally and with drug rehabilitation (Alexander, 2017; Birtel et al., 2017; Fonti et al., 2016; Kulesza et al, 2016; Morley et al., 2015; van Boekel et al., 2013). However, the evidence-based literature showed that education on opiate use disorders decreased biases and increased knowledge, which can enhance the care of opiate misusing pregnant women/mothers (Birtel et al., 2017; Kulesza et al 2016; Morley et al., 2015; van Boekel et al., 2013). Understanding the disease process of addiction and understanding that addiction is not an issue of self-control but a disease with neurochemical changes in the brain improved the attitudes of nurses caring for the patients (Costello & Thompson, 2015; Leahy, 2017; Salani, Zdanowicz & Joseph, 2016).

This DNP project focused on providing education to perinatal nurses in the hospital about opiate use disorder, seeking to help these nurses gain knowledge that could lead to a more understanding attitude towards the substance misusing woman. Social change might thus be accomplished by nurses giving better care and hope to patients and families, thus improving the human condition.

Problem Statement

The problem identified in this Perinatal Staff Education on Opiate Use Disorder (PSEOUD) project was the lack of knowledge by perinatal nurses related to opiate use disorder as evidenced by a needs assessment and observations. The needs assessment was administered anonymously via a survey using multiple-choice questions from multiple continuing education programs, and it identified a gap in knowledge by the nurses regarding opiate use disorder, which included brain chemistry, disease process of addiction, treatment, and nursing attitudes toward addiction. The findings were consistent with the evidence-based literature, which supported the finding of a lack of knowledge among nurses (Alexander, 2017; Fonti et al., 2016; Kulesza et al, 2016). Locally in my practice through personal observation, the perinatal nurses had been noted to make negative comments about addicted patients and sometimes delaying pain treatment for antepartum and postpartum patients saying they believed the patients were drug seeking.

The community for which this DNP project was designed had seen an increase in opiate addicted infants, which indicated an increase in opiate using mothers. The number of infants born to opiate misusing mothers increased from three infants in 2013 to 20 infants in 2018 (personal communication, NICU educator, April 5, 2019). The NIDA

(2018) stated the total charge for the NAS infants born in the State of Ohio for 2015 was $133,138,341.00, which placed an additional financial burden on the state.

According to the American Association of Colleges of Nursing (2006), the DNP prepared nurse has an increase in scientific knowledge regarding safe nursing practice, quality care, and optimal outcomes. A role of a DNP as a leader in the professional practice is to educate nurses and implement evidence-based practice (EBP) to promote safe, quality, efficient care that leads to optimal patient outcomes (American Association of Colleges of Nursing, 2006). The gap in practice was the nurse's lack of knowledge related to opiate use disorder (OUD) while the literature showed having knowledge on OUD improved nurses' attitude and care.

Purpose Statement

The purpose of the PSEOUD was to plan and evaluate a perinatal staff education program on OUD. The goal was to address the gap in practice related to a gap in knowledge of perinatal staff nurses about OUD while the evidence-based literature showed that such knowledge impacted care and attitudes. The guiding practice questions for this project were:

PFQ1: What evidence in the literature supports educating the perinatal nurses on OUD?

PFQ2: What evidence in the literature should be incorporated into a staff education program on OUD for the perinatal nurse specialty?

The PSEOUD had the potential to address the gap in practice by offering the perinatal nurses an opportunity to expand their nursing knowledge to facilitate the well-

being of mothers and babies. According to the literature, improved attitudes and knowledge about substance misusing patients leads to improved interactions between substance misusers and healthcare providers (Alexander, 2017; Birtel et al., 2017; Fonti et al., 2016; Kulesza et al., 2016; Morley et al., 2015; van Boekel et al., 2013). This improved interaction includes patients' willingness to seek care for illnesses and treatment for their substance using disorder (Brener, von Hippel, & Kippax, 2007; Dovidio & Fiske, 2012) leading to decreased health disparities such as hepatitis C & B, HIV, and overdoses, which then helps to decrease the financial burden on the state.

Nature of the Doctoral Project

Sources of Evidence

Sources of evidence used to support the DNP project included, but were not limited to, a literature review from CINAHL, ProQuest, Medline, and Ovid. Professional organizations that were utilized included Association of Women's Health, Obstetrics and Neonatal Nurses (AHWONN), Ohio Perinatal Quality Collaborative (OPQC), and American College of Obstetricians and Gynecologists (ACOG). Governmental organizations utilized included the CDC, Stark Mental Health Addiction and Recovery (SMHAR), and the ODH. A literature review showed that healthcare personnel are not educated on opiate use disorder leading to increased health disparities for this population (Jukiewicz, Alhofaian, Thompson, & Gary, 2017; Morley et al., 2015; van Boekel et al., 2013; van Boekel, Brouwers, van Weeghel & Garretsen, 2014). The literature review publication date range for this project was from 2013 to 2020.

Approach

Upon gaining site and Institutional Review Board (IRB) approval, the PSEOUD was framed within the Iowa model of evidence-based practice (Buckwalter et al., 2017) and followed the planning and evaluation steps in the Walden Staff Education Manual. Outcome products resulting in evidence for the project included the curriculum and the pretest/posttest, which were evaluated by the three content experts (CEs). An assessment expert assisted with the construction of the pretest/posttest items.

A gap in practice exists because of lack of knowledge about OUD on the part of perinatal nurses and a lack of knowledge about the evidence-based literature that showed that such knowledge can enhance care. Therefore, the purpose of this project was to provide an evidence-based education program to facilitate the nurses' knowledge, thus filling the gap in practice.

Significance

The hospital stakeholders were the vice president of Women's and Children's services; the unit directors of the maternity unit and NICU; and the nurse educators of the NICU and maternity unit. These stakeholders were pivotal in their role in perinatal and the healthcare organization. Utilization of these stakeholders, who are connected in many areas of the organization and with administration, will allow for the potential to expand this education to other healthcare workers in the facility. By addressing other areas of the hospital with knowledge regarding OUD, the relationship between the substance misusing patient and the healthcare system can potentially be improved (Jukiewicz et al., 2017; Morley et al., 2015; van Boekel et al., 2013; van Boekel et al., 2014).

The nonhospital stakeholders who agreed to collaborate as a CE were a professor at a local university who was a DNP and a mental health nurse practitioner. She is not only an educator of future mental health nurse practitioners, but she experienced the loss of a son to opiate overdose. Another one of the CEs was a practicing mental health nurse practitioner who treats opiate misusing patients. The mental health nurse practitioner is also a professor in mental health. The last CE was a bachelor's prepared nurse who runs a centering program for pregnant women with OUD and has written multiple articles regarding addiction and pregnancy.

Another group of stakeholders were the individuals who are the opiate/substance misusers. By increasing the nurses' knowledge regarding addiction there is the hope of decreased bias and stigma towards the opiate misusing patient. By increased positive interactions between the OUD patient and healthcare providers, the literature showed a decrease in morbidities and mortalities (Alexander, 2017; Birtel et al., 2017; Fonti et al., 2016; Kulesza et al., 2016; Morley et al., 2015; van Boekel et al., 2013). Evidence based literature showed that when healthcare providers interact with OUD patients in a positive manner, the patient is more likely to seek and maintain treatment (Brener et al, 2007; Dovidio & Fiske, 2012; Green, 2017; Jukiewicz et al., 2017; Morley et al., 2015; van Boekel et al., 2013; van Boekel et al., 2014).

The financial burden on the state from the opiate epidemic was one of the reasons why this staff educational program was imperative. When hospital stakeholders observe positive outcomes for the PSEOUD, such as increased nurses' knowledge regarding OUD and increased positive patient interaction between opiate misuser and healthcare

providers, then the program can be used in all areas of the hospital and beyond the hospital setting as well. This would promote positive outcomes for the patients and decreasing the financial burden by facilitating a relationship between substance misusers and healthcare personnel (Alexander, 2017; Birtel et al., 2017; Fonti et al., 2016; Kulesza et al., 2016; Morley et al., 2015; van Boekel et al., 2013).

The PSEOUD could expand beyond the hospital into the community. There are many potential options such as providing this educational program to all nurses through the Ohio Board of Nursing's requirements for renewing licensure as Delaware implemented (Zickafoose, 2018). This program could potentially be added to continuing education manuals provided to healthcare professionals. Providing the information at community meetings focusing on addiction and different strategies to combat addiction is another way this program could go beyond the hospital and educate individuals regarding opiate use disorders.

The greatest impact this PSEOUD could make is by increasing the perinatal nurses' and the stakeholders' knowledge regarding OUD leading to improved communication and interactions between the healthcare provider and the opiate misusing pregnant patient. The evidence-based literature showed that by improving this relationship, there was a decrease in morbidity and mortality and increased compliance to medical care and treatment programs (Alexander, 2017; Birtel et al., 2017; Fonti et al., 2016; Kulesza et al, 2016; Morley et al., 2015; van Boekel et al., 2013). The improved relationship and increased compliance with medical care and treatment programs would decrease the financial burden upon the community.

Summary

The lack of knowledge by perinatal nurses related to OUD was the driving force behind my desire to plan and evaluate a perinatal staff education curriculum and pretest/posttest on OUD with the goal of improving nurses' attitudes and care. Using the evidence-based literature and framed within the Iowa model (Buckwalter et al., 2017), the PSEOUD followed the steps in the Walden University Manual for Staff Education. Each of the stakeholder groups will benefit from the project in a significant way through personal, professional, and fiscal improvement in the care of the OUD patient.

In Section 2, there is a discussion regarding the Iowa model (Buckwalter et al., 2017) that was used to drive this PSEOUD project and clarification of terms. In addition, I expound on the relevance to nursing practice including scholarly research regarding the problem of OUD and how it affects the nursing profession. Furthermore, I discuss the local background to include how the OUD affected the community, county, and state financially and medically. I also state my role as DNP student including my motivation for conducting this project on OUD.

Section 2: Background and Context

Introduction

The problem identified in this DNP staff education project was the lack of knowledge by perinatal nurses related to opiate use disorder as evidenced by a needs assessment and observations. The purpose of the PSEOUD was to develop a staff education program addressing the gap in knowledge about OUD by the perinatal nurses to increase the nurses' knowledge and presenting the evidence-based literature that showed that such knowledge can enhance care.

The Iowa collaborative (Buckwalter et al., 2017) designed the Iowa model of evidence-based practice (see Appendix A), which was the guiding model for this project, where the Walden University DNP Manual for Staff Education provided the steps for developing this staff education project. In this section, I discuss the relevance to nursing practice, followed by the local background and context, my role on the project, and the role of the project team.

Iowa Model

I used the Iowa model for evidence-based practice (Buckwalter et al., 2017; see Appendix A) for this PSEOUD project because the model is supported by Sigma International, the nursing honor society that promotes nursing research and EBP, and has been an effective model for educational programs for the nursing profession. The Iowa model uses a seven-step process to guide the implementation of research into practice (see Appendix A). The Iowa model had been used in many different educational programs for the nursing profession to promote EBP.

- Step 1 of the Iowa model is to identify the need, issue, opportunity for growth, or gap in knowledge. The gap in knowledge was first identified for this PSEOUD from personal observation, then through an anonymous survey on OUD during the practicum aspect of this DNP program.
- Step 2 of the model is to state the question or purpose, which for this project was to plan and evaluate a perinatal staff education curriculum and pretest/posttest on OUD in order to fill the gap in practice between nurses' lack of knowledge of OUD and present the literature that shows the effectiveness of nurse education in filling that gap. The guiding practice questions for the project were:

    PFQ1: What evidence in the literature supports educating the perinatal nurses on opiate use disorder?

    PFQ2: What evidence in the literature should be incorporated into a staff education program on OUD for the perinatal nurse specialty?
- Step 3 of this project was to identify three CEs whose responsibility was to evaluate the curriculum and validate the pretest/posttest items. A PhD. with expertise in assessment reviewed the construction of the test items.
- Step 4 of the project was to search the evidence. I completed a literature review for information on brain mapping of addiction, the neurochemistry of addiction, current treatment for pregnant women with opiate use disorders, and the current treatment for the infant born to an addicted mother (see Appendix C). The John Hopkins Nursing Evidence Appraisal Tools for

Research and Non-Research were used to grade the evidence after the articles were selected for use in the project (see Appendix D).

- Step 5 of the project was the design portion of the project where the curriculum, pretest/posttest, and templates for evaluation were developed and evaluated by the CEs. Steps 6 and 7 will be completed upon graduation.

Clarification of Terms

Neonatal abstinence syndrome (NAS): "[A] group of conditions caused when a baby withdraws from certain drugs he's exposed to in the womb before birth. NAS is most often caused when a woman takes drugs called opioids during pregnancy" (March of Dimes, 2017, p.1).

Relevance to Nursing Practice

Nurses are able to obtain information on OUD through evidence-based information in nursing journals as well as from the news and social media. The numerous deaths from opiates are publicly evident for individuals to see, even on billboards. When looking at websites such as the ODH and NIH on the opiate epidemic, a major portion of the webpages discussed (a) pain management and addiction plus the new recommendations for prescribers regarding opiates; (b) medication assistive treatment (MAT) programs; and (c) deaths avoided with naloxone project, which targeted pharmacists, first responders, and emergency department personnel.

The total number of opiate-related deaths (opiates, fentanyl, heroin, and methadone) in 2018 for the state of Ohio was 5,417 (ODH, 2019). With the continuation of high numbers of unintentional deaths, and no formal education in nursing to address

the opiate crisis, a staff education program would be helpful in bridging the gap in knowledge of OUD. There were numerous articles that cited education as the key to improved relationship between the drug misusing individual and healthcare personnel (Alexander, 2017; Birtel et al., 2017; Kulesza et al., 2016; Morley et al., 2015; van Boekel et al, 2013). In the local community, education regarding addiction was offered in multiple arenas with one speaker who was a mental health expert and a physician board certified in addiction and mental health. The focus of the education regarding opiate use disorder was prevention, which focused on decreasing the amount of pain medication prescribed (NIH, 2018; ODH, 2018). Another area of focus was naloxone administration for overdoses. The education was geared towards prescribers and did not address the issue of educating the already addicted individual and the care associated with OUD patients.

A healthcare provider's attitude toward a patient with OUD can either hinder or help the current and future care of the patient (Birtel et al., 2017; Kulesza et al., 2016; Morley et al., 2015; van Boekel et al., 2013). Lack of knowledge was the key contributing factor to why nurses and other healthcare providers treat opiate misusing individuals with a negative attitude (Costello & Thompson, 2015; Dovidio & Fiske, 2012; Kulesza et al., 2016; personal communication with a physician specializing in OUD, Sept. 2017). If an addicted individual was currently in a treatment program and the healthcare providers treat that patient in a negative judgmental manner, the literature states these patients are more reluctant to continue treatment programs or seek medical advice for future treatment (Alexander, 2017; Birtel et al., 2017; Fonti et al., 2016;

Kulesza et al, 2016; Morley et al., 2015; van Boekel et al., 2013). Conversely, if a patient who was misusing opiates was treated in a nonjudgmental way, the patient was more likely to continue to seek treatment or even start a medical treatment program (Birtel et al., 2017; Kulesza et al 2016; Morley et al., 2015; van Boekel et al., 2013). One of the long-terms goals of this project was to change the attitudes of nursing personnel by increasing the knowledge related to OUD so these misusing patients will be treated in a nonjudgmental way.

The more education healthcare providers have on OUD, the more likely they will treat patients in a more positive way (Fonti et al., 2016; Morley et al., 2015 Seybold et al., 2014; van Boekel et al., 2013). Continuing education programs and staff education programs are strategies to entice nurses to seek education (Kvas & Seljak, 2013; Goudy-Egger, & Dunn, 2018; Sundel & Ea, 2018). The knowledge gained about the disease of OUD could result in a more understanding attitude among the nurses as they give hope to patients and families (Fonti et al., 2016; Morley et al., 2015 Seybold et al., 2014; van Boekel et al., 2013). The relevance to nursing practice is the social impact this PSEOUD project will have by changing the perspective on addiction from one of judgment to one of compassion and understanding, reducing the stigma of OUD and improving the relationship between patient and healthcare provider.

Local Background and Context

Through personal observation of nurses' negative attitude toward substance misusing patients and from an anonymous survey that showed a gap in knowledge

regarding OUD, I developed the guiding practice questions. The guiding practice questions for the project were:

PFQ1: What evidence in the literature supports educating the perinatal nurses on opiate using disorder?

PFQ2: What evidence in the literature should be incorporated into a staff education program on OUD for the perinatal nurse specialty?

The PSEOUD project was important to this rural community for many reasons. One reason was there had been an increase in infants born with NAS over the last 5 years. In 2013, the number of infants born with NAS was three, and in 2018 the number increased to 20 (personal communication, NICU educator, April 5, 2019). Hence, because there was an increase in the number of NAS babies, perinatal nurses were having increased interactions with moms who had OUD. The guiding principle of many perinatal nurses was to equip the family unit by providing the mother with the knowledge to care for herself and her family. If the interaction was stifled due to the nurse's biases or attitude, equipping the family unit was not accomplished. The PSEOUD was in alignment with the mission of the organization, which is to lead the community to improved health through delivering the highest quality care through service excellence at a competitive price and innovating toward disease prevention and wellness. Research through the Ohio Perinatal Quality Collaborate (OPQC, 2018) showed there was a lack in knowledge and understanding of opioid addiction through two of their initiatives, NAS and Maternal Opiates Medical Supports Plus. The OPQC was founded in 2007 and designed to improve outcomes for mothers and babies (OPQC, 2018). Due to the rise in NAS babies,

OPQC worked on an initiative for all NICU's in Ohio to follow a specified treatment plan for NAS infants. In 2014, the Ohio government assisted in funding the Maternal Opiates Medical Supports Plus program (OPQC, 2018). The program, with research being conducted through OPQC, looked at programs to help the mom with opiate use disorder throughout her pregnancy and beyond. This research is on-going.

The National Institute on Drug Abuse (2018) and the ODH reported that opiates are the second most abused drug in pregnant women leading to the increased incidence of NAS, which had increased from 20 cases per 10,000 live births to 155 per 10,000 live births from 2006 to 2015 (NIDA, 2018) According to the Ohio Hospital Association (2018), the State of Ohio's overdose encounters in the hospital was 25,650 between 2008 and 2011. In 2016 there were 27,377 encounters, and in 2017, there were 34,380 overdose encounters in hospitals. These numbers show a need for healthcare providers to understand OUD due to the increasing number of encounters with patients with OUD.

Role of the Doctor of Nursing Practice Student

My role in this PSEOUD project was as the project manager. The priority was to bring the evidence-based literature to support the project which have been placed in the Literature Review Matrix (see Appendix C). Grading of the evidence was completed utilizing the Johns Hopkins Nursing Evidence Appraisal Tool for Research and Non-Research (see Appendix D) to then bring the evidence-based literature to support the project. IRB and site approval were obtained. With the evidence-based literature, there was development of the curriculum, pretest/posttest, and evaluation forms. Then I worked with the CEs to facilitate their evaluations and products of the evidence which included

evaluation of the curriculum and content validation of the pretest/posttest item while maintaining the anonymity of the CEs work. Upon receiving the CE work, I analyzed and synthesized the results. The PSEOUD project brought meaning to me through my professional life as I took care of pregnant women, including those who struggled with OUD. The PSEOUD project, upon graduation, will be implemented at the hospital where I work. Many of the stakeholders are coworkers.

My motivation for this project became real for me after I had taken care of a family who had a stillborn, and my next patient care assignment was to care for a pregnant woman who was on our unit for a minimum of six weeks due to endocarditis from IV heroin use. As I was obtaining her Buprenorphine from the medication dispenser, I was very tearful asking God why this woman got to have her baby but the other couple I just cared for had to lose their infant. God revealed to me at this point that a sin is a sin (the patient sin of drug addiction was no different than my sin of food addiction), all humans have struggles and who was I to judge this woman for what she does when my job was to care for her and her fetus showing her the love of Jesus. My faith and relationship with Christ were main motivators since I strive to be Christ like and show his love to all hurting people. After that point, I observed how my co-workers treated substance misusing patients. I was saddened that most all of us treated that category of patients in an unkind way, including avoiding them. I knew I needed to educate myself regarding addiction. Furthermore, I felt education on addiction would benefit the staff and patients. There are so many misconceptions regarding addiction, and I believed, and evidence-based literature showed that education was the way to dispel

those misconceptions (Harling, 2017; Kelleher, 2007; Klaman et al, 2017; Lalaguna, Rigas, & Aymerich, 2014; Livingston, Milne, Fang, & Amari, 2011; Markocic, Humphries, Tarne, Watts, & Collins, 2016; Raistrick, Tober, & Unsworth, 2015; Russell, Ojeda, & Ames, 2017; Seybold et al. 2014.). The educational program addressed OUD and would be beneficial for not only the perinatal nurses but all nurses who interact with patients. There are no biases to state.

Role of the Content Experts

The CEs evaluated the Curriculum (see Appendix F) relative to the Literature Review Matrix (see Appendix C) and the objectives. They also validated the pretest/posttest items relative to the objectives and curriculum. Upon completion of the project, the CEs completed a final summary evaluation of the project related to the project, process, and my leadership.

Summary

In Section 2, I described the Iowa model for evidence-based practice (Buckwalter et al., 2017) as the guiding model for the PSEOUD, providing a step-by-step guide on how to work through the project to provide an evidence-based answer. The evidence-based literature assisted in bridging the gap of knowledge of OUD so competent, compassionate care can be provided towards the substance abusing pregnant women with the hopes of adding a positive influence in the community. The increase in OUD has been seen locally and statewide with an increased incidence of addicted neonates and pregnant women within the local maternity unit. The negative interactions with opiate misusing mothers and opiate withdrawing infants showed the relevance of this project in the

community. The role of the student was to produce a literature review, curriculum plan with objectives and pretest/posttest. The CEs were utilized to evaluate the outcome products. The outcome products are used to develop an educational program to facilitate optimal learning for the nurses to hopefully provide a more holistic approach to care.

In Section 3 the practice-focused question was discussed including how the sources of evidence assisted in developing this PSEOUD program. The procedural steps were defined stating who the participants were and what tools were utilized to gather the data. Then there was an analysis and synthesis of the data obtained.

Section 3: Collection and Analysis of Evidence

Introduction

The problem identified in this DNP staff education project was the lack of knowledge by perinatal nurses related to opiate use disorder evidenced by a needs assessment and personal observation. The purpose of the PSEOUD was to develop a staff education program addressing the gap in knowledge about OUD by the perinatal nurses and presenting the evidence-based literature that showed that such knowledge can enhance care. The guiding practice questions for the project were:

PFQ1: What evidence in the literature supports educating the perinatal nurses on opiate use disorder?

PFQ2: What evidence in the literature should be incorporated into a staff education program on OUD for the perinatal nurse specialty?

The Iowa collaborative designed the Iowa model of evidence-based practice (Buckwalter et al., 2017), which was the guiding model for this project (see Appendix A). The Walden University DNP Manual for Staff Education provided the framework. Relevance to nursing practice was demonstrated by showing the increase in the number of NAS infants, meaning there was an increase in opiate misusing mothers seeking medical care. With greater exposure to patients with OUD, there was a need for nurses to understand addiction so the care for the family unit would be provided in a positive, nonjudgmental manner. Providing nonjudgmental care to opiate misusing patients can lead to a decreased financial burden on the communities and decrease morbidity and mortality among this patient population.

Practice-Focused Question

This DNP project, PSEOUD, was focused on developing a staff educational program for perinatal nurses in the hospital about OUD. The purpose of the project was to help the perinatal nurses gain knowledge leading to a more understanding attitude towards substance misusing pregnant patients. Social change might be accomplished by nurses providing better care and giving hope to patients and their families and thus improving the human condition. The guiding practice questions for the project were:

PFQ1; What evidence in the literature supports educating the perinatal nurses on opiate use disorder?

PFQ2: What evidence in the literature should be incorporated into a staff education program on OUD for the perinatal nurse specialty?

The problem identified in this PSEOUD project was the lack of knowledge by perinatal nurses regarding OUD as evidenced by a needs assessment and personal observation. A needs assessment was administered anonymously via an online survey using multiple-choice questions from multiple continuing education programs resulting in an identified gap in knowledge by the nurses regarding OUD, which included knowledge of brain chemistry, disease process of addiction, treatment, and nursing attitudes toward individuals with OUD. The findings were consistent with the evidence-based literature, which supported the finding of a lack of knowledge among nurses (Alexander, 2017; Fonti et al., 2016; Kulesza et al, 2016). Locally, the perinatal nurses had also been noted to make negative comments about the substance misusing patient, and I had observed

multiple nurses who delayed pain treatment for perinatal patients saying they believed the patients were drug seeking.

Sources of Evidence

Sources of evidence used to support the DNP project included a literature review from CINAHL, ProQuest, Medline, and Ovid. Professional organizations utilized include AHWONN, OPQC, and ACOG. Governmental organizations utilized included the CDC, SMHAR, and ODH. The literature review showed that healthcare personnel are not educated on opiate use disorder leading to increased health disparities such as increased infections, increased infectious diseases, and decreased compliance in healthcare and treatment programs for this population (Jukiewicz et al, 2017; Morley et al., 2015; van Boekel et al, 2013; van Boekel et al, 2014). The literature review publication date range for this project was from 2013 to 2020.

These sources of evidence were used because each professional organization and governmental organization had committees focused on OUD and pregnant women. To provide current and correct information, the best practice was to turn to the experts. Currently the AHWONN, OPQC, and ACOG are the leading authorities on addiction and pregnancy because these are authorities for the perinatal field. OPQC continues to research and develop best practices regarding care of the opiate withdrawing neonate and the opiate misusing pregnant women in the state of Ohio. The governmental organizations ODH and SMHAR work with mental health and the funding aspect on how to combat the issues arising from the OUD crisis. I collected much of the statistical data

regarding OUD, such as overdoses, epidemic numbers, and the financial impact from the governmental sites.

The key Boolean terms and phrases utilized for the literature search addressing addiction included *addiction, OUD, brain mapping,* and *neurochemistry of addiction*. The phrases used to research healthcare providers' education on care for patients with addiction included terms and phrases such as *healthcare providers* AND *addiction, nurses* AND *addicted patients, healthcare providers/nurses* AND *caring for opiate addicted patients,* and *biases toward addiction*. Researching for the maternal aspect key phrases and terms included *OUD and pregnancy, perinatal nurses care of opiate addicted patients,* and *treatment for opiate addicted pregnant women.* To determine how nurses learn, phrases included *nursing education, effective nursing education,* and *continuing education on addiction.* To determine the most effective model to utilize for the PSEOUD, terms and phrases used included *education models* and *practice change models.*

Literature Review

Nurses' Knowledge/Lack of Knowledge

The literature showed there was a gap in knowledge regarding addiction. The gap included topics such as understanding addiction. Alexander (2017) explained how according to the American Nurses Association (ANA) code of ethics, nurses need to establish a trusting relationship with patients providing unbiased and nonjudgmental care, which can be accomplished through formal education on OUD so that patient outcomes are not jeopardized. Costello et al. (2015) used a descriptive study to show how nurses

have a gap in knowledge regarding opiates when assessing the patient, administering opiates and adjunctive medication, risk of addiction, risk of respiratory depression, and disposal of opioids. Fonti et al. (2016) completed a cross-sectional quantitative study reviewing the attitudes of healthcare providers towards women in the maternity setting, showing that with less knowledge of OUD, a tendency to stigmatize the patient was greater. Green (2017) identified healthcare providers need education on medication, that addiction is not a moral failing but a disease, and to adopt safe opioid practices to decrease the stigma within the community and healthcare settings. Leahy (2017) explained how nurses have to treat patients with OUD in a holistic manner and how education regarding OUD would facilitate such a holistic approach. There are a multitude of other evidence-based literature that support the finding of a lack of understanding addiction among healthcare providers (Kulesza et al., 2016; Lalaguna et al., 2014; Livingston et al., 2012; Salani et al., 2016; Seifert et al., 2015; Wilkerson et al., 2015).

The gap also showed there is a lack of understanding how the nurses' negative interactions with the patient affect the medical treatment of the patient. Birtel et al. (2017) explained how perceived stigma towards the OUD patient becomes internalized and how the patients accept treatment with less mental health related issues when there is no perceived stigma from the healthcare provider. Harling (2017) administered an attitudinal survey among different healthcare students towards illicit drug users and nursing students showed to be the least tolerant, indicating more education is needed so that these students will treat patients with OUD in a nonjudgmental way and treatment plans will not be hindered. Raistrick et al. (2015) also explained how positive attitudes towards OUD

patients are best delivered by trained individuals so negative attitudes towards OUD patients are not portrayed. There are many evidence-based research articles that explain that negative interaction with a patient with OUD affects the patient's treatment program (Alexander, 2017; Brenner et al., 2007; Fonti et al., 2016; Kelleher, 2007; Leahy, 2017; Seybold et al., 2014; van Boekel et al., 2013; van Boekel, et al., 2014)

Another area where there is a gap in knowledge is understanding the opioid drug family and managing pain (Costello et al., 2015; Jukiewicz et al., 2017; Markocic et al., 2016; Morgan, 2012). Morley et al. (2015) revealed in their descriptive phenomenology study that stigma and stereotyping exists with OUD, so there needs to be further education on opioid tolerance and opioid induced hyperalgesia for healthcare workers to improve patient management. Nguyen, Raffa, Taylor, and Pergolizzi (2015) completed a summative literature review on abuse-deterrent formulas for chronic pain relief and found they could be an effective way to treat pain, but education would need to be completed by healthcare providers. St. Marie, Arnstein, and Zimmer (2018), explained there is need for a multifaceted approach to pain management with education for healthcare providers.

There is a gap in knowledge in management of pregnant patients with OUD (Fonti et al., 2016; Oliver et al., 2012; Seybold et al., 2014; Wallstrom, Persson, & Salzmann-Erikson, 2016). Klaman et al. (2017) explained that with the increasing incidence of OUD pregnant patients, there needs to be an EBP approach to caring for these patients, and the care needs to include MAT and NAS management to improve outcomes for the mother, infant, and the family unit. Myra, Ravndal, Torsteinsson, and Ofsti (2018) found in their Foucauldian discourse analysis that professionals need to

focus on the dilemma of the OUD patient and their unborn child to facilitate ownership and attachment within the relationship. Watson and Mallory (2017) discussed the need to have cohesive treatment for the OUD patient across the spectrums of healthcare taking into consideration bonding for the infant with NAS and working with Substance Abuse and Mental Health Services Administration to develop protocols.

Education had been shown to improve knowledge gaps (Russell et al., 2017; Seybold et al., 2014; Turenne et al., 2016; Zaida et al., 2016; Zickafoose, 2018). There has not been one specific way shown to improve knowledge to a greater degree than another. There are different modalities for learning such as online, in person, or through booklets. There was evidence that educational programs were an effective way to increase knowledge. Costello et al. (2015) discussed how nurses need to teach patients about opioid use but nurses need to have their own gap in knowledge filled through educational programs. Lahti, Hatonen, and Valimaki (2014) found through a systematic review and meta-analysis of a randomized controlled trial that there was no difference in satisfaction by nurses from learning in either the traditional learning mode or through e-learning. Manchikanti, Kaye and Kaye (2016) stated that education is key to combating OUD. Markocic et al. (2016) explained through a qualitative study that opioid educational programs are effective in improving knowledge about OUD and for the safe prescribing and administration of opioids.

Science of Addiction

An understanding of the science of addiction has shown that increased knowledge leads to better relationships between healthcare providers and substance misusers which

helps to improve compliance with healthcare regiments decreasing health disparities (Alexander, 2017; Brenner et al., 2007; Harling, 2017; Kelleher, 2007; Leahy, 2017; Raistrick et al., 2015; Seybold et al. 2014; van Boekel et al., 2013; van Boekel et al., 2014). Birtel et al. (2017) discussed how perceived stigma towards the OUD patient was associated with lower self-esteem, higher rates of depression and anxiety, and inadequate sleep. Fonti et al. (2016), explained through cross-sectional quantitative research that by improving the healthcare providers attitude towards the patient with OUD, may help reducing the fear of stigma as a barrier to care of the substance using pregnant woman. With the understanding that a knowledge of opiate use disorder has assisted in health disparities, makes this imperative to provide the knowledge regarding the science of opiate use disorder to healthcare providers. The science of addiction ranges from the neurochemistry to the biochemistry. Green (2017) provided information regarding education on medication, an increase in treatment programs, adopting safe practices, reducing stigma, and educating healthcare professionals on addiction as a disease not a moral failing will help improve the care and outcomes of the OUD families. Nguyen et al. (2015) explained how ADF can help combat the disease of addiction for chronic pain. Seifert et al. (2015) showed through an experimental, RCT that there is a volume decrease in the NAcc in heroin-addicted patients, proving the adverse effects on brain from OUD. Wilkerson, Kim, Windsor, and Mareiniss (2015) discussed safe prescription guidelines along with the need for guidelines to be developed and education to be provided for implementing, laws, protecting and providing Narcan.

Evidence Generated by the Project

The evidence generated by this project included a Curriculum Plan (see Appendix F), Pretest/Posttest (see Appendix I), and Content Expert Summary of the Project, Process, and My Leadership (see Appendix N). The procedure, analysis, and synthesis are included in this section with the findings presented in Section 4.

Curriculum Plan

The Curriculum Plan on OUD (see Appendix F) was developed from the evidence-based literature as shown in the Literature Review Matrix (see Appendix C).

Pretest/Posttest

The test questions (see Appendix I) were developed based on the curriculum objectives and literature review. The Pretest/Posttest item construction was reviewed by a PhD expert in assessment and statistics.

Content Expert Summary of the Project, Process, and My Leadership

Each CE was asked to evaluate the project, process, and my leadership (see Appendix N) from which themes were reported on the Results of Summary Evaluations of the Staff Education Project by Content Experts (see Appendix O)

Participants

The project participants were the CEs. Invitation to participate in the team was conducted through an email and verbal communication. Upon the approval of the proposal, the email was submitted to each member and requested participation. The age range for participants was 30 to 60s. One of the CEs was a professor at a local university who is a DNP and a mental health nurse practitioner. Not only did she educate future

Mental Health NPs, but she experienced the loss of a son to opiate overdose. Another one of the CEs is a practicing Mental Health Nurse Practitioner who treats patients with opiate use disorders. The practitioner is also a professor in mental health. The last CE was a BSN who facilitates a centering program of pregnant women with opiate use disorder and had written multiple articles regarding addiction and pregnancy.

Procedures

The education templates were developed by my chair for use by her students to provide consistency for student work. There has been no reliability and validity performed for these templates because they are not measurement tools. Use of the Validity Index Scale Analysis (see Appendix K) for the pretest/posttest items provided reliable way to measure the validity of the content (Shi, J., Mo, X., & Sun, Z., 2012;Yaghmale, F., 2009; Zamanzadeh, V., Ghahramanian, A., Rassouli, M., Abbaszadeh, A., Alavi-Majd, H., & Nikanfar, A., 2015).

Literature review matrix. The John Hopkins Evidenced-Based Practice Permission Statement was provided by The John Hopkins University (see Appendix A) and the John Hopkins Nursing Evidenced-Based Practice, Non-Research and Research Evidence Appraisal Tool were utilized for grading of evidence (see Appendix D)**.**

Curriculum evaluation. The curriculum evaluation was conducted by the CEs rating the degree of relevance of each objective relative to the evidence from the literature review and content (see Appendix G).

Pretest/posttest content validation. To obtain the content validity index, the CEs rated each item of the pretest/posttest using the Pretest/Posttest Content Validation by

Content Experts form (see Appendix J). I analyzed where each item was reported related to the options on the Likert scale ranging from *Not Relevant* to *Highly Relevant* and quantified on a scale of 1-4. The proportion of experts who rated an item as *relevant* or *highly relevant* divided by the total number of experts was computed for each item (see Appendix K).

Content Expert Summary of the Project, Process, and My Leadership

Working with the CEs on this project was initially through verbal communication. Permission was asked if each was willing to review the content and provide their input. After that, the packets were sent via email to each expert with instructions on what to review, complete, and then to return to an administrative assistant for her to then print out and provide to me. Each CE was responsible for completing and returning the following items: Content Expert Evaluation of the Curriculum Plan (see Appendix G), Pretest/Posttest Expert Content Validation by Content Experts (see Appendix J), and Content Expert Summary Evaluation (see Appendix O) of the project, process, and leadership.

Each CE completed an evaluation of the project, the process in which the project was formulated, and my leadership throughout the entire process. Then a summative evaluation was compiled. Each of the comments was documented and taken into consideration for personal and professional growth. The analysis was summarized, synthesized, and discussed in section 4.

Protections

Upon acceptance of the proposal, Form A from Walden's IRB process was submitted for approval. IRB approval number 06-11-20-0601996was obtained. The CEs were sent packets which contained the curriculum plan, curriculum plan CE evaluation, pretest/posttest and evaluation, literature review matrix, and an evaluation of leadership. These forms were completed anonymously. To ensure anonymity, the packets were sent to the CEs with instructions to return via email to an unbiased administrative assistant at this student's place of employment. The CEs were also instructed to not place their name or any other identifying factors on the forms they were returning. The administrative assistant was requested to print off the forms and number them CE #1, CE #2, and CE #3 in the order in which she received them back. The administrative assistant was also asked to ensure no identifying features were on the packets as they were returned to her. Once all the packets were obtained, the administrative assistant printed out the packets, labeled them accordingly, and interoffice mailed them to this student. The information obtained from the CEs will be kept on file until then shredded after 5 years.

Analysis and Synthesis

Curriculum

A dichotomous scale was used for the Content Expert Evaluation of the Curriculum Plan (see Appendix G) where the CE rated each objective as or *not met* = 1 or *met* = 2. Findings were completed by descriptive statistics and reported in Section 4.

Pretest/Posttest

The Pretest/Posttest Content Validation by Content Experts form (see Appendix J) was completed using a Likert-type scale ranging from 1 = *Not Relevant* to 5 = *Highly Relevant.* I determined the resulting content validity index (CVI) using the Calculating the Content Validity Index template (see Appendix K). Findings were reported by descriptive statistics and the results of the evaluations/validations were reported and synthesized in finalizing the program.

Content Expert Summary of the Project, Process, and My Leadership

The finding from the Content Expert Summary (see Appendix O) of the Project, Process and My Leadership were synthesized, and revisions made as appropriate and were discussed in Section 4.

Summary

In Section 3, the sources of evidence were included a literature review from 2013 to 2020. The literature was utilized to develop a curriculum plan and pretest/posttest. CEs provided outcome products to determine if the objects were met by curriculum, and if the pretest/posttest represented the curriculum. The evidence generated for the project was including in finalizing the educational program including the CEs' recommendation from the outcome products.

In Section 4 the findings and implications of the findings from the CEs were discussed. Recommendations from the findings were evaluated. A summary of working with the team members and their impact on the project were included. Plans to go beyond

the perinatal unit with this project were discussed and outlined. The strength and limitations of the PSEOUD were listed to conclude Section 4.

Section 4: Findings and Recommendations

Introduction

The problem identified in this PSEOUD project was the lack of knowledge by perinatal nurses regarding OUD. The purpose of the PSEOUD was to develop a staff education program addressing the gap in knowledge about opiate use disorder by the perinatal nurses and presenting the evidence-based literature that showed that such knowledge can enhance care. The guiding practice questions for this project were:

PFQ1: What evidence in the literature supports educating the perinatal nurses on the disease of opiate use disorder?

PFQ2: What evidence in the literature should be incorporated into a staff education program on OUD for the perinatal nurse specialty?

Sources of Evidence

The evidence for this PSEOUD project was generated by the CE who provided an evaluation of the Curriculum Plan (see Appendix G) and the Pretest/Posttest Expert Content Validation by the Content Experts items (see Appendix J). The experts were each provided with a packet of information that included the following: Curriculum Plan (see Appendix F), Content Expert Evaluation of the Curriculum Plan (see Appendix G), Literature Review Matrix (see Appendix C), Pretest/Posttest (see Appendix I), Pretest/Posttest Expert Content Validation by Content Experts (see Appendix J), Literature Review Matrix (see Appendix C), and a Content Expert Summary Evaluation of the Project, Process, and Leadership (see Appendix N).

Analytical Strategies

Curriculum. I analyzed the curriculum evaluation by the CEs using descriptive statistics to report the results of the dichotomous scale used to determine if the four course objectives met the intent of the course as evidenced by the literature review and reflected in the content. The experts completed the evaluations using a Likert-type dichotomous scale of "met" or "not met" to evaluate the objectives (see Appendix F) with each expert response given a 2 for each objective achieving "met" and a 1 for "not met". The sum was then divided by 3.

Pretest/Posttest (see Appendix I). The CEs were provided with a Pretest/Posttest Expert Content Validation by Content Experts (see Appendix J). Each expert was asked to review the test questions along with the Curriculum Plan (see Appendix F) and the Literature Review Matrix (see Appendix C) to determine the relevance of each test item. A summative computation was completed by calculating the CVI. To calculate an I-CVI, experts were asked to rate the relevance of each item on a 4-point scale. The scale used was 1 = not relevant, 2 = somewhat relevant, 3 = relevant, 4 = highly relevant. Then, for each item, I computed the I-CVI as the number of experts giving a rating of either 3 or 4 divided by the number of experts, resulting in the proportion in agreement about relevance. If a 1 or 2 was assigned by the CE, the scoring was not used but the sum was still divided by 3 for the number or CEs. The summative-CVI (S-CVI) was 0.85, which indicated the pretest/posttest were relevant to the curriculum.

Content Expert Summary of the Project, Process, and Leadership (see Appendix N). The CEs were asked to provide an evaluation of the project, process, and

my leadership abilities. After reviewing the experts' evaluation, I made changes and completed a self-analysis for growth.

Findings and Implications

Findings of Curriculum Plan Evaluation

The Content Expert Evaluation of the Curriculum Plan Summary (see Appendix G) showed that all three experts agreed that the four objectives were met with the cumulative score being 2, or "met," for each objective. Table 1 is a representation of the findings.

Table 1

Content Expert Evaluation of the Curriculum Plan Summary

Objective number	Evaluator 1	Evaluator 2	Evaluator 3	Average score
1. The nurse will identity addiction as a disease state.	2	2	2	2
2. The nurse will recognize how OUD affects the brain.	2	2	2	2
3. The nurse will identify treatment for the pregnant opiate addicted patient.	2	2	2	2
4. The nurse will recognize the importance of recovery programs for the opiate addicted family unit.	2	2	2	2

Suggestions were made by the experts and they were incorporated into the PSEOUD program and listed in the Results of Content Experts Evaluation of Curriculum Plan Summary (se Appendix H).

Pretest/Posttest Content Validation

I computed the CVI score of the pretest/posttest items using the Results of Pretest/Posttest Content Expert Validity Index Scale Analysis (see Appendix K). Table 2

depicts the analysis from the questionnaire pretest/posttest including the item CVI and the scale CVI:

Table 2

Pretest/Posttest Content Expert Validity Index Scale Analysis

Item	Expert 1	Expert 2	Expert 3	I-CVI
1	4	4	2	.67
2	4	4	3	1
3	4	4	3	1
4	4	4	4	1
5	4	4	4	1
6	3	3	2	.67
7	2	4	1	.33
8	4	4	2	.67
9	4	4	3	1
10	4	3	3	1
11	4	3	3	1
12	4	3	4	1
13	4	4	2	.67
14	4	3	3	1
15	3	3	2	.67
S-CVI				.85

The S-CVI equaled .85; these CVI findings indicated that the test questions reflected the objectives and curriculum. Bridging the gap of knowledge should improve patient interaction and care, which could cause a positive social change by improving compliance and follow-up with MAT, thus improving the lives of those addicted and their families.

Recommendations

Recommendations from each of the objectives and test questions were presented by each CE and are summarized below. The complete recommendations are found in the appendix related to each section.

Objective 1

Two of the three CE commented the objective was thorough and complete, and one did not make a comment.

Objective 2

One of the CE thought the section was very thorough, one reminded the student to remember who the audience was and not to go into too much depth on the neurotransmitters of the brain, and the other CE made no comment.

Objective 3

One CE did not make a comment, two suggested using generic names when referring to medication, and one commented on not knowing how an infant showed anxiety, so it should be removed.

Objective 4

One CE felt this section was very professionally written, one CE wanted to make sure the content of this was stressed, and one CE suggested providing information on successful treatment programs.

Pretest/Posttest

The CEs were asked to evaluate if the pretest/posttest questions were relevant to the curriculum plan using a 4-point Likert scale with comments. The suggestions are summarized below.

1. One CE commented the question could be reworded.
2. No comments from the CEs.
3. –5. One comment to make sure to use generic drug names.
6. –7. No comments added from the CEs.
8. One comment to reword the question.
9. No comments add from the CEs.
10. One CE commented the question was simple and I could add some actual correct behavioral modifications to the question.
11. –12. No comments added from the CEs.
13. One comment that options could be added of what other items were included in a successful recovery program.
14. No added comments from the CEs.
15. One CE commented to watch the wording because it could add to the stigma.

Further study needs to be completed to see if the knowledge is increased with this PSEOUD program. The actual educational program is located in Appendix M. When this program is implemented, a statistical analysis will be completed to determine the relevancy of the program.

Contribution of the Doctoral Project Content Experts

The CEs' contribution was the richness of their education and experience in OUD to providing evaluation of the curriculum and validation of the pretest/posttest items.

Strengths and Limitations of the Project

Personally, the growth in knowledge strengthened my expertise on the topic of OUD. A strength of the project was in bringing awareness to me, my coworkers, and patients. As I was discussing the project with my coworkers, they indicated that they did not realize certain aspects of addiction, were grateful for learning this information, and desired to learn more. Also, my patients were excited to hear that healthcare professionals would be receiving education on addiction. The patients were hoping this would influence the care provided to them in a more positive aspect.

I was able to build relationships with professionals in mental health as I learned more about addiction as a brain disease and the prenatal aspect of caring for the patient with OUD in visiting with the nurse who ran the centering pregnancy program. These experiences allowed my perspective and knowledge to be broadened.

The main limitation was in the timeliness of completing the project. In the beginning, there was a delay in getting the project started. The facility in which I was to conduct the program and use their NAS statistics required a $150.00 deposit per semester. Unfortunately, my financial status at the time made finding an extra $150.00 very difficult for the required deposit before the site agreement would be signed. More than a quarter lapsed waiting on this to occur, delaying initiation. Upon implementing the evaluation process there was another delay related to communication of directions for the

process of evaluating and returning evaluation items which caused a delay as well as one CE who was especially late in returning her packet.

Due to time constraints, having to pay for another semester, and COVID-19, the staff education was not actually implemented. The project was just the first step for further education. After graduation from Walden University, my plan is to implement the PSEOUD in the facility where I am a staff nurse, and then I will disseminate the findings.

Summary

Section 4 was focused on the findings and recommendations from the CEs and the PSEOUD. The evidence that was generated came from the review of the curriculum plan, pretest/posttest items, and evaluation of my leadership, all by the CEs. There was an analysis of strategies that looked at the curriculum and pretest/posttest and the tools used to determine the relevance in relationship to the curriculum objectives. The tools used by the CEs determined the objectives were met. The findings and implications also indicated that the objectives were met and the relevancy of pretest/posttest questions. There were some recommendation from each of the CEs, which were spelled out in this section. The CEs' contributions including recommendations were listed. I discussed the strengths of the project including networking, increasing knowledge, and providing information to coworkers and patients. The limitations such as the faculty stipulation as to where this project's information was obtained, time, and COVID-19, were also discussed.

In Section 5 I discuss how this project was disseminated to bridge the gap of knowledge in nursing. Section 5 also includes an analysis of myself as a practitioner,

scholar, and project manager. I also present the challenges, solutions, and insight gained, which included an analysis of self.

Section 5: Dissemination Plan

Initial dissemination of this project will be as a staff continuing education program for the perinatal nurses at the institution where I am employed. After implementation and the pretest/posttest findings are analyzed, I will submit an abstract for a poster/podium presentation at my chapter of Sigma International research/EBP day, entitled “Research Day” at the local university at which I am a professor. I will also submit an abstract to the hospital where I am employed for their research/EBP day entitled Spirit of Inquiry. Eventually I would like to submit an abstract to AWHONN for a staff education article.

Analysis of Self

Practitioner

As a practitioner, this PSEOUD has increased my knowledge of the disease process of addiction. Not only has my knowledge increased, but my compassion has also increased. My new knowledge allowed me to better educate my patients on the withdrawal the infants go through and to be aware of the difficult life experiences many of my patients have had. I also am better equipped to provide resources to the opiate misusing patient and their families.

Scholar

As a scholar, the PSEOUD has increased my awareness of evidence-based nursing research and putting the research into practice. I also greatly broadened my understanding of what is entailed in scholarship. Many times, when research is put into practice, the process is put into place by a nurse or manager who has not been at the

bedside for many years. While EBP is needed, the process may be unrealistic to add to the bedside nurses' tasks. As a bedside nurse, I feel I can bring this EBP to the nurses with understanding and provide implementation techniques that do not require additional burdens to be placed on the bedside nurse. I believe my dual role as scholar and bedside nurse can benefit and provide validity to implementing EBP.

Project Manager

Being a project manager, I have found, was not my strong point. I am good at reading research articles, collecting data, and implementing projects already completed, but I have learned being the head of the project was an area I needed to work on. I have found that I do not like to let people down, so when I am working for others, I tend to be an overachiever, but when it came to working for myself, I am not as inclined to strive as hard. This quality is not one that a project manager should have. My communication and instructions were not clear to my CEs, which delayed certain aspects of the PSEOUD.

Challenge, Solutions, Insights Gained

There are many qualities I have learned about myself while performing this project. First and foremost, I became aware of what scholarship entails. I found throughout the project that when I would get overwhelmed with my personal life, work life, and scholarly life, that I would shut down. This was detrimental, as it took me a lot longer to complete this project. I have found more productive ways to deal with the stress and relied on God to keep me going through those stressful times. I also found that without a support system this has been a difficult task to complete, and I learned to obtain support from my faculty. Organization has been a struggle throughout this entire project.

Not keeping up on my initial literature review matrix has been a great downfall. As a matter of fact, this was such a downfall that as I was completing this project, I was still placing the matrix in proper format. Not keeping up with the literature matrix and putting information in more than one place in my house, work, and computer made reviewing articles at the time easy but caused double work at the end. My greatest advice to anyone doing a project would be to keep their literature review matrix current at all points.

Even though there were many setbacks over the last 5 years, I discovered a person inside of me who loved learning and developed an ambition to continue to help and educate fellow nurses. With this love for education and the desire to improve the knowledge of nurses, I have changed my focus during this time at Walden and have become a full-time educator for undergraduate nurses. I have incorporated the information I learned from my DNP project into my classroom. This desire to improve nursing knowledge led to a list of areas I want to investigate to change or enhance the curriculum at the university where I teach. I have ensured that the changes align with Healthy Nurse 2020.

This journey had been eye opening about myself, stigma, and addiction. There were many aspects of addiction that I did not understand, and now I have a greater awareness as to why complete recovery is such a struggle. My greatest accomplish to date, besides my children, was this project. My desire is to be compassionate and have a knowledge base on how to direct and care for families with OUD. The PSEOUD has shown me I want to go beyond where I am and continue to impact the nursing profession to improve the profession, which is my life and the core of who I am.

Summary

The opioid epidemic was a definite area in which healthcare providers are lacking knowledge. Throughout this paper, articles have been cited that supported this claim. Nurses have the capability of positively impacting opiate misusing lives by treating each patient with respect and dignity. Once a nurse understands the science behind the disease of addiction, the relationship between patient and healthcare provider can be a more positive one that can improve health disparities and decrease the financial burden on the communities. The goal of the PSEOUD was to impart this knowledge to perinatal nurses. The care a perinatal nurse provides to an opiate misusing family unit not only affects the patient's (mother's) life but also the newborn's life. As a perinatal nurse it is our job to promote outcomes as healthy possible for the family unit. By understanding the science of addiction, the nurse can provide education and resources to the family unit.

Disseminating this PSEOUD will impact the community and, I hope, institutions beyond the community, to improve the knowledge of perinatal healthcare for providers. As professional nurses, it is our responsibility to ensure accurate information is made available to colleagues through various means, one being staff education. It is important to include many venues for dissemination because it is important to make sure all individuals have access to this information in ways that allow for maintaining a healthy work-life balance. As a professional nurse, I believe life-long scholarship is essential. Disseminating the scholarship is the only way to keep improving patient care and nurse care.

References

Alexander, K. (2017). A call for compassionate care. *Journal of Addictions Nursing*, *28*(4), 220-223. doi:10.1097/JAN.0000000000000198

American Association of Colleges of Nursing. (2006). *The essentials of doctoral education for advanced nursing practice*. Retrieved from aacn.nche.edu

Birtel, M., Wood, L., & Kempa, N. (2017). Stigma and social support in substance abuse Implications for mental health and well-being. *Psychiatric Research*, *252*, 1-8 doi:10.1016/j.psychres.2017.01.097

Brener, L., von Hippel, W., & Kippax, S. (2007). Prejudice among health care workers toward injecting drug users with hepatitis C: Does greater contact lead to less prejudice? *International Journal of Drug Policy*. *18*(5), 381-387 doi:10.1016/j.drugpo.2007.01.006

Buckwalter, K. C., Cullen, L., Hanrahan, K., Kleiber, C., McCarthy, A. M., Rakel, B., . . . Tucker, S. (authored on behalf of the Iowa Model Collaborative). (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing*, *14*(3), 175-182. doi:10.1111/wvn.12223

Centers for Disease Control and Prevention. (2015). *Vital signs*. Retrieved from cdc.gov/vitalsigns/heroin/

Costello, M. & Thompson, S. (2015). Preventing opioid misuse and potential abuse: The nurse's role in patient education. *Pain Management Nursing*, *16*(4), 515-519. doi:10.1016/j.pmn.2014.09.008

Dovidio, J. & Fiske, S. (2012). Under the radar: How unexamined biases in decision-

making processes in clinical interactions can contribute to health care disparities. *American Journal of Public Health, 102*(5), 945-952. doi:10.2105/AJPH.2011.300601

Fonti, S., Davis, D., & Ferguson, S. (2016). The attitudes of healthcare professionals towards women using illicit substances in pregnancy: A cross-sectional study. *Women and Birth, 29*, 330-335. doi:10.106/j.wombi.2016.01

Goudy-Egger, L., & Dunn, K. S. (2018). Use of continuing education to increase nurses' knowledge of chronic wound care management. *Journal of Continuing Education in Nursing, 49*(10), 454–459. doi:10.3928/00220124-20180918-05

Green, J. (2017). Epidemiology of opioid abuse and addiction. *Journal of Emergency Nursing, 43*(2), u106-113. doi:10.1016/j.jen.2016.09.004

Harling, M. (2017). Comparisons between the attitudes of student nurses and other health and social care students towards illicit drug use: An attitudinal survey. *Nurse Education Today, 48*(1), 153-159. doi:10.1016/j.nedt.2016.10.01

Hosking, J., Knox, K., Forman, J., Montgomery, L., Valde, J., & Cullen, L. (2016). Evidence into practice: Leading new graduate nurses to evidence-based practice through a nurse residency program. *Journal of PeriAnesthesia Nursing. 31*(3), 260-265. doi:10.106/j.jopan.2016.02.006

Jukiewicz, D., Alhofaian, A., Thompson, Z., & Gary, F. (2017). Reviewing opioid use, monitoring, and legislature: Nursing. *International Journal of Nursing Sciences, 4*(4), 430-436. doi:10.1016/j.ijnss.2017.09.001

Kelleher, S. (2007). Health care professionals' knowledge and attitudes regarding

substance use and substance users. *Journal of Accident and Emergency Nursing, 15*(3), 161-165. doi:10.1016/j.aaen.2007.05.005

Klaman, S., Isaacs, K., Leopold, A., Perpich, J., Hayashi, S., Vender, J., . . . Jones, H. (2017). Treating women who are pregnant and parenting for opioid use disorder and the concurrent care of their infants and children: Literature review to support national guidance. *American Society of Addiction Medicine, 11*(3), 178-190. doi:10.1097/ADM.0000000000000308

Kulesza, M., Matsuda, M., Ramirez, J., Werntz, A., Teachman, B., & Lindgren, K. (2016). Towards greater understanding of addiction stigma: Intersectionality with race/ethnicity and gender. *Journal of Drug and Alcohol Dependence, 169,* 85-91. doi:10.1016/j.drugalcdep.2016.10.020

Kvas, A., & Seljak, J. (2013). Continuing education and self-assessment of knowledge of nurse leaders. *Journal of Continuing Education in Nursing, 44*(8), 342–351. doi:10.3928/00220124-20130603-07

Lahti, M., Hatonen, H., & Valimaki, M. (2014). Impact of e-learning on nurses' and student nurse's knowledge, skills, and satisfaction: A systematic review and meta-analysis. *International Journal of Nursing Studies, 51*(1), 136-149. doi:10.1016/j.ijnurstu.2012.12.017

Lalaguna, J., Rigas, C., & Aymerich, M. (2014). Addiction: A need for specific education. *Procedia Social and Behavioral Sciences, 141*, 160-165. doi:10.1016/j.sbspro.2014.05.029

Leahy, L. (2017). The opioid epidemic: What does it mean for nurses? *Journal of Psychosocial Nursing, 55*(1), 18-23. doi:10.3928/02793695-20170119-03

Livingston, J., Milne, T., Fang, M., & Amari, E. (2012). The effectiveness of interventions for reducing stigma related to substance use disorders: a systematic review. *Addiction.107 (*1), 39-50. doi:10.1111/j.1360-0443.2011. 03601. x

Lloyd, S., D'Errico, E., & Bristol, S. (2016). Use of the Iowa model of research in practice as a curriculum framework for doctor of nursing practice (DNP) project completion. *Nursing Education Perspective, 37(*1), 51-53. doi:10.5480/14-1364

Manchikanti, L., Kaye, A., & Kaye, A. D. (2016). Current state of opioid therapy and abuse. *Current Pain Headache Repository, 20(*34). doi:10.1007/s11916-016-0564-x

March of Dimes. (n.d.). *Neonatal abstinence syndrome*. Retrieved fromhttps://www.marchofdimes.org/complications/neonatal-abstinence-syndrome-(nas).aspx

Markocic, S., Humphries, M., Tarne, K., Watts, M., & Collins, L. (2016). What are the risks and knowledge deficits for prescribing and administering opioids in the ward environment? A quality project on assessing and improving knowledge. *Journal of Nurse Education in Practice, 17,* 182-187. doi:10.1016/j.nepr.2015.10.011

Matrix Global Advisors. (2015). *Health care costs from opioid abuse: A state-by-state analysis.* Retrieved from drugfree.org/wp content/uploads/2015/04/Matrix_OpioidAbuse_040415.Pdf

Morgan, B. (2012). Nursing attitudes towards patients with substance use disorders pain. *Pain Management Nursing, 15*(1), 165-175. doi:10.1016/j.pmn.2012.08.004

Morley, G., Briggs, E., & Chumbley, G. (2015). Nurses' experiences of patients with substance-use disorder in pain: A phenomenological study. *Pain Management Nursing, 16*(5), 701-711. doi:10.1016/j.pmn.2015.03.005

Myra, S., Ravndal, E., Torsteinsson, V., & Ofsti, A. (2018). Pregnant substance abusers involuntary and coercive treatment in Norway: Therapists' reflections on change Processes and attachment experiences. *Journal of Clinical Nursing, 27*(5-6), e959-e970. doi:10.1111/jocn.14067

National Institutes of Health. (2018). *The science of drug use and addiction: The basics.* Retrieved from https://www.drugabuse.gov/publications/media-guide/science-drug-use-addiction-basics

National Institute on Drug Abuse. (2018). *Opiate summaries by state*. Retrieved from https://www.drugabuse.gov/drugs-abuse/opioids/opioid-summaries-by-state

Nguyen, V., Raffa, R., Taylor, R., & Pergolizzi, J. (2015). The role of abuse-deterrent formulations in countering opioid misuse and abuse. *Journal of Clinical Pharmacy and Therapeutics, 40(*6), 629-634. doi:10.1111/jcpt.12337

Ohio Department of Health. (2018) *New strategies to combat the opiate crisis in Ohio, 2018.* Retrieved from https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/violence-injury prevention program/media/newstrategiestocombattheopiatecrisisinohio

Ohio Department of Health. (2019). *Ohio public health data warehouse: Mortality.* Retrieved from http://publicapps.odh.ohio.gov/EDW/DataBrowser/Browse/Mortality

Ohio Hospital Association. (2018). *Hospital insights: OHA opioid response initiative.* Retrieved from https://ohiohospitals.org/OHA/media/Images/Patient%20Safety%20and%20Quality/Documents/Hospital-Insights-2018-04-Opioid-Response-v2.pdf

Ohio Perinatal Quality Collaborative. (2018). *Maternal opiate medial supports plus.* Retrieved from https://opqc.net/projects/active-projects/maternal-opiate-medical-supports-plus-moms

Oliver, J., Coggins, C., Compton, P., Hagan, S., Matteliano, D., Stanton, M., . . . Turner, H. (2012). American society for pain management nursing position statement: Pain management in patients with substance use disorders. *Pain Management Nursing, 13(*3), 169-183. doi:10.1016/j.pmn.2012.07.001

Pepper, A., Westermann-Clark, E., & Lockey, R. (2017). The high cost of epinephrineautoinjectors and possible alternatives. *Journal of Allergy and Clinical Immunology, 5*(3), 665-668. doi. 10.1016/j.jaip.2016.12.018

Raistrick, D., Tober, G., & Unsworth, S. (2015). Attitudes of healthcare professionals in a general hospital to patients with substance misuse disorders. *Journal of Substance Use, 20(*1), 56-60. doi:10.3109/14659891.2013.878763

Robbins, J., Valdez-Delgado, K., Caldwell, N., Yoder, L., Hayes, E., Barba, M., Greeley, M., Mitchell, C., & Mann-Salinas, E. (2017). Implementation and outcomes of an evidence-based precepting program for burn nurses. BURNS, 43(7), 1441–1448.doi:10.1016/j.burns.2017.04.017

Russell, R., Ojeda, M., & Ames, B. (2017). Increasing RN perceived competency with Substance use disorder patients. *Journal of Continuing Education in Nursing*, *48*(4), 175-183. doi:10.3928/00220124-20170321-08

St. Marie, B., Arnstein, P., & Zimmer, P. (2018). Pain and opioids: A call for policy action. *Journal of Nurse Practitioners, 1*(14), 40-44. doi:10.1016/j.nurpra.2017.10.002

Salani, D., Zdanowicz, M., & Joseph, L. (2016). Heroin use. *Journal of Psychosocial Nursing and Mental Health Services*, *56*(4), 30-37. doi:10.3928/02793695-20160518-05

Saqe-Rockoff, A., Schubert, F., Ciardiello, A., & Douglas, E. (2018). Improving thermoregulation for trauma patients in the emergency department: An evidence-based practice project. *Journal of Trauma Nursing*, *25*(1), 14-E2. doi:10.1097/JTN.0000000000000336

Seifert, C., Stefano, M., Sprenger, T., Lang, U., Huber, C., Denier, N., . . . Walter, M. (2015). Reduced volume of the nucleus accumbens in heroin addiction. *European Archives of Psychiatry and Clinical Neuroscience*, *265*(8), 637-645. doi:10.1007/s00406-014-0564-y

Seybold, D., Calhoun, B., Burgess, D., Lewis, T., Gilbert, K., & Casto, A. (2014). Evaluation of a training to reduce provider bias toward pregnant patients with substance abuse. *Journal of Social Work Practice in Addictions, 14*(3), 239-249. doi:10.1080/1533256X.2014.933730

Shi, J., Mo, X., & Sun, Z. (2012). Content validity index in scale development. *Journal of Central South University, Medical Sciences, 37*(2), 152–155. doi:10.3969/j.issn.16727347.2012.02.007

Sundel, S., & Ea, E., (2018). An educational intervention to evaluate nurses 'knowledge of heart failure. *Journal of Continuing Education in Nursing, 49*(7), 315–321. doi:10.3928/00220124-20180613-07

Turenne, J., Heon, M., Aita, M., Faessler, J., & Doddridge, C. (2016). Educational intervention for an evidence-based nursing practice of skin-to-skin contact at birth. *The Journal of Perinatal Education, 25(*2), 116-128. doi:10.1891/1058-1243.25.2.116

van Boekel, L., Brouwers, E., van Weeghel, J., & Garretsen, H. (2013). Stigma among health professionals towards patients with substance use disorders and its consequences for healthcare delivery: A systematic review. *Journal of Drug and Alcohol Dependence, 131*(1-2), 25-35. doi:10.1016/j.drugalcdep.2013.02.018

van Boekel, L., Brouwers, E., van Weeghel, J., & Garretsen, H. (2014). Healthcare professionals regard towards working with patients with substance use disorders: Comparison of primary care, general psychiatry, and specialist addiction services. *Journal of Drug and Alcohol Dependence, 134,* 92-98. doi:10.1016/j.drugalcdep.2013.09.012

Wallstrom, R., Persson, R., & Salzmann-Erikson, M. (2016). Working with children in families with parental substance abuse. *Journal of Psychosocial Nursing and Mental Health Services, 54(*6), 38-44. doi:10.3928/02793695-20160518-06

Wang, A., & Kesselheim, A. S. (2018). Government patent use to address the rising cost of naloxone: 28 U.S.C. § 1498 and evzio. *Journal of Law, Medicine & Ethics*, *46*(2), 472–484. doi. 10.1177/1073110518782954

Watson, C., & Mallory, A. (2017). The criminalization of addiction in pregnancy: Is this what justice looks like? *The New Social Worker, 24(*1), 14-16. Retrieved from https://search-ebscohostcom.ezp.waldenulibrary.org/login.aspx?direct=true&db=edo&AN=120664996&site=eds-live&scope=site

White, S., & Spruce, L., (2015). Perioperative nursing leaders implement clinical practice guidelines using the IOWA model of evidence-based practice. *AORN Journal*, *102*, 50–59. doi:10.1016/j.aorn.2015.04.00

Wilkerson, R., Kim, H., Windsor, T., & Mareiniss, D. (2015). The opioid epidemic in the United States. *Emergency Medicine Clinics North America*, *34*(2), e1- e23. doi:10.1016/j.emc.2015.11.002

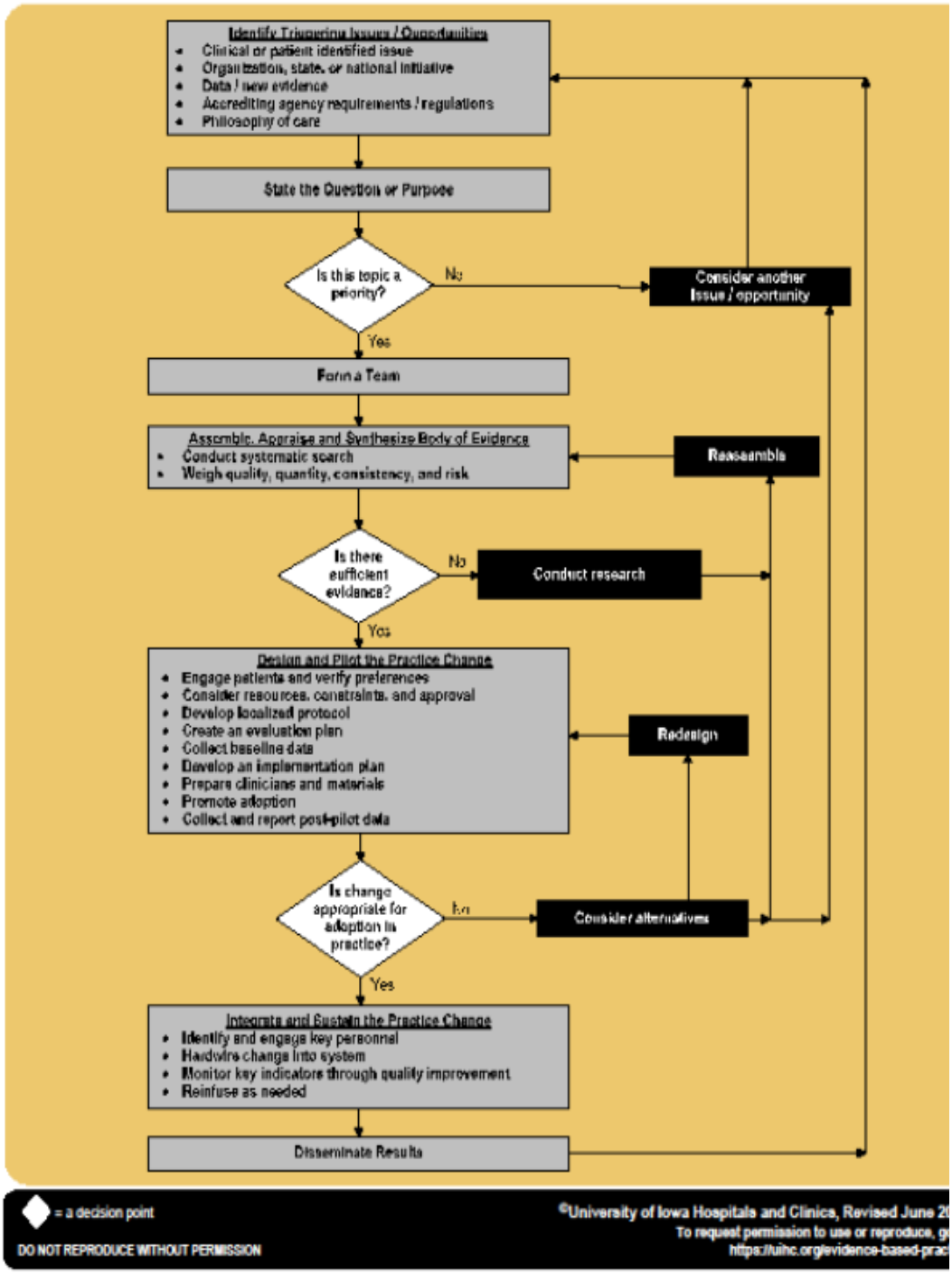
Yaghmale, F. (2009). Content validity and its estimates. *Journal of Medical Education, 3*, 25-27. Retrieved from https://doaj.org/article/0379363397a0452c9e52229e9bd65464?

Zamanzadeh, V., Ghahramanian, A., Rassouli, M., Abbaszadeh, A., Alavi-Majd, H., & Nikanfar, (2015). Design and implementation content validity study: Development of an Instrument for measuring patient-centered communication. *Journal of Caring Science, 4*(2), 165-178. doi:10.15171/jcs.2015.017

Ziadi, M., Heon, M., Aita, M., & Charbonneau, L. (2016). A pilot nursing educational intervention promoting an evidence-based transition from gavage to direct breastfeeding in a NICU. *Journal of Neonatal Nursing, 22(*3), 124-137. doi:10.1016/j.jnn.2015.07.010

Zickafoose, P. C. (2018). Substance use disorder: Efficacy of educational strategies in Delaware. *Journal of Continuing Education in Nursing, 49*(1), 42-48. doi:10.3928/0022012420180102-09

Appendix A: Iowa Model of Evidence-Based Practice



Appendix B: Iowa Model of Evidence-Based Practice Permission Statement

Appendix C: Literature Review Matrix

Nurses Knowledge/Lack of Knowledge

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
Alexander, K. (2017). A call for compassionate care. Journal of Addiction Nursing. 28(4). 220-223. doi:10.1097/JAN.0000000000000198	Informative	The mom is the most important factor for survival and the ability to thrive in an infant exposed to opioids in utero	Informational	Researching prove nurses need formal education on OUD in the maternal aspect so patient outcomes are not jeopardized	VA	ANA code of ethics states nurses much establish a trusting relationship and provide unbiased and non-judgmental care
Birtel, M., Wood, L., & Kempa, N. (2017). Stigma and social support in substance abuse: Implications for mental health and well-being. Journal of Psychiatry Research. 252. 1-8. doi:10.1016/j.psychres.2017.01.097	Not Defined	Internalized perceived stigma and shame of the substance abuser lowers mental health and well-being The negative effects of perceived stigma on	Questionnaire/Quantitative	Pearson correlation analysis. Perceived stigma towards substance abuse was significantly associated with higher levels of	II	Perceived stigma of substance abuse was associated with lower self-esteem, higher depression, anxiety, and poorer sleep

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
		mental health and well-being are mediated by internalized stigma and shame		internalized stigma and shame.		
Brener, L., von Hippel, W., & Kippax, S. (2007). Prejudice among health care workers toward injecting drug users with hepatitis C: Does greater contact lead to less prejudice? The International Journal of Drug Policy. 18(5). 381-387. doi:10.1016/j.drugpo.2007.01.006	Behavior Modification	Staff's attitude toward injecting drug users is an important factor in the quality of care	Experimental	Explicit and implicit bias- 60 healthcare workers and 120 HCV + IDU. Single category implicit association task (SC-IAT)- 20 words describing something good and 20 words describing something bad.	I	Increase exposer to HCV+ IDU leads to increased + attitudes of Healthcare workers towards patients

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
				Interviewed healthcare workers for 15-20 minutes Questionnaire took 10-15 minutes. HCV + pt. had 5 words that describe healthcare workers		
Costello, M., & Thompson, S. (2015). Preventing opioid misuse and potential abuse: The nurse's role in patient education. Pain Management Nursing. 16(4). 515-519. doi:10.1016/j.pmn.2014.09.008	Not Defined	Nurse's knowledge of opiates	Descriptive Study	Chi-squared testing was used. Pain management knowledge gap, including pt. assessment, pharmacologic management; use of adjuvant medication, risks of	IV	Patients need to be taught discharge education starting at admission regarding opioid use. Nursing also needs to have the gap in knowledge filled

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
				addiction, risk of respiratory depression, and disposal and storage of opioid analgesics		
Fonti, S., Davis, D., & Ferguson, S. (2016). The attitudes of healthcare professionals towards women using illicit substances in pregnancy: A cross-sectional study. Journal of Women and Birth. 29(4). 330-335. doi:10.1016/j.wombi.2016.01.001	Not Defined	Attitudes of healthcare providers towards women who use substances in the maternity setting.	Cross-sectional quantitative research	N=147 questionnaires completed, Participants had a positive or neutral attitude towards women who use substances during their pregnancy.	III	Positive insight towards attitudes, a larger scale research is needed—this study may help reducing fear of stigma as a barrier to care of the substance using pregnant women
Green, J. (2017). Epidemiology of opioid abuse and addiction. Journal of Emergency Nursing. 43(2).	Not Defined	Epidemiology of the opioid epidemic	Educational	Many stakeholders are needed to combat the	IV	Education on medication. Increase treatment

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
106-113. doi:10.1016/j.jen.2016.09.004				opioid epidemic		programs. Early identification of problematic patients. Adoption of safe opioid practices. Reduce stigma within the community and healthcare setting that addiction is not a moral failing but a disease.
Harling, M. (2017). Comparisons between the attitudes of student nurses and other health and social care students towards illicit drug use: An attitudinal survey. Nurse Education Today. 48(1) 153-159. doi:10.1016/j.nedt.2016.10.012	Attitudinal Survey	attitudes of different healthcare students towards illicit drug users	Questionnaire	Survey n=308 Groups questioned: student nurse, health and social care student, midwife (pre and post reg), social work	III	Student nurses have the least tolerant attitudes towards drug abusers indicating there needs to be more

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
				student, trainee clinical psychologist. Nursing students were the least tolerant and clinical psychologist students had the highest tolerance.		education on illicit drug use
Jukiewicz, D., Alhofaian, A., Thompson, Z., & Gary, F. (2017). Reviewing opioid use, monitoring, and legislature: Nursing perspectives. International Journal of Nursing Science. 4(4). 430-436. doi:10.1016/j.ijnss.2017.09.001	Literature Review	Elucidate the nature of opioid abuse, identify nursing implications and knowledge gaps, and prescribing policies	Literature Review	Prescribing inconsistencies, educational requirements, and opioid reduction strategies across all states. Lack of regulatory systems in states over prescribing and	V	Needs to be more consistent education on opioid prescribing and administration; how opioids work on the body; and about opioid abuse and addiction

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
				administering opioid medication		
Kelleher, S. (2007). Health care professionals' knowledge and attitudes regarding substance use and substance users. Journal of Accident and Emergency Nursing. 15(3). 161-165. doi: 10.1016/j.aaen.2007.05.005	Literature Review	Negative attitudes of healthcare workers affect care of substance users	Literature Review	Attitudes of healthcare professionals	V	Negatives attitudes lead to decreased standard of care, decreased sympathy toward substance users, decreased treatment obtained and received, and a lack of desire for healthcare professionals to want to gain knowledge regarding substance use/abuse. High Cost of

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
						use on society and healthcare.
Klaman, S., Isaacs, K., Leopold, A., Perpich, J., Hayashi, S., Vender, J., Campopiano, M., & Jones, H. (2017). Treating women who are pregnant and parenting for opioid use disorder and the concurrent care of their infants and children: Literature review to support national guidance. American Society of Addiction Medicine. 11(3). 178-190. doi:10.1097/ADM.0000000000000308	Literature Review	Increasing opioid use in pregnant women. EBP treatment approaches for pregnant women and parenting their children	Literature Review	MAT effective. May need to increase dosage in pregnancy and not associated with increased NAS. NAS treatment is protocol driven	IV	Woman who have opioid use disorders can be treated with medication during their pregnancy. NAS is expected and can be managed. Outcomes for mom, infant, and the family unit can be improved.
Kulesza, M., Matsuda, M., Ramirez, J., Werntz, A., Teachman, B., & Lindgren, K. (2016). Towards greater understanding of addiction stigma: Intersectionality with race/ethnicity and gender. Journal of Drug and Alcohol	Multimodal experimental evaluation	Assessed implicit and explicit beliefs about PWID among visitors to a public web site; experimentally	Implicit Association test and explicit assessment of addiction stigma	N= 899; especially Latino/white, deserved punishment instead of help.	II	Patients who injection drugs implicit beliefs were more in line with addiction stigma=

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
Dependence. 169. 85-91 doi:10.1016/j.drugalcdep.2016.10.020		investigate d the effects of ethnicity/race and gender on those implicit and explicit beliefs.				discrimination towards PWID
Lahti, M., Hatonen, H., & Valimaki, M. (2014). Impact of e-learning on nurses' and student nurse's knowledge, skills, and satisfaction: A systematic review and meta-analysis. International Journal of Nursing Studies. 51(1). 136-149. doi:10.1016/j.ijnurstu.2012.12.017	Not Defined	Impact of e-learning on nurses' and nursing student's knowledge, skills, and satisfaction	Systematic review and meta-analysis of randomized controlled trials	slight increase in outcomes with e-learning -no statistical significance on skill	III	No satisfaction difference between groups in e-learning and traditional learning
Lalaguna, J., Rigas, C., & Aymerich, M. (2014). Addiction: A need for specific education. Procedia Social and Behavioral Sciences. 141. 160-165. doi:10.1016/j.sbspro.2014.05.029	Problem based learning	Will specific training in addiction for all medical personnel change the stigmatizing and counter-	Elective course which focuses on addiction And aims to incorporate scientifically grounded knowledge and a	Written exam to assess knowledge, if failed may retake exam. Courses too short in-between 2	V	An elective course on addiction was addicted to the curriculum

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
		therapeutic attitude?	change in attitude towards individuals with addictive disorders.	extensive courses. Student's rated course positively.		
Leahy, L. (2017). The opioid epidemic: What does it mean for nurses? Journal of Psychosocial Nursing. 55(1). 18-23. doi:10.3928/02793695-20170119-03	Not Defined	What does the opioid epidemic mean for nurses?	Informative	There is a lack of providing overall physical and mental health care to patients struggling with the disease of the brain.	V	Holistic care needs to be provided for patients with opioid misuse disorders
Livingston, J., Milne, T., Fang, M., & Amari, E. (2012). The effectiveness of interventions for reducing stigma related to substance use disorders: a systematic review. Addiction. 107(1).	Not Defined	Are there interventions that are effective in reducing stigma related	Systemic Review	13 studies met inclusion	IV	To decrease stigma in at a structural level, educational programs and

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
39-50. doi:10.1111/j.1360-0443.2011. 03601.x		to substance use disorders				contact hours are effective
Markocic, S., Humphries, M., Tarne, K., Watts, M., Collins, L. (2016). What are the risks and knowledge deficits for prescribing and administering opioids in the ward environment? A quality project on assessing and improving knowledge. Journal of Nurse Education in Practice. 17. 182-187. doi:10.1016/j.nepr.2015.10.011	Not Defined	Will knowledge increase after an educational program on opioid administration and prescribing	Qualitative	Knowledge levels were explored with a structured questionnaire in a pre/posttest design. N= 34 nurses and 5 medical officers across 3 surgical units in a tertiary center	III	Opioid educational programs are effective in improving knowledge about and for safe prescribing and administration
Morgan, B. (2012). Nursing attitudes towards patients with substance use disorders in pain. Pain Management Nursing. 15(1). 165-175. doi:10.1016/j.pmn.2012.08.004	Grounded Theory	1-what difficulties have you encountered in dealing with hospitalized pts with SUD who are in pain? 2-what are the difficulties what occur in	Qualitative	N=14 (12F, 2M). Non-verbal's noted during interviews. Concept analysis of interview. Interviews continued until	III	Nurses have much control of pain management. Three different pathways 1-no pain relief due to effects of reacting to pain and labeling pain

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
		your interactions with patients with SUD who were in pain? 3-How do you agree/differ with the model describing patients' understanding of the difficulties interacting with nurses around pain management?		theoretical saturation. Core categories developed and 3 pathways on how nurses handle and treat the pain.		behavior. - Nurses only did physical care and spent less time with patients. 2- delayed response to pain management due to effects of reacting to pain and labeling pain behavior, then encountering barriers. Nurses did not advocate for pt. were rushed, showed disapproval of pt. 3- treated pain as pt. indicated. Nurses have emotional

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
						stress over how they negatively treat patients
Morley, G., Briggs, E., & Chumbley, G. (2015). Nurses' experiences of patients with substance-use disorder in pain: A phenomenological study. The Journal of Pain Management in Nursing. 16(5). 701-711. doi:10.1016/j.pmn.2015.03.005	Descriptive phenomenology	Nurses' experiences with working with patients with substance-use disorder in pain	Phenomenological Study	Nurses described feelings of frustration and powerlessness due to noncompliance Discrepancies in pt. management among team members and external pressures effecting pain management.	III	Stigma and stereotyping still exists but some awareness of issues such as opioid tolerance and opioid-induced hyperalgesia. Further emphasis on interprofessional education and communication to improve patient management.
Myra, S., Ravndal, E., Torsteinsson, V., Ofsti, A. (2018). Pregnant substance	Foucauldian Discourse analysis	Explore the therapists' discourse on	40 therapists who offer treatment to pregnant women	How to start healthy relationships	IV	Treatment professionals need to focus

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
abusers in voluntary and coercive treatment in Norway: Therapists' reflections on change processes and attachment experiences. Journal of Clinical Nursing. 27(5-6) e959-e970. doi:10.1111/jocn.14067		treatment when working with pregnant women and their fetus		with the pregnant women and the fetus. Therapist agree with attachment theory and its attachment should be worked on during sessions.		more on the discursive dilemmas encountered in the relation between substance use disorders and the unborn child
Nguyen, V., Raffa, R., Taylor, R., Pergolizzi, J. (2015). The role of abuse-deterrent formulations in countering opioid misuse and abuse. Journal of Clinical Pharmacy and Therapeutics. 40(6). 629-634. doi:10.1111/jcpt.12337	Summative literature review	Pain is real, opioid abuse is increasing is there an abuse-deterrent formula for pain relief	Published and unpublished literature, websites, and other sources for current opioid formulation options such as extended release and immediate release formulas	FDA provides guidelines pre and post marketing studies for ADF to help inform about the potential for abuse or misuse	V	Chronic pain may be effectively treated with ADF of opioids to prevent abuse and misuse
Oliver, J., Coggins, C., Compton, P., Hagan, S.,	Multiple conceptual models:	Informational: best practice guidelines	Informative	Financial impact of substance	IV	Need to provide healthcare

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
Matteliano, D., Stanton, M., St. Marie, B., Strobbe, S., & Turner, H. (2012). American society for pain management nursing Position statement: Pain management in patients with substance use disorders. Pain Management Nursing. 13(3). 169-183. doi:10.1016/j.pmn.2012.07.001	Moral and criminal model/ 12-step model/disease model/bio-psycho-social-spiritual model	based on best evidence		misuse on government 467.7 billion/year (2011). Need to devise the tools to assess who is at risk, moderate, high, and low for addiction for patients with persistent pain. Persistent pain is detrimental just as addiction is		workers with assessments to detect who is at risk for addiction with persistent pain
Raistrick, D., Tober, G., & Unsworth, S. (2015). Attitudes of healthcare professionals in a general hospital to patients with substance misuse disorders. Journal of Substance Use. 20(1). 56-60.	Not Defined	Attitudes of healthcare professionals towards substance misusers	Replication of a previous study	N=288 AAPPQ questionnaire was provided. Highest score by healthcare assistants,	III	Effective substance misuse treatment is best delivered by trained addiction practitioners

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doi:10.3109/14659891.2013.878763				then nurses, lowest doctors		
St. Marie, B., Arnstein, P., & Zimmer, P. (2018). Pain and opioids: A call for policy action. The Journal of Nurse Practitioners. 1(14). 40-44. doi:10.1016/j.nurpra.2017.10.002	Not Defined	Recommendations from the nurse practitioner healthcare foundation white paper regarding multifaceted approach to pain management.	Informative summative review	Informational from the white paper from the Nurse practitioner healthcare foundation	IV	multifaceted approach to pain management
Salani, D., Zdanowicz, M., & Joseph, L. (2016). Heroin use. Journal of Psychosocial Nursing and Mental Health Services. 54 (6). 30-37. doi: 10.3928/02793695-20160518-05	Not Defined	Broaden healthcare providers' awareness	Informative Summative Review	Informational on Heroin use and treatment, neurobiology, and co-morbidities	V	Informational on Heroin use and treatment, neurobiology, and co-morbidities
Seifert, C., Stefano, M., Sprenger, T., Lang, U., Huber, C., Denier, N., Vogel,	Not Defined	Neuroimaging offers insight to	Experimental/ RCT	30 addicted pt. and 20 control pts	I	Volume decrease in Left NAcc in

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
M., Schmidt, A., Radue, E., Borgwardt, S., & Walter, M. (2015). Reduced volume of the nucleus accumbens in heroin addiction. Eur Arch Psychiatry Clinical Neuroscience. 265(8). 637-645. doi: 10.1007/s00406-014-0564-y		disease changes: Pathophys of addiction				heroin-addicted pt.
Seybold, D., Calhoun, B., Burgess, D., Lewis, T., Gilbert, K., & Casto, A. (2014). Evaluation Of a training to reduce provider bias toward pregnant patients with substance abuse. Journal of Social Work Practice in Addictions. 14(3) 239-249. doi: 10.1080/1533256X.2014.933730	Educational program	With education will there be increased compassion for women who use drug during pregnancy	Retrospective	52 participants pre and posttest with the theme of increase compassion towards substance use patients using a 5-point Likert scale	III	Conference increased attendees' knowledge related addiction
Von Boekel, L., Brouwers, E., van Weeghel, J., & Garretsen, H. (2013). Stigma among healthcare professionals towards	Not Defined	Stigmatizing attitudes towards patients with drug or alcohol	Systemic review	Specific education and training for health care professionals	V	Most healthcare professionals express negative

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
patients with substance use disorders and its consequences for healthcare delivery: Systemic review. Journal of Drug and Alcohol Dependence. 131 (1-2). 23-35. doi:10.1016/j.drugalcdep.2013.02.018		addiction lead to negative effects on healthcare delivery		towards patients with substance abuse disorders need to be completed		attitudes towards patients with substance abuse disorders
Von Boekel, L., Brouwers, E., van Weeghel, J., & Garretsen, H. (2014). Healthcare Professionals regard towards working with patients with substance use disorders: Comparison of primary care, general psychiatry, and specialist addiction services. Journal of Drug and Alcohol Dependence. 134(1). 92-98. doi:10.1016/j.drugalcdep.2013.09.012	Not Defined	Healthcare professional regard towards working with substance users is higher or lower with frequency of working with these patients and knowledge regarding addiction	Regression analysis	N=347 (GP=180; psychiatry=89 ; addiction services N=78) Answered questionnaire, ANOVA, multiple linear regression analysis with regard to attributions of beliefs, emotional reaction, other	II	More interactions with patients with addiction leads to higher regard for these patients and increased knowledge regarding addiction among those healthcare providers

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				characteristics . Healthcare personnel who work in addiction services have a higher regard to working with patients with substance use		
Wallstrom, R., Persson, R., & Salzmann-Erikson, M. (2016). Working with children in families with parental substance abuse. Journal of Psychosocial Nursing and Mental Health Services. 54(6). 38-44. doi:10.3928/02793695-20160518-06	Not Defined	To describe nurse's experiences and reflections regarding their work with children in families with parental substance abuse	Qualitative descriptive approach	4 categories determined: Nurses' responsibility; identification of the children's social network; ethical concerns; assessment and evaluation of	III	Nurses need to be aware of how the topic is brought about since it is important to maintain the trust within the family to monitor the safety and wellbeing of the child. The nurse needs to be aware of

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
				the children's behavior		feeling and attitudes children may display that can impact their future
Watson, C. & Mallory, A. (2017). The criminalization of addiction in pregnancy: Is this what justice looks like? The New Social Worker. 24(1). 14-16. Retrieved Walden University database.	Literature review	Recommendations for care the of the opiate addicted pregnant women	Literature review	Cohesiveness in treatment across the spectrum	V	Follow the recommendations of the obstetrical governing bodies along with SAMHSA. Take into consideration bonding as the infant experience NAS, educate communities, elected officials, policy writers, and healthcare professionals.

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
Wilkerson, R., Kim, H., Windsor, T., & Mareiniss, D. (2015). The opioid epidemic in the united states. Emergency Medicine Clinics North America. 34(2). e1-e23. doi:10.1016/j.emc.2015.11.002	Not Defined	Opiate Epidemic in the US, risk has been an issue for centuries, Rx increase rate of abuse, addiction, overdose and death, naloxone is an opioid antagonist	Informative	There is an opioid epidemic in the US. Heroin has no medical use. Opioid RX have increased dramatically the rate of addiction, abuse, and overdose. Naloxone to treat overdose	IV	Safe RX guidelines have been implemented, and laws protecting and providing Narcan

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
Costello, M., & Thompson, S. (2015). Preventing opioid misuse and potential abuse: The nurse's role in patient education. *Pain Management Nursing. 16(*4). 515-519. doi:10.1016/j.pmn.2014.09.008	Not Defined	Nurse's knowledge of opioids	Descriptive study	Chi-squared testing was used. Pain management knowledge gap, including pt. assessment, pharmacologic management; use of adjuvant medication, risks of addiction, risk of respiratory depression, and disposal and storage of opioid analgesics	IV	Patients need to be taught discharge education starting at admission regarding opioid use. Nursing also needs to have the gap in knowledge filled
Lahti, M., Hatonen, H., & Valimaki, M. (2014). Impact of e-learning on nurses' and student nurse's knowledge, skills, and satisfaction: A systematic review	Not Defined	Impact of e-learning on nurses' and nursing student's	Systematic review and meta-analysis of randomized	slight increase in outcomes with e-learning	III	No satisfaction difference between groups in e-learning and

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and meta-analysis. *International Journal of Nursing Studies. 51(*1). 136-149. doi:10.1016/j.ijnurstu.2012.12.017		knowledge, skills, and satisfaction	controlled trials	-no statistical significance on skill		traditional learning
Lalaguna, J., Rigas, C., & Aymerich, M. (2014). Addiction: A need for specific education. *Procedia Social and Behavioral Sciences. 141*. 160-165. doi:10.1016/j.sbspro.2014.05.029	Problem based learning	Will specific training in addiction for all medical personnel change the stigmatizing and counter-therapeutic attitude	Elective course which focuses on addiction And aims to incorporate scientifically grounded knowledge and a change in attitude towards individuals with addictive disorders	Written exam to assess knowledge, if failed may retake exam. Courses too short in-between 2 extensive courses. Student's rated course positively.	V	An elective course on addiction was addicted to the curriculum
Manchikanti, L., Kaye, A., & Kaye, A. D. (2016). Current state of opioid therapy and abuse. *Current Pain Headache Repository. 20(*34). doi:10.1007/s11916-016-0564-x	Literature review	Looks at primary and secondary strategies for opioid abuse,	Literature review	Guidelines and polices will help change the opioid epidemic. Education is all	V	Guidelines initiated by interested parties have failed to combat the opiate

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
		misuse, or death		levels of schooling would be helpful including education within the communities		epidemic. Education at the primary level may be able to help those who could avoid abuse
Markocic, S., Humphries, M., Tarne, K., Watts, M., Collins, L. (2016). What are the risks and knowledge deficits for prescribing and administering opioids in the ward environment? A quality project on assessing and improving knowledge. *Journal of Nurse Education in Practice. 17*. 182-187. doi:10.1016/j.nepr.2015.10.011	Not defined	Will knowledge increase after an educational program on opioid administration and prescribing	Qualitative	Knowledge levels were explored with a structured questionnaire in a pre/posttest design. N= 34 nurses and 5 medical officers across 3 surgical units in a tertiary center	III	Opioid educational programs are effective in improving knowledge about and for safe prescribing and administration
Russell, R., Ojeda, M., & Ames, B. (2017). Increasing RN perceived competency with substance use disorder patients. *The Journal of*	Self-determination theory-a theory of	Behavioral health and substance use disorder	Quasi-experimental	Post educational intervention increase in	II	Nurses working in acute care settings without addiction and

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
*Continuing Education in Nursing. 48(*4). 175-183. doi:10.3928/00220124-20170321-08	human motivation	patients visit the hospitals, nurses are not prepared to care for them. Participants attitudes and knowledge		perceived competency related to self-confidence, attitudes, communication, and knowledge. N=43		psychiatric services may benefit from continuing education on this topic
Seybold, D., Calhoun, B., Burgess, D., Lewis, T., Gilbert, K., & Casto, A. (2014). Evaluation of a training to reduce provider bias toward pregnant patients with substance abuse. *Journal of Social Work Practice in Addictions. 14*(3) 239-249. doi:10.1080/1533256X.2014.933730	Educational program	With education will there be increased compassion for women who use drug during pregnancy	Retrospective	52 participants pre and posttest with the theme of increase compassion towards substance use patients using a 5-point Likert scale	III	Conference increased attendees' knowledge related addiction
Turenne, J., Heon, M., Aita, M., Faessler, J., & Doddridge, C. (2016). Educational intervention for an evidence-based nursing practice of skin-to-skin contact at birth. *The Journal of Perinatal Education.* 25(2). Pp. 116-128. doi:10.1891/1058-1243.25.2.116	IOWA model of EBP	Educational program to help implement skin to skin care after delivery	Qualitative	38 nurses underwent training with pre and post intervention evaluation.	III	The IOWA model was an effective model in transferring knowledge into EBP and utilizing a combination of

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
						teaching/learning methods improved the practice to implement early skin-to-skin care of the neonate after delivery
Zaida, M., Heon, M., Aita, M., Charbonneau, L. (2016). A pilot nursing educational intervention promoting an evidence-based transition from gavage to direct breastfeeding in a NICU. *Journal of Neonatal Nursing. 22(*3). 124-137. doi:10.1016/j.jnn.2015.07.010	IOWA model for Evidence-Based Practice	Will an educational program increase the knowledge, practice and belief related to transitioning of preterm infants directly to breastfeeding after gavage feeding?	Qualitative	N=6 pre and post intervention questionnaire, 3 educational workshops	III	Post-intervention, nurses improved practice, beliefs, and knowledge related to the transition of preterm infants to direct breastfeeding.
Zickafoose, P. (2018). Substance use disorder: Efficacy of educational strategies in Delaware.	Staircase Model for	Is there an increase in nurses'	Quasi-experimental pretest-	N=68 pretest score 72%	II	Data suggested participants benefitted from

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*The Journal of Continuing Education in Nursing. 49(*1). 42-48. doi:10.3928/00220124-20180102-09	Professional Development	knowledge after completing the online NCSBN Learning Extension course titled Understanding Substance Use Disorder in Nursing?	posttest design	posttest score 94%		the online course and gained knowledge as reflected by improved test scores

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis And Results	Level Of Evidence	Conclusion
Alexander, K. (2017). A call for compassionate care. *Journal of Addiction Nursing. 28(*4). 220-223. doi:10.1097/JAN.0000000000000198	Informative	The mom is the most important factor for survival and the ability to thrive in an infant exposed to opioids in utero	Informational	Researching prove nurses need formal education on OUD in the maternal aspect so patient outcomes are not jeopardized	VA	ANA code of ethics states nurses much establish a trusting relationship and provide unbiased and non-judgmental care
Birtel, M., Wood, L., & Kempa, N. (2017). Stigma and social support in substance abuse: Implications for mental health and well-being. *Journal of Psychiatry Research. 252*. 1-8. doi: 10.1016/j.psychres.2017.01.097	Not Defined	Internalized perceived stigma and shame of the substance abuser lowers mental health and well-being The negative effects of perceived	Questionnaire	Pearson correlation analysis. Perceived stigma towards substance abuse was significantly associated with higher levels of internalized	II	Perceived stigma of substance abuse was associated with lower self-esteem, higher depression, anxiety, and poorer sleep.

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		stigma on mental health and well-being are mediated by internalized stigma and shame		stigma and shame.		
Brener, L., von Hippel, W., & Kippax, S. (2007). Prejudice among health care workers toward injecting drug users with hepatitis C: Does greater contact lead to less prejudice? *The International Journal of Drug Policy. 18(*5). 381-387. doi:10.1016/j.drugpo.2007.01.006	Behavior modification	Staff's attitude toward injecting drug users is an important factor in the quality of care	Experimental	Explicit and implicit bias- 60 healthcare workers and 120 HCV + IDU. Single category implicit association task (SC-IAT)- 20 words describing something good and 20 words	I	Increase exposer to HCV+ IDU leads to increased + attitudes of Healthcare workers towards patients

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis And Results	Level Of Evidence	Conclusion
				describing something bad. Interviewed healthcare workers for 15-20 minutes . Questionnaire took 10-15 minutes. HCV + pt. had 5 words that describe healthcare workers		
Fonti, S., Davis, D., & Ferguson, S. (2016). The attitudes of healthcare professionals towards women using illicit substances in pregnancy: A cross-sectional study. *Journal of Women and Birth. 29(*4). 330-335. doi:10.1016/j.wombi.2016.01.001	Not Defined	Attitudes of healthcare providers towards women who use substances in the maternity setting.	Cross-sectional quantitative research	N=147 questionnaires completed, Participants had a positive or neutral attitude towards women who use substances during their pregnancy.	III	Positive insight towards attitudes, a larger scale research is needed—this study may help reducing fear of stigma as a barrier to care of the

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis And Results	Level Of Evidence	Conclusion
						substance using pregnant women.
Green, J. (2017). Epidemiology of opioid abuse and addiction. *Journal of Emergency Nursing. 43(*2). 106-113. doi:10.1016/j.jen.2016.09.004	Not Defined	Epidemiology of the opioid epidemic	Informative	Many stakeholders are needed to combat the opioid epidemic	IV	Education on medication. Increase treatment programs. Early identification of problematic patients. Adoption of safe opioid practices. Reduce stigma within the community and healthcare setting that addiction is not a moral

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis And Results	Level Of Evidence	Conclusion
						failing but a disease.
Harling, M. (2017). Comparisons between the attitudes of student nurses and other health and social care students towards illicit drug use: An attitudinal survey. *Nurse Education Today. 48(1*) 153-159. doi:10.1016/j.nedt.2016.10.012	Attitudinal survey	Attitudes of different healthcare students towards illicit drug users	Questionnaire	Survey n=308 Groups questioned: student nurse, health and social care student, midwife (pre and post reg), social work student, trainee clinical psychologist. Nursing students were the least tolerant and clinical psychologist students had the highest tolerance.	III	Student nurses have the least tolerant attitudes towards drug abusers indicating there needs to be more education on illicit drug use

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Kelleher, S. (2007). Health care professionals' knowledge and attitudes regarding substance use and substance users. *Journal of Accident and Emergency Nursing. 15(*3). 161-165. doi: 10.1016/j.aaen.2007.05.005	Literature review	Negative attitudes of healthcare workers affect care of substance users	Literature review	Attitudes of healthcare professionals	V	Negative attitudes lead to decreased standard of care, decreased sympathy toward substance users, decreased treatment obtained and received, and a lack of desire for healthcare professionals to want to gain knowledge regarding substance use/abuse. High Cost of

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis And Results	Level Of Evidence	Conclusion
						use on society and healthcare
Leahy, L. (2017). The opioid epidemic: What does it mean for nurses? *Journal of Psychosocial Nursing. 55(*1). 18-23. doi:10.3928/02793695-20170119-03	Not Defined	What does the opioid epidemic mean for nurses	Informative	There is a lack of providing overall physical and mental health care to patients struggling with the disease of the brain.	V	Holistic care needs to be provided for patients with opioid misuse disorders.
Nguyen, V., Raffa, R., Taylor, R., Pergolizzi, J. (2015). The role of abuse-deterrent formulations in countering opioid misuse and abuse. *Journal of Clinical Pharmacy and Therapeutics. 40(*6). 629-634. doi:10.1111/jcpt.12337	Summative literature review	Pain is real, opioid abuse is increasing is there an abuse-deterrent formula for pain relief	Published and unpublished literature, websites, and other sources for current opioid formulation options such as extended release and immediate	FDA provides guidelines pre and post marketing studies for ADF to help inform about the potential for abuse or misuse	V	Chronic pain may be effectively treated with ADF of opioids to prevent abuse and misuse

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			release formulas.			
Raistrick, D., Tober, G., & Unsworth, S. (2015). Attitudes of healthcare professionals in a general hospital to patients with substance misuse disorders. *Journal of Substance Use. 20(*1). 56-60. doi:10.3109/14659891.2013.878763	Not Defined	Attitudes of healthcare professionals towards substance misusers	Replication of a previous study	N=288 AAPPQ questionnaire was provided. Highest score by healthcare assistants, then nurses, lowest doctors.	II	Effective substance misuse treatment is best delivered by trained addiction practitioners
Seifert, C., Stefano, M., Sprenger, T., Lang, U., Huber, C., Denier, N., Vogel, M., Schmidt, A., Radue, E., Borgwardt, S., & Walter, M. (2015). Reduced volume of the nucleus accumbens in heroin addiction. *Eur Arch Psychiatry Clinical Neuroscience. 265(*8). 637-645. doi: 10.1007/s00406-014-0564-y	Not Defined	Neuroimaging offers insight to disease changes: Pathophys of addiction	Experimental/ RCT	30 addicted pt. and 20 control pts	I	Volume decrease in Left NAcc in heroin-addicted pt.
Seybold, D., Calhoun, B., Burgess, D., Lewis, T., Gilbert, K., & Casto, A. (2014). Evaluation of a training to	Educational program	With education will there be	Retrospective	52 participants pre and posttest with	III	Conference increased attendees'

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reduce provider bias toward pregnant patients with substance abuse. *Journal of Social Work Practice in Addictions. 14*(3) 239-249. doi: 10.1080/1533256X.2014.933730		increased compassion for women who use drug during pregnancy		the theme of increase compassion towards substance use patients using a 5-point Likert scale		knowledge related addiction
Von Boekel, L., Brouwers, E., van Weeghel, J., & Garretsen, H. (2013). Stigma among healthcare professionals towards patients with substance use disorders and its consequences for healthcare delivery: Systemic review. *Journal of Drug and Alcohol Dependence. 131 (*1-2). 23-35. doi:10.1016/j.drugalcdep.2013.02.018	Not Defined	Stigmatizing attitudes towards patients with drug or alcohol addiction lead to negative effects on healthcare delivery	Systemic review	Specific education and training for health care professionals towards patients with substance abuse disorders need to be completed.	V	Most healthcare professionals express negative attitudes towards patients with substance abuse disorders
Von Boekel, L., Brouwers, E., van Weeghel, J., & Garretsen, H. (2014). Healthcare Professionals regard towards working with patients with substance use disorders: Comparison	Not Defined	Healthcare professional regard towards working with	Regression analysis	N=347 (GP=180; psychiatry=89; addiction services N=78)	II	More interactions with patients with addiction leads to

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis And Results	Level Of Evidence	Conclusion
of primary care, general psychiatry, and specialist addiction services. *Journal of Drug and Alcohol Dependence*. *134(*1). 92-98. doi:10.1016/j.drugalcdep.2013.09.012		substance users is higher or lower with frequency of working with these patients and knowledge regarding addiction		Answered questionnaire, ANOVA, multiple linear regression analysis with regard to attributions of beliefs, emotional reaction, other characteristics. Healthcare personnel who work in addiction services have a higher regard to working with patients with substance use.		higher regard for these patients and increased knowledge regarding addiction among those healthcare providers
Wilkerson, R., Kim, H., Windsor, T., & Mareiniss, D. (2015). The opioid epidemic in the united states. *Emergency Medicine Clinics North*	Not Defined	Opiate Epidemic in the US, risk has been an	Informative	There is an opioid epidemic in the US. Heroin	IV	Safe RX guidelines have been implemented,

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis And Results	Level Of Evidence	Conclusion
*America. 34(*2). e1- e23. doi:10.1016/j.emc.2015.11.002		issue for centuries, Rx increase rate of abuse, addiction, overdose and death, naloxone is an opioid antagonist		has no medical use. Opioid RX have increased dramatically the rate of addiction, abuse, and overdose. Naloxone is an opioid antagonist used to treat overdose		and laws protecting and providing Narcan.

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis And Results	Level of Evidence	Conclusion
Jouria, J. (2017). Heroin addiction and the opioid pandemic. *CE4Less*. Retrieved from https://ce4less.com/Heroin-Addiction-and-the-opioid-Pandemic-Psychology	Not Defined	Explanation of addiction	Informative Literature review	Defines addiction and the neurobiology of addiction	VB	This is an educational program on opioid addiction
Labor, N. (2016). Addiction 101. Retrieved from https://www.youtube.com/watch?v=u3YVTA-U2eg	Not Defined	Explanation of addiction	Informative	Explains the neurobiology of addiction	VA	This is an educational program on addiction
Satel, S., & Lilienfeld, S. (2017). If addiction is not best conceptualized a brain disease, then what kind of disease is it? *Neuroethics. 10*(1). Pp. 19-24. doi:10.1007/s12152-016-9287	Not Defined	Discussion of addiction as a brain disease or not	Informative	Addiction is a cascade of different dimensions and one dimension is the effects it has on the brain	VA	to view addiction as an enormously complex set of behaviors that operate on several dimensions, ranging from molecular function and structure and brain

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis And Results	Level of Evidence	Conclusion
						physiology to psychology, the psychosocial environment, and social and cultural relations
Wakefield, J. (2017). Addiction and the concept of disorder, part 1: Why addiction is a medical disorder. *Neuroethics. 10(*1). Pp. 39-53. doi:10.1007/s12152-016-9300-9.	Not Defined	Defend why addiction is a medical disorder	Informative literature review	Evidence proves addiction is a disorder resulting in a dysfunction in the normal range functioning of the brain	VA	It is a dysfunction of the brain to be so sensitized to opiates to be unable to function as biologically designed due to need for substance intake

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis And Results	Level of Evidence	Conclusion
Schmidt, A., Borgwardt, S., Gerber, H., Schmid, O., Wisebeck, G., Riecher-Rossler, A., Bendfeldt, K., Smieskova, R., Lang, U., Rubia, K., and Walter, M. (2014). Altered prefrontal connectivity after acute heroin administration during cognitive control. *International Journal Of Neuropsychopharmacology. 17*(9). Pp. 1375-1385. doi 10.1017/S1461145714000297	Model based effective connectivity approach	Will acute heroin use alter the whole brain activity What is the functional interaction between the dorsal anterior cingulate cortex and the bilateral inferior frontal gyri	Double blinded placebo control study	Significant decrease in dACC activity after acute heroin administration. Connectivity between the dACC and the IFG were reduced by heroin	V	Acute heroin administration impairs cognitive control in dependent patients by reducing the activity of the dACC and the functional connectivity from the dACC and the right IFG
Strathearn, L., Mertens, C., Mayes, L., Rutherford, H., Rahjans, P., Xu, G., Potenza, M., & Kim, S. (2019). Pathways relating the neurobiology of attachment to drug addiction. *Frontiers in Psychiatry. 10(*737).	Not Defined	Is there a relationship between mothers who are addicted to drugs and the later in life the infant being	Literature review	Reviewed the molecular, neuroendocrine, and behavioral aspects of addiction and the neurobiological pathways. All	VA	A focus on attachment and developmental pathways may be important in delivering optimal treatment for

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis And Results	Level of Evidence	Conclusion
Pp. 1-15. doi:10.3389/fpsyt.2019.00737		addicted to drugs		three of these neuroendocrine systems may have interactive effects on attachment and the subsequent susceptibility to addiction		drug-exposed mothers, as seen in some notable evidence-based recovery programs
Suzuki, S., & Kober, H. (2018). Substance-related and addictive disorders. In *APA handbook of psychopathology: Understanding, assessing, and treating adult mental disorders. 1*. (pp. 481–506). Washington, DC: American Psychological Association. doi:10.1037/0000064-020	Not Defined	With SUD what are the comorbidity, and risk factors. What is the role of craving, and what are prominent treatment approaches	Literature review with analysis	There is a critical role in craving of the drug in drug use and relapse, and reductions in craving may be an important mechanism of action across several treatment modalities	VA	Future studies could investigate the efficacy of regulation-of-craving training as a standalone intervention and by assessing neural changes that may predict abstinence across treatment types.

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis And Results	Level of Evidence	Conclusion
Volkow, N., Koob, G., & McLellan, A. (2016). Neurobiological advances from brain disease model of addiction. *New England Journal of Medicine. 4*(374). Pp. 363-371. doi:10.1056/NEjMra1511480	Neuroscience model	Advances in the prevention and treatment of SUD	Literature review	Improved management of SUD occurs when there is early integration of primary care provider and specialist in behavioral health.	VA	Further research is needed to educate about other aspects of addiction such genetic, age, and environmental susceptibility of addiction.

Treatment for the Opiate Addicted Pregnant Woman

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
Gessler, L., Titus-Glover, D., and Shaya, F. (2018). Treatment modalities for pregnant women with opioid use disorder. *The Lancet.* 392(11) Pp. 551. Retrieved from Walden University database	Not Defined	Presidential statement to increase treatment capacity and better access to MAT programs	N/A	Presidential statement to increase treatment capacity and better access to MAT programs	VA	Need consistent and effective models of care to optimize resource allocation from the national emergency designation.
Holbrook, A. (2015). Methadone versus Buprenorphine for the treatment of opioid abuse in pregnancy: Science and stigma. *The American Journal of Drug and Alcohol Abuse. 41(*5). Pp. 371-373. doi:10.3109/00952990.2015.1059625	Not Defined	Clinical recommendations for optimal opioid treatment in pregnant women	Literature review	The decision on which medication to use needs to reflect which medication assists the client in retention in treatment program.	VB	More research to determine effectiveness of each medication and morbidities and mortalities and retention
Kakko, J., Alho, H., Baldacchino, A., Molina, R., Nava, F., & Shaya, G. (2019). Craving in opioid use	Not Defined	neurobiological foundations for craving,	Narrative literature review	Cravings are key to relapse. Cravings are	VA	When assessing cravings nonpharmaceutic

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
disorder from neurobiology to clinical practice. *Frontiers in Psychiatry. 10* (592). Pp. 1-12. doi:10.3389/fpsyt.2019.00592		assessing craving, how craving is a prediction for the risk of relapse in clinical practice, therapies to target craving in OUD.		associated with the reward system and are not assessed appropriately.		al and pharmaceutical interventions are beneficial.
Kelsey, C., Medel, N., Mullins, C., Dallaire, D., & Forestell, C. (2017). An examination of care practices of pregnant women incarcerated in jail facilities in the united states. *Journal of Maternal Child Health. 21*(6). Pp. 1260-1266. doi:10.1007/s10995-016-2224-5	Not Defined	Pregnancy related accommodations and healthcare provided for regional jail populations	Quantitative survey and literature review	Pregnancy and drug test upon admission, put through withdrawal protocol, and use restraints after delivery.	VB	ACOG guidelines are not being followed for incarcerated pregnant women.
Krans, E., Bogen, D., Richardson, G., Park, A., Dunn, S., & Day, N. (2016). Factors associated with buprenorphine versus methadone	Not Defined	Characterize and compare patient populations who	Observational retrospective	Buprenorphine use in pregnancy increased over	V	Disparities exist among patients who use buprenorphine

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
in pregnancy. *Journal of Substance Abuse. 37*(4). Pp. 550-557. doi:10.1080/08897077.2016.1146649		use buprenorphine vs methadone during pregnancy	cohort evaluation	methadone treatment		versus methadone during pregnancy and shows there is a need to improve the availability and accessibility of buprenorphine during pregnancy.
Martin, P. & Finlayson, A. (2015). Opioid use disorder during pregnancy in Tennessee: expediency vs. science. *The American Journal of Drug and Alcohol Abuse. 41(*5). Pp. 367-370 doi:10.3109/00952990.2015.1047502	Commentary	Medicaid reimbursement for MAT	Not Defined	Reimbursement is determined by policy not evidenced based clinical practice.	VB	By not providing Medicaid coverage for MAT, these patients are not having optimal outcomes.
Martins, F., Oppolzer, D., Santos, C., Barroso, M.& Gallardo, E.	Not Defined	What is the published	Literature Review	Due to the increasing	VA	Less opioid prescriptions,

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
(2019). Opioid use in pregnant women and neonatal abstinence syndrome-A review of literature. *Toxics 7(*9). Pp.1-17. doi:10.3390/toxics7010009		approach to deal with OUD in pregnancy and NAS including treatment for mother and baby.		number of pregnant women addicted to opiates and the effects of NAS on the infant, scoring tools to determine the effects on the baby need to be utilized to guide treatment options to the baby.		early addiction detection, psychological support between mother and healthcare provider can lead to appropriate treatment for the infant.
Peles, E., Sason, A., Schreiber, S., & Adelson, M. (2017). Newborn birthweight of pregnant women on methadone or buprenorphine maintenance treatment: A national contingency management approach trial. *The American Journal of*	Not Defined	Will an escalating incentive contingency-management approach contribute to	Controlled randomized trial	Contingency management group provided coupons of escalating values dependent on	VB	A larger scale of participants needs to be evaluated.

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
Addiction. 26(2). doi:10.1111/ajad.12508		better newborn birth weights		the reduction of drug and alcohol use. There were more newly admitted contingency group with pregnancies. The BW were comparable among the two groups.		
Tran, T., Griffin, B., Stone, R., Vest, K., & Todd, T. (2017). Methadone, buprenorphine, and naltrexone, for the treatment of opioid use disorder in pregnant women. *Pharmacotherapy. 37*(7). Pp. 824-839. doi:10.1002/phar.1958	Not Defined	Compare pregnancy outcomes of methadone, buprenorphine, naltrexone	Literature Review	Both methadone and buprenorphine are widely used to treat opioid use disorders. Buprenorphine affects the newborn by having shorter	VA	Both methadone and buprenorphine are widely used to treat opioid use disorders. Buprenorphine affects the newborn by having shorter treatment days for NAS then

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
				treatment days for NAS then methadone. More research is needed to determine if naltrexone is safe during pregnancy.		methadone. More research is needed to determine if naltrexone is safe during pregnancy.
Zedler, B., Mann, A., Kim, M., Amick,H., Joyce, A., Murrelle, E., & Jones, H. (2016). Buprenorphine compared with methadone to treat pregnant women with opioid use disorders: A systematic review and meta-analysis of safety in the mother, fetus, and child. *Journal of Addiction. 111(*12). pp. 2115-2128. doi:10.1111/add.13462	Not Defined	To assess the safety of buprenorphine compared to methadone to treat pregnant women with opioid use disorders	Systemic review and meta-analysis	Lower risk for preterm birth, greater birth weight, larger head circumference with buprenorphine vs methadone. No treatment differences noted for spontaneous fetal death, anomalies, and other fetal	VA	Moderately strong evidence shows lower morbidities such as preterm birth, greater birth weight, larger head circumference with buprenorphine vs methadone. The small sample size may have contributed to the

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
				growth measurements.		no difference data

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
Alexander, K. (2017). A call for compassion. *Journal of Addictions Nursing. 28*(4). Pp.220-223. doi:10.1097/JAN.0000000000000198	Not Defined	Based on the nursing ethical standards, what kind of care should mother in OMT receive and describe the maternal nonprescriptive opiate use	Literature review	Compassion among healthcare providers improves outcomes to the whole family unit.	VA	ANA code of ethic (2015) states nurses must "establish relationship of trust and provide nursing services according to need, setting aside any bias or prejudice" (1).
Mattocks, K., Clark, R., & Weinreb, L. (2017). Initiation and engagement with methadone treatment among pregnant and postpartum women. *Journal of Women's Health Issues.*	Grounded theory	Explore perceptions of experiences and challenges with methadone maintenance treatment with	Grounded theory approach	Women experience guilt, it was challenging finding an OB who was experience in	VA	This is a starting point on to finding interventions to improve care coordination

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
27(6). Pp. 646-651. doi:10.1016/j.whi.2017.05.002		pregnant and postpartum women enrolled in a methadone maintenance program.		MMT programs, Methadone clinic physicians were key in finding the correct dose of methadone, some women preferred methadone over buprenorphine, and there were many challenges following delivery.		between substance abuse treatment and prenatal care programs
Staudt, M. (2018). Best practices for enhancing Substance abuse treatment retention by pregnant women. *Best Practices in Mental Health. 14(*2). Pp. 48-63. Retrieved from Walden University database.	Not Defined	Treatment and nontreatment factors associated with substance abuse treatment retention during pregnancy.	Literature Review	Women with higher psychosocial issues were more likely to discontinue treatment programs. Coercion may help with retention. Pregnancy	VA	Legislation on substance abuse during pregnancy need to evidence based so treatment seeking behaviors are not deterred. Healthcare professional

Full Reference	Theoretical/ Conceptual Framework	Research Question/ Hypothesis	Research Method	Analysis and Results	Level of Evidence	Conclusion
				service and programs that assist in the mothers keeping their infants and children increases retention.		need to advocate for positive practice change supported by evidence and do more research to strengthen findings.

Appendix D: John Hopkins Nursing Evidence Appraisal Tool

John Hopkins Nursing Evidence Based Practice

Evidence Level and Quality Guide

Evidence Levels	**Quality Ratings**
Level IV Opinion of respected authorities and/or nationally recognized expert committees or consensus panels based on scientific evidence Includes: • Clinical practice guidelines • Consensus panels/position statements	**A** **High quality:** Material officially sponsored by a professional, public, or private organization or a government agency; documentation of a systematic literature search strategy; consistent results with sufficient numbers of well-designed studies; criteria-based evaluation of overall scientific strength and quality of included studies and definitive conclusions; national expertise clearly evident; developed or revised within the past five years **B** **Good quality:** Material officially sponsored by a professional, public, or private organization or a government agency; reasonably thorough and appropriate systematic literature search strategy; reasonably consistent results, sufficient numbers of well-designed studies; evaluation of strengths and limitations of included studies with fairly definitive conclusions; national expertise clearly evident; developed or revised within the past five years **C** **Low quality or major flaws:** Material not sponsored by an official organization or agency; undefined, poorly defined, or limited literature search strategy; no evaluation of strengths and limitations of included studies, insufficient evidence with inconsistent results, conclusions cannot be drawn; not revised within the past five years

Level V Based on experiential and nonresearch evidence Includes: • Integrative reviews • Literature reviews • Quality improvement, program, or financial evaluation • Case reports • Opinion of nationally recognized expert(s) based on experiential evidence	**Organizational Experience (quality improvement, program, or financial evaluation)** **A** **High quality**: Clear aims and objectives; consistent results across multiple settings; formal quality improvement, financial, or program evaluation methods used; definitive conclusions; consistent recommendations with thorough reference to scientific evidence **B** **Good quality**: Clear aims and objectives; consistent results in a single setting; formal quality improvement, financial, or program evaluation methods used; reasonably consistent recommendations with some reference to scientific evidence **C** **Low quality or major flaws**: Unclear or missing aims and objectives; inconsistent results; poorly defined quality improvement, financial, or program evaluation methods; recommendations cannot be made **Integrative Review, Literature Review, Expert Opinion, Case Report, Community Standard,** **Clinician Experience, Consumer Preference** **A** **High quality**: Expertise is clearly evident; draws definitive conclusions; provides scientific rationale; thought leader(s) in the field **B** **Good quality**: Expertise appears to be credible; draws fairly definitive conclusions; provides logical argument for opinions **C** **Low quality or major flaws**: Expertise is not discernable or is dubious; conclusions cannot be drawn

1 https://www.york.ac.uk/crd/SysRev/!SSL!/WebHelp/6_4_ASSESSMENT_OF_QUALITATIVE_RESEARCH.htm 2 Adapted from Polit & Beck (2017).

Appendix E: Johns Hopkins Citation Statement

Dang, D., & Dearholt, S. (2017). *Johns Hopkins nursing evidence-based practice: model and guidelines* (3rd ed.). Indianapolis, IN: Sigma Theta Tau International.

Appendix F: Curriculum Plan

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
1. Identify addiction as a disease state.	**Addiction** **Brain Disease** ASAM: Addiction is a primary, chronic disease of the brain reward, motivation, memory, and related circuitry. This is reflected in an individual pathologically pursuing reward and /or relief by substance use and other behaviors. Characteristics: Inability to consistently abstain Inability to control behavior Craving Diminished recognition of significant problems and interpersonal relationships Cycles of relapse and remission- can lead to progression of disease state and premature death Lose the choice about using Dysfunctional emotional thoughts	Jouria, J. Labor, N. Satel, S., & Lilienfeld, S. Wakefield, J. Jouria, J. Labor, N. Satel, S., & Lilienfeld, S. Suzuki, S., & Kober	PowerPoint Lecture Discussion Question /Answer Booklet	1

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
	Features of Addiction Cognitive: Preoccupation of substance use Altered perception of risk and benefits of drugs and behaviors associated with drug use Misconception that life circumstances are the cause of and consequence occurring due to addiction are not due to addiction but other reasons Emotional Increase in emotional pain, anxiety, life stressors Increase in inability to cope with stress Lack of ability to identify own feelings **Addiction Cycle** Can occur multiple times in a day, weeks, or months Binge/Intoxication Gets the high, pleasurable aspect Withdrawal/ negative affect Negative emotion related to the absence of the substance Preoccupation/anticipation	Jouria, J. Labor, N. Satel, S., & Lilienfeld, S. Wakefield, J. Schmidt et al. Strathearn et al. Kakko et al Suzuki, & Kober		

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
	Seeks the substance again after a time of Abstinence **Opioids** Narcotic drugs that work on the opioid receptors Naturally occurring Morphine Codeine Exogenous Heroin Morphine Fentanyl Methadone Hydromorphone Buprenorphine	 Tran et al Labor Jouria Labor Martins et al Zedler et al		
2. Recognize how OUD affects the brain	**Brain Chemistry** Affects neurotransmission and interactions within reward structure of the brain Basal Ganglia Reward / pleasure center of brain	 Jouria Labor, N. Satel, S., & Lilienfeld, S.	 PowerPoint Lecture Discussion	 15 7 6

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
	Keeps body movement smooth and coordinated Forming habits Nucleus accumbens- motivation and the experience of rewards Dorsal striatum- forming habits and routine behaviors Trigger stimuli Binge/intoxication phase Prefrontal Cortex Executive functioning- exerting control Preoccupation/anticipation stage Craving stage Start seeking substance again Extended Amygdala Fight or Flight Stress, feeling uneasy, anxiety associated with withdrawal Interacts with the hypothalamus and hormone production Withdrawal/negative affect stage Decreased activation of reward system Activation of stress system Stress neurotransmitters	Schmidt et al. Strathearn et al. Suzuki & Kober Kakko et al Tran et al Jouria Labor, N.	Question /answer Booklet	14 3

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
	Corticotropin releasing factor (CRF) Norepinephrine Dynorphin Affects neurotransmission and interaction between cortical and hippocampal circuits and brain reward structures Memory of previous exposure- food, sex, drug, alcohol Leads to biological and behavioral responses to external cues- trigger cravings or addictive behaviors Risk factors for addiction Teenager- underdeveloped frontal cortex Genetic factors Environment, biology, and culture play a role in genetic factor Decreased coping abilities Distortion of values and purpose Distorted connection of self, others, and spiritual entity	Satel, S., & Lilienfeld, S. Schmidt et al. Strathearn et al. Kakko et al Tran et al		

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
	Brain Development Frontal Cortex Deferring gratification Reasoning: right from wrong Not developed until early 20's Teenagers highly susceptible to addiction Opiate effects on the brain Elevated levels of CO2 in bloodstream – brain not responsive Decreasing levels of O2 Decreased peripheral vascular resistance- low Bp Dilated skin blood vessels- flushing Histamine release- intense itching Inhibits baroreceptor reflex- bradycardia Inhibits effects of acetylcholine on small intestines- delayed gastric emptying- constipation **Dopamine** Mu receptors produce euphoria, analgesia, and CNS	 Jouria Labor Satel, & Lilienfeld, Schmidt et al. Strathearn et al. Kakko et al Tran et al Jouria Labor		

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
	depression mu receptors release sensation of pleasure Kappa receptors analgesia for spinal nerves Delta receptors analgesia for spinal nerves **Glutamate** Excitatory neurotransmitter Trigger changes in the dorsal strait Contributes to compulsive use Activated after long prolonged abstinence **Effects on the body** High Positive emotional state Increase in dopamine and activity in reward circuits of brain Neurochemical rebound After the experience, the reward center does not go back to baseline but goes below the baseline leading to a low	Satel, & Lilienfeld, Schmidt et al. Strathearn et al. Kakko et al Tran et al Jouria Labor Satel, & Lilienfeld, Schmidt et al. Strathearn et al. Kakko et al Tran et al		

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
	Tolerance Repeated attempt to feel high again Creates lower lows Do not need the substance to feel high but to get out of the low, no longer experience the positive emotional state Short-term effects Converted to morphine in the brain Rush Warm, flushed skin Dry mouth Heavy feeling in extremities Intense itching After initial effects Drowsy Foggy mental status Bradycardia with bradypnea -coma-permanent brain damage-death Long-term effects	Jouria Labor Satel, & Lilienfeld, Schmidt et al. Strathearn et al. Kakko et al Tran et al		

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
	Long-term neuronal and hormonal imbalances Deterioration of white matter- affects decision making, behavior regulation, and response stressful situations Withdrawal can happen within a hours after use Restlessness Muscle and bone pain Insomnia Diarrhea Vomiting Jerky leg movements Cold flashes			
3. Identify treatment for the pregnant opiate addicted patient	**Why opiate misusing pregnant women are hesitant to seek care.** Treatment starts with prenatal care Lack of motivation, readiness, or willingness to change- many times pregnancy gives the purpose for the change All opioids cross the placenta	Gessler Jouria Holbrook Alexander Kakko et al	PowerPoint Lecture Discussion Question /answer Booklet	8 5 1 4 9

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
	Hesitant due to Stigma associated with drug misuse Fear of criminalization Fear of losing custody of their child once delivered Fear of losing custody of other children **Complications of poor prenatal care and opiate misuse** Preterm labor Low birth weight Preterm birth Fetal distress Fetal demise Spontaneous abortions Neural effects Birth defects Maternal disparities Due to the multiple ways opioids enter into the body Injection is the most common method Smoked-chasing the dragon Snorted Hepatitis C HIV	Kelsey et al Krans et al Martin & Finlayson Martins et al Peles et al Trans et al Zedler et al Matlock et al Staudt Volkow et al Gessler Jouria Holbrook		

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
	Sexually transmitted infections Bacterial and viral infections **Medication assisted treatment** Though abstinence is ideal for the pregnant mom and fetus repeated relapse/withdraw cycle is not leading to worse health disparities and fetal distress with possible death Goal For MAT programs for pregnant woman is to decrease opioid use, improve pregnancy outcomes, and stabilize the maternal lifestyle Methadone Original gold standard Suppresses withdrawal symptoms Relieves craving Methadone needs to be dispensed through a maintenance treatment program	Alexander Kakko et al Kelsey et al Krans et al Martin & Finlayson Martins et al Peles et al Trans et al Zedler et al Matlock et al Staudt Volkow et al Gessler Jouria		

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
	Opioid agonist Higher incidence of NAS -crosses placenta more readily Higher compliance rate Buprenorphine (Subutex) Suppresses withdrawal symptoms Relieves cravings Opioid agonist Decreased NAS - doesn't cross the placenta as readily More relapse for mother Lower opioid intake Naltrexone (Vivitrol) Not enough research to determine the effects on the fetus Blocks the opioid receptor in the brain Nonselective opioid antagonist used in nonpregnant women **Not only medication**	Holbrook Alexander Kakko et al Kelsey et al Krans et al Martin & Finlayson Martins et al Peles et al Trans et al Zedler et al Matlock et al Staudt Volkow et al		

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
	Long-term behavioral health management improves outcomes and decreases relapse **Neonatal Abstinence Syndrome** All opioids cross placenta which can cause NAS even MAT- even exposure to one opioid Withdrawal affects the release of neurotransmitters: dopamine, acetylcholine norepinephrine, serotonin, and corticotrophin Withdrawal symptoms Hyperphagia- corticotrophin increase Hyperirritability- dopamine decrease Anxiety-Dopamine decrease Diarrhea- Acetylcholine increase Vomiting- Acetylcholine increase Sweating-Acetylcholine increase Hyperthermia- Noradrenaline increase Tremors-Noradrenaline increase Hypertension- Noradrenaline increase Tachycardia- Noradrenaline increase Sleep problems- Serotonin decrease	Gessler Jouria Holbrook Alexander Kakko et al Kelsey et al Krans et al Martin & Finlayson Martins et al Peles et al Trans et al Zedler et al Matlock et al Staudt		

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
	Finnegan scoring Score infant related to the withdrawal symptoms CNS symptoms, Vegetative symptoms, Gastrointestinal & respiratory symptoms Sum of 8 or higher indicative of NAS If score of 9 or higher at 2 different times, treat with medication. Eat, Sleep, Console (ESC) Effect scoring if breastfeeding well or eating >/= 1oz per feeding, sleep undisturbed for at least 1 hour, able to be consoled within 10 minutes after onset of crying. Medicine treatment	Volkow et al Jouria Martins et al Labor Holbrook Labor Gessler Jouria Holbrook Alexander		

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
	Morphine was the previous treatment-faster titration to reduce withdrawal Methadone showing shorter treatment time in the neonate Buprenorphine even shorter treatment time Supportive drug therapy Phenobarbital reduces inpatient time reducing symptoms of withdrawal Clonidine little research, small population, needs further evaluation	Kakko et al Kelsey et al Krans et al Martin & Finlayson Martins et al Peles et al Trans et al Zedler et		
4. Recognize the importance of recovery programs for the opiate addicted family unit.	**Continual Support** Promote personal responsibility Promote accountability Healthy connections with other A sense of greater than self Longer the treatment the better the outcome **Treatment homes**	Jouria Labor Alexander Mattocks et al Staudt	PowerPoint Lecture Discussion Question /answer Booklet	10 11 12

Objective Number and Statement At the conclusion of the staff education the nurse will:	Detailed Content Outline	Evidence (from Literature Review Matrix)	Method of Presenting	Method of Evaluation (pretest/posttest number)
	There are a few in the state of Ohio where the mother and infant can live for a year to receive support. **Behavioral modification** Relapse Can be triggered by exposure to environmental cues, emotional stressors, whatever triggers the heightened activity in brain stress circuits impairing executive functioning of the brain. **Therapy** 12-step program like Alcoholics Anonymous (AA) Teenagers Immature, underdeveloped frontal lobe leads to greater deficit of functionality leading to higher risk behaviors			

Appendix G: Content Expert Evaluation of the Curriculum Plan

Title of Project: Perinatal Staff Education on Opiate Use Disorder

Student: Theresa J. Engle MSN, RNC-EFM

Date:

Name of Reviewer:

Products for review: Literature review Matrix, Curriculum Plan with Complete Curriculum Content, Content Expert Evaluation Plan

Instructions Please review each objective related to the curriculum plan, content, and matrix. The answer will be a "yes" or "no" with comments if there is a problem understanding the content or if the content does not speak to the objective.

Objective 1: The nurse will identity addiction as a disease state.

Met Not Met

Comments:

Objective 2: The nurse will recognize how OUD affects the brain.

Met Not Met

Comments: Very complete and well written

Objective 3: The nurse will identify treatment for the pregnant opiate addicted patient.

Met Not Met

Comments:

Objective 4 The nurse will recognize the importance of recovery programs for the opiate addicted family unit.

Met Not Met

Appendix H: Results of Content Expert Evaluation of the Curriculum Plan Summary

Not Met = 1 Met = 2

At the conclusion of this educational experience, learners will be able to:

Objective Number	Evaluator 1	Evaluator 2	Evaluator 3	Average Score
1. The nurse will identity addiction as a disease state.	2	2	2	2
2. The nurse will recognize how OUD affects the brain.	2	2	2	2
3. The nurse will identify treatment for the pregnant opiate addicted patient.	2	2	2	2
4. The nurse will recognize the importance of recovery programs for the opiate addicted family unit.	2	2	2	2

Appendix I: Pretest/Posttest

This test is anonymous. Please circle the letter for your choice. Thank you for your time.

Section 1: Multiple Choice

1. Which are forms of an opioid? Select all that apply. (Martins et al, 2019; Jouria, 2017)

    a. heroin *

    b. codeine *

    c. fentanyl *

    d. Narcan

    e. methadone *

    f. buprenorphine *

2. Where in the brain is the pleasure center housed? Select one correct answer. (Labor, 2016)

    a. basal ganglia *

    b. amygdala

    c. prefrontal cortex

    d. gyrus

3. Which receptors in the brain do opioids affect? Select all that apply. (Jouria, 2017)

    a. dopamine *

    b. glutamate *

    c. gustatory

    d. photo

4. Signs of infant withdrawal include: Select all that apply. (Martins et al, 2019)

    a. jitteriness *

    b. inability to arouse

    c. hyperarousal *

    d. vomiting *

5. Which medications are considered the gold standard for treating opiate use disorder in pregnant women? Select all that apply: (Holbrook, 2015)

a. suboxone

b. methadone *

c. vivitrol

d. Subutex *

6. When is the prefrontal cortex fully developed? Select one correct answer. (Jouria, 2017)

a. early teens

b. mid-teens

c. early 20's *

d. late 20's

7. Which are risk factors for opiate use disorder? Select all that apply. (Labor, 2016)

a. genetics *

b. environment *

c. adolescence *

d. good coping skills

8. Why may a pregnant woman with opiate use disorder resist seeking prenatal care? Select all that apply. (Kakko, 2019)

a. fear of judgement *

b. fear of children being taken away *

c. fear of empathy

d. fear of criminalization *

9. Treatment for NAS infants includes: Select all that apply. (Martins et al, 2019)

a. Eat, sleep, console *

b. decrease stimulation *

c. unswaddled

d. morphine *

Section 2: True or False

10. Successful recovery from opioid use disorder is accomplished with just medication. (Mattocks et al, 2017).

a. true

b. false *

11. Behavioral modification is not an effective part in treatment for opiate use disorder. (Labor, 2016)

a. true

b. false *

12. Centering programs are an effective means of treating and caring for pregnant women with opiate use disorder. (Kakko, 2019)

a. true *

b. false

13. Neonatal Abstinence Syndrome is not a concern if the pregnant woman is on medication assisted treatment. (Martins et al, 2019)

a. true

b. false *

14. Dopamine thresholds decrease which is why an opiate misusing individual continues to seek the high. (Labor, 2016)

a. true

b. false *

15. The fight or flight response is what causes a substance misusing individual to make poor choices regarding abstaining or using. (Jouria, 2017)

a. true *

b. false

Appendix J: Pretest/Posttest Expert Content Validation by Content Experts

TITLE OF PROJECT: Perinatal Staff Education on Opiate Use Disorder

Date: **Student Name:** Theresa Engle

Reviewer's Name:

Packet: Curriculum Plan, Pretest/Posttest with answers, Pretest/Posttest Expert Content Validation Form

INSTRUCTIONS: Please check each item to see if the question is representative of the course objective and the correct answer is reflected in the course content**.**

Test Item #

1. Not Relevant__ Somewhat Relevant__ Relevant ___ Very Relevant __

Comments:

2. Not Relevant__ Somewhat Relevant__ Relevant ___ Very Relevant __

Comments:

3. Not Relevant__ Somewhat Relevant__ Relevant ___ Very Relevant __

Comments:

4. Not Relevant__ Somewhat Relevant__ Relevant___ Very Relevant__

Comments:

5. Not Relevant__ Somewhat Relevant__ Relevant ___ Very Relevant __

Comments:

6. Not Relevant__ Somewhat Relevant__ Relevant __ Very Relevant__

Comments:

7. Not Relevant__ Somewhat Relevant __ Relevant__ Very Relevant__

Comments:

8. Not Relevant__ Somewhat Relevant__ Relevant_
Very Relevant __

Comments:

9. Not Relevant__ Somewhat Relevant__ Relevant __
Very Relevant __

Comments:

10. Not Relevant__ Somewhat Relevant__ Relevant_
Very Relevant __

Comments:

11. Not Relevant__ Somewhat Relevant__ Relevant__
Very Relevant __

Comments:

12. Not Relevant__ Somewhat Relevant__ Relevant__
Very Relevant __

Comments:

13. Not Relevant__ Somewhat Relevant__ Relevant__
Very Relevant __

Comments:

14. Not Relevant__ Somewhat Relevant__ Relevant__
Very Relevant __

Comments:

15. Not Relevant__ Somewhat Relevant__ Relevant__
Very Relevant__

Comments:

Appendix K: Pretest/Posttest Content Expert Validity Index Scale Analysis

ITEM	EXPERT 1	EXPERT 2	EXPERT 3	I-CVI
1	4	4	2	0.67
2	4	4	3	1
3	4	4	3	1
4	4	4	4	1
5	4	4	4	1
6	3	3	2	0.67
7	2	4	1	0.33
8	4	4	2	0.67
9	4	4	3	1
10	4	3	3	1
11	4	3	3	1
12	4	3	4	1
13	4	4	2	0.67
14	4	3	3	1
15	3	3	2	0.67
S-CVI				0.85

Appendix L: Letter for Content Experts

Dear Content Expert,

Thank you for participating in my project, Perinatal Staff Education on Opiate Use Disorder. Each evaluation: literature review matrix, curriculum plan, evaluation of curriculum plan by content experts, pretest/posttest, pretest/posttest content validity by content experts, and evaluation of project, process and my leadership, all have instructions at the top to indicate what needs completed.

Your completed work will be anonymous. Upon completion of the forms, please email the completed work to the email provided separately. She will print out the forms and label them as CE 1, CE2, and CE 3, depending on the order in which she received packets back. The packets returned to me will not have any identifying information on them except what the administrative assistant assigns.

If you have any questions, please feel free to contact me and I will answer your email as soon as possible. If it is urgent, please contact me via my cell phone which I will provide below.

Thank you so much for your time and expertise,

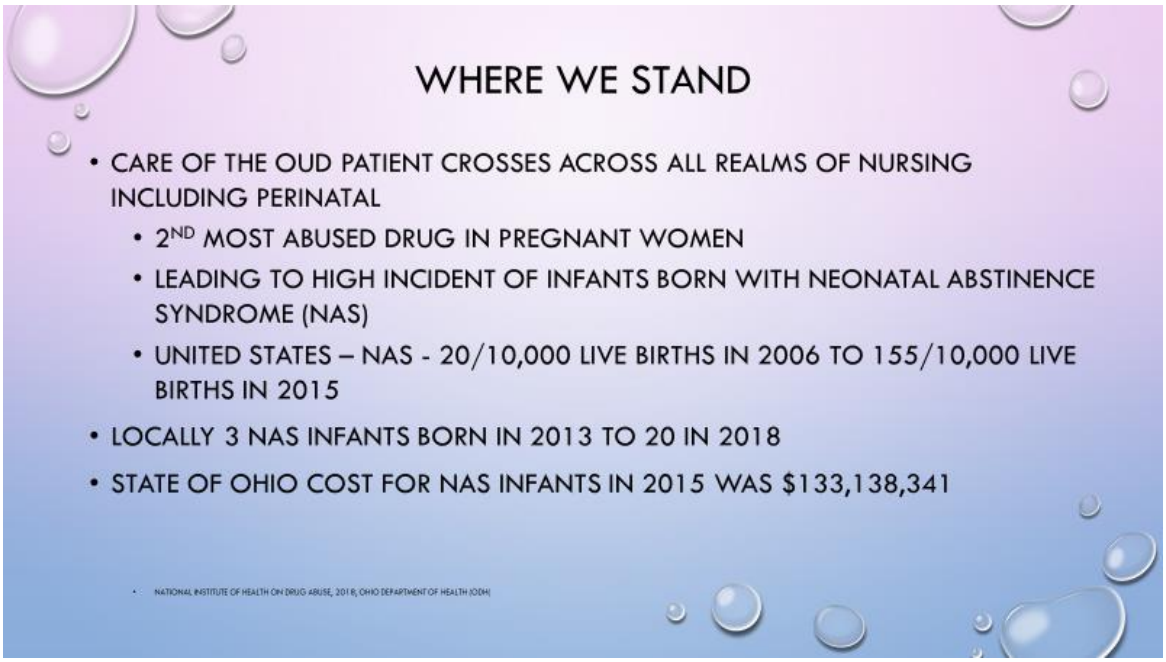
Theresa J. Engle, MSN, RNC-EFM

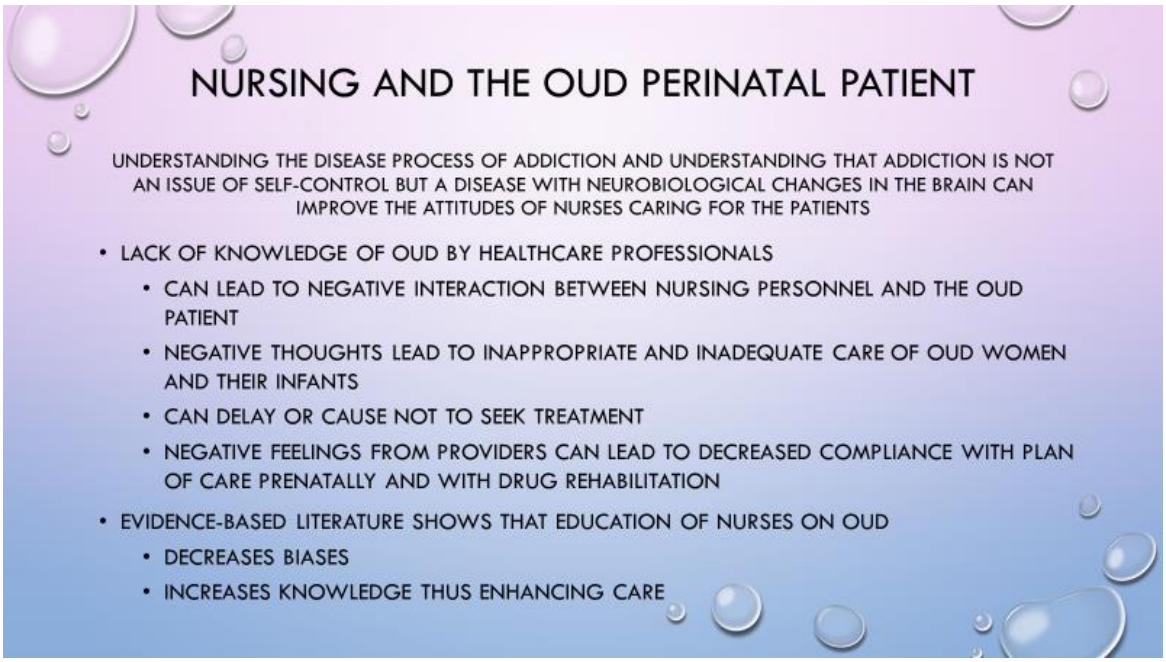
Tjenglern@yahoo.com

330-418-5615

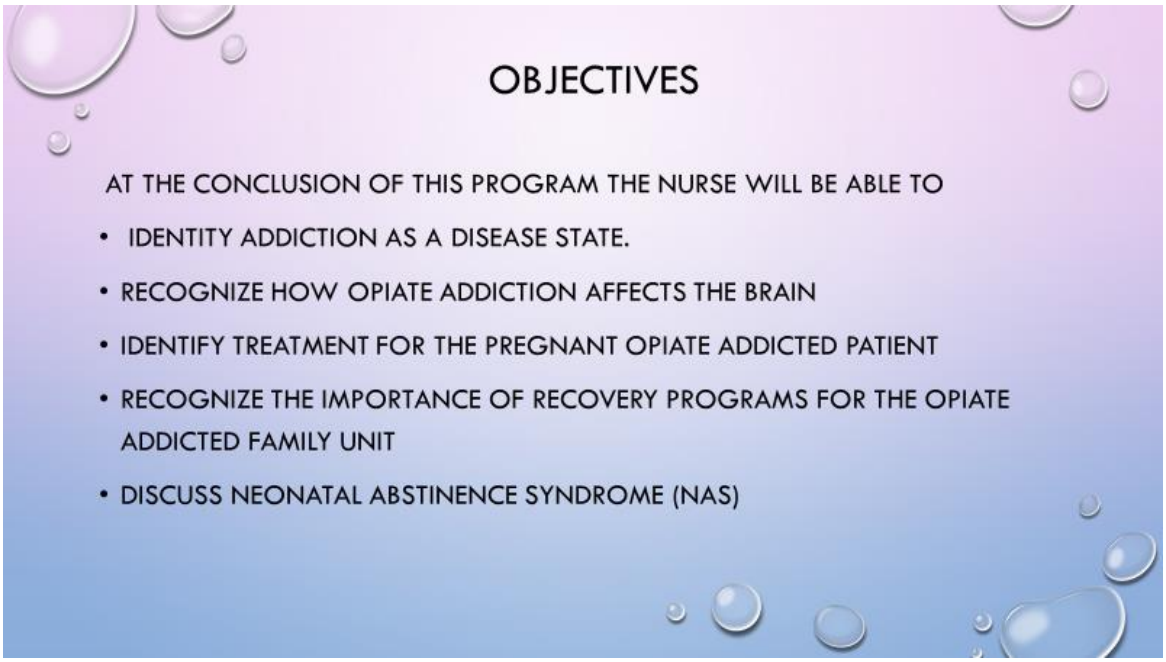
Appendix M: Presentation of Educational Program

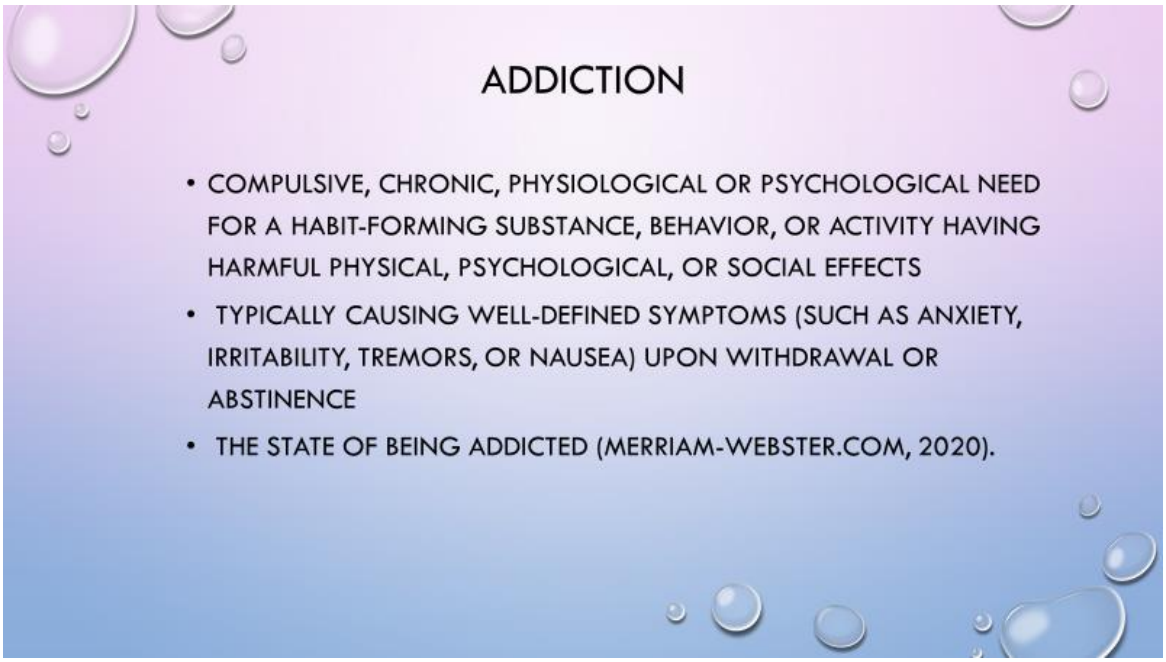
My Story- why this project is important to me.


WHERE WE STAND
• CARE OF THE OUD PATIENT CROSSES ACROSS ALL REALMS OF NURSING INCLUDING PERINATAL
• 2ND MOST ABUSED DRUG IN PREGNANT WOMEN
• LEADING TO HIGH INCIDENT OF INFANTS BORN WITH NEONATAL ABSTINENCE SYNDROME (NAS)
• UNITED STATES – NAS - 20/10,000 LIVE BIRTHS IN 2006 TO 155/10,000 LIVE BIRTHS IN 2015
• LOCALLY 3 NAS INFANTS BORN IN 2013 TO 20 IN 2018
• STATE OF OHIO COST FOR NAS INFANTS IN 2015 WAS $133,138,341
• NATIONAL INSTITUTE OF HEALTH ON DRUG ABUSE, 2018; OHIO DEPARTMENT OF HEALTH (ODH)

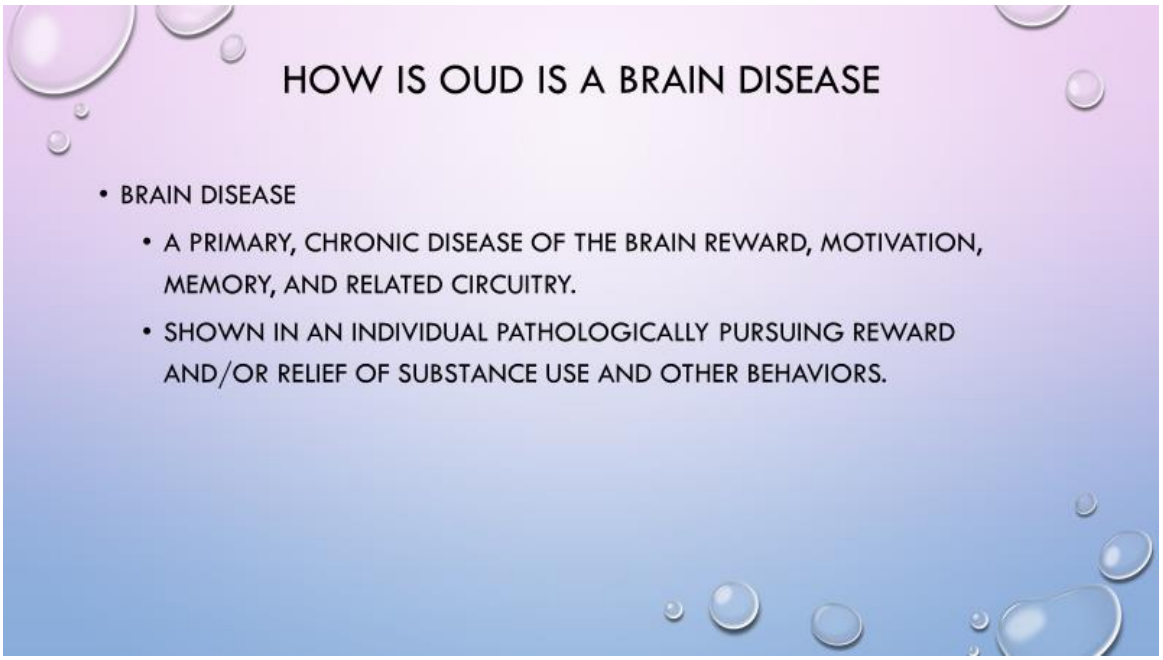


The evidence-based literature shows that a lack of knowledge by healthcare professionals regarding OUD can lead to negative interactions between nursing personnel and the opiate addicted patient (Birtel, Wood, & Kempa, 2017; Kulesza, Matsuda, Ramirez, Werntz, Teachman, & Lindgren, 2016; Morley, Briggs, & Chumbley, 2015; Von Boekel, Brouwers, van Weeghel, & Garretsen, 2013). Negative thoughts lead to inappropriate and inadequate care of opiate addicted women and their infants (Seybold, Calhoun, Burgess, Gilbert, & Casto, 2014; Von Boekel et al., 2013), which can delay or cause the patient to not seek treatment (Alexander, 2017; Birtel et al., 2017; Fonti, Davis, & Ferguson, 2016; Kulesza et al., 2016; Morley et al., 2015; von Boekel et al., 2013). The negative feelings the addicted patients perceive from their healthcare providers can lead to decreased compliance in following their plan of care both prenatally and with drug rehabilitation (Alexander, 2017; Birtel et al., 2017; Fonti et al., 2016; Kulesza et al, 2016; Morley et al., 2015; von Boekel et al., 2013). However, the evidence-based literature shows that education on OUD can decrease biases and increase knowledge which can enhance the care of opiate addicted pregnant women/mothers (Birtel et al., 2017; Kulesza et al 2016; Morley et al., 2015; Von Boekel et al., 2013). Understanding the disease process of addiction and understanding that addiction is not an issue of self-control but a disease with neurobiological changes in the brain can improve the attitudes of nurses caring for the patients (Costello & Thompson, 2015; Leahy, 2017; Salani, Zdanowicz & Joseph, 2016)

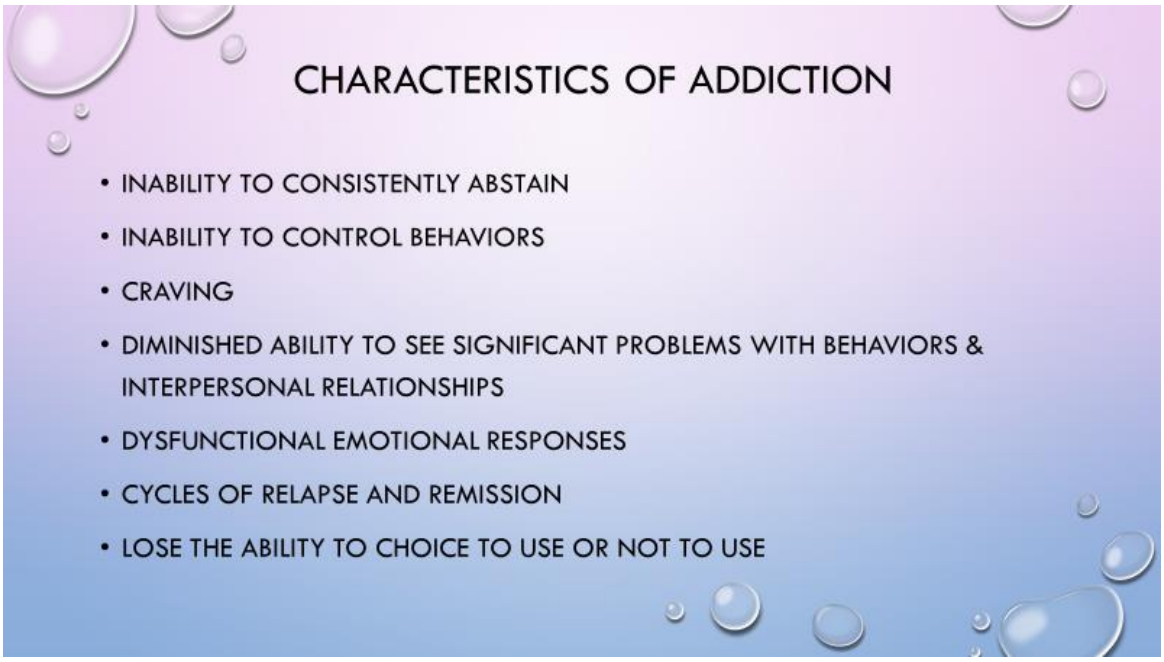

OBJECTIVES
AT THE CONCLUSION OF THIS PROGRAM THE NURSE WILL BE ABLE TO
• IDENTITY ADDICTION AS A DISEASE STATE.
• RECOGNIZE HOW OPIATE ADDICTION AFFECTS THE BRAIN
• IDENTIFY TREATMENT FOR THE PREGNANT OPIATE ADDICTED PATIENT
• RECOGNIZE THE IMPORTANCE OF RECOVERY PROGRAMS FOR THE OPIATE ADDICTED FAMILY UNIT
• DISCUSS NEONATAL ABSTINENCE SYNDROME (NAS)



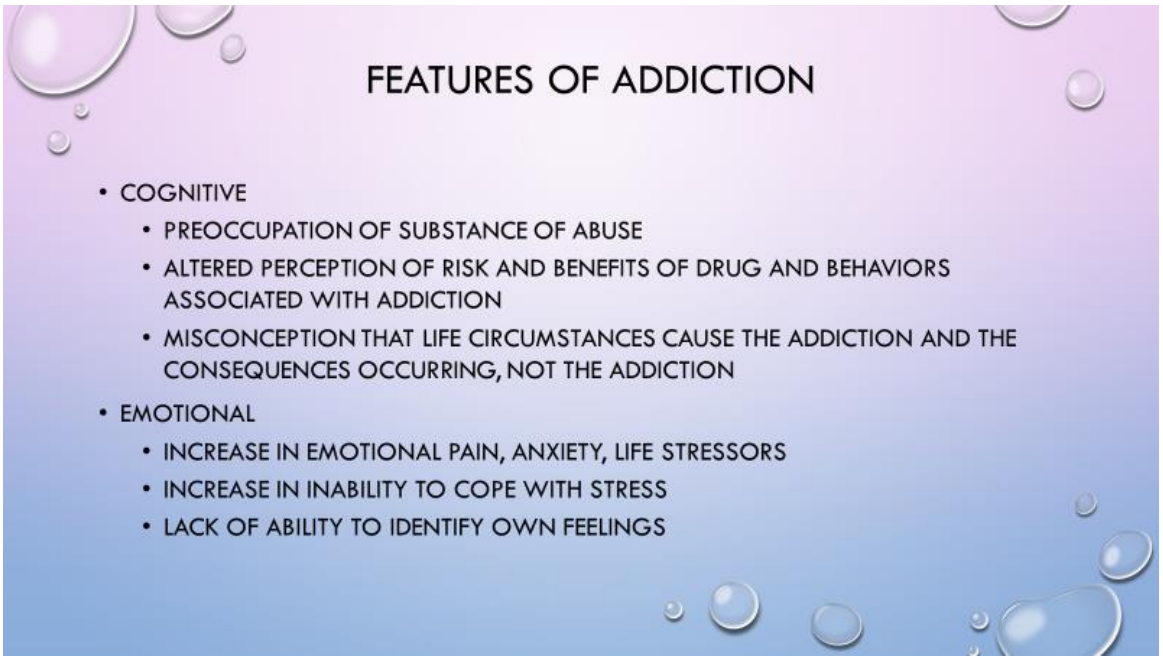
We hear a lot about addiction, but what actual is the definition of addiction? Addiction is a compulsive, chronic, physiological, or psychological need for a habit-forming substance, behavior, or activity having harmful physical, psychological, or social effects and typically causing well-defined symptoms such as anxiety, irritability, tremors, or nausea upon withdrawal or abstinence: the state of being addicted.



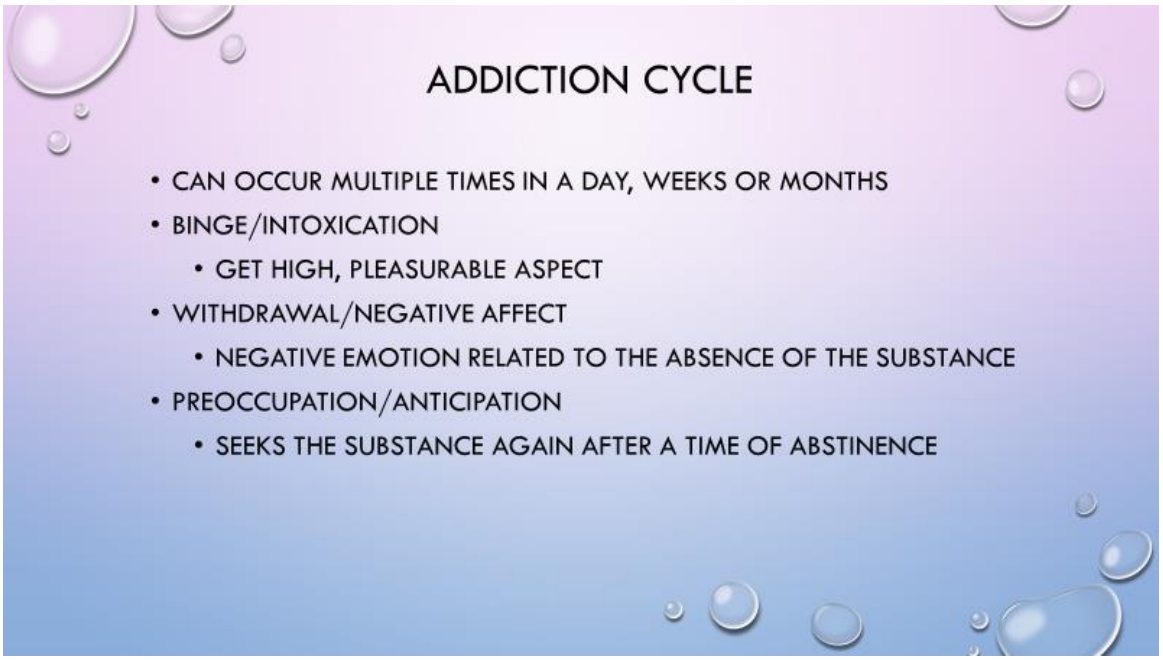
The current discussion is whether or not addiction is actually a brain disease. As the definition states, addiction affects the person not only physically but psychologically. Affects aspects of the brain. The American Society of Addiction Medicine (ASAM) describes addiction as a primary, chronic disease of the brain reward, motivation, memory, and related circuitry. This is shown in an individual pathologically pursuing reward and/or relief of substance us and other behaviors. Each individual reacts differently or their threshold for reward is different. As we continue through this program, we will discuss how the brain is affected in each area. (Jouria, 2017; Labor, 2016; Satel & Lilienfeld, 2017; Suzuki & Kober, 2018; Wakefield, 2017).



When we discuss the characteristics of addiction, the debate of addiction being a flaw in character or power can be disproved, but also bring to light as to why some people do not see addiction as a brain disease. The major one discussed is the inability to abstain. How many times have you heard…well if they just tried harder, they could quit, they don't have will power because they cannot abstain? As we continue on, I will show you why the ability to abstain without medicine assisted treatment (MAT) programs and behavioral therapy is less successful. Another characteristic is the inability to control behavior, craving, the inability to see that there is a significant problem with behaviors or interpersonal relationships; dysfunctional emotional responses; cycles of relapse and remission- this cycle can unfortunately lead to disabilities and/or premature death. Addicted individuals also lose the choice about using because of how it affects the prefrontal cortex of your brain. (Jouria, 2017; Labor, 2016; Satel & Lilienfeld, 2017; Suzuki & Kober, 2018; Wakefield, 2017).



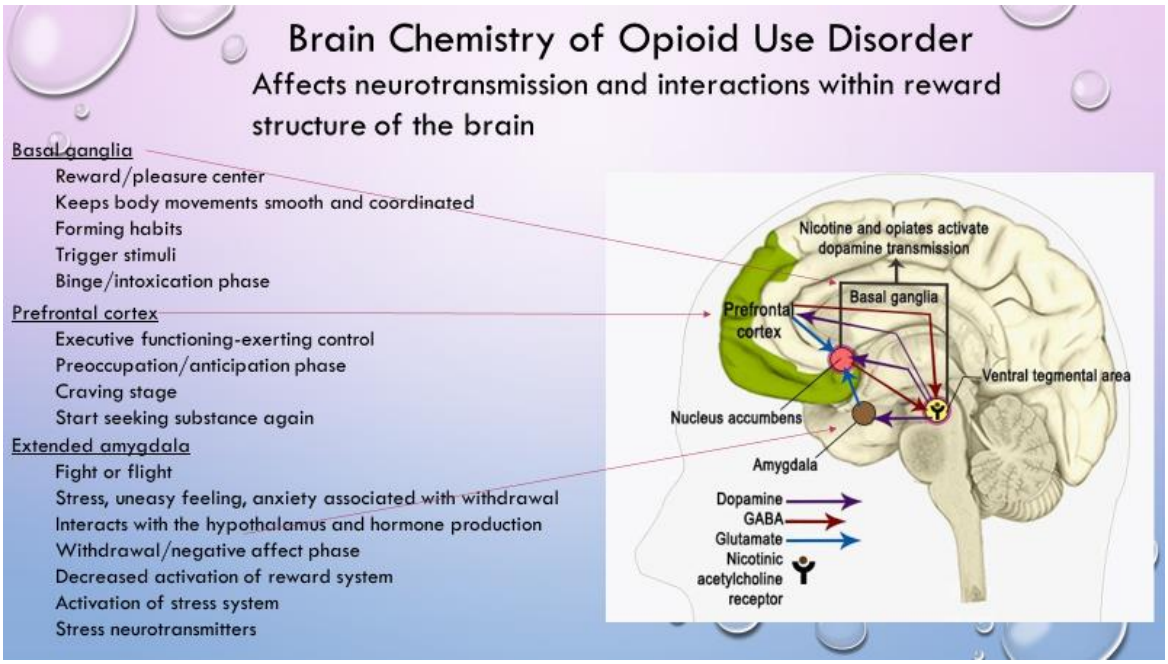
Now let's look at the features of addiction. There is a cognitive feature. The cognitive feature includes a preoccupation of substance of abuse. There is also an altered perception of the risk and benefits of the drug and then with the behaviors that are associated with addiction. There is a misconception that life circumstances are the cause of addiction and the consequences of their actions not the actual addiction itself (Jouria, 2017).



There is an addiction cycle. For addiction to be overcome, there needs to be a break in the cycle. We will discuss later how to break this cycle. The addiction cycle can occur multiple times in a day, it could be weeks or months. It depends on the triggers. The initial stage is the binge/intoxication stage. This is where the person gets high. There is a hormone surge where the dopamine levels increase. It is very pleasurable for that person. The next stage is the withdrawal phase. This is looked upon as having a negative effect. There are negative emotions connected to the absence of the substance, there are also physical symptoms associated with this stage. The third stage is the preoccupation or anticipation stage. The person is in a state of need for this drug. Something to bring them out of the complete low that they are feeling. So, they are seeking the substance again after a time of abstinence. (Jouria, 2017; Kakko et al, 2019; Schmidt et al, 2014; Strathearn et al, 2019; Suzuki& Kober, 2018; Tran et al,2017)

Opioid use disorder is a chronic lifelong disorder, with serious potential consequences including disability, relapses, and death. The Diagnostic and Statistical Manual of Mental Disorders, 5th ed describes OUD as a problematic pattern of opioid use leading to problems or distress with at least 2 of the following occurring with a 12-month period (Psychiatry.org, 2018).
The list includes (read slide)

So, what are opioids? Opioids are narcotic drugs that work on the opioid receptors to the brain. Now there are some naturally occurring opioids such as morphine and codeine. Naturally occurring opiates come from the opium plant and does not need any compounding to produce the drug. Exogenous or synthetic and semi-synthetic opioids are man-made which do not have any opiate derivates or with semi-synthetic are they do have opiate derivates in them. (Jouria, 2017; Labor, 2016; Martins et al, 2019; Zedler et al, 2016)

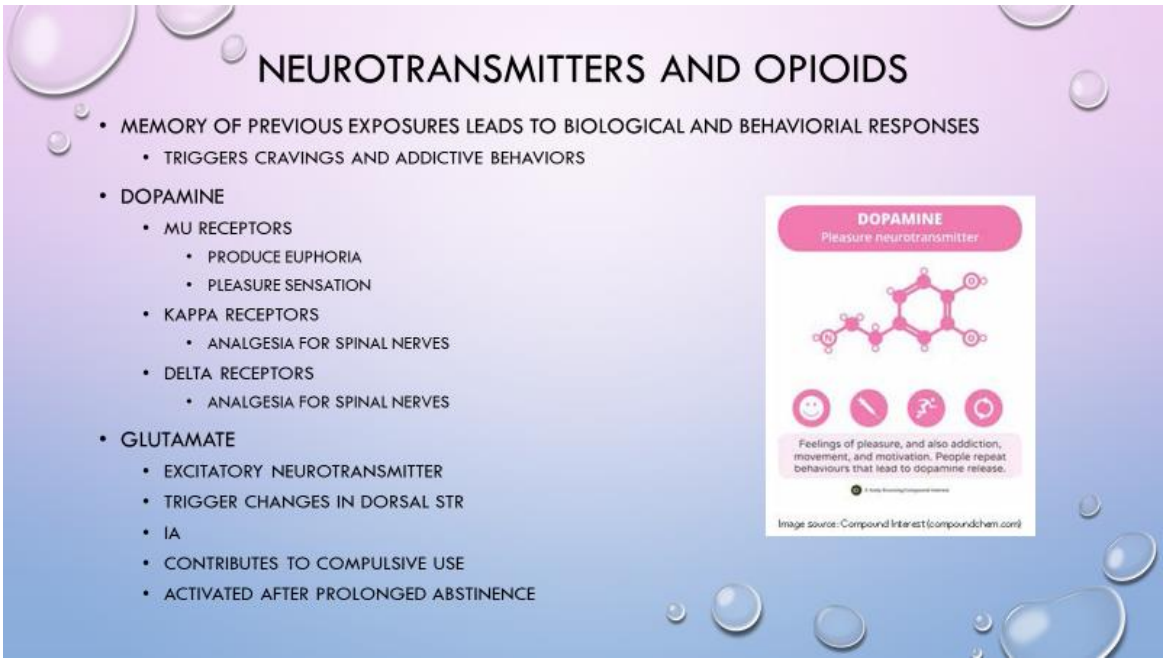


Opioids affect the brain chemistry by effecting the neurotransmitters and the interactions within the reward structures of the brain. The basal ganglia are affected. The basal ganglia are the reward or pleasure center of the brain. This is where body movements are maintained so they are smoothed and coordinated. This is where habits are formed (nucleus accumbens: where motivation and the experience of rewards are stored and the dorsi striatum are responsible for forming habits and routine behaviors) and trigger stimuli are kept. The basal ganglia are responsible for the binge/intoxication stage. The basal ganglia have a high level of natural occurring opiates and receptors for binding with opiates are located there. This area of the brain remembers what felt good and happy. (Jouria, 2017; Labor, 2016; Satel & Lilienfeld, 2017; Schmidt et al, 2014; Suzuki & Kober, 2018; Kakko et al, 2019; Tran et al, 2017)

relieves these negative emotions and feelings (Jouria, 2017; Labor, 2016; Satel & Lilienfeld, 2017; Schmidt et al, 2014; Suzuki & Kober, 2018; Kakko et al, 2019; Tran et al, 2017)

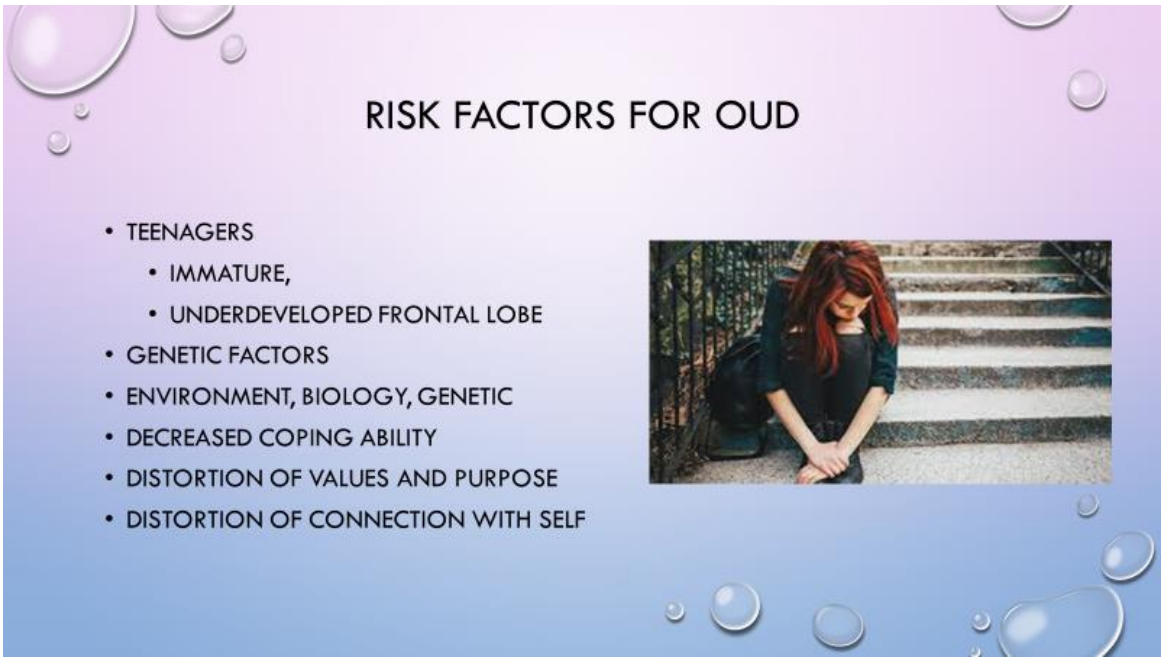
The prefrontal cortex is where executive function occurs, this is part of the brain responsible for critical thinking, emotional control, verbal communication, and memory. This is part of the associated memory related to the high of the substance, leading the body to crave that emotion again. (Jouria, 2017; Labor, 2016; Satel & Lilienfeld, 2017; Schmidt et al, 2014; Suzuki & Kober, 2018; Kakko et al, 2019; Tran et al, 2017)

The extended amygdala is responsible for our fight or flight mode. When a negative stress event occurs, such as stress, an uneasy feeling, anxiety causes the body to initiate a hypothalamus-pituitary-adrenal axis. This affects the stress hormones and norepinephrine. As an individual uses drugs, what happens instead of getting high, the drug relieves these negative emotions and feelings (Jouria, 2017; Labor, 2016; Satel & Lilienfeld, 2017; Schmidt et al, 2014; Suzuki & Kober, 2018; Kakko et al, 2019; Tran et al, 2017)

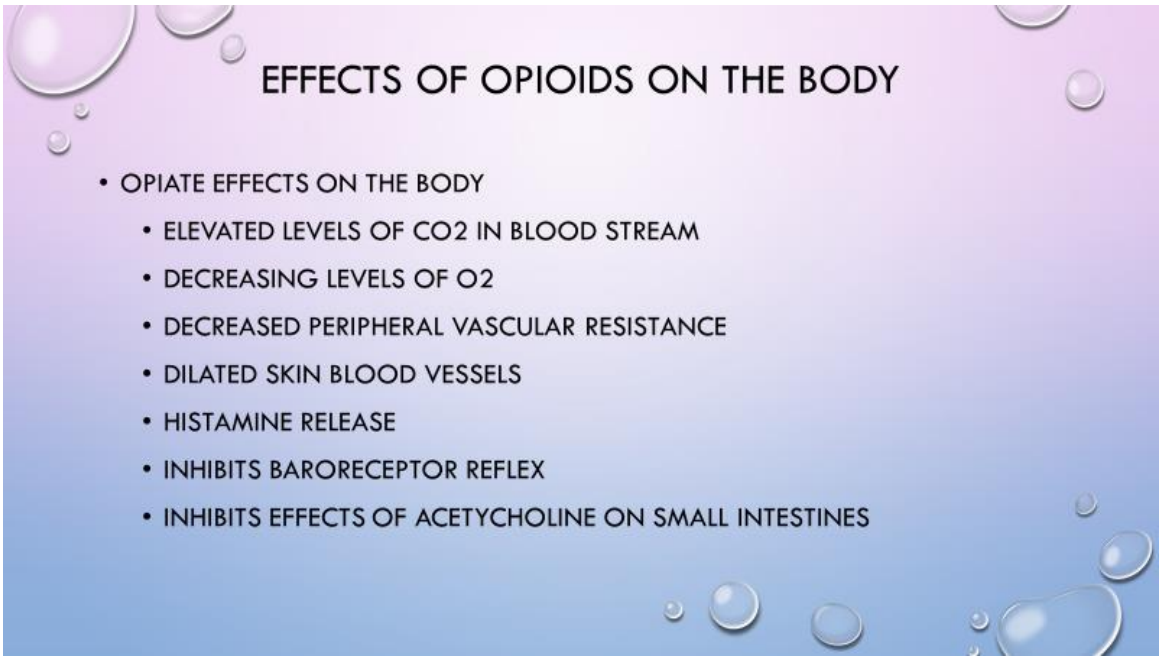


Opioids affect the brain neurotransmitters. There is a correlation between reward pathway and addiction. The memory of previous exposures to substances leads to biological and behavioral responses. The memory of previous exposures to sex, drugs, alcohol, and food then trigger the cravings and addictive behaviors. (Jouria, 2017; Kakko et al, 2019; Labor, 2016; Satel & Lilienfeld, 2017; Schmidt et al, 2014; Suzuki & Kober, 2018; Tran et al, 2017)

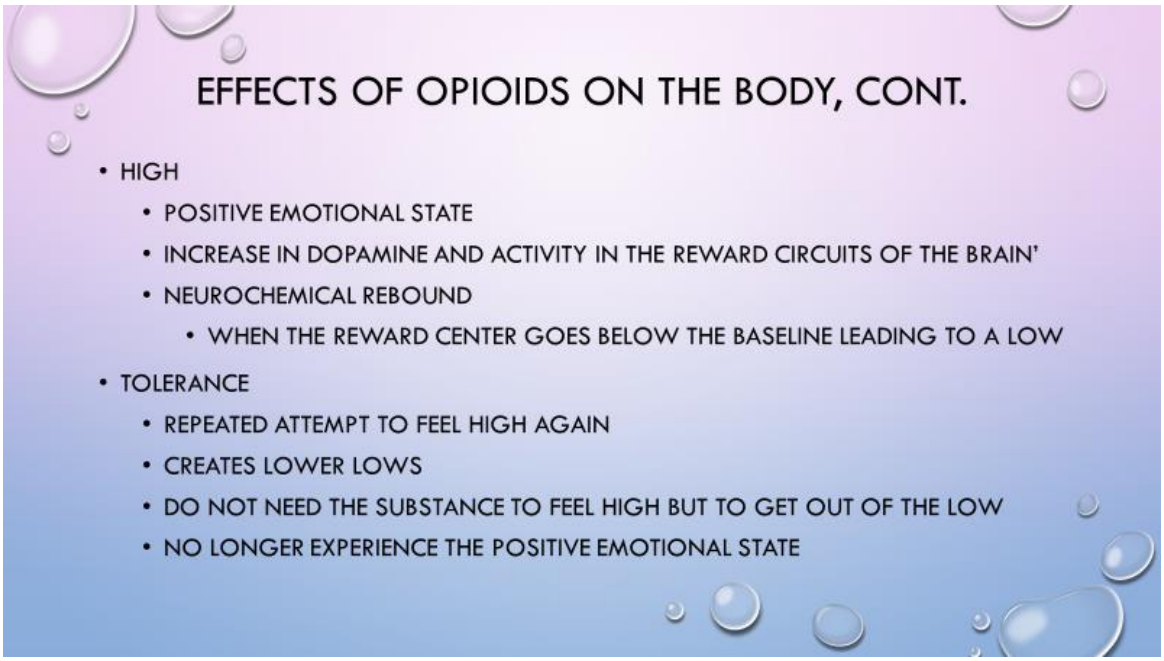
Dopamine is a neurotransmitter that plays a role in addiction, any type of addiction. The three prominent receptors are the mu, kappa, and delta receptors. The Mu receptors are responsible for the euphoria effects and pleasure sensation. The kappa and delta receptors are responsible for analgesia for spinal nerves. These are change affect the threshold of pain and pleasure. (Jouria, 2017; Kakko et al, 2019; Labor, 2016; Satel & Lilienfeld, 2017; Schmidt et al, 2014; Suzuki & Kober, 2018; Tran et al, 2017)



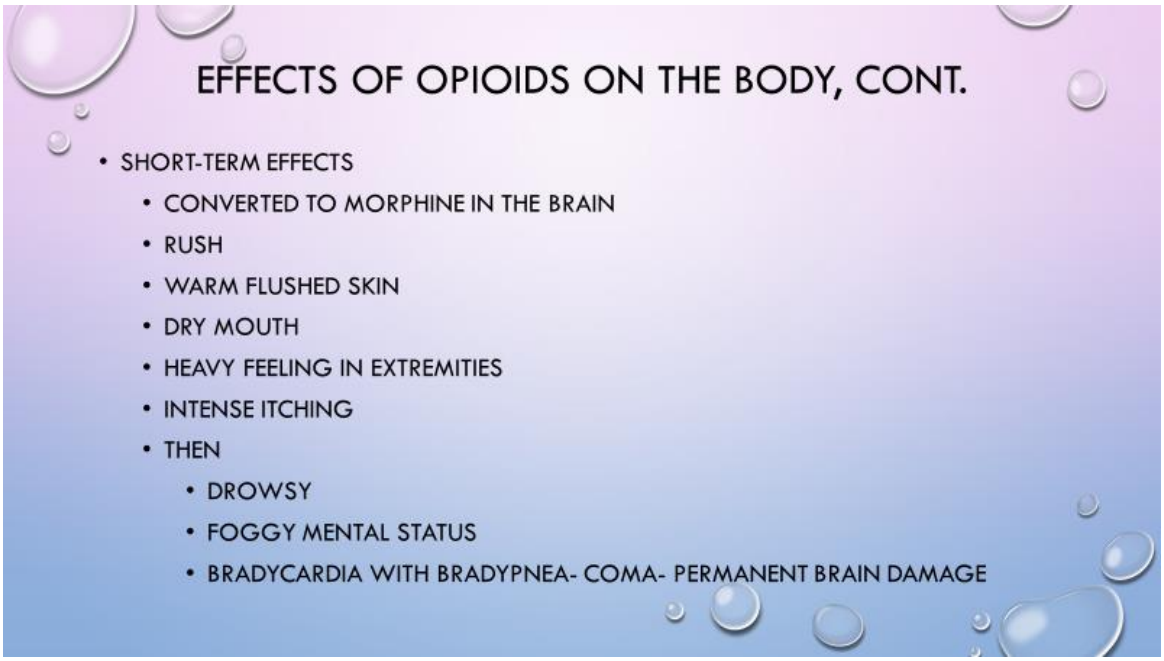
Risk factors for addiction include teenagers due to the prefrontal cortex does not fully develop until their mid-20's. There is a genetic predisposition to addiction. Individuals who have decreased coping abilities, a distorted value or purpose, and a disconnection with self. (Jouria, 2017; Kakko et al, 2019; Labor, 2016; Satel & Lilienfeld, 2017; Schmidt et al, 2014; Suzuki & Kober, 2018; Tran et al, 2017)



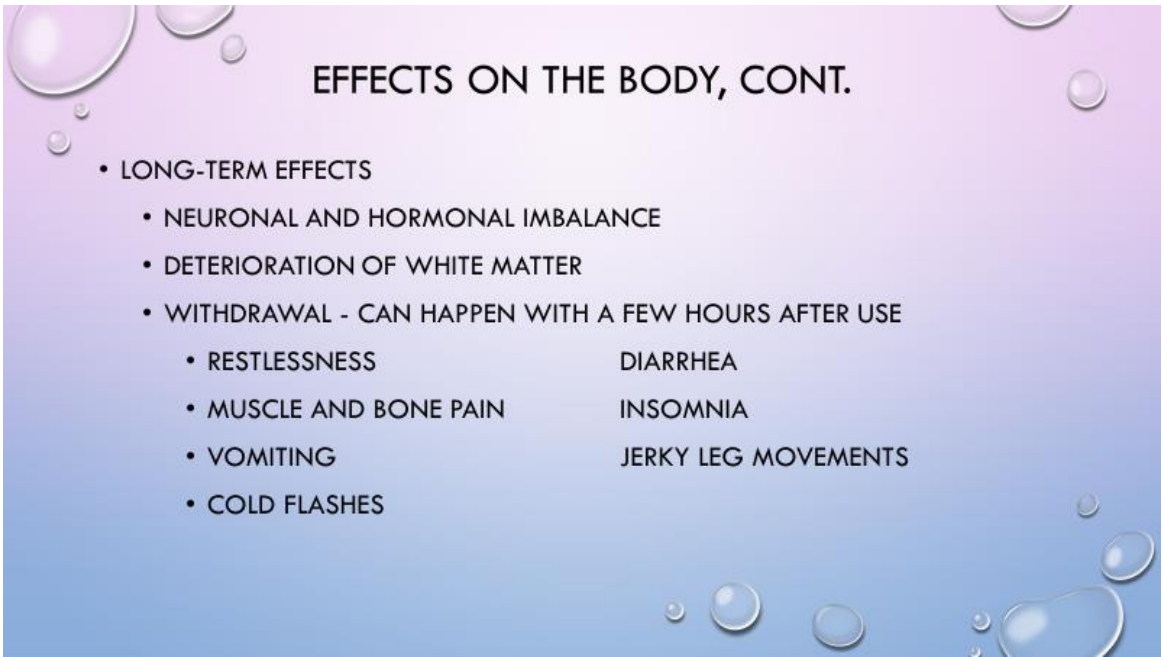
How do opiates affect the brain? The drug use elevates the CO2 levels in the blood stream leading to lower O2 levels causing the brain to be nonresponsive. There is a decrease in peripheral vascular resistance lowering the blood pressure. There is a dilation in the skin blood vessels which causes the skin to have a flushed look. Histamine is released due to the stress response and is responsible for the intense itching a person gets. The baroreceptor reflex is inhibited causing bradycardia. Also, the effects of acetylcholine are inhibited on the small intestines which delays gastric emptying time leading to constipation. (Jouria, 2017; Kakko et al, 2019; Labor, 2016; Satel & Lilienfeld, 2017; Schmidt et al, 2014; Suzuki & Kober, 2018; Tran et al, 2017)



Initially there is a high. This is considered a positive emotional state. There is an increase in dopamine, glutamine, and activity within the reward circuitry of the brain. Then there is a neurochemical rebound. This is after the experiences of the reward center does not go back to baseline, it actually goes below the baseline causing the low after the high. (Jouria, 2017; Kakko et al, 2019; Labor, 2016; Satel & Lilienfeld, 2017; Schmidt et al, 2014; Suzuki & Kober, 2018; Tran et al, 2017)

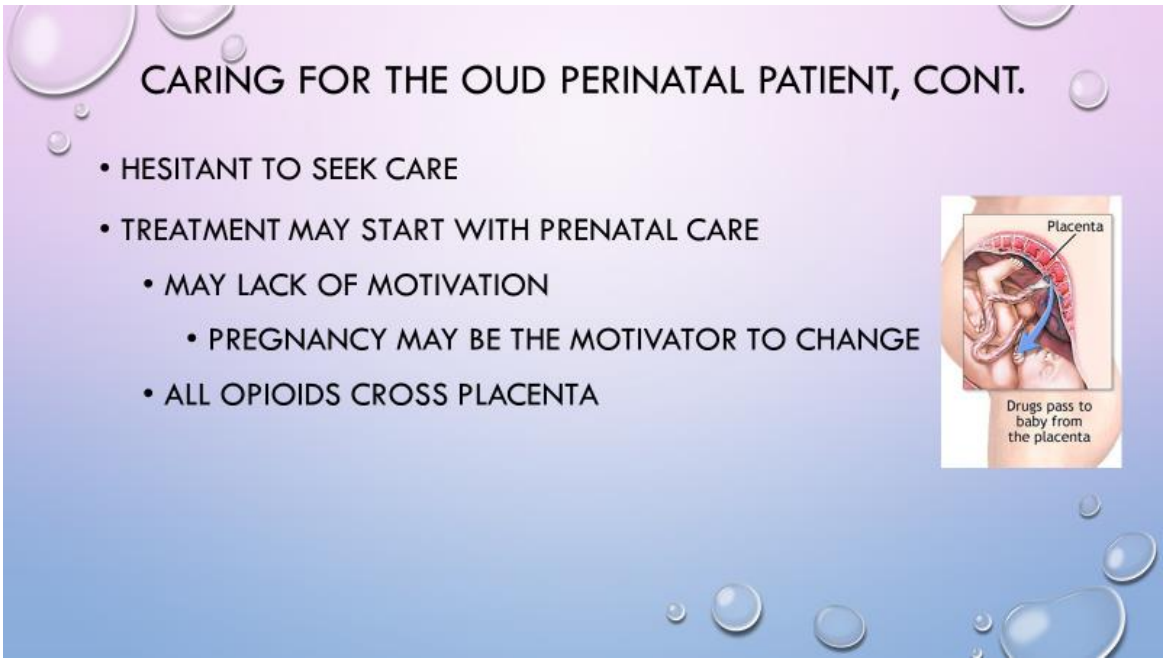


The short-term effects on the body. The opioid is converted to morphine in the brain, then the person gets a rush. Due to the vasodilation of the skin vessels, the skin gets warm and flushed. The person's mouth becomes dry and their extremities feel heavy. Because of histamine release, the person gets becomes extremely itchy. Then due to the increased CO2 levels and decreased O2 levels in the blood stream, the person becomes drowsy, mentally they become foggy. The patient can experience bradycardia and bradypnea which can lead to coma, permanent brain damage and possible death. ((Jouria, 2017; Kakko et al, 2019; Labor, 2016; Satel & Lilienfeld, 2017; Schmidt et al, 2014; Strathearn et al., 2019; Suzuki & Kober, 2018; Tran et al, 2017)

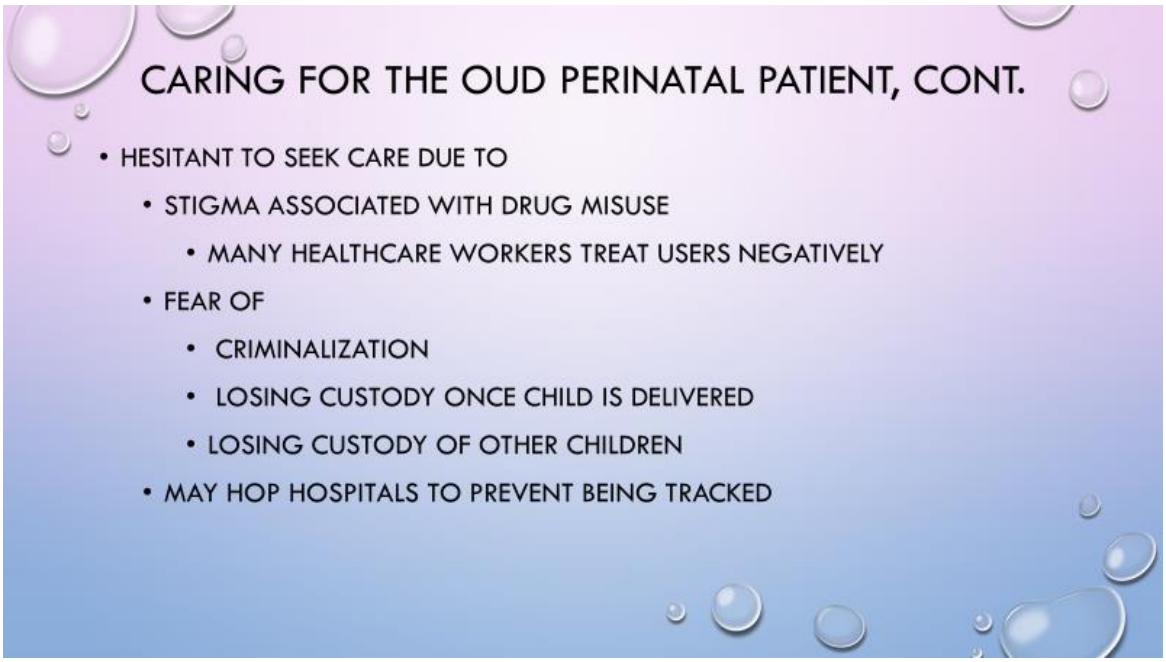


Long-term effects of opioid use on the body. There are physical changes that occur in the brain such as deterioration of white of matter. There are also physiological changes that occur which are neuronal and hormonal imbalances. These lead to altered behaviors in the substance misusing person. Withdrawal can happen within a few hours after use. Withdrawal symptoms include restlessness, muscle and bone pain, insomnia, diarrhea, vomiting, jerky leg movements, and cold flashes. (Jouria, 2017).

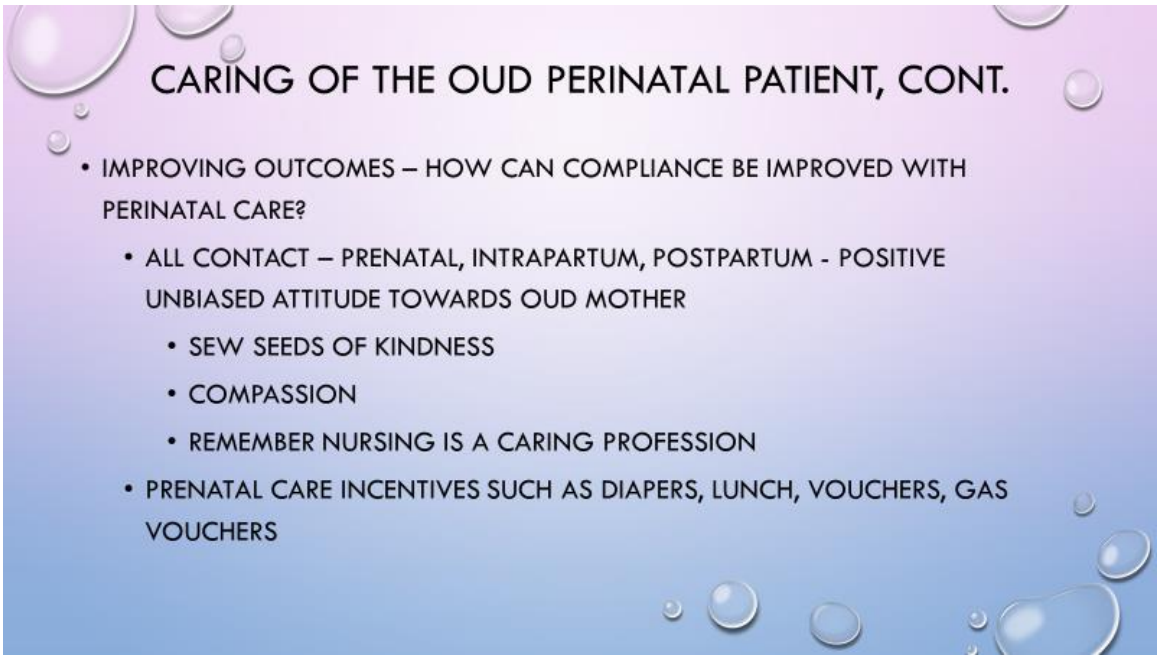

CARING FOR THE OUD PERINATAL PATIENT
• HTTPS://WWW.YOUTUBE.COM/WATCH?V=2PZ9MTM0YIQ



Opiate misusing pregnant women may be hesitant to seek care. Prenatal care is important to the wellbeing of the mother and fetus. Treatment may start with prenatal care. Many times, an individual who is using opioids may lack motivation to change their behavior. Pregnancy which is carrying another human being may be the motivation needed to seek help. All opioids cross the placenta and effects the fetus. (Alexander, 2017; Gessler et at, 2018; Holbrook 2015; Jouria, 2017; Kakko et al, 2019; Kelsey et al, 2017; Krans et al, 2016; Martin & Finlayson, 2015; Martin et al, 2019; Matlock et al, 2017; Peles, 2017; Staudt, 2018; Trans et al, 2017; Volkow et al, 2016; Zedler et al, 2016).

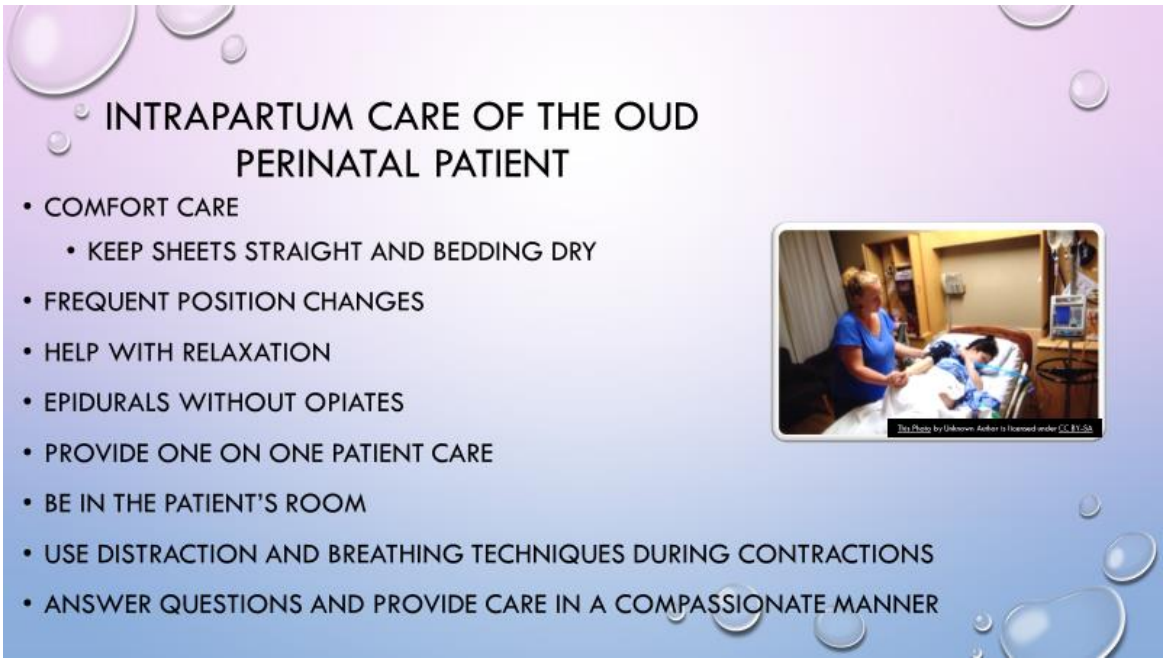


The main reasons why an opioid misusing pregnant woman may seek care is due to the stigma associated with drug misuse. Many healthcare workers treat drug misusing patients negatively. There is also a fear of criminalization for using illegal substances, the fear of losing custody of this child once it is born or the fear of losing custody of their other children. These fears are real so opiate misusing pregnant may hop hospitals to prevent being tracked. (Alexander, 2017; Gessler et at, 2018; Holbrook 2015; Jouria, 2017; Kakko et al, 2019; Kelsey et al, 2017; Krans et al, 2016; Martin & Finlayson, 2015; Martin et al, 2019; Matlock et al, 2017; Peles, 2017; Staudt, 2018; Trans et al, 2017; Volkow et al, 2016; Zedler et al, 2016).



What are some ways healthcare providers can improve outcomes? Compliance to prenatal care is imperative for improved outcomes. Ways that prenatal care compliance can improve is to offer care that is unbiased and positive. Offer incentive programs such diapers, lunch vouchers, or gas vouchers. (Alexander, 2017; Gessler et at, 2018; Holbrook 2015; Jouria, 2017; Kakko et al, 2019; Kelsey et al, 2017; Krans et al, 2016; Martin & Finlayson, 2015; Martin et al, 2019; Matlock et al, 2017; Peles, 2017; Staudt, 2018; Trans et al, 2017; Volkow et al, 2016; Zedler et al, 2016).

Complications associated with poor prenatal care and opiate misuse in include both the mom and fetus. These poor outcomes include: preterm labor and birth; low birth weight babies, fetal distress or demise; spontaneous abortions, neural tube defects, birth defects; maternal disparities such as hypertension, hepatitis b, hepatitis c, HIV, STI's, bacterial and viral infections, pneumonia, sepsis, malnutrition, and death. ((Alexander, 2017; Gessler et at, 2018; Holbrook 2015; Jouria, 2017; Kakko et al, 2019; Kelsey et al, 2017; Krans et al, 2016; Martin & Finlayson, 2015; Martin et al, 2019; Matlock et al, 2017; Peles, 2017; Staudt, 2018; Trans et al, 2017; Volkow et al, 2016; Zedler et al, 2016).



Intrapartum care for the OUD patients takes compassion and care. Comfort measure need to be maintained as these laboring patients cannot have narcotics for pain relief. Ways to help with comfort include keeping the sheets straight, under pads dry from amniotic fluid, and cool washcloths for her forehead. To assist with labor and the pains of labor frequent position changes and help with relaxation. Ways to help with relaxation include using distraction and breathing techniques. If possible, provide one on one patient care and stay in the patient's room to maintain comfort and support for the patient. Epidurals can be used but without narcotics. Be patient and understanding with the patient and answer questions honestly and in a compassionate manner

Even though abstinence would great, it may lead to worse health disparities for both the mom and fetus. Abrupt withdrawal can lead to seizures in the fetus and relapse for the mom. The goal is to improve outcomes. Medication assisted treatment (MAT), is one way to work towards this goal. So, the goal for MAT programs is for the pregnant woman to decrease opioid use, improve pregnancy outcomes, and stabilize the maternal lifestyle. (Alexander, 2017; Gessler et at, 2018; Holbrook 2015; Jouria, 2017; Kakko et al, 2019; Kelsey et al, 2017; Krans et al, 2016; Martin & Finlayson, 2015; Martin et al, 2019; Matlock et al, 2017; Peles, 2017; Staudt, 2018; Trans et al, 2017; Volkow et al, 2016; Zedler et al, 2016).

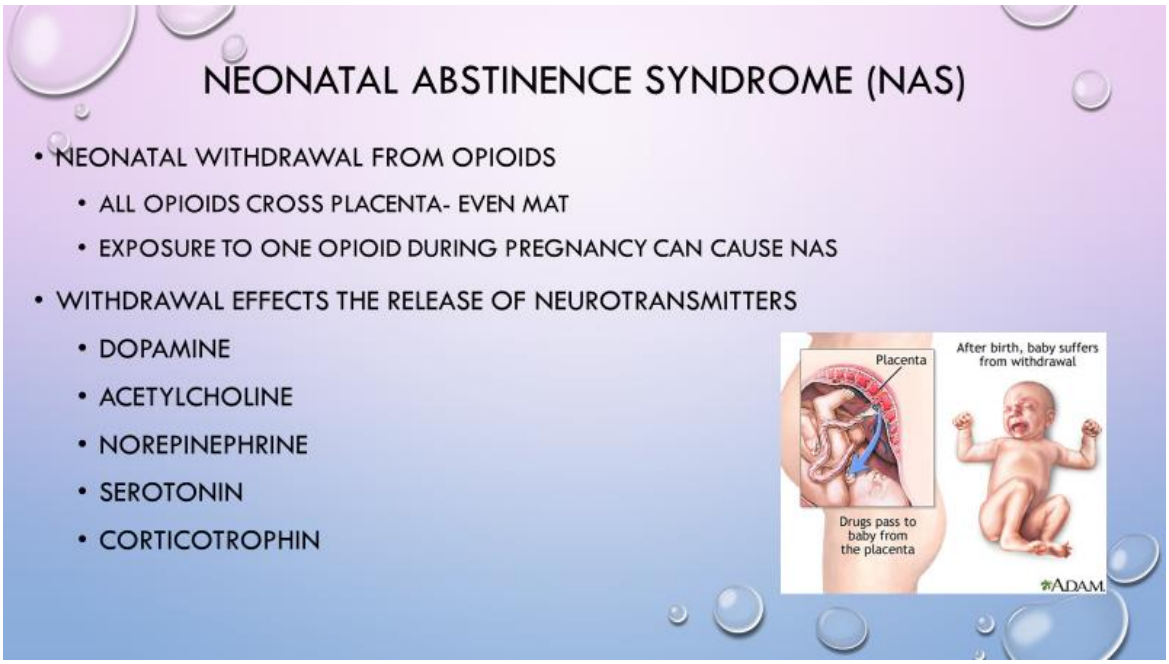
Treatment needs to not only include medication, but to have complete recovery, long-term behavior modification needs to be incorporated too. A combination of the two improves outcomes and decreased relapse compared to just MAT. (Alexander, 2017; Gessler et at, 2018; Holbrook 2015; Jouria, 2017; Kakko et al, 2019; Kelsey et al, 2017; Krans et al, 2016; Martin & Finlayson, 2015; Martin et al, 2019; Matlock et al, 2017; Peles, 2017; Staudt, 2018; Trans et al, 2017; Volkow et al, 2016; Zedler et al, 2016).

Methadone was the original “gold standard” of MAT for the opiate addicted pregnant woman. What methadone does is suppress the withdrawal symptoms which helps relieve cravings. One problem with methadone is that it needs to be dispensed daily through a specific treatment center. These centers may be hard for an individual to get to and may be in distant towns or cities. Methadone is an opioid agonist which means is binds to the opioid receptor and provides pain relief. There is a high rate of compliance if the patient can get the prescription but there is also a high rate of neonatal abstinence syndrome associated with Methadone. (Alexander, 2017; Gessler et at, 2018; Holbrook 2015; Jouria, 2017; Kakko et al, 2019; Kelsey et al, 2017; Krans et al, 2016; Martin & Finlayson, 2015; Martin et al, 2019; Matlock et al, 2017; Peles, 2017; Staudt, 2018; Trans et al, 2017; Volkow et al, 2016; Zedler et al, 2016).

Buprenorphine is being used more readily as MAT for pregnant women. Like Methadone, Buprenorphine suppressed withdrawal symptoms, relieving cravings, and is an opioid agonist. Unlike Methadone, Buprenorphine does not cross the placenta as readily decreasing the incidence and length of NAS. Also, is it easier to obtain Buprenorphine, the patient does not have to go to a treatment center daily for the medicine it can be prescribed by any physician treating the patient. (Holbrook, 2015; Jouria, 2017; Labor, 2016; Martine et al, 2019).

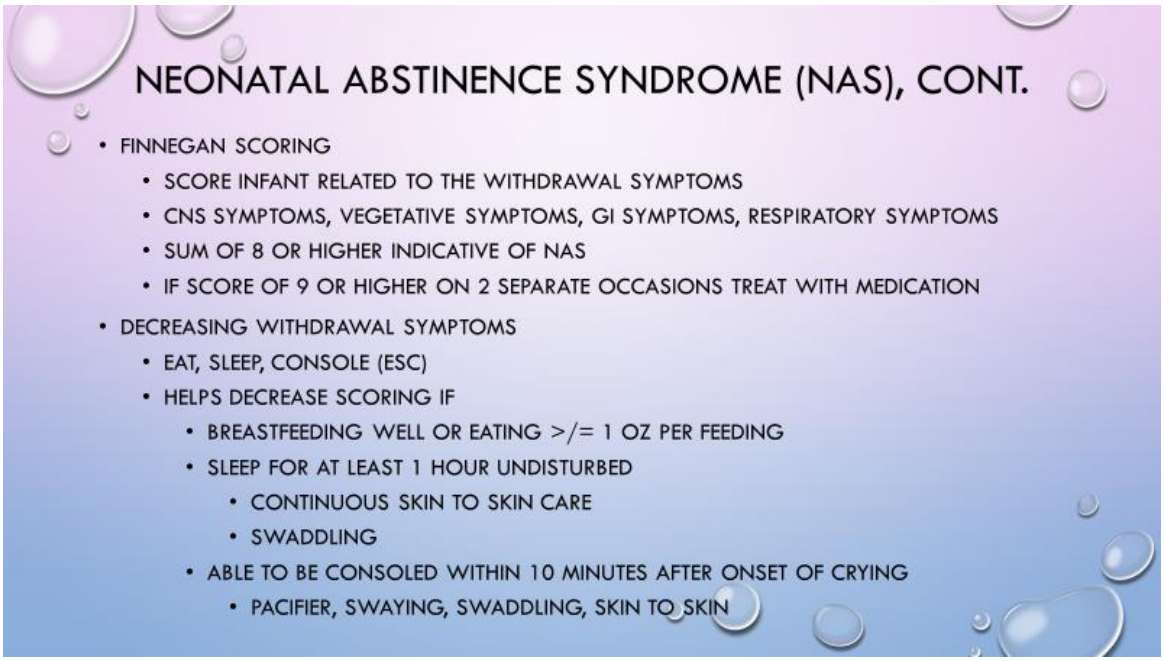
Behavior modification is key in recovery. Relapse can be triggered by exposure to environmental cues, emotional stressors, and whatever triggers the heightened activity in the brain stress circuits impairing executive functioning of the brain. Behavior modification can help decrease these triggers. Therapy such as a 12-step program which can be found in AA or NA helps. These programs help the mom to focus on a higher being, something that is greater than oneself. Teenagers are also at a greater need for behavior medication due to the immature, underdeveloped frontal lobe which leads to the greater deficit of functionality leading to higher incidences of risk behaviors. ((Alexander, 2017; Jouria, 2017; Labor, 2016; Mattocks et al, 2017; Staudt, 2018).

Continual support for the opioid misusing mother is imperative for continual recovery for both mom and the family unit. Continual support promotes personal responsibility and accountability. This provides a way to have healthy connections with others. The newborn staying with the mom provides her with a sense of greater than herself, she needs to care for her newborn. The longer the treatment the better the outcome. (Alexander, 2017; Jouria, 2017; Labor, 2016; Mattocks et al, 2017; Staudt, 2018).



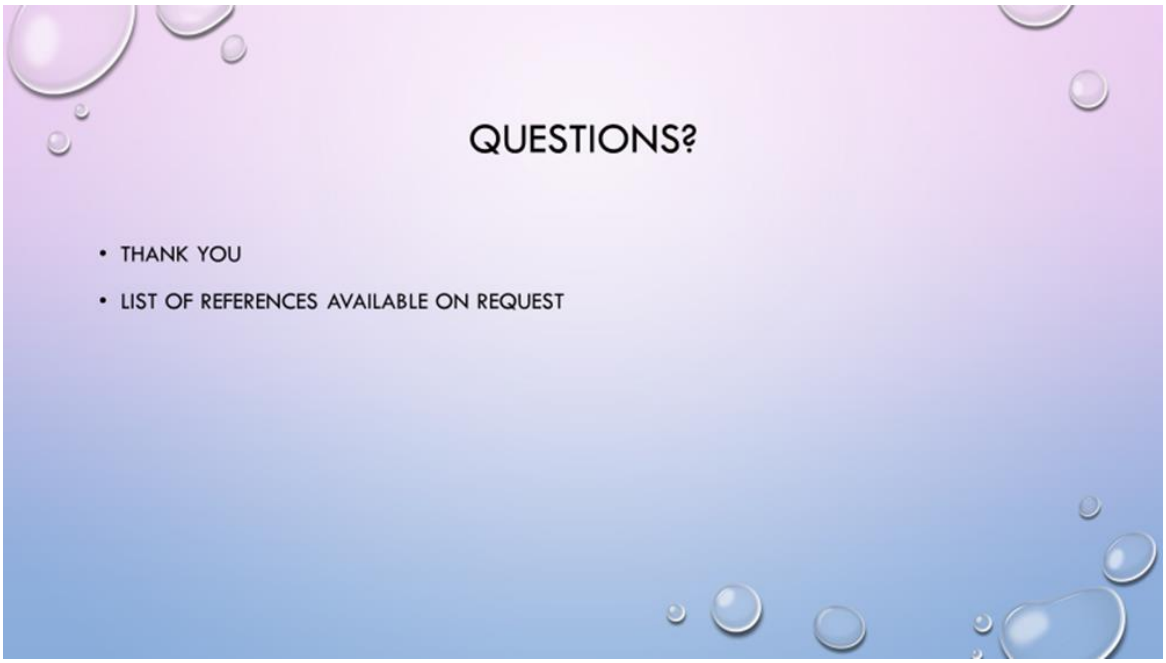
Neonatal abstinence syndrome or neonatal withdrawal syndrome is what healthcare has defined as a neonate withdrawing from opioids. All opioid cross the placenta, even MAT, so all fetus' need to rid their bodies of the opioid. Exposure to one opioid during pregnancy, can cause NAS. Withdrawal from opioids effects the release of a neurotransmitter, dopamine, acetylcholine, norepinephrine, serotonin, and corticotrophin. (Alexander, 2017; Gessler et at, 2018; Holbrook 2015; Jouria, 2017; Kakko et al, 2019; Kelsey et al, 2017; Krans et al, 2016; Martin & Finlayson, 2015; Martin et al, 2019; Matlock et al, 2017; Peles, 2017; Staudt, 2018; Trans et al, 2017; Volkow et al, 2016; Zedler et al, 2016).


NEONATAL ABSTINENCE SYNDROME (NAS), CONT.
WITHDRAWAL SYMPTOMS
• HYPERPHAGIA
• HYPERIRRITABILITY
• ANXIETY
• DIARRHEA
• VOMITING
WITHDRAWAL SYMPTOMS
• SWEATING
• HYPERTHERMIA
• TREMORS
• HYPERTENSION
• TACHYCARDIA
• SLEEP PROBLEMS



The eat, sleep, console (ESC) is another mechanism to help decrease the withdrawal symptoms of the newborn. What needs to occur is for the newborn to eat well either by breast or bottle feed greater than or equal to an ounce per feeding. The newborn needs to sleep for at least 1 hour undisturbed and this can be accomplished by either continuous skin to skin care or swaddling. The newborn also needs to be consoled within 10 minutes after onset of crying. This can occur with use of a pacifier, swaying, swaddling, or putting the newborn skin to skin. (Martins et al, 2019).

Medication treatment for the newborn are similar to the mother. Morphine was the typical drug of choice for the newborn. Morphine allowed for faster titration to reduce withdraw but many times needed an adjunctive medication. Methadone is showing shorter treatment time for the neonate and Buprenorphine is showing even shorter treatment times. (Martins et al, 2019).



Do you have any questions? Thank you for your time.

REFERENCES

- ADDICTION. IN *THE MERRIAM-WEBSTER.COM DICTIONARY*. RETRIEVED JANUARY 29, 2020, FROM HTTPS://WWW.MERRIAM-WEBSTER.COM/DICTIONARY/ADDICTION?SRC=SEARCH-DICT-BOX
- ALEXANDER, K. (2017). A CALL FOR COMPASSION. JOURNAL OF ADDICTIONS NURSING. 28(4). PP. 220-223. DOI:10.1097/JAN.0000000000000198
- GESSLER, L., TITUS-GLOVER, D., AND SHAYA, F. (2018). TREATMENT MODALITIES FOR PREGNANT WOMEN WITH OPIOID USE DISORDER. *THE LANCET*. 392(11). PP. 551. RETRIEVED FROM WALDEN UNIVERSITY DATABASE.
- HOLBROOK, A. (2015). METHADONE VERSUS BUPRENORPHINE FOR THE TREATMENT OF OPIOID ABUSE IN PREGNANCY: SCIENCE AND STIGMA. *THE AMERICAN JOURNAL OF DRUG AND ALCOHOL ABUSE*. *41*(5). PP. 371-373. DOI:10.3109/00952990.2015.1059625
- JOURIA, J. (2017). HEROIN ADDICTION AND THE OPIOID PANDEMIC. *CE4LESS*. RETRIEVED FROM HTTPS://CE4LESS.COM/HEROIN-ADDICTION-AND-THE-OPIOID-PANDEMIC-PSYCHOLOGY

REFERENCES

- KAKKO, J., ALHO, H., BALDACCHINO, A., MOLINA, R., NAVA, F., & SHAYA, G. (2019). CRAVING IN OPIOID USE DISORDER FROM NEUROBIOLOGY TO CLINICAL PRACTICE. *FRONTIERS IN PSYCHIATRY. 10*(592). PP. 1-12. DOI: 10.3389/FPSYT.2019.00592
- KELSEY, C., MEDEL, N., MULLINS, C., DALLAIRE, D., & FORESTELL, C. (2017). AN EXAMINATION OF CARE PRACTICES OF PREGNANT WOMEN INCARCERATED IN JAIL FACILITIES IN THE UNITED STATES. JOURNAL OF MATERNAL CHILD HEALTH. 21(6). PP. 1260-1266. DOI: 10.1007/S10995-016-2224-5
- KRANS, E., BOGEN, D., RICHARDSON, G., PARK, A., DUNN, S., & DAY, N. (2016). FACTORS ASSOCIATED WITH BUPRENORPHINE VERSUS METHADONE IN PREGNANCY. *JOURNAL OF SUBSTANCE ABUSE. 37*(4). PP. 550-557. DOI:10.1080/08897077.2016.1146649

REFERENCES

- LABOR, N. (2016). ADDICTION 101. RETRIEVED FROM HTTPS://WWW.YOUTUBE.COM/WATCH?V=U3YVTA-U2EG
- MARTIN, P. & FINLAYSON, A. (2015). OPIOID USE DISORDER DURING PREGNANCY IN TENNESSEE: EXPEDIENCY VS. SCIENCE. *THE AMERICAN JOURNAL OF DRUG AND ALCOHOL ABUSE. 41(5).* PP. 367-370 DOI: 10.3109/00952990.2015.1047502
- MARTINS, F., OPPOLZER, D., SANTOS, C., BARROSO, M. AND GALLARDO, E. (2019). OPIOID USE IN PREGNANT WOMEN AND NEONATAL ABSTINENCE SYNDROME-A REVIEW OF LITERATURE. *TOXICS 7(9).* PP.1-17. DOI:10.3390/TOXICS7010009
- MATTOCKS, K., CLARK, R., & WEINREB, L. (2017). INITIATION AND ENGAGEMENT WITH METHADONE TREATMENT AMONG PREGNANT AND POSTPARTUM WOMEN. *JOURNAL OF WOMEN'S HEALTH ISSUES.* 27(6). PP. 646-651. DOI:10.1016/J.WHI2017.05.002

REFERENCES

- PELES, E., SASON, A., SCHREIBER, S., & ADELSON, M. (2017). NEWBORN BIRTH-WEIGHT OF PREGNANT WOMEN ON METHADONE OR BUPRENORPHINE MAINTENANCE TREATMENT: A NATIONAL CONTINGENCY MANAGEMENT APPROACH TRIAL. *THE AMERICAN JOURNAL OF ADDICTION.* 26(2). DOI:10.1111/AJAD.12508
- SATEL, S., & LILIENFELD, S. (2017). IF ADDICT IS NOT BEST CONCEPTUALIZED A BRAIN DISEASE, THEN WHAT KIND OF DISEASE IS IT? *NEUROETHICS. 10*(1). PP. 19-24. DOI: 10.1007/S12152-016-9287
- SCHMIDT, A., BORGWARDT, S., GERBER, H., SCHMID, O., WISEBECK, G., RIECHER-ROSSLER, A., BENDFELDT, K., SMIESKOVA, R., LANG, U., RUBIA, K., AND WALTER, M. (2014). ALTERED PREFRONTAL CONNECTIVITY AFTER ACUTE HEROIN ADMINISTRATION DURING COGNITIVECONTROL. *INTERNATIONAL JOURNAL OF NEUROPSYCHOPHARMACOLOGY. 17*(9). PP. 1375-1385. DOI 10.1017/S1461145714000297

REFERENCES

- STAUDT, M. (2018). BEST PRACTICES FOR ENHANCING SUBSTANCE ABUSE TREATMENT RETENTION BY PREGNANT WOMEN. *BEST PRACTICES IN MENTAL HEALTH. 14*(2). PP. 48-63. RETRIEVED FROM WALDEN UNIVERSITY DATABASE.
- STRATHEARN, L., MERTENS, C., MAYES, L., RUTHERFORD, H., RAHJANS, P., XU, G., POTENZA,M., & KIM, S. (2019). PATHWAYS RELATING THENEUROBIOLOGY OF ATTACHMENT TO DRUG ADDICTION. *FRONTIERS IN PSYCHIATRY. 10(737)*.PP. 1-15. DOI: 10.3389/FPSYT.2019.00737
- SUZUKI, S., & KOBER, H. (2018). SUBSTANCE RELATED AND ADDICTIVE DISORDERS. IN *APA HANDBOOK OF PSYCHOPATHOLOGY: UNDERSTANDING, ASSESSING, AND TREATING ADULT MENTAL DISORDERS. 1*. (PP. 481–506). WASHINGTON, DC: AMERICAN PSYCHOLOGICAL ASSOCIATION. DOI: 10.1037/0000064-020

REFERENCES

- TRAN, T., GRIFFIN, B., STONE, R., VEST, K., & TODD, T. (2017). METHADONE, BUPRENORPHINE, AND NALTREXONE, FOR THE TREATMENT OF OPIOID USE DISORDER IN PREGNANT WOMEN. *PHARMACOTHERAPY. 37*(7). PP. 824-839. DOI: 10.1002/PHAR.1958
- VOLKOW, N., KOOB, G., & MCLELLAN, A. (2016). NEUROBIOLOGICAL ADVANCES FROM BRAIN DISEASE MODEL OF ADDICTION. *NEW ENGLAND JOURNAL OF MEDICINE. 4*(374). PP. 363-371. DOI:10.1056/NEJMRA1511480
- WAKEFIELD, J. (2017). ADDICTION AND THE CONCEPT OF DISORDER, PART 1: WHY ADDICTION IS A MEDICAL DISORDER. *NEUROETHICS. 10*(1). PP. 39-53. DOI: 10.1007/S12152-016- 9300-9
- ZEDLER, B., MANN, A., KIM, M., AMICK, H., JOYCE, A., MURRELLE, E., & JONES, H. (2016). BUPRENORPHINE COMPARED WITH METHADONE TO TREAT PREGNANT WOMEN WITH OPIOID USE DISORDERS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF SAFETY IN THE MOTHER, FETUS, AND CHILD. *JOURNAL OF ADDICTION. 111*(12). PP. 2115-2128. DOI: 10.1111/ADD.13462

Appendix N: Summary Evaluation of the Staff Education Project by Content Experts

Title of Project: Perinatal Staff Education on Opiate Use Disorder
Student: Theresa J. Engle

Thank you for completing the Summary Evaluation on my project. Please complete and send anonymously via interoffice mail to:

I. Content Expert Approach

   a. Please describe the effectiveness (or not) of this project in terms of communication, and desired outcomes etc.

   b. How do you feel about your involvement as a content expert member for this project?

   c. What aspects of the content expert process would you like to see improved?

II. There were outcome products involved in this project including an educational curriculum and pre/ posttest.

   a. Describe your involvement in participating in the development/approval of the products.

   b. Share how you might have liked to have participated in another way in developing/approving the products.

III. The role of the student was to be the leader of the project.

   a. As a leader how did the student direct you to meet the project goals?

   b. How did the leader support you in meeting the project goals?

IV. Please offer suggestions for improvement.

Moon/Aug 2020

Appendix O: Results of Summary Evaluations of the Staff Education Project by Content Experts

Title of Project: Perinatal Staff Education on Opiate Use Disorder

Student: Theresa Engle MSN, RNC-EFM

Student Instructions: Compile all comments made by the respondents in the table below and analyze and synthesize your findings.

This project was a team approach with the student as the team leader.

Please describe the effectiveness (or not) of this project as a team approach related to meetings, communication, and desired outcomes etc.

Evaluator A	Evaluator B	Evaluator C
The aspect of the team that Theresa incorporated for this project was using me as a content expert to review her curriculum and pretest/posttest. Once she completed her work, she had me review it and add comment if I thought it was relevant to the staff education project or not.	No meetings were scheduled. The team approach was more individual. The curriculum plan, objectives, and pretest/posttest were emailed to me with directions on how to complete and to email back to a different individual so it would be anonymous.	There were no scheduled meetings, I received a packet via email to review and provide suggestions on improvement. The project if completed properly could be beneficial to the nursing profession.

For each CE they each felt it was effective an effective approach to meet the outcomes.

b.How do you feel about your involvement as a stakeholder/committee member?

Evaluator A	Evaluator B	Evaluator C
I felt I was adequately involved as a stakeholder. Theresa did not require me to be involved in	I was able to participate by commenting on what I thought needed	I was able to make suggestions on changes to wording and flow of some of the questions. If they

anything but the review aspect of the program, which was perfect for my schedule.	improving on each of the forms.	are used, they should help with the understanding and stigma related to this topic.

Each CE was capable of participating by using their expertise to evaluate the program hence being involved.

c. What aspects of the committee process would you like to see improved?

Evaluator A	Evaluator B	Evaluator C
I was completely satisfied with the amount of time I was involved with this program. I can not think of any recommendations at this time	Clearer instructions on exactly needed to be resubmitted. I would like to see the final project.	Communication on what exactly needed returned.

The common thread from the CE was that my communication could have been more concise. This is an area I do struggle with and am diligently working on.

There were outcome products involved in this project including an educational curriculum for Perinatal nurses and pre/ posttest.

a. Describe your involvement in participating in the development/approval of the products.

Evaluator A	Evaluator B	Evaluator C
My involvement included reviewing the curriculum plan, pretest/posttest and ensuring the information was accurate and thorough for the population being addressed and	I was able to provide suggestions in the wording for both the curriculum and pretest/posttest.	There were some changes that needed made to decrease the stigma by the wording being used. Also, some other items I felt needed to not be a focus and

that the outcomes were being addressed. Theresa asked for comments on ways to approve the or changes that should occur. I did make suggestions and I believe her final product will address these.		other areas should be focused on more.

Each CE was adequately able to input their expert advise on what needed changed or reworded.

b. Share how you might have liked to have participated in another way in developing the products.

Evaluator A	Evaluator B	Evaluator C
I would not like to have participated any more.	The amount of participation I had was adequate.	I would like to have had more than a month to review these items.

The CEs felt the participation was adequate. One CE would have liked more time to review the products. In the future I would look at extending the time.

The role of the student was to be the team leader.

a. As a team leader how did the student direct the team to meet the project goals?

Evaluator A	Evaluator B	Evaluator C
My only suggestion would be clearer directions on which products Theresa needed turned back to her. I had to email her	The goal was to develop a staff education program, by helping with the curriculum, I feel Theresa did an	The goal was to develop a staff education, by helping with the curriculum I feel Communication could have been

a couple of times for clarification	adequate job. Communication could have been more clearer regarding the exact items that needed returned so she would not have had to email us stating that if you submitted certain forms, others needed submitted too.	precise. The exact items that needed returned could have been stated more clearly along with exactly when she needed these products back.

The common theme is again communication being more concise. I am working on this area of communication.

b. How did the leader support the team members in meeting the project goals?

Evaluator A	Evaluator B	Evaluator C
Theresa did send a few reminders out asking for the products to be emailed back to the person collecting the products for her	Emails were provided.	Theresa communicated via email and sent reminders to complete the evaluations.

Each CE appears to be satisfied with the means of communication to meet the project goals.

Please offer suggestions for improvement.

Evaluator A	Evaluator B	Evaluator C
None	Just communication as previously stated.	More concise communication.

The common theme for this area has been the common theme throughout the questionnaire. This is definitely an area I will continue to work on.

Summary

The comments from the CEs appear that they were satisfied with the input and way the project went. The only overwhelming theme is my communication. My communication needs to be clearer and more concise on what needed to be completed. Conciseness is an area I am currently working on and will continue to work on.

Moon/August19