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Examining Predictors of Attitudes and Knowledge of Registered Nurses and Nursing Students in Tennessee toward Pregnant and Perinatal Women with a Substance Use Disorder

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by

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ABSTRACT

Examining Predictors of Attitudes and Knowledge of Registered Nurses and Nursing Students in Tennessee toward Pregnant and Perinatal Women with a Substance Use Disorder

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Substance use disorders (SUDs) among pregnant and perinatal women continue to be a national public health crisis. Furthermore, nursing students and perinatal nurses have historically negative and punitive attitudes toward this vulnerable population of women. As nurses are primary care providers for pregnant and perinatal women, this is troublesome as perinatal patients express feeling stigmatized by nurses whom they should be able to trust. This contributes to the reluctance of women to seek needed medical and prenatal care. Tennessee was the first state to criminalize drug use in pregnancy and has higher neonatal abstinence syndrome (NAS) rates, which were more than 2 times the national average in 2017. The purpose of this descriptive cross-sectional non-experimental study was to examine how formal SUD nursing education, personal experiences, and participant characteristics predict attitudes and knowledge of nursing students and practicing perinatal nurses in Tennessee toward pregnant and perinatal women with an SUD. The sample consisted of 262 nursing students and 99 perinatal nurses across the west, middle, and eastern regions of Tennessee. A linear multiple regression showed that having a personal experience with a close friend with an SUD was predictive of improved knowledge scores of pregnant and perinatal SUDs. Independent samples t-tests were non-significant between formal SUD nursing education and attitudes and knowledge. Additionally, non-significant findings were seen between having a personal experience with a family member with

an SUD and attitudes and knowledge. The findings suggest that Tennessee nursing education efforts were not influential in positively affecting attitudes and knowledge scores toward pregnant and perinatal women with an SUD. Future studies focused on exploring various educational interventions to promote knowledge, improve attitudes, and empathy in nursing populations toward pregnant and perinatal women with an SUD are warranted.

DEDICATION

I dedicate this dissertation to the pregnant and perinatal women of our nation who are suffering from a substance use disorder.

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To my family and my friends, thank you for your support. I love you all dearly. To my Mom and Dad, thank you for instilling in me the importance of education and always encouraging me to pursue my dreams.

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Chapter 1. Introduction

Substance use disorders (SUDs) among pregnant and perinatal women continue to be a national health crisis (Forray, 2016). This is a monumental health problem, not just for pregnant and perinatal women, but also for fetal health and the United States' healthcare system at large. Financial, ethical, legal, and educational complexities compound this public health crisis (Bishop et al., 2017). Among pregnant and perinatal women specifically, factors such as mental health disorders, socioeconomic characteristics, history of abuse and trauma, lack of access to care, and geographic location are evident and contribute to SUDs among women of child-bearing age (Shaw et al., 2014; Cleveland & Gill, 2013). Women are at their highest risk of having a SUD between the ages of 18 to 29 years old and are at increased risk during their reproductive years between 18 and 44 years old (Prince & Ayers, 2020). Additionally, SUDs in pregnant and perinatal women are not well understood conceptually.

Profound disagreements in values, beliefs, and knowledge of substance and drug use continue among healthcare professionals, complicating the already problematic health crisis (Van Boekel et al., 2013; Marcellus, 2003). Although nurses have traditionally been seen as ethical and caring advocates for their patients, this may not be the case for perinatal nurses and nursing students caring for the vulnerable population of pregnant and perinatal women with an SUD. Current nursing literature reports a variety of negative nursing attitudes toward patients with SUDs including intolerance, anger, frustration and mistrust (Tierney, 2016). Similar findings are seen in perinatal nurses as well as medical providers in previous studies by Benoit et al. (2014), Raeside (2003), Selleck and Redding (1998), and Ludwig et al. (1995). These findings are markedly in opposition to traditional nursing attributes of trustworthiness and caring. While there is a lack of research regarding perinatal nurse attitudes specifically toward the marginalized

population of pregnant and perinatal women with an SUD, the published works indicate contradictory findings.

Research exploring the knowledge and attitudes of nursing students toward pregnant and perinatal women with an SUD is also limited. Lewis and Jarvis (2019) found biases and internal conflict in students who interacted with vulnerable maternal-child populations. Schuler and Horowitz (2020) found a 120-hour nursing student practicum experience to improve empathy and attitudes scores on the Jefferson Scale of Empathy and the Drug and Drug Problems Perceptions Questionnaire except for those students who cared for maternal SUD populations.

It is not known when or how attitudes toward pregnant and perinatal women with SUDs begin or evolve in nurses. Furthermore, it is not known if education regarding SUDs or personal experiences with SUDs alter or eliminate negative attitudes from nurses and nursing students. This study will explore the predictors of knowledge and attitudes toward pregnant and perinatal women with an SUD among nursing students and practicing perinatal registered nurses in Tennessee.

Identifying predictors that influence attitudes and knowledge of nursing students and current practicing perinatal registered nurses in Tennessee is an essential first step in improving nursing care of perinatal women with SUDs. Nurses, more than any other healthcare professional, have the most contact with pregnant and perinatal patients and their families, making them primary providers for supporting new mothers in learning to care for their newborns and transition into motherhood (Neary, 2018). Also, inexperienced nursing students may learn poor practices by modeling behaviors and language of nurses who have not been appropriately trained, thus perpetuating stigma, misinformation, and improper care of vulnerable

populations (Lewis & Jarvis, 2019). Therefore, attitudes and knowledge of nursing students would benefit from tailored educational interventions prior to their commencement into practice (Lewis & Jarvis, 2019).

Significance of Problem

Healthcare providers who work with maternal and perinatal populations have been unable to systematically define problematic substance use in pregnant and perinatal women (Benoit et al., 2014). Uncertain and vague guidelines regarding what defines substance abuse in pregnant and perinatal women, and which substances are detrimental to a fetus, further confound this public health crisis. For example, strong evidence exists regarding the harmful effects of smoking and alcohol use while pregnant (Bishop et al., 2017). However, the maternal or fetal effects of moderate alcohol intake or use of other substances, such as cannabis are unknown (Bishop et al., 2017). Furthermore, it is challenging to ascertain definitive data of the affect of certain substances on this population of women (Bishop et al., 2017).

Ironically, the general public's perception is that illicit drugs are most harmful for a developing fetus, while studies indicate legal substances (such as alcohol and tobacco) are associated with greater infant harm (Marcellus, 2003; Ross et al., 2015). Such paradoxical contradictions complicate the issue (Marcellus, 2003). Furthermore, a randomized controlled trial is impossible because it would require pregnant women in the study to take drugs or substances that are presumed to harm fetuses (Bishop et al., 2017). It is also difficult to attribute outcomes to a specific drug or substance when many women may be using multiple illicit substances simultaneously while also facing poverty, violence, and other risk factors related to poorer health outcomes (Bishop et al., 2017).

Furthermore, pregnant and perinatal women with an SUD fail to live up to societal expectations and gender roles by increasing risk toward fetal health when engaging in risky behaviors such as substance or drug use (Stengel, 2014). Pregnant and perinatal women with an SUD defy the expectation of femininity and gender expectations of motherhood (Stengel, 2014). Healthcare providers often equate a pregnant or perinatal woman with an SUD as one who chooses to abuse, is deviant, and irresponsible to societal expectations of the motherhood and caregiver roles, leading society to deem the mother unfit to parent (Benoit et al., 2014; Stengel, 2014, Stone, 2015). Nurses, as members of society, share several of these same views toward pregnant and perinatal women with an SUD (Neary, 2018).

Infants born to mothers who are suffering from an SUD and found to be drug dependent, colloquially termed 'NAS babies' (Neonatal Abstinence Syndrome) often suffer as a result of poor prenatal care, as pregnant and vulnerable mothers avoid care in an attempt to avoid scrutiny, judgment, and condemnation by healthcare providers and society. The consequences of this avoidance often result in infants who have increased medical and psychological needs, which in turn increases the burden of care for our healthcare system. Additionally, untreated SUDs often coincide with poor nutrition and prenatal care, increasing the risk of various obstetric complications and disrupted development in the fetus (Ross et al., 2015). This adds to the burden of care for nurses as primary healthcare providers for these vulnerable populations, possibly further contributing to negative and punitive attitudes toward pregnant and perinatal women with an SUD.

Frustratingly, policies addressing substance and drug use often assume any substance or drug use during pregnancy is harmful and establish harsh legal penalties, which can discourage pregnant and perinatal women who need treatment from receiving care (Bishop et al., 2017;

Stone, 2015). Punitive policies create barriers to other services that could improve the well-being of pregnant and perinatal women and their families (Bishop et al., 2017). Examining predictors of attitudes and knowledge of Tennessee nurse populations toward this population is paramount to design and influence diagnosis, treatment, education and rehabilitation services for patients.

Statistics and National Rates

The prevalence of drug use in pregnancy is not well quantified, due to multiple factors including a lack of valid and reliable screening instruments, limited cooperation between healthcare clinicians and scientists, and consensus as to whom should be tested and how the results should be used in the care of the patient (Price et al., 2018). Moreover, inconsistent testing methods across various regions and locations combined with unreliable self-reporting render it nearly impossible to accurately quantify the numbers of affected women, infants, and children (Price et al., 2018).

Nevertheless, data from the 2019 National Survey on Drug Use and Health (NSDUH) found 5.8% of pregnant women used illicit drugs, 9.6% used tobacco products, 5.4 % used marijuana, and 9.5% used alcohol in the previous month (SAMSHA, 2019). Relative to opiate and other illicit drug use, there was a five-fold increase in the proportion of newborns with Neonatal Abstinence Syndrome (NAS) from 2004 to 2014, when an estimated 32,000 newborns were born with NAS/neonatal opioid withdrawal syndrome (NOWS) (National Institute on Drug Abuse, 2019). This rate is equivalent to a newborn suffering from NOWS or NAS born every 15 minutes in the United States (National Institute of Drug Abuse, 2019). In Tennessee, the NAS rate for TennCare enrollees was much higher at 27.3 newborns for every 1000 births in 2017 (Division of TennCare, 2017). Additionally, substance abuse during pregnancy is associated with a six-fold increase in the risk of puerperal morbidity, intrauterine growth restriction of the fetus

(IUGR), third trimester bleeding, preterm birth, malpresentation of fetus, depressed Apgar scores, meconium-stained fluid, and newborns with small for gestational age (SGA) weights (Keegan et al., 2010).

The most recent data estimates the total national costs related to NAS at approximately $572.7 million (Strahan et al., 2019) in 2016. Undoubtedly, these statistics and national costs have continued to rise, causing major health concerns for pregnant and perinatal women, their children, the future of the U.S. healthcare system, and global society. These statistics demonstrate both the medical and economic effect of this women's health crisis.

Attitudes of Healthcare Professionals

Van Boekel et al. (2013), in a systematic review, concluded that the attitudes of healthcare professionals toward those who use drugs are strongly negative. Other studies exploring registered nurses' attitudes about patients with SUDs reveal an overarching culture of negativity (Lewis & Jarvis, 2019). As previously mentioned, there is scarce research specifically exploring perinatal nurse and nursing student attitudes and knowledge toward substance use in pregnancy or the perinatal period. Moreover, available research on nursing student's attitudes and knowledge are often assessed only *after* clinical exposure to pregnant and perinatal populations with SUDs. Of results available, findings are often contradictory and inconsistent.

Positive Attitudes

Scant findings have supported that nursing program curricula that include education on drug or substance use may improve attitudes toward pregnant and perinatal populations (Ligon, 2009; Selleck & Redding, 1998). Selleck and Redding (1998) concluded that perinatal nurses demonstrated increased knowledge and more positive attitudes if substance abuse information was included in their nursing curricula. Furthermore, having a personal or family history of

substance abuse positively correlated with increased knowledge and more positive attitudes. Ligon (2009) found that an educational intervention with Bachelor of Science in Nursing (BSN) students improved attitudes toward pregnant and perinatal with an SUD. Neary (2018) found moderately positive nursing attitudes toward perinatal women who suffered from a SUD.

Negative Attitudes

Raeside (2003) found that attitudes of nurses and midwives toward mothers affected by substance abuse were generally negative and judgmental, and their knowledge base regarding SUDs was low. Furthermore, the more experienced nurses had more negative attitudes than nurses and midwives with less neonatal nursing experience. Raeside (2003) reported that formal neonatal education did not appear to have an effect on knowledge or attitudes; however, noted that in-service education opportunities on substance abuse may have a mildly positive effect. Ludwig et al. (1995) found negative attitudes from healthcare workers primarily toward the mother who used cocaine during her pregnancy as opposed to negative attitudes toward the cocaine-exposed infant. Nurses expressed anger and judgmental attitudes, while more positive attitudes were found in clinical or administrative positions (Ludwig et al., 1995).

Opportunity to Improve Attitudes

Research demonstrates that enhancing prenatal care providers' experience and training with psychosocial risk factors can be linked to wider efforts to establish a coordinated system of prenatal care methods involving multiple providers across various health-related disciplines (Krans et al., 2014). Such disciplines may include nursing, social work, and medicine. Integrating the expertise of interprofessional teams improves both the efficiency and effectiveness of prenatal care delivery to high risk and vulnerable perinatal populations such as pregnant and perinatal women with an SUD (Krans et al., 2014). Van Boekel et al. (2013) argue

that enhanced educational interventions are needed, and specific education is needed for healthcare professionals to improve negative attitudes and patient care. Furthermore, Van Boekel et al. (2013) conclude that research on best practices to implement education and training are essential.

Uniqueness of Perinatal Drug Use

Stigma, judgment, and discrimination toward this population have been consistently witnessed, likely due to poor outcomes for both the infant and the mother (Stengel, 2014). The stigma linked to pregnant and perinatal substance use prompts a host of negative social, material, and psychological marginalization that have unfavorable consequences for both the women and infants (Stengel, 2014). There is no evidence that stigma and social condemnation are effective in reducing the number of women who use substances or drugs (Stuber et al., 2008, as cited in Stengel, 2014). Adversely, the lack of comprehension and acceptance related to SUDs as a true medical condition further undermines an understanding from the perspective of healthcare professionals and society. This inaccurate portrayal of SUDs has added another level of burden to this population, with potential legal ramifications. Additionally, mothers who have an SUD report that they feel judged and that nurses do not recognize their positive traits and forget they are still the mother of the NAS child (Cleveland & Gill, 2013). Furthermore, perinatal women with an SUD report higher levels of stress compared to those who do not suffer from an SUD (Salmon et al., 2000).

Moreover, pregnant and perinatal women suffering from SUDs are exposed to a "double oppression," along with enhanced stigma, compared to non-perinatal persons (Nordenfors & Hojer, 2017). Pregnant and perinatal women with SUDs may not behave according to commonly accepted or expected societal gender characteristics of what a "good mother" should be

(Marcellus, 2003; Nordenfors & Hojer, 2017). Using substances while pregnant therefore forms a sharp contrast from the expectation of a caring, nurturing, and protective mother and defies femininity standards (Nordenfors & Hojer, 2017; Stengel, 2014). The responsibility for children is strongly associated and connected to women and mothers while substance abuse and addiction are looked upon as deviant behavior (Nordenfors & Hojer, 2017).

Stigmatization and risk of criminalization often cause women to hide drug use and avoid prenatal care (Nordenfors & Hojer, 2017). Delaying prenatal care places both the woman and fetus at risk of poor birth outcomes (Lander et al., 2015). Furthermore, when delaying substance abuse treatment, there is an increase in the duration and intensity of neonatal and maternal exposure to harmful substances (Lander et al., 2015). The fear of losing custody of children may outweigh a woman's choice to seek treatment. These women are challenged to resist the power of such strong stigmatism, whether actual or perceived (Stengel, 2014). Retention and continuation of prenatal care in pregnant and perinatal women with an SUD is essential in the solution and management of this problem (Lander et al., 2015).

Healthcare professionals must recognize the vulnerability of these women, while enhancing available services to treat them effectively in a nonjudgmental manner. It is advantageous for healthcare professionals to intervene while the woman is pregnant, especially as motivation to seek treatment may be at its highest. The priority of care is to minimize harm and to implement strategies reducing risks, including acute and long-term adverse effects on the woman and newborn (Nel & Geraghty, 2017).

Tennessee Criminalization of Pregnancy

In the United States, policies and legal implications regarding substance or drug use have often been mandated without appropriate consideration of the likely negative and eventual

outcomes of criminalization (Bishop et al., 2017). Tennessee was the first state to criminalize drug use in pregnancy. In July 2014, SB 1391/HB 1295 had an enormous affect on women who were using drugs or substances during pregnancy. The legislation was commonly described as the "fetal assault law" because many people believed this law would cause women using substances during their pregnancy to stop out of fear of criminalization. Additionally, it was believed that children and infants would be protected from the harsh effects of drug use through placental and maternal transfusion. As legislated, a woman could be prosecuted for assault due to her illegal use of a narcotic drug while pregnant or if her baby were born dependent to or harmed by the chosen drug or substance (Tennessee General Assembly, n.d.). During this time, healthcare professionals found that women subsequently avoided prenatal care, were at increased risk to self-abort their pregnancies, and SUDs likely worsened due to a lack of medical care (Crockett & Pieklo, 2014). The fetal assault law expired on July 1, 2016. While healthcare professionals may have been relieved the law expired, many legislators have attempted to re-enact a law of similar magnitude and intent to the fetal assault law (Ellison, 2019).

Without question, drug use in pregnancy is a polarizing issue with two opposing legal viewpoints (Lester et al., 2004). The liberal perspective calls for people to look at drug use a public health problem requiring compassion and understanding (Lester et al., 2004). The opposing view holds that drug use in pregnancy is a voluntary act that demonstrates significant neglect of the rights of a fetus, deserving legal consequences (Lester et al., 2004).

Additionally, it is essential to understand that public chapter 820 remains in effect. Public chapter 820 in the state of Tennessee makes NAS a reportable condition to the Tennessee state health department. However, in Tennessee, healthcare providers do not report these cases to law enforcement (Tennessee Department of Health, 2020). Currently, physicians are seeking policy

solutions and processes to deconstruct the stigmatization currently seen toward pregnant and perinatal women with an SUD (Benoit et al., 2014). Additionally, the National Alliance for Medication Assisted Recovery, (NAMA), a patients' rights advocacy group, has expressed concerns about policies which criminalize mothers with SUDs (Beyerstein, 2014). By targeting the individual struggles of pregnant and perinatal women, attention is diverted away from social inequity; blaming expectant mothers for harm to their children regardless of social context is a way of excusing government and society from liability (Marcellus, 2003). Professionals working in health and even child welfare systems report feeling overwhelmed by the complexity of caring for pregnant and perinatal women suffering from SUDs (Marcellus, 2003).

Due to the uniqueness of Tennessee being the only state to criminalize drug use in pregnancy, it is reasonable to discern that Tennessee nursing students and perinatal nurses may have unique attitudes and knowledge compared to other nursing populations. For that reason, this study will explicitly examine knowledge and attitudes of perinatal nurses and students who go to school or care for pregnant and perinatal SUD populations in Tennessee.

Problem

There is a paucity of research examining predictors of nurses' and nursing students' attitudes and knowledge toward this vulnerable population of pregnant and perinatal women. The literature reveals contradictory results related to attitudes and knowledge in nursing populations toward pregnant and perinatal women with an SUD. Additionally, in regard to nursing students, available research often has an emphasis on student attitudes only after clinical exposure with this population. Additionally, evidence reveals negative and punitive attitudes toward pregnant and perinatal women with SUDs in nursing populations. There is a need to examine predictors of knowledge and attitudes in Tennessee nursing populations so that education efforts can be

enhanced, and perhaps over time, attitudes may improve and positively affect the care of pregnant and perinatal SUD patients and their families.

Purpose and Aim

Purpose

The purpose of this study was to examine how formal SUD nursing education, personal experiences, and participant characteristics predict attitudes and knowledge of nursing students and practicing perinatal nurses in Tennessee toward pregnant and perinatal women with SUDs.

Aim

The aim of this study is to better understand factors affecting the attitudes and knowledge in nursing students and perinatal registered nurses in Tennessee toward pregnant and perinatal women with SUDs.

Research Method

This study used a convenience, non-probability sample. An online survey method was used to collect data from both nursing populations. Target populations were currently practicing perinatal nurses and pre-licensure Tennessee nursing students (Associate Degree in Nursing and BSN programs). A descriptive cross-sectional, non-experimental design study was intended to evaluate the predictors and select demographic variables regarding knowledge and attitude scores toward pregnant and perinatal women with SUDs. A multiple linear regression was used to examine the combination of predictor variables on attitude and knowledge scores in practicing perinatal registered nurses and nursing students in Tennessee.

Instrumentation

The Attitudes about Drug Abuse in Pregnancy (AADAP) questionnaire was used to assess attitudes and knowledge in both nursing populations. The AADAP questionnaire is a

psychometrically valid and reliable instrument. The AADAP was originally created by Coles et al. in 1992 though it was not published or psychometrically assessed at this time. Selleck and Redding (1998) later adapted the questionnaire and ensured psychometric properties. The revised tool is a 34-item, 3-factor scale measuring both knowledge (20 items, 2 scales) and attitudes (14 items, 1 scale). The knowledge section of the AADAP questionnaire invites the participant to answer true, false, or not sure for each question. Higher scores are indicative of more advanced knowledge. Examples of knowledge assessment include statements such as "Making a pregnant woman feel guilty about her substance abuse is an effective way of stopping alcohol and drug use and Black women are more likely to use drugs and alcohol than White women." The 14 attitude questions are rated on a 5-point Likert scale. Scores can range between 14 and 70. Higher scores indicate more positive attitudes, while lower scores indicate punitive or negative attitudes (Selleck & Redding, 1998). Examples of attitude statements include "The best thing to do for drug-exposed babies is to remove them from the homes of their birth mothers" and "women who abuse drugs and alcohol during pregnancy are more concerned with themselves than with their babies." Appendix A includes the AADAP questionnaire, and Appendix B includes permission for its use from Dr. Selleck and Dr. Redding.

Research Questions

1. Does formal SUD nursing education predict knowledge in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?
2. Does formal SUD nursing education predict attitudes in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?

3. Do personal experiences with SUDs predict knowledge in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?
4. Do personal experiences with SUDs predict attitudes in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?

Hypotheses

1. Hypothesis I predicted that nursing students and perinatal nurses who have formal SUD nursing education will have significantly different knowledge than those who do not. Ho: Formal SUD nursing education does not predict knowledge toward pregnant and perinatal women with an SUD. H1: Formal SUD nursing education is predictive of knowledge toward pregnant and perinatal women with an SUD.
2. Hypothesis II predicted nursing students and perinatal nurses who have formal SUD nursing education will have significantly different attitudes than those who do not. Ho: Formal SUD nursing education does not predict attitudes toward pregnant and perinatal women with an SUD. H1: Formal SUD nursing education predicts attitudes toward pregnant and perinatal women with an SUD.
3. Hypothesis III predicted nursing students and perinatal nurses who have personal experiences with SUDs will have significantly different knowledge than those who do not. Ho: Personal experiences with SUDs do not predict knowledge toward pregnant and perinatal women with an SUD. H1: Personal experiences with SUDs predict knowledge toward pregnant and perinatal women with an SUD.

4. Hypothesis IV predicted nursing students and perinatal nurses who have personal experiences with SUDs will have significantly different attitudes than those who do not. Ho: Personal experiences with SUDs do not predict attitudes toward pregnant and perinatal women with an SUD. H1: Personal experiences with SUDs predict attitudes toward pregnant and perinatal women with an SUD.

Theoretical Framework

Thompson's (1998) Personal, Culture, and Society (PCS) model adapted by Harling and Turner (2012) (Appendix C) was the theoretical framework that supported this study. Thompson (1998) created the original PCS framework to reflect anti-discriminatory practices. Thompson (1998) proposed the three concentric circles to represent personal, cultural, and structural levels. Harling and Turner (2012), in their grounded theory approach, found this same model valuable in explaining the relationships which influence nursing student attitude formation. Harling and Turner (2012) then linked these same three concentric circles to nursing practice environment and nurse education. This adapted PCS model reflects the relationships of data found in Harling and Turner's (2012) grounded theory approach. This same model was used to guide this study as it demonstrates the relationships among society, culture, and individual influences that affect attitude development. Importantly, this study evaluated two components of this model: individual influences and nursing education.

Harling and Turner (2012) posit it is critical for researchers to identify factors that influence nursing student attitude formation toward drug use. Harling and Turner (2012) state this insight is imperative for the foundation of educational approaches to challenge the negative attitudes that exist in nursing populations toward those with SUDs.

Societal Influences

Harling and Turner (2012) found that their data related to societal influences were a direct parallel to the structural level in Thompson's original PCS model. Harling & Turner (2012) concluded that societal influences affect attitude formation. Harling and Turner (2012) agreed with Smith and Mackie's (2000) findings that one's global society will affect one's attitudes. Harling and Turner (2012) also suggest that media and the "moral panics associated with drug use" (p. 238) can have a significant effect on one's attitudes toward substance use. For example, since Tennessee was the first state to criminalize drug use in pregnancy, various news outlets such as *ReWire News* covered this information (Crockett & Pieklo, 2014). This media coverage may have affected students' and nurses' attitudes toward this population based on the media's description.

Cultural Influences

Thompson (1998) defines the cultural component of the PCS model as a set of patterns shared across particular groups of individuals. Harling and Turner (2012) in their adapted PCS model equate students' experiences in their local communities and social networks as cultural influences contributory to attitude development. Specifically, Harling and Turner's (2012) study found that students' community experiences affect attitude formation. Harling and Turner (2012) provide evidence of this in their data. For example, participants in their study discussed "coming across drugs" in their local community or witnessing illicit drug use in a more narrowly defined group of friends or family (p. 238). Additionally, participants noted how they heard children in their neighborhoods discussing their parents' drug use. Another participant mentioned she could have followed the same track as her drug-using friends but chose not to. Harling and Turner (2012) conclude one's cultural influences are a significant factor in attitude development.

Individual Influences

Harling and Turner (2012) did not specifically ask participants about their personal use of illicit drugs due to concerns about subject privacy and confidentiality. Authors felt this was unethical and unprofessional as focus group interviews were the method of data collection. With that said, participants willingly shared their individual experiences (Harling & Turner, 2012). For example, when discussing with nursing students where they think attitudes come from, a student concluded that they come from "experiences yourself, people you see and people you know…" (p. 239). Other participants willingly shared personal experiences and stated they directly influenced their attitudes toward drug use (Harling & Turner, 2012). Authors reported that personal experiences influenced student attitudes toward illicit drug use (Harling & Turner, 2012).

Practice Environment

It is important to note that practice environment contributes to how students view SUDs. Nursing students gain exposure to SUDs in the clinical environment and are affected by their experiences. For example, Harling and Turner (2012) found that nursing students felt patients with drug abuse issues appeared to be "considered as an inconvenient drain of resources by some healthcare staff" (p. 239). Nursing students in this study witnessed negative, punitive, and stigmatizing attitudes and treatment toward persons with SUDs in the practice environment.

Nurse Education

Harling and Turner (2012) found nursing education to be a distinct classification of data. It became evident that nursing students were seldom receiving thorough, informed nursing education regarding substance misuse and SUDs (Harling & Turner, 2012). Authors had 61 students complete a questionnaire related to amount and hours of education on substance misuse.

Harling and Turner (2012) concluded that of the students who completed the surveys, only 18% felt the topic of education related to substance misuse was covered in enough detail (p. 239). The need for increased education for nursing students related to SUDs was evident.

Definitions of Key Terms

Pregnant Woman

Conceptual: A woman who has an ovum that has been fertilized by a sperm cell.

Operational: A positive urine, positive serum pregnancy test, or ultrasound by a healthcare provider.

Perinatal Woman

Conceptual: A woman who has a completed pregnancy of approximately 22 weeks gestation until approximately 7 days after birth (WHO, 2020).

Operational: A woman who has medical records demonstrating gestational age or date of delivery until 7 days post birth.

Practicing Perinatal Registered Nurse

Conceptual: Nurses who are specialized to care for pregnant, perinatal, and infant populations.

Operational: Respondents will identify as a nurse working in antepartum, intrapartum, labor and delivery, postpartum, mother/baby, maternal/maternity, obstetrical care office, Neonatal Intensive Care Unit (NICU), well-baby nursery, special care nursery, emergency obstetrical care, community perinatal program or related units.

Pre-Licensure Nursing Student

Conceptual: Nursing student who is in a pre-licensure accredited nursing program in Tennessee. RN-BSN students would not be considered traditional nursing students.

Operational: Respondents who self-identify on demographic questionnaire/meet inclusion criteria. Respondents chose if they were in either a pre-licensure Associate of Science in Nursing or Bachelor of Science in Nursing program.

Substance Use Disorder (SUD)

Conceptual: The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) provides criteria for diagnosing SUDs such as Alcohol Use Disorder, Opioid Use Disorder, etc. as "The essential feature of a substance use disorder is a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual continues using the substance despite significant substance-related problems" (APA, 2013).

Operational: Positive drug screen during antepartum, intrapartum, or postpartum period through either maternal self-reporting or other positive diagnostic screening. A positive drug screen in a newborn directly correlated to maternal usage as opposed to extrauterine administration by healthcare staff.

SUD Knowledge

Conceptual: Professional nurse and student knowledge of SUDs in pregnant and perinatal women.

Operational: Knowledge score derived from questions and statements on the AADAP questionnaire, self-sought education, and nursing curricula education related to drug or substance use in either nursing clinical, didactic, or elective course.

Attitudes

Conceptual: Feelings, thoughts, and mindsets influenced by one's culture and personal views. Attitudes can be influenced by a variety of factors such as one's past experiences, knowledge of the problem and population, and one's general beliefs (Selleck & Redding, 1998).

Harling and Turner (2012) define attitudes as cited by Smith and Mackie (2000) that include three components to attitudes: cognitive, affective, and behavioral. Harling and Turner (2012) state the cognitive element relates to facts or beliefs that a person has about a certain object or issue. Further those beliefs are not always based on a balanced view and the opinions of others and society can be an important factor in attitude formation (Harling & Turner, 2012). The second component is the affective component, where the person assigns either a positive or negative emotion to the attitude object (Harling & Turner, 2012). Behavior is frequently measured and seen as an outward manifestation of person's attitude; however, it is noted that behavior alone is too simplistic to directly link attitudes to behavior as a variety of factors may influence behavior (Fishbein et al., 2003).

Operational: Attitude score derived from questions and statements on the AADAP questionnaire.

Education on Drug Use and Substance Use in Perinatal Women

Conceptual: formal education received from one's nursing curriculum in either didactic, clinical, or both regarding drug use, substance use, SUDS, or addiction or consequences of addiction in pregnant or perinatal women or other populations. In regard to perinatal registered nurses, formal education such as conferences, continuing education opportunities, or related in-services should also be considered.

Operational: Self-reported by participant on demographic questionnaire.

Assumptions

- Participants are honest when completing demographic and AADAP questionnaire
- Participants' knowledge of and attitudes toward SUD pregnant and perinatal women affect the nursing care they provide (as seen in adapted PCS model).

- Nursing students and perinatal registered nurses will have differing levels of nursing education and experiences with the population of pregnant and perinatal women.
- Differing types of knowledge and experiences the healthcare pregnant and perinatal women with an SUD receive.

Limitations and Delimitations

- Results will not be generalizable outside of perinatal registered nurses and nursing students in Tennessee.
- Nursing students and perinatal registered nurses may not participate due to lack of knowledge on populations of perinatal women.
- Nursing students and perinatal registered nurses may not wish to participate due to existing negative or poor attitudes toward pregnant and perinatal women with SUDs or personal experience(s) with SUDs.
- Nursing students and perinatal registered nurses may choose to respond inconsistently with true attitude or knowledge base to demonstrate more desirable knowledge and attitudes.
- Participants recruited through nursing organizations may have more positive attitudes and enhanced knowledge due to organizational support and educational opportunities.
- Possible multicollinearity may occur when IVs/predictors are too highly correlated (Polit, 2010).
- Participants may not be willing to share personal experiences related to SUDs or sharing personal experiences may cause emotional distress.

Scope

- Participants will be nursing students or perinatal registered nurses currently practicing in Tennessee.
- Perinatal registered nurses must currently practice in nursing areas/units providing care for pregnant and perinatal women.
- Nursing students must be enrolled in a pre-licensure nursing program in Tennessee.

Summary of Key Points

- SUDs in pregnant and perinatal women continue to be a national health crisis.
- Tennessee has higher rates of NAS/neonatal opiate withdrawal syndrome compared to the national average (i.e., from 2002-2013 Tennessee had a 1000% increase compared to rest of country having 300% increase, Brantley, 2017).
- Pregnant and perinatal women with SUDs have unique needs while also suffering from harsher judgment, stigma, and enhanced legal risks when compared to other SUD populations.
- Few studies specifically examine nursing students' or perinatal registered nurses' attitudes and knowledge regarding this population.
- No studies have been identified that were specifically exploring Tennessee nurse population's attitudes toward pregnant and perinatal women with SUDs.
- A literature review suggests education for student and practicing nurse populations will improve patient care for this population of women.

Significance of Study

SUDs during pregnancy and the perinatal period continue to be a national health crisis, particularly in Tennessee. No current literature has been found exclusively examining Tennessee

nursing students and registered perinatal nurses' attitudes and knowledge toward the vulnerable population of pregnant and perinatal women with an SUD. Current literature, while at times contradictory, demonstrates generally punitive and negative attitudes toward this subpopulation of women. Additionally, pregnant and perinatal women who suffer from an SUD are subject to harsh stigma and judgment, which may cause them to avoid needed treatment therapies (Stengel, 2014; Stone, 2015). Enhanced education efforts are necessary to improve medical treatment and non-punitive and non-judgmental patient care from nurses. A closer investigation of predictors of knowledge and attitudes in nursing students and practicing perinatal nurses can serve to target specific education needs and improve the care of pregnant and perinatal women. Furthermore, assessing the affect of formal nursing education and personal experiences with SUDs on knowledge and attitude scores on the AADAP can serve as a stimulus to improve the culture of SUD education and promote patient centered, high-quality nursing care.

Chapter 2. Literature Review

Substance use disorders (SUDs) in the perinatal period represent challenging health-care issues for clinicians worldwide (Metz et al., 2012). The effects on the fetus from SUDs are contingent upon the type of substance and the amount consumed throughout the woman's pregnancy (Forray, 2016; Metz et al., 2012). From a financial and healthcare system perspective, there is a strong need for medical treatment in this patient population and it is also costly due to numerous pregnancy and newborn complications (Metz et al., 2012). Additionally, there are few existing treatments or medical options for pregnant and perinatal women with an SUD and those available are mainly behavioral and psychosocial interventions (Forray, 2016). It is clear that pregnant and perinatal women with an SUD report feeling stigmatized by healthcare workers, thus preventing them from seeking needed prenatal care (Stengel, 2014). Undoubtedly, this public health crisis of SUDs during pregnancy and the perinatal period is multifaceted, complex, and far-reaching all while being unique to each woman.

The literature review will explore components integral to this study related to pregnant and perinatal women with an SUD, the purpose of which was to examine predictors of attitudes and knowledge in Tennessee perinatal nurses and nursing students. The following will be explored in more detail: history of SUDs in perinatal populations, the unique elements of perinatal populations with SUDs, nursing's role, healthcare workers' and nurses' attitudes, and factors related to attitudes toward pregnant and perinatal women with an SUD.

History of Addiction, Drug, and Substance Use in Perinatal Populations

For purposes of this review, the term addiction may be used instead of SUDs to accurately illustrate perinatal population SUD history and its progression to the current day.

Addiction and substance use among perinatal populations began to elicit national attention in the 1980s, when the media focused their attention and reporting on "crack babies" (Stengel, 2014). This explicit media shift focused on newborns of mothers who used crack and cocaine thus demonizing mothers and creating the political will to support legislative efforts that imposed a range of detrimental laws and policies (Bishop et al., 2017). Though compelling, substance and drug use in pregnancy was not a new phenomenon. There have been significant changes in the treatment of pregnant and perinatal women who use drugs or substances since the early 1900s in the United States, ranging from the medical model of disease treatment to criminalization. In fact, public and societal responses to pregnant and perinatal drug use from the 1900s suggest that attitudes toward drug dependence and pregnant women have not always been negative (Tauger, 2018). Before the panic of "crack babies," healthcare workers were aware of SUDs in pregnancy, although data are unclear related to its prevalence prior to the 1960s (Tauger, 2018). It was not until the mid-20th century that perinatal and pregnant women with SUDs and their risk associated with fetal outcomes started to gain medical attention.

An understanding of pregnant and perinatal women with an SUD has rapidly changed since the early 1900s, when women who used drugs or substances during pregnancy were acknowledged to have inherent biological weaknesses and vulnerabilities when compared to men (Tauger, 2018). Addiction was considered a psychological problem and not one requiring medical treatment or intervention. Addiction was a criminal issue, as well, and such women were thought morally corrupt and to be avoided (Tauger, 2018). Treatment for any type of addiction or dependency issue was in its inception and was rarely addressed by healthcare providers since addiction was not deemed a medical problem requiring treatment. By the 1920s, the stereotype that "addicts" were criminals and even considered contagious emerged in the

United States due to the notion that addicts likely had an "enemy within themselves" (Tauger, 2018). Addicted persons were often, in layman's terms, judged as a lost cause, especially those who were African American or of low socioeconomic status (Tauger, 2018).

During this time, Dr. Charles Terry and Mildred Pellens published *The Opium Problem*, which challenged and addressed the fact that pregnant and perinatal women with a drug addiction were not manifestations of their poor choices (Terry & Pellens, 1928 as cited in Tauger, 2018). Authors argued that babies who were born to mothers with SUDs were not morally corrupt since they never chose to take a drug themselves, yet they still demonstrated signs and symptoms of withdrawal which was related to addiction and dependence (Terry & Pellens, 1928, as cited in Tauger, 2018). This signified that addiction must also be physiological and therefore, must have a medical component. Also, authors argued that newborns could be treated and healed or recovered from addiction and dependency, just as he believed adults could (Terry & Pellens, 1928, as cited in Tauger, 2018). Authors viewed the infant not as a victim of a guilty mother, but as an innocent, dependent person (Terry & Pellens, 1928, as cited in Tauger, 2018).

Nevertheless, this new research was ignored throughout the mid-century and women who used substances and their babies continued to be viewed as criminals. For primary treatment of addiction, Dr. Terry supported empirical evidence such as treating drug-using women (pregnant or not) with respect in conjunction with "rational and skillful medical aid," unfortunately this was overshadowed by political and social forces (Terry & Pellens, 1928, as cited in Tauger, 2018). Infant drug dependence was thought to be a lethal condition for many years and infants were not considered conceptually different from people with addiction problems until mid-century (Tauger, 2018). By then, infants were referred to as dependent

instead of addicted. This was an essential change because an infant is unable to choose to use a drug or substance. Despite changes and the evolution of medical care related to SUD treatment significant stigma still exists toward the vulnerable population of pregnant and perinatal women with a SUD. Drug dependent infants are often seen as the victims of mothers' moral corruption and deviant behavior (Stone, 2015).

The etiology of addiction as a medical disease has been difficult to isolate, although most people would agree that addiction is indeed a disease process (Reinarman, 2005). Regardless, challenges to this widely accepted viewpoint remain. In the 19th century, alcohol was widely believed to be naturally addictive and therefore anyone who drank was presumed to become addicted (Reinarman, 2005). As we know today, this is not accurate. Many people can drink alcohol without becoming addicted. Therefore, addiction as a disease process becomes problematic since there is not a clear, isolated substance or molecule to guarantee addiction in a given individual, which is different from most medical models of disease. For example, M. tuberculosis is the known and sole cause of tuberculosis in an individual (Reinarman, 2005). Addiction is simply more complicated; some people may become addicted to alcohol, sex, gambling, or other drugs, while others who enjoy these do not. The biological basis of addiction is therefore elusive (Reinarman, 2005). Despite the long history of conceptual acrobatics, the complexities of drug use and addiction behaviors continue to defy rigorous categorization under the heading of addiction as a medical disease (Reinarman, 2005).

After decades of diligent scientific examination, a truly uniform set of symptoms, a distinct site, source, and course of pathology that are necessary and sufficient for the full acceptance of the medical disease of addiction still eludes us (Reinarman, 2005). Additionally, in 2020, the National Institute on Drug Abuse (NIDA) encouraged healthcare professionals to use

first person language when referring to those who suffer from addiction as a person with an SUD. The NIDA emphasizes the importance of vocabulary when describing and discussing addiction to reduce stigma and biases. For example, Partnerships to End Addiction (2017) emphasizes the importance of using appropriate terminology to reduce the stigma and negative stereotypes of addiction. Addiction is a medical disease, in the same way as asthma or diabetes, and should be referred to as a substance use disorder (Partnerships to End Addiction, 2017).

To summarize, the notion that addiction is a choice and a healthcare risk to the fetus has permeated U.S. culture (Stengel, 2014). This construction of risk and total blame has been assigned to the mother for any problems with her infant due to drug or substance use (Stengel, 2014). In other words, no context specific or structural considerations were examined when evaluating women who had SUDs in pregnancy (Stengel, 2014).

Pregnant and Perinatal Women as a Distinct Categorization of SUDs

Those diagnosed with an SUD often experience stigmatizing interactions with health care providers that can decrease the quality and continuity of care (Nichols et al., 2020). For pregnant and perinatal women with a substance-exposed pregnancy or SUD, this stigma can increase significantly (Nichols et al., 2020). Stigma, judgment, and discrimination are historically consistent toward this population, likely due to poor outcomes for both mothers and their infants (Stengel, 2014; Stone, 2015). Unfortunately, many of these stigmatizing behaviors are disproportionally correlated with women of color and those who are of low socioeconomic status (Stone, 2015). The apparent consequence of this disparity results in further widening of health inequality across class and race (Stone, 2015).

There is no evidence that stigma or social condemnation is effective in reducing risk behavior in persons with SUD (Stuber et al., 2008). Adversely, the lack of comprehension related

to SUDs as a true medical disease further complicates the perspective from healthcare professionals and society. Legal ramifications of SUDs and denotation of criminality likely augment negative attitudes nurses and nursing students have toward this population of vulnerable women. Additionally, mothers who suffer from SUDs in pregnancy report they feel judged and that nurses do not recognize their positive maternal traits and fail to acknowledge she is still the mother of an infant with NAS (Cleveland & Gill, 2013).

Compared with non-perinatal women, pregnant and perinatal women who struggle with drug or substance use are exposed to a "double oppression" and increased stigma (Nordenfors & Hojer, 2017). Pregnant and perinatal women with an SUD do not behave according to commonly accepted or expected societal gender characteristics of how a mother should behave (Nordenfors & Hojer, 2017). Drug or substance use while pregnant provides a sharp contrast from the expected caring, nurturing, and protective mother, and defies femininity standards (Nordenfors & Hojer, 2017; Stengel, 2014). The responsibility for children is strongly associated and connected to women and mothers while substance use is looked upon as deviant and negligent (Nordenfors & Hojer, 2017). This is contributory toward the oppression and stigmatization pregnant and perinatal women with an SUD experience.

Women frequently report being concerned about their substance use during pregnancy, and pregnancy can often serve as a motivation in treatment-seeking behaviors (Van Scoyoc et al., 2017). Many mothers state they feel shame and guilt about their SUD (Stengel, 2014). Women who struggle with pregnant and perinatal substance use report feeling stigmatized, receiving inconsistent care, and have a distrust of healthcare personnel. Subsequently, they may not seek recommended prenatal care, especially if their state of residency has costly legal ramifications

(Price et al., 2018). These findings and reports are incongruent with the foundation and spirit of professional nursing characteristics: trustworthiness, being patient advocates, and caring.

Many pregnant and perinatal women with an SUD state they feel shame, and guilt, and are ostracized by healthcare professionals (Recto et al., 2020; Stengel, 2014). Women may have strategies for handling their risk of detection by healthcare or criminal justice authorities including isolating themselves from others, skipping appointments, or avoiding treatment altogether (Stone, 2015). Stone (2015) asserts that many women describe multiple barriers to treatment including lack of suitable treatment options or programs and difficulty finding and enrolling in treatment. Many treatment programs do not accept pregnant or perinatal women for inpatient care. For example, in 2018, the Substance Abuse and Mental Health Services Administration (SAMHSA) published findings from its National Survey of Substance Abuse Treatment Services (N-SSATS) that reported only 49% (7, 239 of 14, 809) of treatment facilities offered programs specifically for adult women, and only 23% (3,450 of 14,809) provided programs for pregnant or postpartum women.

Legal Ramifications

In recent years, there has been an increased effort to criminalize pregnancy. Tennessee was the first state to pass the colloquially phrased “fetal assault law” in 2014. This law allowed for prosecution of women for the illegal use of a narcotic while pregnant. Furthermore, if the child was born dependent or harmed by the narcotic drug, the mother could also be prosecuted (Crockett & Pieklo, 2018). This law expired in 2016 due to a sunset clause meaning the law would remain in effect for two years while the General Assembly studied its effects (American Civil Liberties Union of Tennessee, n.d.). As the law was found to deter women from seeking prenatal care and affected access to care for pregnant drug-using women, the General Assembly

decided not to extend the law (American Civil Liberties Union of Tennessee, n.d.) Since this time, Tennessee legislation has been unsuccessful at passing another bill with similar intent.

Legal risks and challenges, however, still exist. Many states are reviewing laws that deem a mother liable for charges such as child abuse with grounds for civil commitment. Therefore, pregnant and perinatal women with a SUD assume a considerable risk when seeking prenatal care, as they may lose custody of their child or other children at home (Van Scoyoc et al., 2016). Barriers, such as stigmatization and risk of criminalization, often cause women to omit prenatal care to avoid harsh stigmatization and judgment or seek to hide drug use practices (Nordenfors & Hojer, 2017). Delaying prenatal care places both the woman and fetus at risk of poor birth outcomes (Lander et al., 2015). When delaying substance use treatment, there is an increase in the duration and intensity of neonatal and maternal exposure to harmful substances (Lander et al., 2015). The fear of losing child custody may outweigh a woman's decision to seek treatment. Retention of care and pregnancy specific treatment approaches for pregnant and perinatal women with an SUD is essential in the solution and management of this problem (Lander et al., 2015).

A supportive, non-punitive public health approach is important when addressing SUDs in pregnant and perinatal women. Effective treatments can encourage pregnant and perinatal women and families on a path to better health, while punitive approaches such as charging women with child abuse, or removing children from their care, creates trauma and stress in addition to barriers that make it less likely women will seek healthcare services (Bishop et al., 2017). If early and frequent discussions can occur with pregnant and perinatal women who have an SUD, perhaps a safety net for both treatment and child protection can be provided. Additionally, evidence of drug or substance exposure in an infant is not proof of lasting harm or

evidence that the best interests of the child will be served by removing them from parental custody (Bishop et al., 2017).

Fetal/Newborn Effects from Perinatal SUDs

NAS is the most frequent outcome of pregnant and perinatal substance use (Neary, 2018). NAS is a postnatal drug withdrawal syndrome exhibited by some exposed infants "characterized by hyperactivity of the central and autonomic nervous system and gastrointestinal tract" (Sanlorenzo et al., 2018, p. 183). NAS infants have multifaceted physiological and behavioral circumstances that necessitate intensive nursing and medical treatment (Smith et al., 2018).

It is evident that the personal and societal burdens of NAS continue to increase in the United States (Sanlorenzo et al., 2018). For example, the phenomenon of NAS has increased both number of hospital admissions and proportion of neonatal intensive care days of stay (Smith et al., 2018). As an example, from 2009 to 2015 the overall median NAS rate per 1,000 hospital births increased from 3.2 to 14.5, in 580 counties in Florida, Kentucky, Massachusetts, Michigan, New York, North Carolina, Tennessee and Washington state (NIDA, 2019). Smith et al. (2018) found that infants in drug withdrawal had a significantly higher acuity compared to non-drug or non-substance withdrawal infants. Parents of the infant required additional needs from the nurse compared to non-drug withdrawal infants (Smith et al., 2018). McQueen and Murphy-Oikonen (2016) suggest a compassionate and safe environment for the mother is critical, as many new mothers feel stigmatized and guilty regarding their substance use, leading to impaired communication with medical providers such as nurses. Nurses caring for infants with NAS face ethical and moral challenges, while trying to meet the increased medical demands of the infant (Smith et al., 2018). Difficulties caring for infants who are drug or substance exposed can provoke nurse frustration and anger toward the infant or mother (Ludwig et al., 1996).

The Nurse's Role

Nurses have the most contact with pregnant and perinatal patients and families, making them the primary providers for supporting new mothers in learning to care for their newborns and transitioning into motherhood (Neary, 2018). As primary providers of pregnant and perinatal women, it is a nurse's ethical and professional responsibility to provide comprehensive care to pregnant and perinatal women affected by SUDs (McKeever et al., 2014).

Maternal and obstetric nursing emerged in the mid-19th century corresponding with the increased medical management of pregnancy (Nelson, 2020). Prior to the mid-19th century, perinatal and pregnant women were cared for by lay midwives or female friends and family members (Nelson, 2020). Nelson's (2020) qualitative content analysis of the historical evolution of professional obstetric nursing found two reoccurring themes: an acknowledgement that high quality medical care is not available to all childbearing women and families (in particular for minority and low-income populations), and that preventable maternal/infant morbidity and mortality is too high. Nelson (2020) concludes that if today's maternal and obstetric nurses wish to remain consistent with their long history of protecting, teaching, and supporting childbearing women and their families, they must evaluate their role in addressing key issues to promote change and improve patient outcomes.

The registered nurse's role in providing care to pregnant and perinatal women includes coordinating and documenting care, providing physical care and support for women and their families, implementing and evaluating the effectiveness of medications, educating women and families on procedures and monitoring fetal well-being (Association of Women's Health, Obstetric and Neonatal Nurses, 2012). It is evident that nursing interventions affect the well-being of the pregnant and perinatal woman, her fetus, and their family for many years to come

(Alden, 2016). As nurses play a prominent role in the health of pregnant and perinatal populations, it is imperative that non-judgmental, non-punitive, and supportive attitudes are evident toward the vulnerable population of pregnant and perinatal women with SUDs.

Medical Professional Attitudes toward SUD Populations

Van Boekel et al.'s (2013) systematic review of 28 studies, although not focused on pregnant and perinatal populations specifically, concluded that healthcare professionals have generally negative attitudes toward patients with SUDs. The authors also concluded that health professionals lack adequate education, training, and support structures. The review concludes that negative attitudes of health professionals diminish patients' feelings of empowerment and subsequent treatment outcomes and interventions. Furthermore, health professionals are often less involved and have a more task-oriented approach to the delivery of care in the SUD population, which results in less personal engagement and diminished empathy toward patients (Van Boekel et al., 2013). Healthcare workers were found to perceive patients with SUDs as violent, manipulative, and poorly motivated (Van Boekel et al., 2013).

Perinatal Nurses' Attitudes

Research specific to perinatal nurses' attitudes toward pregnant and perinatal women with SUDs is both limited and dated. Of the available literature, perinatal nurses (including neonatal nurses) are reported to have mostly negative, punitive, and stigmatizing attitudes toward pregnant and perinatal women with an SUD (Fraser et al., 2007; Ludwig et al., 1996; Raeside, 2003; Selleck & Redding, 1998). Conversely, however, a more recent study by Neary (2018) found moderately positive therapeutic attitudes in nurses toward perinatal SUD populations.

Fraser et al. (2007) explored neonatal nurses' experiences providing care to drug-exposed infants and their parents during NAS treatment. Group interviews were conducted with eight

neonatal nurses from various nursing infant care units in Australia. Questions were created from participant cues to explore various nursing perceptions and attitudes. Nurses reported substance abusers to be "demanding" and felt frustrated when parents did not visit their infant with NAS. When discussing moral judgments on families with infants with NAS, nurses expressed negative attitudes and admitted they do in fact judge the mother and family. Nurses in this study also reported experiencing significant organizational and attitudinal barriers when providing quality family-centered nursing care (Fraser et al., 2007).

Raeside (2003) examined the effect of education and experience on attitudes of neonatal nurses and midwives caring for perinatal women and infants affected by SUDs. Raeside (2003) used a modified version of the cocaine abuse questionnaire adapted by Ludwig et al. (1996) that examined factors influencing nursing knowledge and attitudes. The total number of participants in this study was 50. Of the sample, 76% were registered nurses, 40% were nurse midwives and 21% were neonatal/children's nurses. Results showed that the attitudes of nurses and midwives toward mothers affected by substance abuse were negative and judgmental. Additionally, participant's knowledge base regarding SUDs was low. Additional findings showed the most experienced nursing staff generally had more negative attitudes than nurses or midwives with less neonatal nursing experience. Furthermore, formal neonatal education did not appear to have a positive effect on knowledge or attitudes; however, results suggest that inservice education on substance abuse may have a slightly positive effect on nurse attitudes (Raeside, 2003).

Selleck and Redding (1998) surveyed the knowledge and attitudes of perinatal nurses toward pregnant and perinatal women with a SUD in western Florida. A sample of 392 perinatal nurses working across ten hospitals completed the AADAP questionnaire. Overall, perinatal nurses had negative and punitive attitudes toward perinatal SUDs. Nurses who had completed

additional nursing education had increased knowledge scores and nurses had more positive attitudes if substance use education was providing in their nursing curricula (Selleck & Redding, 1998). Additionally, having a personal or family history of substance use did correlate with higher knowledge scores and more positive attitudes.

Ludwig et al. (1996) examined the knowledge, attitudes, and backgrounds of 215 New York nurses toward mothers of cocaine-addicted infants. Researchers used an unnamed questionnaire consisting of four sections: demographic data, experiential information, knowledge assessment, and an attitude scale. Results demonstrated that nurses' knowledge base was low and that attitudes were generally judgmental and negative. Ludwig et al. (1996) posited that these results were concerning as negative attitudes toward mothers who used cocaine during pregnancy may interfere with nursing support. Also, nurses' negative attitudes may obstruct with meeting the cocaine-exposed infants' various and complex healthcare needs (Ludwig et al., 1996).

Neary (2018) studied factors related to perinatal nurses' therapeutic attitudes toward pregnant women who use addictive drugs or substances. The study sample included 98 nurses from three hospitals. Results suggested that in general, perinatal nurses had moderately positive attitudes toward pregnant women who used addictive substances. The study revealed three overall factors to be significantly related to nurses' therapeutic attitudes: knowledge on addictive substance use in pregnancy, organizational support, and professional work experience. Additionally, nurses who cared for pregnant women with SUDs on a weekly basis had more positive attitudes than nurses who had less frequent exposure to this population of women (Neary, 2018). Neary's (2018) study is encouraging and suggests that perinatal nursing attitudes are improving as compared to previous research findings.

Nursing Student Attitudes

There are no studies exclusively examining Tennessee nursing student attitudes toward pregnant and perinatal women with an SUD in Tennessee. Furthermore, there is limited research on nursing student attitudes toward all SUD populations as a whole. Of the literature available, largely negative and punitive attitudes are reported toward SUD populations. This is troubling since nursing students are the future of our healthcare system. Examining perceptions and attitudes of nursing students can inform educational interventions and guide clinical experiences prior to entry to nursing practice (Lewis & Jarvis, 2019).

Schuler and Horowitz (2020) examined nursing students' empathy and attitudes toward patients with SUDs to determine if there were differences across practice settings (i.e., medical-surgical, intensive care unit, maternal-child, emergency room). In total, 53 senior level nursing students took the Jefferson Scale of Empathy and Drug and Drug Problems Perceptions questionnaires before and after their 120-hour nursing practicum course in various nursing units. Schuler and Horowitz (2020) found a significant improvement in attitude and empathy levels from the pre and post-test scores, except for those who cared for maternal-child SUD populations. Students who worked in maternal-child nursing settings had significantly poorer attitudes (after their 120-hour nursing practicum) compared to their peers who worked in other nursing settings (Schuler & Horowitz, 2020). Nursing students who completed their practicum in the maternal-child settings voiced helplessness when caring for infants with NAS and tended to blame the mother with an SUD for the negative health effects on her infant (Schuler & Horowitz, 2020). The nursing students in this study stated they judged the mothers of infants diagnosed with NAS. One student specifically stated in response to judging a mother with a SUD, "…It's frustrating…why did they do this to their baby?" (Schuler & Horowitz, 2020, p. 151).

Lewis and Jarvis (2019) explored nursing students' experiences, attitudes, perceptions, and educational preparedness toward patients with an opioid use disorder in the clinical setting. Eleven nursing students in New England participated in semi-structured interviews. Questions used to elicit attitudes and perceptions included: Can you discuss some biases that you may have when working with this population, and how comfortable did you feel caring for these patients? Lewis and Jarvis (2019) found six themes related to experiences and attitudes toward patients with opiate use disorders: navigating ethical dilemmas; gaining comfort with time and experience; avoiding the "elephant in the room"; learning from real-world scenarios; witnessing discriminatory care; and recognizing bias and stigma. Students expressed internal conflict and a lack of education specifically in the maternal nursing setting. Students in this study also stated they experienced more bias in the maternity nursing units compared to others.

Harling (2017) compared nursing student attitudes toward illicit drug use to the attitudes of other health and social care students in higher education institutions in the United Kingdom. Results showed that nursing students had the least tolerant attitudes toward illicit drug used when compared to students in social care, midwifery, social work, and trainee clinical psychologist courses. The literature review demonstrates the need for a specific SUD educational emphasis in nursing programs across the United States. Findings also suggest that the medical model of SUDs as a disease process has not fully permeated nursing curriculums.

Influence of Education

One common finding in the literature is the influence of education on nurses' and nursing students' attitudes toward pregnant and perinatal women with an SUD. The current study is guided by Harling and Turner's (2012) adapted PCS model demonstrating that nursing education

is effective in the formation of nursing attitudes toward patients with SUDs. However, a review of the influence of specific types, quantity, and length of education on SUD is warranted.

Selleck and Redding (1998) found that as nursing educational level increased, so did the nursing knowledge of SUDs in perinatal populations. They concluded that advanced degree nursing programs are more likely to include SUD education. Additionally, nurses with a higher level of education may be more likely to attend conferences, read professional journals, and complete continuing education programs (Selleck & Redding, 1998). Nursing knowledge and attitudes were also positively correlated to nursing education level, employer provided education, and self-education (Ludwig et al., 1996). However, Ludwig et al. (1996) noted that this finding is far from conclusive as nurses with already favorable attitudes may seek out additional educational opportunities.

Nursing students reported having inadequate education to care for SUD populations (Schuler & Horowitz, 2020). For example, students in Schuler and Horwitz's (2020) study received 1.5 hours of specific nursing education, which students stated was not enough and did not adequately prepare them to care for populations with SUDs. Students also expressed a need for more frequent patient encounters so they could be more appropriately prepared to provide nursing care (Schuler & Horowitz, 2020). Limited hours of education are also reported in nurses who care for SUD populations. Chang and Yang (2012) found that the average number of SUD education hours nurses reported receiving in nursing school to be only 3.85. More worrisome, over 90% of responding nurses stated they had never had any continuing education on SUDs (Chang & Yang, 2012).

As SUDs continue to be a national public health crisis, nurses and nursing students will have increased contact with SUD populations during their nursing careers. It is clear that

education efforts which include formal SUD nursing education programs are important for future nursing care and treatment of pregnant and perinatal SUD populations. It is evident that limited education and training can contribute to nursing students feeling ill-equipped with the necessary knowledge, attitudes, or skills needed to care for patients with substance use problems (Chang & Yang, 2012). Without question, research suggests that improved education can improve nurse attitudes (Chang & Yang, 2012; Tierney, 2016). Nash et al. (2017) suggests various clinical experiences such as agency visits, skills workshops, reflective activities, and other observational experiences can help prepare students to care for populations with SUDs (Nash et al., 2017). For example, students who work together in group reflection activities may have enhanced competence by exploring their own personal attitudes toward SUD populations (Nash et al., 2017). Direct contact with SUD populations during undergraduate nursing clinical experiences can help to promote empathy and understanding (Nash et al., 2017; Schuler & Horowitz, 2020).

Chapman (2017) emphasizes that nurses need to serve all populations wholeheartedly and unquestioningly. It is reasonable to conclude that nursing faculty who consistently model such behaviors for their students may help to improve student attitudes. Nursing faculty with knowledge of the historical context and current knowledge regarding pregnant and perinatal women with an SUD can help to improve SUD education by including such content in nursing courses. In the current perinatal nursing workforce, attitudes are linked to improved knowledge and education of SUDs pregnancy (Neary, 2018). Neary (2018) suggests that education can be enhanced through educational opportunities from professional nursing organizations (e.g., Association of Women's Health, Obstetric and Neonatal Nurses and American Nurses Association) and through local, state, or national conferences. Neary (2018) also proposes that national certification examinations for perinatal nurses should include components of knowledge

of SUDs and possibly offer, and recognize, continuing education units (CEUs) on the subject of SUDs in pregnancy as satisfactory qualifications for any recertification requirements (Neary, 2018).

SUD Education Interventions in Other Disciplines

Bland et al. (2001) examined the effect of a teaching module regarding alcohol, tobacco, and drug use on the attitudes of medical students toward pregnant and perinatal women with SUDs. The teaching module was included in a 5-week systems block regarding human reproduction including: patient simulations, 1 hour lecture on drug and alcohol use in pregnancy and a 2-hour problem-based tutorial on a theoretical young pregnant woman who is dependent on alcohol (Bland et al., 2001). A 51-point questionnaire was administered before and after this educational intervention. A total of 70 questionnaires were completed and results suggested the overall mean comfort level was higher after the educational intervention. Students recognized they could be less judgmental in treating pregnant women with a SUD and agreed that pregnant women with SUDs should have mandatory SUD treatment (Bland et al., 2001). Additionally, students had a significant positive attitude change (Bland et al., 2001). These findings are consistent with Selleck and Redding (1998) who found nursing curricula that included substance abuse education led to more positive attitudes toward SUD populations. It is reasonable to discern that similar education strategies suggested by Bland et al. (2001) could be successful in improving nursing attitudes. Furthermore, research demonstrates that personal experiences are influential in nurses, nursing students and healthcare worker attitudes.

Influence of Personal and Professional Experiences with SUDs

Personal Experiences

A review of the literature suggests that personal experiences with SUDs (self, family, friend, etc.) are contributory to one's attitudes toward SUD populations (Horner et al., 2019, Harling & Turner, 2012; Selleck & Redding, 1998) Horner et al. (2019) found that nurses who had personal experiences (i.e., SUD history in their family) had increased compassion and understanding for SUD populations. Selleck and Redding (1998) concluded that a personal or family history of substance use was significantly associated with more positive nursing attitudes and increased knowledge toward pregnant and perinatal populations with SUDs. Monks et al. (2012) found that nurses who had a personal history of illicit drug use were able to provide nursing care from an insider perspective or viewport. A nurse's personal history with illicit drugs positively influenced attitudes (Monks et al., 2012). Harling and Turner (2012) reported that nursing students articulated how personal experiences directly affected their attitudes toward SUD populations.

Interestingly, similar findings are not found in medical students. Linden (2010) reports that attitudes toward those with drug or alcohol disorders were only weakly correlated with their own personal use and family history of drug or alcohol use. Linden (2010) concludes that attitudes of future physicians are neutral toward alcohol or drug use. Given that drug, alcohol, or substance abuse problems are considered to be a medical disease, these findings may indicate that fewer stigmas or judgments may be seen toward SUD populations from future physicians (Linden, 2010). This is an important premise because it suggests that the development and current state of nursing attitudes toward SUDs may be unique compared to other healthcare disciplines.

Professional Experiences

Professional nursing experiences in the practice environment are also contributory to nursing attitudes toward SUD populations. Schuler and Horowitz (2020) found that nursing students described multiple incidences when they observed "older" nurses using uncomplimentary terms to describe patients with SUDs and in a number of occasions, patient treatment was delayed. Nursing students also observed that "older" nurses treated SUD populations differently from how they treated their other patients (Schuler & Horowitz, 2020). Student experiences observing potentially negative or inattentive care from practicing nurses may affect how students view SUD populations. For example, Ludwig et al. (1996) found positive correlations between nursing experiences and nursing attitudes.

Lewis and Jarvis (2019) described how professional nursing experiences can affect nursing students. For example, one nursing student in their study stated, "I honestly don't feel like my nursing program really prepared me for any type of conversation I'd have about substance abuse.... I think more of a hands-on experience is better than reading it or being presented to by PowerPoint because you can't really get a good feel for how you might react unless you're actually talking to someone" (Lewis & Jarvis, 2019, p. 20). Other findings describe how student practice and clinical experiences with professional nurses caring for patients with SUDs affect student attitudes. Some students in Lewis and Jarvis' (2019) study expressed positive experiences with nursing staff caring for SUD populations where non-judgmental care was provided. Other students reported negative experiences where students felt the primary nurse caring for the SUD patient had biases and stigmatizing attitudes. These biases and attitudes were reported as especially prevalent in maternal child nursing units which made the students feel

uncomfortable and at a disadvantage since they had limited prior experiences and skills with this particular patient population (Lewis & Jarvis, 2019).

Pfitzner and Kapitany-Foveny (2018) conclude that positive examples of SUD clients, personal stories of patients with SUDs, and face-to-face discussions with patients are practical methods to decrease stigma toward SUD populations. It is likely that such interventions would be effective for both professional nurses and nursing students. Evidence suggests that professional and personal experiences influence nursing attitudes in both practicing nurses and nursing students.

Summary

This literature review explored the history and background of SUDs in pregnant and perinatal populations, the unique elements of pregnant and perinatal populations with SUDs; nursing's role; healthcare workers, nurses and student attitudes; and factors related to attitudes toward pregnant and perinatal women with an SUD. Undoubtedly, SUDs in perinatal populations continue to be a public health crisis with deep-rooted and complex medical, psychosocial, and societal elements at work. It is evident that pregnant and perinatal women with an SUD have unique challenges and needs when compared to other SUD populations. Examples include enhanced stigmatization and punitive attitudes which may hinder a pregnant or perinatal woman with an SUD to seek prenatal care (Nordenfors & Hojer, 2017). Additionally, negative and punitive attitudes are seen in nurses and nursing students toward pregnant and perinatal patients with an SUD. Although recent studies, such as Neary (2018), suggest moderately positive nursing attitudes exist toward perinatal SUD populations, systematic reviews such as from Van Boekel et al. (2013) report an overwhelming culture of negativity surrounding SUD populations. Tierney (2016) concludes that nurses' perspectives of patients with SUDs are not seen in a linear

pattern but with fluctuation in what nurses' value and how they may behave and feel. It is discouraging that negative, punitive, and stigmatizing nursing attitudes continue in direct contradiction to the core nursing values of compassion and caring. Factors related to SUD education, and personal and professional experiences contribute both negatively and positively to nursing attitudes. This is an important finding not just for nurses currently in practice, but also for future nursing care.

This literature review supports the need to examine how formal SUD nursing education, personal experiences, and participant characteristics predict attitudes and knowledge of nursing students and practicing perinatal nurses in Tennessee. This study is believed to be the first to exclusively examine Tennessee perinatal nursing populations and nursing students. This is critical since Tennessee has higher rates of NAS/neonatal opiate withdrawal syndrome compared to the national average (Brantley, 2017). Additionally, Tennessee is the only state to have ever criminalized substance use in pregnancy. Therefore, Tennessee pregnant and perinatal women may be at increased risk for adverse nursing attitudes and behaviors when compared to pregnant and perinatal SUD populations in other states. A closer examination of predictors of knowledge and attitudes in nursing students and practicing perinatal nurses can elucidate specific education needs and contribute to the improved care of Tennessee's pregnant and perinatal women with an SUD.

Chapter 3. Methods

This study examined if formal substance use disorder (SUD) nursing education, personal experiences with SUDs, or participant characteristics would predict attitudes and knowledge of nursing students and practicing perinatal nurses in Tennessee toward pregnant and perinatal women with an SUD. The adapted PCS model by Harling and Turner (2012) theorizes that SUD education and personal experiences are contributory to attitude formation. The adapted PCS model by Harling and Turner (2012) supports using these two variables as predictors in this study. A descriptive cross-sectional, non-experimental design, using independent samples t-tests and a multiple linear regression analysis examined the predictors and selected demographic variables on knowledge and attitude scores on the Attitudes About Drug Abuse in Pregnancy (AADAP) questionnaire. This chapter reviews research design, recruitment, target population and sample, inclusion and exclusion criteria, instrumentation, procedures for data collection, and analysis. Additionally, methodology assumptions, limitations, and advantages are examined.

Research Design

This study was a descriptive cross sectional, non-experimental design that examined predictors of attitudes and knowledge of Tennessee nursing students and Tennessee perinatal nurses toward pregnant and perinatal women with a SUD. Predictor variables were formal SUD nursing education and personal (non-nursing) experiences with SUDs. Independent samples t-tests and multiple linear regression analyses were used to analyze the predictors and selected demographic variables on knowledge and attitude scores on the AADAP questionnaire. An online survey method was chosen to collect data from practicing perinatal nurses and current nursing students across the state of Tennessee. The AADAP is a questionnaire specific to nursing

knowledge and attitudes; it is an appropriate choice as a measure for attitudes and knowledge toward pregnant and perinatal women with an SUD.

Survey research is an appropriate choice since it can be used with various populations and can focus on a large range of topics (Polit & Beck, 2021). Benefits to online surveys include low cost and the ability to create complex skip patterns and obtain potential large sample sizes (Toepol, 2017). Online surveys are inexpensive and allow participants to use a wide range of devices consistent with current technology use (Toepol, 2017). Furthermore, participants have enhanced privacy and due to this, may answer questions more honestly than they would in person.

Target Population and Sample

This study used a convenience, non-probability sample. This was appropriate as it was not feasible to access target populations in their entirety. Target populations were currently practicing perinatal nurses and pre-licensure Tennessee nursing students in ADN and BSN programs. This study focused on Tennessee nurse populations specifically since attitudes and knowledge may differ for these nurse populations, when compared to other U.S. states or the nation. Tennessee was the first U.S. state to criminalize pregnancy, has higher NAS rates compared to the national average, and has mandatory NAS reporting guidelines not present in all U.S. states. Therefore, it was reasonable to discern there may be unique cultural and societal influences in Tennessee nursing populations that may influence knowledge and attitudes. Ideally, nurses who understand SUDs and believe in recovery can advocate for persons with SUDs to receive non-discriminatory, fair, and equitable care while acting as agents of change at the system level and advocate for prevention and medical treatment of SUDs (Elchuck, 2018).

Recruitment

Participant recruitment began after receiving approval from the East Tennessee State University Institutional Review Board (IRB). Nursing students and practicing perinatal registered nurses were recruited through the Tennessee Nurses Association (TNA) Facebook page after TNA's guidelines for research and recruitment requirements were completed (Appendix D), On March 5, 2021, TNA posted the study advertisement (Appendix E) on their Facebook website for potential participants to complete.

An additional method of recruitment was through email. Tennessee practicing perinatal registered nurses were contacted by emailing various Chief Nursing Officers (CNOs) and nurse managers at hospitals providing perinatal, pregnancy, maternal, and newborn care in East, West, and Middle Tennessee. A distribution list of CNOs/nurse managers was assembled. This was accomplished through internet searches, word-of-mouth, and through colleagues and professional organizations. CNOs and nurse managers were contacted on March 3, 2021 asking them to share the study invitation and questionnaire link via email with their perinatal nursing staff (Appendix F). Nurse Managers and CNOs were informed of study details, including IRB approval. In total, 25 nursing units across Tennessee were invited to participate. Each nurse manager or CNO received at least one reminder email asking them to share the study with perinatal nurses, approximately two weeks after the initial email was sent.

Potential Tennessee nursing students were recruited via email though notification from their respective deans, directors, or program administrators. A list of deans and directors of Tennessee nursing programs was obtained through the Tennessee Deans and Directors of Schools of Nursing website. As with nurse managers and CNOs, deans, directors, and program administrators were informed of study details and IRB approval. The respective pre-licensure

program administrators were asked to share participation information with their pre-licensure nursing students (in ADN or BSN programs) via student emails (Appendix G) so students could participate. There were 77 nursing deans and directors contacted by email on March 3, 2021. Each dean, director, or program administrator received at least one email reminder asking them to share the study once more approximately two weeks after the initial email was sent. The survey was open for approximately 8 weeks. Data collection ceased and the survey was closed on May 2, 2021, with 361 completed surveys.

Inclusion Criteria

- Currently practicing perinatal registered nurses in respective community settings or hospital units or floors such as labor and delivery, neonatal intensive care unit (NICU), postpartum, newborn nursery, special care nursery, obstetrical emergency unit, women's health, OB/GYN clinic/office, special care newborn nursery, or other related women's health units.
- Nursing students who were enrolled in a pre-licensure (ADN or BSN) nursing program in the state of Tennessee.
- Note: students and perinatal registered nurses were not required to be Tennessee residents, as long as other criteria are met. For example, students or perinatal nurses may have been residents of other U.S. states but worked or were enrolled in Tennessee nursing programs. Students who were in remote programs due to COVID – 19 restrictions were able to participate.
- Participants could read and understand English.
- Participants were 18 years of age or older.

- Participants were physically present in the United States (ETSU IRB requirement).
- Participants had access to email and internet in order to participate.

Exclusion Criteria

- Tennessee nurses who did not provide care for perinatal or pregnant populations.
- Nursing students who were not currently enrolled in a pre-licensure (ADN or BSN) Tennessee nursing program.
- Inability to read or understand English.
- Participants who were less than 18 years of age.
- Perinatal registered nurses who were on a temporary nursing assignment.

Protection of Human Subjects

There were multiple approaches employed to ensure protection of all study participants. East Tennessee State University granted IRB approval following an exempt request since there was minimal risk to participants while completing an online survey. Informed consent was obtained from each participant. The informed consent indicated participation was voluntary and included no risks or benefits for participating.

Participants were also informed they were free to stop the survey at any time and their participating would have no effect on their employment or student status. After reading the informed consent, participants either selected "I agree" or "I do not agree" to participate. Selecting "I agree" prompted the online survey to begin. Participants who selected "I do not agree" ended the session and they were not granted access to begin the online survey. All participants were guaranteed anonymity. No personal identifiable information was accessed or collected. If the participant chose to enter to win a $50 electronic Amazon gift card, they were asked to provide their email address to be included in a drawing. IP addresses were not collected.

Research Survey

The research survey was administered via Research Electronic Data Capture (REDCap) survey software. REDCap is a secure web application for creating and managing online surveys and databases (REDCap, n.d.). REDCap can collect any type of data in any environment (including compliance with 21 CFR Part 11, FISMA, HIPAA, and GDPR), and is able to support online data capture for research studies (REDCap, n.d.). As an East Tennessee State University graduate student, I had access to REDCap free of charge.

After the survey was created, it was digitally compressed for access via a shortened hyperlink. A pilot survey was then conducted. The decision to pilot this survey was to have an opportunity for reflection and revision of the project prior to its formal dissemination (Ruel et al., 2016). The survey was sent to three nurse faculty with perinatal nursing experience. The nurse faculty reviewers were not perinatal nurses or students in Tennessee, so they were not potential participants. Each person provided written feedback regarding the survey's flow and understandability. Participants also shared how long it took to complete and identified any survey components they found unclear or confusing. After the pilot survey was completed, minor non-substantive changes were made to the survey.

The AADAP questionnaire had one minor change prior from the Selleck & Redding (1998) version noted in the online survey for this study. Question 14 on the attitude scale originally read, "Among young women, cocaine abuse is a better problem than alcohol use." It was changed to read, "Among young women, cocaine abuse is a bigger problem than alcohol use." This change was made to reflect what the question intended: whether cocaine or alcohol abuse is more prevalent or "a bigger problem." No other changes were made to the AADAP questionnaire.

This hyperlink was provided in the TNA Facebook advertisement, as well as shared via email to CNOs, nurse managers and Tennessee nursing program deans and directors. In the online survey, participants completed the AADAP questionnaire and answered various questions related to their demographics. Demographic data collected included: age, gender, education on SUDs (amount, type, quality), highest nursing degree obtained, race, religiosity, advanced nursing license or certification, Tennessee region, degree of participant's rurality, personal experiences with SUDs, and perinatal nursing unit type. The final online questionnaire included the 34 item AADAP questionnaire and 31 demographic items. A comment box was included at the end of the survey for participants to share any other information they wished. The survey took approximately 10 minutes to complete. The complete online survey questionnaire can be viewed in Appendix H.

AADAP Questionnaire

Coles, Good, and Strickland created the AADAP questionnaire in 1992. However, Coles et al. (1992) never fully published or psychometrically tested their scale (as cited in Selleck & Redding, 1998). Selleck and Redding (1998) revised the AADAP and assessed its psychometric properties prior to using the questionnaire in their own research endeavors.

Psychometric Properties

Selleck and Redding (1998) submitted the AADAP which originally consisted of 54 items to content experts to ensure content validity. They reported the 51-item instrument with a content validity index of 0.93. They tested construct validity via a principal component factor analysis with varimax rotation. Items with eigenvalues less than 0.35 were omitted. This left Selleck & Redding (1998) with a 34-item, 3-factor scale which measured both knowledge (20 items, 2 scales) and attitudes (14 items, 1 scale). Reliability was assessed by using the Kuder-

Richardson test for the knowledge scales and Cronbach's alpha for the attitude scale. Selleck and Redding (1998) assessed reliability with twenty-one graduate nurses. Reliability was found to be 0.65 for the twenty knowledge items (Kuder-Richardson) and 0.84 (Cronbach's alpha) for the 14 attitude items. Per Cicchetti (1994), reliability scores of 0.60 to .075 are considered "good" and anything above this is "excellent."

AADAP Questionnaire Scoring

The 20 knowledge questions permitted participants to answer true, false, or not sure (Part A of the AADAP questionnaire). If the participant answered the knowledge question correctly, they received 1 point. The highest score possible is 20 and the lowest is 0. Higher scores indicate greater knowledge. There is no formal threshold to suggest the difference between high and low knowledge. The scoring sheet for Part A of the AADAP questionnaire is in Appendix I. This scoring sheet was provided by Dr. Selleck.

The 14 attitude questions are ranked on a 5-point Likert scale (Part B of the AADAP questionnaire). Scores range between 14 and 70. For example, selecting a 1 on the Likert scale in response to a statement denotes the most negative attitude while answering a 5 denotes the most positive attitude. There is no formal threshold to suggest the difference between positive and negative attitudes. However, higher scores indicate positive attitudes, while lower scores indicate more punitive and negative attitudes (Selleck & Redding, 1998).

Permission to Use

Dr. Cynthia Selleck and Dr. Barbara Redding were contacted to obtain permission to use the adapted AADAP questionnaire. Dr. Selleck granted permission to use this adapted 34-item knowledge and attitude questionnaire (Appendix B). Dr. Redding was included on all communication. Additionally, Dr. Selleck requested that I share study results at its completion.

Research Questions

1. Does formal SUD nursing education predict knowledge in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?
2. Does formal SUD nursing education predict attitudes in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?
3. Do personal experiences with SUDs predict knowledge in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?
4. Do personal experiences with SUDs predict attitudes in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?

Hypotheses

1. Hypothesis I predicted that nursing students and perinatal nurses who have formal SUD nursing education will have significantly different knowledge than those who do not. Ho: Formal SUD nursing education does not predict knowledge toward pregnant and perinatal women with an SUD. H1: Formal SUD nursing education is predictive of knowledge toward pregnant and perinatal women with an SUD.
2. Hypothesis II predicted nursing students and perinatal nurses who have formal SUD nursing education will have significantly different attitudes than those who do not. Ho: Formal SUD nursing education does not predict attitudes toward pregnant and perinatal

women with an SUD. H1: Formal SUD nursing education predicts attitudes toward pregnant and perinatal women with an SUD.

3. Hypothesis III predicted nursing students and perinatal nurses who have personal experiences with SUDs will have significantly different knowledge than those who do not. Ho: Personal experiences with SUDs do not predict knowledge toward pregnant and perinatal women with an SUD. H1: Personal experiences with SUDs predict knowledge toward pregnant and perinatal women with an SUD.
4. Hypothesis IV predicted nursing students and perinatal nurses who have personal experiences with SUDs will have significantly different attitudes than those who do not. Ho: Personal experiences with SUDs do not predict attitudes toward pregnant and perinatal women with an SUD. H1: Personal experiences with SUDs predict attitudes toward pregnant and perinatal women with an SUD.

Variables

Predictor Variables: formal SUD nursing education, personal experiences, and demographic data: rurality, age, gender, education on SUDs (amount, type, quality), highest nursing degree obtained, race, degree of rurality, religiosity, advanced nursing license or certification, Tennessee region, personal experiences with SUDs, and perinatal nursing unit type. Appendix H includes the survey questionnaire participants completed and demonstrates how these variables were measured in more detail.

Formal SUD nursing education was measured by asking participants if they received formal education in pregnant and perinatal populations in their nursing program. Participants chose either no, yes in a required nursing course or clinical, or yes in a non-required elective nursing course or clinical. This was a select all that apply question. Formal SUD nursing

education was also assessed by asking participants if they received education in non-pregnant/perinatal populations in their nursing program. Participants chose either no, yes in a required nursing course or clinical, or yes in a non-required elective nursing course or clinical. This was also a select all that apply question.

Personal experiences with SUDs were measured by asking participants if they had any personal experiences (non-nursing experiences) with substance use disorders. Participants chose no, yes I have a current or past medical history with a substance use disorder, yes with an immediate family member, yes with a member of my extended family, yes with a close friend, yes with an acquaintance/friend you do not keep in close contact with, or yes with a co-worker/colleague or other.

Outcome Variables: Attitude and Knowledge scores derived from AADAP questionnaire (see scoring sheet in Appendix I).

Data Analysis Process

Statistical software STATA version 17 created by StataCorp was used for data analysis. The data from REDCap were downloaded into excel when the survey was closed. This ensured that no data were lost or incorrectly entered. The data were then cleaned, assessed for missing data, incomplete surveys, and any outlier data. Any such data were removed from the dataset prior to analyzing. From here, data were imported into the STATA statistical software for analysis.

Initial independent samples t-tests were conducted to explore significance in predictor variables and AADAP attitude and knowledge score results. Any significant findings prompted a multiple linear regression analysis as described below.

A multiple linear regression was done to examine the combination of any significant predictor variables (SUD education and personal experiences) on attitude or knowledge scores in practicing perinatal registered nurses and nursing students in Tennessee. A correlational matrix was completed. This matrix aided in the determination which predictors have a significant effect on attitude or knowledge scores in either nursing population. From here, any variables with a high multicollinearity were omitted. Prior to multiple regression, assumptions of regression were met. For example, multicollinearity of predictor variables was not violated. Typically, this means a Pearson correlation (r) greater than .60 or .70. Secondly, variance influence factor (VIF) values must be assessed. This value should not be greater than ten (Jones, 2019). VIF shows how much the variance of a regression coefficient is inflated due to possible multicollinearity in the model (Data Science Direct, 2020).

Predictors were personal experiences with SUDs and formal SUD nursing education as identified previously. Other demographic variables were held constant such as rurality, age student status, degree of rurality and degree of religiosity. An alpha level of .05 or below was considered statistically significant.

Incentive

All participants who were willing to share their email address were included in a raffle drawing and eligible for one $50 U.S. dollar electronic Amazon gift card. An incentive was used to increase survey participation. An incentive may motivate participants to contribute to current research and promote trust between participant, researcher, and institution (Kang, 2016). A $50 U.S. dollar gift card was chosen in congruence with University of California (2006) which found that a 1/100 chance should be $35 and 1/300 chance be for $100 (as cited in Kang, 2016). With a cost-of-living adjustment, $50 U.S. dollars was an appropriate incentive amount. An electronic

gift card was purchased and all ETSU IRB processes were followed for the raffle drawing. The raffle drawing occurred one week after the survey was closed. REDCap was used as the means to obtain the self-selected participants who provided email addresses for raffle participation. A feature of REDCap permits the emails for the raffle participants be collected separately and de-identified from individual responses. The $50 U.S. dollar electronic Amazon gift card recipient was randomly selected and emailed to the winner.

Advantages

- Total sample size was greater than anticipated. Total number of completed surveys was 361.
- Survey research is cost effective and easy to administer.
- Results generalizable for perinatal nurses and pre-licensure nursing students in Tennessee.
- First study to examine Tennessee perinatal nurse and Tennessee nursing student attitudes and knowledge toward pregnant and perinatal women with an SUD.
- Detailed and comprehensive participant demographic information was collected.

Assumptions

- Each variable and all linear combinations of the variables are normally distributed (Polit, 2010).
- Linearity is assumed (Polit, 2010).
- Homoscedasticity is assumed (Polit, 2010).

Limitations

- There were challenges to accessing/finding perinatal nurse managers and CNO emails across Tennessee, particularly in West and East Tennessee.

- Facebook is becoming a less popular social media platform (Hong & Oh, 2020). Perinatal nurses and nursing students who are members of TNA may not check Facebook regularly, or at all, and miss the opportunity to participate.
- Possible multicollinearity may occur when predictor variables are too highly correlated (Polit, 2010).
- Surveys typically yield low response rates (Polit & Beck, 2021).

Summary

This descriptive cross-sectional study used online survey methodology to examine how formal SUD nursing education, personal experiences with SUDs and participant characteristics predict attitudes and knowledge of nursing students and practicing perinatal nurses in Tennessee toward pregnant and perinatal women with SUDs. Each participant read the informed consent which explained the purpose, benefits, and risks of participating in this study. Participants were free to stop the survey at any time. Participation was voluntary and had no effect on student or employment status. The AADAP questionnaire is a reliable and valid questionnaire appropriately assessing nursing attitudes and knowledge toward pregnant and perinatal women with SUDs. Detailed demographic data regarding rurality, age, gender, education on SUDs (amount, type, quality), highest nursing degree obtained, race, religiosity, advanced nursing license or certification, Tennessee region, personal experiences with SUDs, and perinatal nursing unit type were collected. Participant demographic data served as additional possible predictor variables for this study. Independent samples t-tests and a multiple linear regression analysis was conducted to answer the main research questions regarding formal SUD nursing education and personal experiences with SUDs as predictors for attitudes and knowledge toward pregnant and perinatal women with an SUD.

Chapter 4. Research Findings

This study's purpose was to examine how formal substance use disorder (SUD) nursing education, personal experiences, and participant characteristics predict attitudes and knowledge of nursing students and practicing perinatal nurses in Tennessee toward pregnant and perinatal women with an SUD. Main research questions were:

1. Does formal SUD nursing education predict knowledge in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?
2. Does formal SUD nursing education predict attitudes in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?
3. Do personal experiences with SUDs predict knowledge in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?
4. Do personal experiences with SUDs predict attitudes in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?

Independent samples t-tests were conducted to initially answer the research questions above. Significant t-tests findings resulted in employing a multiple linear regression analysis to further explore variable relationships. This chapter will describe study results to include providing data analysis results including a description of the study sample, demographics, predictor variables, independent samples t-test findings and multiple regression analysis findings.

Sample

This study used a convenience, non-probability sample as it was not feasible to access target populations in their entirety. Target populations included practicing perinatal nurses and pre-licensure nursing students (ADN and BSN programs) practicing or going to school in Tennessee. Nursing students and practicing perinatal registered nurses were recruited through the TNA Facebook page and by email.

Tennessee perinatal registered nurses were contacted by emailing various Chief Nursing Officers (CNOS) and nurse managers at hospitals providing perinatal, pregnancy, maternal and newborn care in east, west, and middle Tennessee. In total, 25 nursing units employing perinatal nurses across Tennessee were invited to participate. Two of the 25 responded confirming the study was shared with the perinatal nurses on that unit.

Tennessee pre-licensure nursing students were recruited via email though notification from their respective deans, directors, or program administrators. There were 77 nursing deans and directors contacted by email. Four of the 77 nursing deans and directors contacts responded that the study was shared with their respective pre-licensure nursing students.

Data were collected from March 3, 2021, until May 2, 2021, approximately eight weeks. A total of 361 questionnaire responses were retained. In total, 99 nurses and 262 students participated. Individual questionnaire responses were retained that completed the AADAP portion of this study's questionnaire in its entirety and completed all questions related to formal SUD education and personal experiences as described in chapter three.

Demographic Characteristics of Sample

Demographic characteristics included identification of nurse type, nursing student program, perinatal nursing degree, race, age, rurality, religiosity, Tennessee region, education,

and personal experiences with SUDs. The majority of participants were nursing students (72.5%) and identified as being White or Caucasian (86.1%). The mean age of participants was 28.36 years. A summary of demographic characteristics of the sample can be seen in Table 1.

Table 1

Demographic Summary of Participants (*n* = 361)

Demographic	*n* (%)
Nurses	
Nursing Student	262 (72.5)
Associate's Degree Program	29 (11.0)
Bachelor's Degree Program	233 (88.9)
Perinatal Nurse	99 (27.4)
Associate's Degree	22 (22.2)
Bachelor's Degree	56 (56.6)
Master's Degree	17 (17.2)
Doctoral Degree	4 (4.0)
Race (participants able to select all that apply)	
American Indian	5 (1.4)
Asian	8 (2.2)
Black or African American	30 (8.3)
Native Hawaiian	2 (0.6)
White or Caucasian	311 (86.1)
Other	16 (4.4)
Undisclosed	4 (1.1)
Age	Overall Mean: 28.36 years Standard Deviation: 10.21 Range: 18-65 years Nursing Student Mean: 25 Perinatal Nurse Mean: 38.9
Rurality	
Participants who identified as living a very rural/moderately rural location	121 (33.5)

Demographic	*n* (%)
Religiosity	
Participants who identified as being very religious	104 (28.8)
Tennessee Region	
West Tennessee	83 (23.0)
Middle Tennessee	192 (53.2)
East Tennessee	81 (22.4)

Formal SUD Nursing Education Variable

An assessment of formal SUD nursing education was collected in this study's questionnaire (Appendix H). Formal SUD nursing education was self-reported for perinatal and non-perinatal populations. Regarding formal SUD nursing education in pregnant and perinatal populations, 40.7% of participants stated they had no formal education while 51% reported having formal education in a required nursing course. Regarding formal SUD nursing education in non-pregnant/perinatal populations, 29.9% stated they had no formal education while 62.3% reported having formal education in a required nursing course. For both pregnant and perinatal and non-pregnant/perinatal SUD education, only 1.9% of participants reported receiving education in a non-required nursing clinical course. Table 2 displays participants' responses to formal SUD education questions received in their nursing programs.

Table 2

Participant's Self-Report of Formal Nursing Education on SUDs (*n* = 361)

Formal SUD Nursing Education	*n* (%)
Formal SUD education in pregnant/perinatal populations (participants able to select all that apply)	
No	147 (40.7)
Yes, in a required nursing course	184 (51.0)
Yes, in a required nursing clinical	87 (24.1)
Yes, in a non-required nursing course	13 (3.6)
Yes, in a non-required nursing clinical	7 (1.9)
Formal SUD education in other (non-pregnant/perinatal) populations (participants able to select all that apply)	
No	108 (29.9)
Yes, in a required nursing course	225 (62.3)
Yes, in a required nursing clinical	91 (25.2)
Yes, in a non-required nursing course	19 (5.3)
Yes, in a non-required nursing clinical	7 (1.9)

Formal SUD Education and AADAP Knowledge Scores

Formal SUD nursing education was measured via self-reported responses to questions as seen in Table 2. An independent samples t-test was used to compare AADAP knowledge scores in those who had formal SUD nursing education in pregnant or perinatal populations (identified by answering yes to any of the four options seen in Table 2) (M=12.24, SD=2.61) and those who reported they did not have any formal SUD nursing education in pregnant and perinatal populations (M=11.99, SD= 2.84). The difference between AADAP knowledge scores and formal SUD nursing education in perinatal and pregnant populations was not statistically significant based on the results of the t-test; $t(359) = -0.84$, $p = .80$. An independent samples t-test was used to compare AADAP knowledge scores in those who had formal SUD nursing education in other/non-pregnant and perinatal populations (identified by answering yes to any of

the four options seen in Table 2) (M=12.22, SD=2.61) and those who did not (M=11.93, SD=2.91). The difference between AADAP knowledge scores and formal SUD nursing education in other/non-pregnant perinatal populations was not statistically significant based on the results of the t-test; t(359) = -0.96, p = .83.

Formal SUD Nursing Education and AADAP Attitude Scores

An independent samples t-test was used to compare AADAP attitude scores in those who had formal SUD nursing education in pregnant or perinatal populations (identified by answering yes to any of the four options seen in Table 2) (M=39.28, SD=8.74) and those who reported they did not have any formal SUD nursing education in pregnant and perinatal populations (M=39.25, SD= 9.30). The difference between AADAP attitude scores and formal SUD nursing education in pregnant and perinatal populations was not statistically significant based on the results of the t-test; t(359) = -0.03, p =.49. An independent samples t-test was used to compare AADAP attitude scores in those who had formal SUD nursing education in non-pregnant and perinatal populations (identified by answering yes to any of the four options seen in Table 2) (M=39.27, SD=8.85) and those who did not (M=39.25, SD=9.30). The difference between AADAP attitude scores and formal SUD nursing education in non-pregnant perinatal populations was not statistically significant based on the results of the t-test: t(359) = -0.01, p=.50.

Personal Experience with SUDs Variable

Data concerning the participant's personal (non-nursing) experiences with SUDs was collected in this study's questionnaire (Appendix H). Personal experiences were self-reported by participants as a select all that apply question. Participants were asked to share if they had a current or past SUD experience or a personal experience with an immediate family member,

extended family member, close friend, acquaintance, or co-worker/colleague with an SUD. Table 3 displays participants' responses to personal experiences with SUDs.

Table 3

Participant's Self-Report of Personal Experiences with SUDs (*n* = 361)

Personal Experiences with SUDs (non-nursing experiences)	*n* (%)
Any personal experiences with SUDs	252 (69.8)
current or past self SUD history	6 (1.7)
with immediate family member	119 (33.0)
with extended family member	125 (34.6)
with a close friend	63 (17.5)
with an acquaintance/friend	103 (28.5)
with a co-worker/colleague	35 (9.7)
No personal experiences with SUDs	109 (30.2)

Personal Experiences and AADAP Knowledge Scores

Independent sample t-tests were used to compare AADAP knowledge score means in those who had any personal (non-nursing) experiences with SUDs (measured by answering yes to any of the options seen in Table 3) (M=12.25, SD=2.69) and those who reported they did not have any personal experiences with SUDs (M=11.86, SD= 2.75.). The difference between AADAP knowledge scores and having any personal experience with SUDs was not statistically significant based on the results of the t-test; t(359) = -1.25, $p = .11$. An independent samples t-test was also used to compare AADAP knowledge scores in those who a personal experience with an immediate family member with an SUD (M=12.13, SD=2.78) and those who did not (M=12.14, SD=2.68). T-test results were non-significant; t(359) = 0.03, $p = .51$. A non-significant t-test finding was also found between AADAP knowledge scores and having a

personal experience with an SUD in an extended family member (M=12.39, SD=2.54) and not having a personal experience with an SUD in an extended member (M=12.00, SD = 2.79); t(359) = 1.32, p = .09. However, a statistically significant difference was found between AADAP knowledge scores and having a personal experience with a close friend with an SUD (M=13.02, SD = 2.48) and those who did not (M=11.95, SD = 2.722); t(359) = -2.88, p < .005.

Personal Experiences and AADAP Attitude Scores

An independent samples t-test was used to compare AADAP attitude score means in those who had any personal (non-nursing) experiences with SUDs (measured by answering yes to any of the options seen in Table 3) (M=39.54, SD=9.15) and those who report they did not (M=38.63, SD= 8.56.). The difference between AADAP attitude scores and those who had any personal experiences with SUDs was not statistically significant based on the results of the t-test; t(359) = -0.88, p = .19. An independent samples t-test was used to compare AADAP attitude scores in those who a personal experience with an immediate family member with an SUD (M=39.84, SD=10.13) and those who did not (M=38.98, SD=8.36). A non-significant difference resulted; t(359) = -0.86, p = .19. A non-significant independent samples t-test resulted between AADAP attitude scores and having a personal experience with an SUD in an extended family member (M=39.81, SD=9.30) and not having a personal experience with an extended family member with an SUD (M=38.97, SD = 8.80); t(359) = -0.84, p = .20. Lastly, a non-significant independent samples t-test resulted between AADAP attitude score means and having a personal experience with a close friend with an SUD (M=40.64, SD = 10.53) and those who did not (M=38.97, SD = 8.60); t(359) = -1.33, p = .09.

Outcome AADAP Scores

AADAP scores for knowledge and attitude were captured in the survey questionnaire (Appendix H). Table 4 displays overall findings for knowledge and attitude scores on the AADAP questionnaire. The AADAP has a separate knowledge scale consisting of 20 questions to be answered true, false or not sure. If the participant answered the knowledge question correctly, they received 1 point. The highest score possible was 20 and the lowest was 0. Higher scores indicated greater knowledge. There was no formal threshold to suggest the difference between high and low knowledge (Selleck & Redding, 1998).

The 14 attitude questions are a separate scale within the AADAP questionnaire and are ranked on a 5-point Likert scale (Part B of the AADAP). Scores can range between 14 to 70. For example, by selecting a 1 on the Likert scale in response to a statement designates a negative attitude while answering a 5 denotes a positive attitude. There is not a prescribed threshold for the difference between positive and negative attitudes. However, higher scores indicate positive attitudes, while lower scores are indicative more punitive and negative attitudes (Selleck & Redding, 1998).

Table 4

Participant Scores from AADAP Questionnaire

AADAP Scores	M	SD	Range
Knowledge scores	12.13	2.71	3-18
Attitude scores	39.26	8.97	14-69

Multiple Regression Analysis

All independent samples t-tests were non-significant for predictor variables formal SUD nursing education and personal experiences with SUDs with AADAP knowledge and attitude scores with the exception of personal experiences with a close friend with an SUD and AADAP knowledge scores. As this was the only significant independent samples t-test, a multiple linear regression was completed. Results of the multiple linear regression indicated that having a close friend with an SUD was predictive for higher AADAP knowledge scores when controlling for age (in years), race (dichotomous variable white and non-white), student status (dichotomous variable nursing student or perinatal nurse), rurality (dichotomous variable currently living in very/moderate rural area or not) and religiosity (dichotomous variable self-reported as very religious or not) ($F(6, 347) = 3.53$, $p < .01$, $R^2 = .06$). In addition, being older and identifying as very religious were also predictors of higher AADAP knowledge scores in this model. The overall model was statistically significant in predicting AADAP knowledge scores. Table 5 below displays the multiple linear regression analysis findings.

Table 5

Linear Multiple Regression Analysis of AADAP Knowledge Scores Predicted by Having a Close Friend with an SUD

Variable	*B*	*p*	95% CI
Personal close friend with an SUD	.84	.03*	[0.10, 1.57]
Age	.04	.02*	[0.01, 0.07]
Race	.34	.41	[-0.48, 1.17]
Student	.29	.44	[-0.45, 1.04]

Variable	*B*	*p*	95% CI
Rurality	-.34	.26	[-0.93, 0.25]
Very religious	.74	.02*	[0.13, 1.35]
R^2	.06	<.01*	

Note. CI = Confidence interval, *p <.05.

Summary

The purpose of this study was to examine how formal SUD nursing education, personal experiences, and participant characteristics predicted attitudes and knowledge of nursing students and practicing perinatal nurses in Tennessee toward pregnant and perinatal women with an SUD. In total 361 completed surveys were used for statistical analysis. Independent samples t-tests were non-significant for predictor variables formal SUD nursing education and personal experiences with SUDs with AADAP knowledge and attitude scores with the exception of personal experiences with a close friend with an SUD and AADAP knowledge scores. A multiple linear regression revealed that having a close friend with an SUD was predictive of higher AADAP knowledge scores when holding other variables constant. The overall multiple linear regression model was found to be predictive.

Chapter 5. Discussion

This chapter will explore the findings from this research study. The purpose of this study was to examine how formal substance use disorder (SUD) nursing education, personal experiences, and participant characteristics predict attitudes and knowledge of nursing students and practicing perinatal nurses in Tennessee toward pregnant and perinatal women with an SUD. The aim of this study was to better understand factors affecting the attitudes and knowledge in nursing students and perinatal registered nurses in Tennessee toward pregnant and perinatal women with an SUD. The primary research questions were as follows:

1. Does formal SUD nursing education predict knowledge in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?
2. Does formal SUD nursing education predict attitudes in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?
3. Do personal experiences with SUDs predict knowledge in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?
4. Do personal experiences with SUDs predict attitudes in nursing students and perinatal registered nurses toward pregnant and perinatal women with an SUD while holding other participant characteristics constant?

Theoretical Support

The theoretical framework supporting this study was Harling and Turner's (2012) adapted PCS model (Appendix C), originally created by Thompson (1998). Harling and Turner's

(2012) adapted PCS model demonstrates the relationships between societal, cultural, and individual influences in relation to practice environment and nursing education. The authors conclude that these components are contributory toward attitude formation in nurses. The adapted PCS model supports this study's primary hypothesis of formal SUD nursing education and personal experiences as predictors of knowledge and attitudes in nursing students and practicing perinatal nurses in Tennessee toward pregnant and perinatal women with an SUD.

Summary of Findings

In total, 361 participant questionnaire responses were retained for analysis. It is difficult to assess an exact response rate as the total number of perinatal nurses and nursing students in Tennessee is unknown. However, 77 pre-licensure Tennessee nursing program directors, deans and administrators were contacted and 25 CNOs and nurse managers of women's health nursing units were asked to share this study via email with respective perinatal nurses and nursing students. Additionally, the Tennessee Nurses Association (TNA) shared this study via its Facebook page where over 2000 people are followers. It is difficult to know how many program directors, deans, directors, CNOs or nurse managers shared the study as requested. Furthermore, the study may have been shared with an unknown number of Tennessee nursing students and perinatal nurses on Facebook.

Independent samples t-tests were completed for research questions and their related hypotheses. If a significant finding (p <.05) resulted, a linear multiple regression analysis was done to control for other demographic variables as discussed in chapters three and four. The only significant independent samples t-test was found in Attitudes about Drug Abuse in Pregnancy (AADAP) knowledge score means and having a personal experience with a close friend with a SUD (M=13.02, SD = 2.48) and those who did not (M=11.95, SD = 2.722); t(359) = -2.88, p <

.005. A multiple linear regression was then completed. Results indicated that having a close friend with a SUD was predictive for higher AADAP knowledge scores when controlling for age (in years), race (dichotomous variable white and non-white), student status (dichotomous variable nursing student or perinatal nurse), rurality (dichotomous variable currently living in very/moderate rural area or not) and religiosity (dichotomous variable self-reported as very religious or not) [$F(6, 347) = 3.53$, $p < .01$, $R^2 = .06$)]. The overall model was statistically significant in predicting AADAP knowledge scores.

Review of Hypotheses

1. Hypothesis I predicted that nursing students and perinatal nurses who have formal SUD nursing education will have significantly different knowledge than those who do not. Ho: Formal SUD nursing education does not predict knowledge toward pregnant and perinatal women with an SUD. H1: Formal SUD nursing education is predictive of knowledge toward pregnant and perinatal women with an SUD.
2. Hypothesis II predicted nursing students and perinatal nurses who have formal SUD nursing education will have significantly different attitudes than those who do not. Ho: Formal SUD nursing education does not predict attitudes toward pregnant and perinatal women with an SUD. H1: Formal SUD nursing education predicts attitudes toward pregnant and perinatal women with an SUD.
3. Hypothesis III predicted nursing students and perinatal nurses who have personal experiences with SUDs will have significantly different knowledge than those who do not. Ho: Personal experiences with SUDs do not predict knowledge toward pregnant and perinatal women with an SUD. H1: Personal experiences with SUDs predict knowledge toward pregnant and perinatal women with an SUD.

4. Hypothesis IV predicted nursing students and perinatal nurses who have personal experiences with SUDs will have significantly different attitudes than those who do not. Ho: Personal experiences with SUDs do not predict attitudes toward pregnant and perinatal women with an SUD. H1: Personal experiences with SUDs predict attitudes toward pregnant and perinatal women with an SUD.

Results from this study conclude that the null hypothesis for hypotheses I, II, and IV should be accepted. There were not statistically significant differences in knowledge or attitude scores in nursing students and practicing perinatal nurses and having formal SUD nursing education (Hypotheses I and II). Additionally, null hypothesis IV was accepted because there were not statistically significant differences in attitude scores between those who had a personal SUD experience and those who did not. Alternative hypothesis III should be partially accepted because having a close friend with an SUD was predictive of higher knowledge scores in nursing students and perinatal nurses. Hypothesis III should be only partially accepted because the only measure of personal experiences that was statistically significant was having a close friend with an SUD. Having a personal experience with an immediate or extended family member with an SUD did not yield statistically different knowledge scores.

Implications and Discussion

Demographics of Participants

The demographics of participants in this study are consistent with the demographics of the Tennessee nursing population and state population as a whole. Nursing statistics (2019) reported that 86.4% of Tennessee's nurses were White or Caucasian. The United States Census Bureau (2019) reported that 78.4% of the Tennessee population was White. This is consistent with participants of this study where 86.1% self-reported their race as White or Caucasian.

Similar findings were found for Black or African American races. Nursing statistics (2019) reports that 8.8% of Tennessee's nurses are Black or African American. The United States Census Bureau (2019) reported that 17.1% of the Tennessee population was Black or African American. In this study, 8.3% of participants self-reported their race as being Black or African American. The age range of Tennessee nurses is under 25 to over 55 years old (Nursing Statistics, 2019). The age range of participants in this study was 18-65 which is consistent with the Tennessee nursing population. It is important to ensure that the demographics of participants reflect nurse and state populations in order to be a representative sample.

Formal SUD Nursing Education

Findings do not support that the reported formal SUD nursing education in this study was predictive of improved attitude or knowledge scores in nursing students or perinatal nurses in Tennessee. This is a direct contradiction to nursing research studies previously conducted by Ludwig (1996), Neary (2018) and Selleck and Redding (1998) that examined nursing education in relation to knowledge or attitudes toward SUD populations. Regarding nursing students specifically, Schuler and Horowitz (2020) concluded that nursing students do not receive adequate SUD education in nursing curricula. Limited nursing education can contribute to poor attitudes toward SUD populations (Harling & Turner, 2012). Schuler and Horowitz (2020) suggested that nursing curricula need to have enhanced SUD education with an emphasis on nursing interventions.

Discussion of Formal SUD Nursing Education. Results from this study indicate that formal SUD nursing education as self-reported by participants did not improve attitude or knowledge scores on the AADAP questionnaire. It is conceivable that participants were unable to remember specific education they received during their nursing education, and specifically if it

was focused on general/non-perinatal or perinatal SUD populations specifically. It is also reasonable to consider that the amount, type, quality, and quantity of nursing education received was not substantial or thorough enough to statistically affect attitude or knowledge scores on the AADAP questionnaire. It is important to note that this study cannot address the adequacy of formal SUD nursing education received by participants as it was only intended to capture the formal SUD nursing education that was self-reported by the participants (dichotomous variable).

Chang and Yang (2012) stated that education should be focused on providing less experienced nurses with more information and insight when working with SUD populations. Chang and Yang (2012) continued that SUD training that only focused on education may not be adequate. Nursing workforce development should integrate multiple strategies, including clinical supervision, when developing substance use education strategies for clinical nurses in order to generate improvements in attitudes (Chang & Yang, 2012). For example, including in-services or workshops aimed specifically at nurses caring for perinatal populations is warranted (Neary, 2018). Formal SUD nursing education did not have a significant effect in improving knowledge or attitudes in Tennessee nurses and nursing students in this study, leaving many opportunities for future education efforts.

Personal Experiences

This study assessed through perinatal nurses' and nursing students' self-report of personal (non-nursing) experiences with SUDs with an immediate family member, extended family member, or a close friend. Having a personal experience with an immediate or extended family member having an SUD did not yield a statistically significant difference in attitude or knowledge scores in nursing students and perinatal nurses in Tennessee. However, having a close friend with an SUD was predictive of improved knowledge scores in perinatal nurses and

nursing students. It is important to note that having a personal experience of a close friend with an SUD was not predictive of improved attitude scores, only knowledge scores.

Discussion of Having a Close Friend with an SUD. Of the 361 participant responses, 63 (17.5%) reported a personal experience of having a close friend with an SUD. Although a much smaller percentage of participants had a personal experience with a close friend with an SUD compared a personal experience with an SUD in an immediate or extended family member (67.6%), having a close friend was predictive of improved knowledge scores, while having an immediate or extended family member with an SUD was not. Neary (2018) concluded that personal experiences may provide "the basic personal prism from which their underlying affective feelings about addictive substance use arise" (p. 111). Results from this study indicate that a perinatal nurse or nursing student having a close friend with an SUD is more influential on SUD knowledge than having a family member who has an SUD.

Cengiz and Tanik (2020) investigated the relationship between differing social support systems and stigmatization as it relates to a person with epilepsy. Interestingly, results demonstrated that having the support of a close friend was more important than having family support. Although epilepsy and SUDs have differences, both are disease processes. It is possible that those with an SUD feel enhanced support and less perceived stigmatization from friends, thus contributing to improved SUD knowledge in their friends. Furthermore, having a close friend with an SUD may have prompted perinatal nurses and nursing students to seek additional education on SUDs. Additionally, it is possible that participants in this study had closer or more substantial relationships to friends with SUDs than they did extended or immediate family members, resulting in better AADAP knowledge scores. This is supported by Rodriguez et al. (2003) who found that friend support made a greater contribution to overall well-being in Latino

college students. Additionally, Rodriguez et al. (2003) concluded that support from a friend protected against one's psychological distress.

Chopik (2017) found that familial relations had a static or limited influence on health across the lifespan, but that relationships with spouses, parents, and friends became progressively more important as a person ages. It is evident that the different types of relationships with family, friends, and others are influential in a person (Chopik, 2017). This influence was seen in this study, as results indicated that having a close friend with an SUD as predictive of increased knowledge of pregnant and perinatal women with an SUD.

AADAP Questionnaire Knowledge Scores

The mean AADAP knowledge score was 12.13 (SD = 2.71, range 3-18) out of a possible score of 20, indicating that knowledge can be improved in nursing students and perinatal nurses in Tennessee. Findings are consistent with Neary (2018), who posited that education efforts must be improved for nurses caring for pregnant and perinatal SUD populations.

Discussion of Knowledge Scores. Perhaps knowledge levels were low due to a lack of in-depth or thorough formal SUD education received or perceived by students and nurses in nursing education programs. As previously stated in Schuler and Horowitz's (2012) findings, students received only 1.5 hours of SUD education, which students stated was not sufficient. This is consistent with Chang and Yang (2012) who found that nurses received on average 3.85 hours of SUD education in their nursing programs.

It is imperative that nurses are properly educated to care for pregnant and perinatal SUD populations since they have unique needs. As previously reviewed, data from the 2019 National Survey on Drug Use and Health (NSDUH) found that 5.8% of pregnant women used illicit drugs, 9.6% used tobacco products, 5.4 % used marijuana, and 9.5% used alcohol in the previous

month (SAMSHA, 2019). Relative to opiate and other illicit drug use, there was a five-fold increase in the proportion of newborns with Neonatal Abstinence Syndrome (NAS) from 2004 to 2014, when an estimated 32,000 newborns were born with NAS/neonatal opioid withdrawal syndrome (NOWS) (National Institute on Drug Abuse, 2019). In Tennessee specifically there was a 1000% increase in NAS rates from 2002-2013 compared to the rest of country, which had a 300% increase (Brantley, 2017). These staggering numbers demonstrate that perinatal nurses will inevitably interact and provide care for this population of women and infants. More troubling, it is very difficult to assess the true number of pregnant and perinatal women with an SUD as many may seek to hide drug use practices out of fear of criminalization. Therefore, it is reasonable to conclude that the true numbers of pregnant and perinatal women suffering from an SUD is likely higher than reported. The low knowledge scores reported in this study by both perinatal nurses and nursing students are concerning regarding the future of nursing care for pregnant and perinatal women with an SUD in Tennessee.

AADAP Questionnaire Attitude Scores

The mean attitude score of this study's sample was 39.26 (SD= 8.97, range 14-69). The lowest possible attitude score on the AADAP attitude scale is 14 and the highest is 70. Higher scores indicate more positive attitudes, and lower scores indicate more negative attitudes. This study's mean attitude score of 39.26 demonstrates that attitudes toward pregnant and perinatal women with an SUD need improvement.

Discussion of Attitude Scores. Attitudes toward SUD populations are often difficult to change as Americans often view persons with SUDs as having personal failings (Johns Hopkins Bloomberg School of Public Health, 2014). Negative attitudes are more likely seen toward SUD populations compared to other mental illnesses (John Hopkins Bloomberg School of Public

Health, 2014). Beth McGinty, professor at John's Hopkins stated, "The more shame associated with drug addiction, the less likely we as a community will be in a position to change attitudes and get people the help they need." Furthermore, she stated, "If you can educate the public that these are treatable conditions, we will see higher levels of support for policy changes that benefit people with mental illness and drug addiction" (Johns Hopkins Bloomberg School of Public Health, 2014).

A first step in improving attitudes is to improve educational efforts. Given that this study sample had a low knowledge score it is not surprising that attitude scores are also low. However, education is only one component needed to improve attitudes. For example, Harling and Turner's (2012) adapted PCS model demonstrated the complexity of how attitudes toward SUDs are formed. As seen in the model, community, societal, and individual influences in addition to nursing practice environment and education are contributory toward attitude formation. Moreover, as members of the general public, many nurses think negatively of those with substance use disorder (Tierney, 2016). Education alone is not sufficient to change attitudes in a population. To improve attitudes, a complex system of changes must occur.

To see improved nursing attitudes toward SUD populations, nurses must feel support in the workplace (Tierney, 2016). Additionally, nurses must realize that patients with SUDs can and do recover daily (Tierney, 2016). This realization can help promote and demonstrate that SUDs are in fact a disease process from which people can heal and recover. Nurses who can collaborate with other healthcare professionals in the care of SUD populations often have improved attitudes (Tierney, 2016). Lastly, nursing managers and nurse educators, such as clinical nurse specialists, can implement unique SUD support programs based on patient, community, and provider needs (Tierney, 2016). Nurses having information and awareness of local resources, community

outreach programs, and healthcare options for SUD populations are essential for referral. These measures, combined with education efforts, may help improve nursing attitudes toward SUD populations.

Future of Nursing Education

Nursing Curricula Needs

Although this study found formal SUD nursing education did not yield statistically significant different knowledge or attitude scores, it is reasonable to conclude that this may be due to a dearth of SUD nursing education provided in nursing curricula. Nursing curricula should include SUD education integrated across maternal, medical-surgical, and psychiatric nursing courses (Schuler & Horowitz, 2020). This education should concentrate on fostering understanding, empathy, and factual information related to SUDs (Schuler & Horowitz, 2020). Clinical experiences can be an opportunity to expose students to patients with SUDs. In particular maternal-child settings could be an ideal location to model appropriate nursing interventions and patient centered care, since attitudes and knowledge of nurses overall are poor regarding this vulnerable population of women. This may improve student confidence and nursing skills, ultimately improving the nursing care pregnant and perinatal women with an SUD receive.

Nursing Simulation

Nursing simulation experiences are an excellent option to ensure that students and practicing perinatal nurses are exposed to pregnant and perinatal SUD populations in a safe learning environment. Simulation-based nursing education is an experiential learning technique, which involves placing students in patient care scenarios (such as caring for a close friend with an SUD) created by educators to maximize learning for future nursing encounters (Gharibi &

Arulappan, 2020). Simulation can increase student competency, improve confidence, and ensure appropriate nursing care is provided to vulnerable populations such as pregnant and perinatal women with an SUD. Nursing curricula programs that use nursing simulation experiences as a method to educate students on SUDs may see improved knowledge and attitudes in students toward vulnerable SUD populations.

It is important to expose students to SUD populations as many students report feeling overwhelmed and unprepared to care for the unique needs of SUD patients. Chang and Yang (2012) stated that nurses' attitudes are improved when they have more experience because nurses with a long history of work experience have more opportunities to care for and interact with SUD patients. This suggests that education should be focused on providing student nurses with more education and insight in caring for SUD patients (Chang & Yang, 2012). This supports the need for learning opportunities such as nursing simulation experiences. Simulation is an appropriate educational tool as it is a safe, non-threatening learning environment where students and nurses can ask questions, clarify nursing care interventions, and improve one's self-confidence in the care of this vulnerable population of women.

Potential nursing simulation experiences to improve knowledge and attitudes toward pregnant and perinatal women with an SUD could include having students provide care for a pregnant woman with a SUD. Nurse educators could promote empathetic communication by having students engage in conversation related to the woman's substance use. The student could be required to educate the women on local community resources, needed medical care or treatment options and education related to NAS. The student would have the opportunity to engage in appropriate nursing interventions and communication skills. A simulation experience

such as described has the potential to be very beneficial for the student's likely future encounters with SUD populations.

Healthcare in Other Disciplines

Krans et al. (2014) indicated that obstetricians and gynecologists practicing for fewer than 10 years were most likely to increase the number of prenatal care appointments for patients with psychosocial risk factors such as drug or alcohol use. These findings suggest that an emphasis on prenatal care delivery to patients with psychosocial risk factors, such as SUDs, may have recently gained more importance in Ob/Gyn clinical training programs since publication of 2006 American College of Gynecology (ACOG) guidelines (Krans et al., 2014).

This is encouraging as it demonstrates that other healthcare disciplines are making improvements in the care that pregnant and perinatal women with SUDs receive. Professional nursing organizations, outpatient and in-patient hospital nursing administrators, perinatal nurses, and perinatal community outreach programs have the opportunity to learn from other disciplines and implement similar strategies to improve the nursing care of this vulnerable population of women. The future of healthcare for pregnant and perinatal women with SUDs has enormous potential to improve.

Limitations

This study is limited as it was a one-time measure of nursing student and perinatal nurses' attitudes and knowledge toward pregnant and perinatal women with an SUD. There may have been unforeseen factors affecting participants' knowledge or attitudes when they completed the study questionnaire. Furthermore, results are not generalizable outside of Tennessee nursing student and perinatal nursing populations. Additionally, perinatal nurses and nursing students from middle Tennessee accounted for 53.2% of the sample size. It is possible that unique

attitudes and knowledge are present in middle Tennessee perinatal nurses and nursing students compared to perinatal nurses and nursing students in west or east Tennessee. The study also took place during the COVID-19 global pandemic. Students and perinatal nurses may have been under additional stress in the workplace, educational setting, and personally during this time causing atypical responses. Also, this was a convenience sample and the number of nursing experiences with pregnant and perinatal women with an SUD was not collected.

Summary

This study found that having a personal experience with a close friend with an SUD was predictive of higher AADAP knowledge scores in perinatal nurses and nursing students in Tennessee. Formal SUD nursing education and personal experiences with a family member with an SUD were not predictive of improved attitude or knowledge scores toward pregnant and perinatal women with an SUD. These findings are contradictory to other nursing research studies regarding personal experiences and nursing education. However, results are similar to research findings exploring the importance of enhancing education methodologies in nurses and nursing students regarding patient care in SUD populations. Future research examining varying types of nursing education including simulation and clinical experiences, conferences, continuing education credits, and unique education programs focused on pregnant and perinatal SUD populations may inform nursing attitudes and knowledge.

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APPENDICES

Appendix A: Attitudes about Drug Use in Pregnancy Questionnaire

Questionnaire: Below are 34 statements about the effects of prenatal substance exposure, addition, and its effects.

Part A: Please indicate whether you believe the statement is true, false, or are not sure by circling the response which corresponds to your choice.				
No.	Statement	True	False	Not Sure
1	It is well established that full-term infants with prenatal cocaine exposure have long-term deficits.	1	2	3
2	In general, illegal drugs seem to have more serious consequences for prenatally exposed babies than legal drugs.	1	2	3
3	As a result of the increase in cocaine use there are many preterm babies with serious medical problems.	1	2	3
4	Substance abusers usually stick to a single drug rather than using a variety of drugs.	1	2	3
5	The withdrawal from cocaine experienced by infants can last several months.	1	2	3
6	Sudden Infant Death Syndrome (SIDS) occurs more frequently in alcohol, tobacco and other drug-exposed infants.	1	2	3
7	Prematurity is one of the serious consequences of prenatal cocaine exposure.	1	2	3
8	Drug abusers often have family members or significant others who also abuse drugs or alcohol.	1	2	3
9	All prenatal alcohol and drug use results in birth defects.	1	2	3
10	Drug abuse in pregnancy is associated with a high rate of pregnancy complications.	1	2	3
11	Prenatal drug and alcohol exposure have been found to be a cause of learning problems in school age children.	1	2	3
12	Child abuse and neglect are often reported in families where drug and alcohol abuse are a problem.	1	2	3
13	Making a pregnant woman feel guilty about her substance abuse is an effective way of stopping alcohol and drug use.	1	2	3
14	Black women are more likely to use drugs and alcohol than white women.	1	2	3
15	Prenatal addiction causes changes in the brain that make a child more likely to become an addict or alcoholic later.	1	2	3
16	Cocaine is often used by women who do not abuse other drugs.	1	2	3
17	Cocaine is more damaging to the unborn child than most other drugs.	1	2	3
18	Women who abuse drugs and alcohol usually associate with men who do too.	1	2	3
19	Nicotine abuse (cigarettes) causes more deaths per year in the United States than any other abused substance.	1	2	3

Part A: Please indicate whether you believe the statement is true, false, or are not sure by circling the response which corresponds to your choice.				
No.	Statement	True	False	Not Sure
20	Among young women, cocaine abuse is a bigger problem than alcohol abuse.	1	2	3

Part B: Please indicate how much you agree or disagree with each statement by circling the response which corresponds to your office.						
No.	Statement	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
21	The best thing to do for drug-exposed babies is to remove them from the homes of their birth mothers.	1	2	3	4	5
22	Women who abuse drugs and alcohol during pregnancy are more concerned with themselves than with their babies.	1	2	3	4	5
23	Prenatal drug and alcohol use should be considered a form of child abuse.	1	2	3	4	5
24	Women who abuse drugs during their pregnancy should be punished by being put in jail.	1	2	3	4	5
25	All pregnant women should be given a urine screen for drugs.	1	2	3	4	5
26	Taking care of infants who are born sick or addicted as the result of their mother's drug abuse places an unfair burden on society.	1	2	3	4	5
27	Drug addicts forget about their babies when they leave the hospital.	1	2	3	4	5
28	Abusing drugs makes people manipulative and unreliable.	1	2	3	4	5
29	Substance abusing women should have their tubes tied.	1	2	3	4	5
30	When I hear about the effects of alcohol and drug abuse on infants, I feel angry at their mothers.	1	2	3	4	5
31	Drug and alcohol abuse by women that endangers children should be handled through the legal system.	1	2	3	4	5
32	Children of alcoholics usually have more emotional problems and do less well at school than other children.	1	2	3	4	5
33	To prevent further damage to the fetus, pregnant drug abusers should be put in jail until their baby is born.	1	2	3	4	5

Part B: Please indicate how much you agree or disagree with each statement by circling the response which corresponds to your office.						
No.	Statement	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
34	The mother is responsible for the damage done to her unborn child by alcohol or other drugs.	1	2	3	4	5
Comments: Please make any additional comments that you would like in this section. Mention anything you think that we missed or other ideas about these problems that have occurred to you.						

Appendix B: Permission to Use AADAP Questionnaire

From: Selleck, Cynthia S [redacted]
Sent: Monday, August 26, 2019 3:38 PM
To: Eckenrode, Jessica [redacted]
Cc: [redacted]
Subject: [External] RE: AADAP - Jessica Eckenrode, PhD Nursing Student in Tennessee

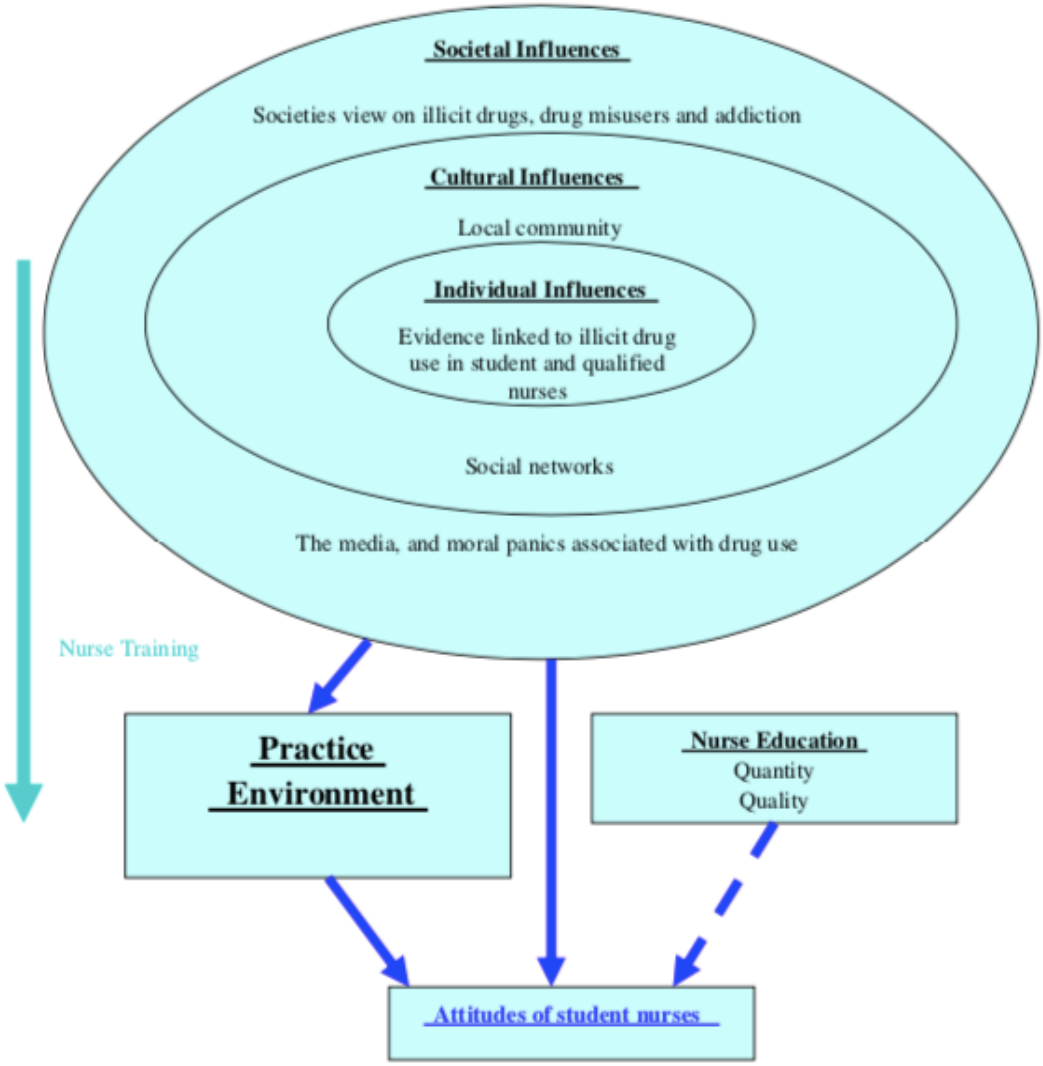
***** This is an EXTERNAL email. Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email - APSU IT Security. *****

Hello Jessica,

You are welcome to use the adapted AADAP. I have attached a copy of the instrument and answer key that Dr. Redding and I used. Please let us know the results of your study. I have copied Dr. Redding on this email.

Cynthia Selleck, PhD, RN, FAAN

Appendix C: Adapted PCS Model by Harling and Turner (2012)



Appendix D: TNA Facebook Guidelines

Tennessee Nurses Association
Guidelines for Research Recruitment Notices
Website Placement

TNA members are eligible to submit nursing research recruitment notices for distribution via website listing on TNAonline.org and TNA's Facebook page. After approval by TNA and all guidelines below have been met, researchers may post, (**after the post has first been approved by TNA**), to TNA's Facebook page. Contact Kathryn Denton at [redacted] for approval of posts. Distribution of research recruitment notices is a service TNA offers its members *free of charge.* There is a maximum of two studies per year per member.

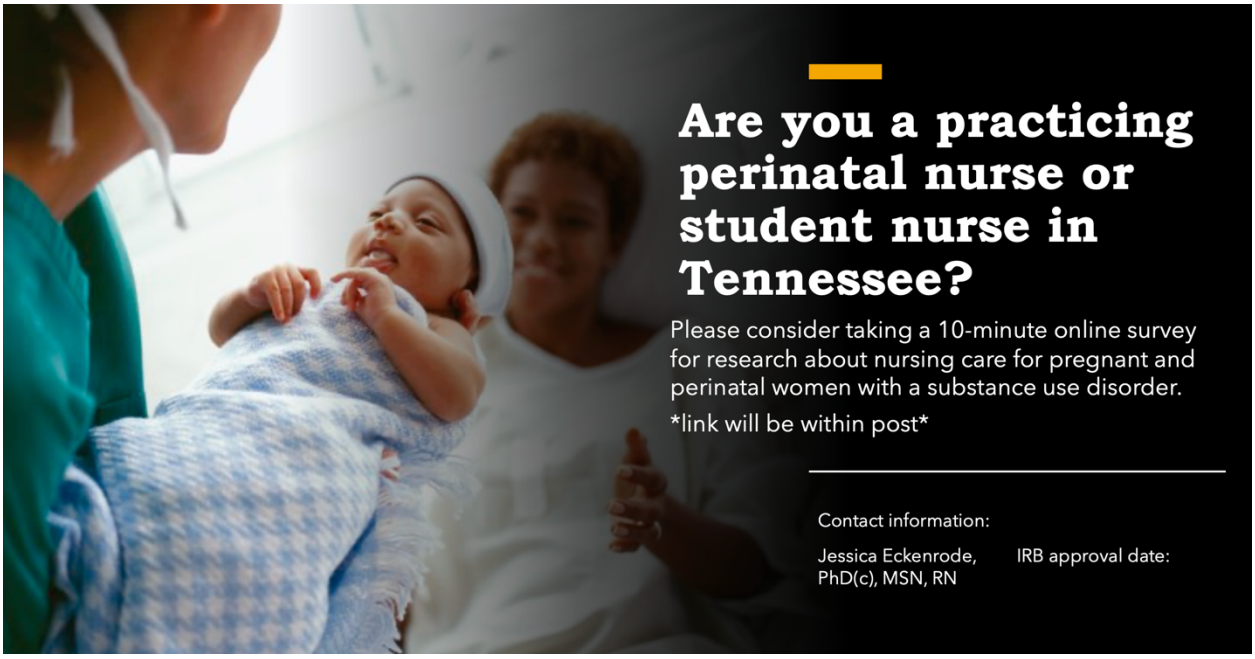
Nurses who are not TNA members are eligible to submit nursing research recruitment notices for a fee of $250 per notification.

Guidelines for submission and acceptance of nursing research recruitment notices:

- Nurses submitting the recruitment notices must be the principal or one of the principal investigators on the research study.
- Nursing research proposals and recruitment notices must already have received institutional IRB approval prior to submission. Written evidence of IRB approval must accompany all study recruitment notices.
- Recruitment notices should be submitted by email to Kathryn Denton, Director, Computer/Network Systems, Managing Editor-*Tennessee Nurse*, TNF Program Manager, at [redacted] and shall include phone and email contact information for the nurse submitter.
- The website notice placement will be posted for no more than 12 weeks.
- All recruitment notices placements are subject to TNA final approval.

Adopted by TNA Board of Directors: April 2014
Updated: March 7, 2019

Appendix E: TNA Facebook Advertisement of Study



Appendix F: Recruitment Email for Perinatal Nurses

Hello,

My name is Jessica Eckenrode and I am a PhD in nursing student at East Tennessee State University. For my research study, I am exploring Tennessee nurses' attitudes towards pregnant and perinatal women with a substance use disorder. I am asking current TN perinatal nurses to participate.

I would like to invite you to complete a questionnaire that should take about 10 minutes to complete. This can be done online, and you can use any device with internet access.
Here is the link to the survey: LINK HERE

Please consider participating.

Respectfully,

Jessica Eckenrode, MSN, RN
PhD in Nursing Student
East Tennessee State University
[redacted]

Appendix G: Recruitment Email for Tennessee Nursing Students

Hello,

My name is Jessica Eckenrode and I am a PhD in nursing student at East Tennessee State University. For my research study, I am exploring nursing attitudes towards pregnant and perinatal women with a substance use disorder. I am asking current pre-licensure TN nursing students to participate. I would like to invite you to take a questionnaire that should take about 10 minutes. The questionnaire will be completed online, and you can use any device with internet access to complete it. Your responses will be recorded by REDCap, an online survey platform. Please consider participating.

This research study has been reviewed and approved by the Institutional Review Board (IRB) at ETSU. If you are interested in participating in this study, the next page and survey link will provide you with more details, including an informed consent and my contact information.

Respectfully,

Jessica Eckenrode, MSN, RN
PhD in Nursing Student
East Tennessee State University
[redacted]

Appendix H: Study Questionnaire Completed by Participants

Confidential

Eckenrode Dissertation Survey

Please complete the survey below.

Thank you!

Welcome Letter and Informed Consent

Dear Participant:

My name is Jessica Eckenrode, and I am a doctoral student at East Tennessee State University. I am in the final phases of completing my PhD in Nursing. In order to finish my doctoral program, I need to complete a research project. My research study is focused on surveying current Tennessee perinatal nurse and Tennessee nursing student knowledge and attitudes towards pregnant and perinatal women with a substance use disorder. The name of my study is Examining Predictors of Attitudes and Knowledge in Registered Nurses and Nursing Students in Tennessee Towards Pregnant and Perinatal Women with a Substance Use Disorder (SUD).

The purpose of this study is to examine predictors of attitude and knowledge in nursing populations towards pregnant and perinatal women with a SUD. I will be asking perinatal nurses and nursing students in Tennessee to complete a brief questionnaire in REDCap, an online survey program. It should take about 10 minutes to complete. You will be asked a variety of questions related to your education, background, feelings, attitudes, and beliefs towards SUDs in pregnancy. Since this study deals with just the completion of a questionnaire, the risks to you are minimal. Risks include potential emotional distress as you answer questions related to your feelings and attitudes towards this population of pregnant and perinatal women. While there are no direct benefits by participating in this study you will be informing researchers on the status of attitudes, beliefs, and perceptions towards pregnant and perinatal women with SUDs of nursing students and perinatal nurses in Tennessee.

Your confidentiality will be protected as best we can. Since we are using technology, no complete guarantee can be made about the interception of data or results sent over the Internet by any third parties, just like with emails. However, we will make every effort to make sure that your name or contact information is not linked with your answers. REDCap has security features that will be used to protect you. Your IP address will not be collected. Although your rights and privacy will be protected, the East Tennessee State University (ETSU) Institutional Review Board (IRB) and people working on this research can view the study results and data. All participants who would like to be entered to win a $50 amazon electronic giftcard or participate in future research will be asked to provide an email address. Once the winner is randomly selected, all email addresses will be removed from the data, and will never be linked to results.

You will not be asked to disclose any directly identifiable information unless you choose. Though it could be possible to identify individuals through indirect identifiers, these data will be evaluated and reported in aggregate form only. Taking part in this study is voluntary and your choice. You may decide not to take part in this study. You can quit at any time and there will be no penalty. You can exit the online questionnaire at any time. All information that can identify you will be removed from the data. This data will then be stored for possible use in future research studies. We will not ask for additional consent for those studies.

If you have any research-related questions or problems, you may contact me, Jessica Eckenrode, at (7[redacted]
I am working on this project with my dissertation chair, Dr. McCook. You can reach Dr. McCook at (423[redacted]
This research is being overseen by an IRB. An IRB is a group of people who perform independent review of research studies. You may also contact the ETSU IRB at 423.439.6054 or IRB@etsu.edu for any questions you may have about your rights as a research participant.

Best, Jessica Eckenrode

Doctoral Candidate School of Nursing

Clicking the AGREE button below indicates:
- I have read the above information
- I agree to volunteer
- I am at least 18 years old
- I am physically present in the United States

◯ I agree to participate in this study. I have read the informed consent and choose to continue.
◯ I do not agree to participate in this study

Are you currently	◯ a nursing student in a pre-licensure Tennessee nursing program ◯ a registered perinatal nurse in Tennessee
Which of the following option(s) best describes your race?	☐ American Indian or Alaska Native ☐ Asian ☐ Black or African American ☐ Native Hawaiian or Other Pacific Islander ☐ White or Caucasian ☐ Other ☐ I prefer not to say

What is your age today (in years)?	◯ 15 ◯ 16 ◯ 17 ◯ 18 ◯ 19 ◯ 20 ◯ 21 ◯ 22 ◯ 23 ◯ 24 ◯ 25 ◯ 26 ◯ 27 ◯ 28 ◯ 29 ◯ 30 ◯ 31 ◯ 32 ◯ 33 ◯ 34 ◯ 35 ◯ 36 ◯ 37 ◯ 38 ◯ 39 ◯ 40 ◯ 41 ◯ 42 ◯ 43 ◯ 44 ◯ 45 ◯ 46 ◯ 47 ◯ 48 ◯ 49 ◯ 50 ◯ 51 ◯ 52 ◯ 53 ◯ 54 ◯ 55 ◯ 56 ◯ 57 ◯ 58 ◯ 59 ◯ 60 ◯ 61 ◯ 62 ◯ 63 ◯ 64 ◯ 65 ◯ 66 ◯ 67 ◯ 68 ◯ 69 ◯ 70 ◯ 71 ◯ 72 ◯ 73 ◯ 74 ◯ 75 ◯ 76 ◯ 77 ◯ 78 ◯ 79 ◯ 80 ◯ 81 ◯ 82 ◯ 83

◯ 84
◯ 85
◯ 86
◯ 87
◯ 88
◯ 89
◯ 90

ATTITUDES ABOUT DRUG ABUSE IN PREGNANCY

Below are 34 statements about the effects of prenatal substance exposure, addiction, and its effects.

Part A: Please indicate whether you believe the statement is true, false, or are not sure.

	True	False	Not Sure
It is well established that full-term infants with prenatal cocaine exposure have long-term deficits.	○	○	○
In general, illegal drugs seem to have more serious consequences for prenatally exposed babies than legal drugs.	○	○	○
As a result of the increase in cocaine use, there are many preterm babies with serious medical problems.	○	○	○
Substance abusers usually stick to a single drug rather than using a variety of drugs.	○	○	○
The withdrawal from cocaine experienced by infants can last several months.	○	○	○
Sudden Infant Death Syndrome (SIDS) occurs more frequently in alcohol, tobacco and other drug-exposed infants.	○	○	○
Prematurity is one of the serious consequences of prenatal cocaine exposure.	○	○	○
Drug abusers often have family members or significant others who also abuse drugs or alcohol.	○	○	○
All prenatal alcohol and drug use results in birth defects.	○	○	○
Drug abuse in pregnancy is associated with a high rate of pregnancy complications.	○	○	○
Prenatal drug and alcohol exposure have been found to be a cause of learning problems in school age children.	○	○	○

Child abuse and neglect are often reported in families where drug and alcohol abuse are a problem.	○	○	○
Making a pregnant woman feel guilty about her substance abuse is an effective way of stopping alcohol and drug use.	○	○	○
Black women are more likely to use drugs and alcohol than white women.	○	○	○
Prenatal addiction causes changes in the brain that make a child more likely to become an addict or alcoholic later.	○	○	○
Cocaine is often used by women who do not abuse other drugs.	○	○	○
Cocaine is more damaging to the unborn child than most other drugs.	○	○	○
Women who abuse drugs and alcohol usually associate with men who do too.	○	○	○
Nicotine abuse (cigarettes) causes more deaths per year in the United States than any other abused substance.	○	○	○
Among young women, cocaine abuse is a bigger problem than alcohol abuse.	○	○	○

Part B: Please indicate how much you agree or disagree with each statement.					
	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
The best thing to do for drug-exposed babies is to remove them from the homes of their birth mothers.	○	○	○	○	○
Women who abuse drugs and alcohol during pregnancy are more concerned with themselves than with their babies.	○	○	○	○	○
Prenatal drug and alcohol use should be considered a form of child abuse.	○	○	○	○	○
Women who abuse drugs during their pregnancy should be punished by being put in jail.	○	○	○	○	○
All pregnant women should be given a urine screen for drugs.	○	○	○	○	○
Taking care of infants who are born sick or addicted as the result of their mother's drug abuse places an unfair burden on society.	○	○	○	○	○
Drug addicts forget about their babies when they leave the hospital.	○	○	○	○	○
Abusing drugs makes people manipulative and unreliable.	○	○	○	○	○
Substance abusing women should have their tubes tied.	○	○	○	○	○
When I hear about the effects of alcohol and drug abuse on infants, I feel angry at their mothers.	○	○	○	○	○
Drug and alcohol abuse by women that endangers children should be handled through the legal system.	○	○	○	○	○
Children of alcoholics usually have more emotional problems and do less well at school than other children.	○	○	○	○	○

To prevent further damage to the fetus, pregnant drug abusers should be put in jail until their baby is born.	◯	◯	◯	◯	◯
The mother is responsible for the damage done to her unborn child by alcohol or other drugs.	◯	◯	◯	◯	◯

Comments: Please make any additional comments that you would like in this section. Mention anything you think that we missed or other ideas about these problems that have occurred to you.

_____

Which of the following describes the place where you grew up? (spent the majority of your childhood)

◯ I was raised in a very rural area.
◯ I was raised in a moderately rural area.
◯ I was raised in a slightly rural area.
◯ I was raised in a suburban area.
◯ I was raised in a moderately urban area.
◯ I was raised in a very urban area.
◯ Other, please specify

What other category would you use to describe the place where you grew up?

_____

Which of the following describes the place where you currently live?

◯ I live in a very rural area.
◯ I live in a moderately rural area.
◯ I live in a slightly rural area.
◯ I live in a suburban area.
◯ I live in a moderately urban area.
◯ I live in a very urban area.
◯ Other, please specify

What other category would you use to describe the place where you live?

_____

To what extent do you consider yourself a religious person (e.g., person that participates in an organized religion)?

◯ Very Religious
◯ Moderately Religious
◯ Slightly Religious
◯ Not Religious at All

During a typical (non-covid year), how often do you typically attended religious services?

◯ Never
◯ Once or twice
◯ Several times
◯ Once a month
◯ 2 to 3 times a month
◯ Once a week
◯ More than once a week

The following questions ask about your professional and educational background.	
Please select the pre-licensure nursing degree program you are currently enrolled in	◯ Associate degree ◯ Bachelor's degree ◯ Other, please specify
What "other" degree are you pursuing?	_____
Please select your highest earned nursing degree:	◯ Diploma degree ◯ Associate degree ◯ Bachelor's degree ◯ Master's degree ◯ Doctoral degree ◯ Other (please specify)
How else would you describe your highest degree?	_____
Please select your highest nursing license type:	◯ Registered nurse (RN) ◯ Advanced practice registered nurse (APRN) ◯ Other
How else would you describe your highest nursing license?	_____

Important Definitions

Substance use disorders: when the use of alcohol and/or drugs/substances (legal, illegal, prescribed) causes clinically significant impairment to a person, including health issues, disability, and failure to meet responsibilities at work, school, and/or home

Pregnant and perinatal women: any woman who is pregnant including those who are 7 days post-delivery.

How many total years have you practiced as a perinatal nurse? *enter number of years*	_____
Which of the following nursing departments/units best encompass where you currently practice as a perinatal nurse?	◯ Labor and delivery ◯ Postpartum ◯ Newborn nursery ◯ Special-care newborn nursery ◯ Neonatal Intensive Care Unit ◯ Antepartum ◯ Prenatal Clinic or Obstetrical/Gynecology office ◯ Community Perinatal Program ◯ Emergency Obstetrical Unit ◯ Other
Which nursing departments/units best encompass where you currently practice as a perinatal nurse?	_____
How else would you describe the setting in which you currently practice?	_____
Which region of Tennessee best describes where you work as a perinatal nurse:	◯ West Tennessee ◯ Middle Tennessee ◯ East Tennessee ◯ Other
What "other" region describes where you practice?	_____
Have you received formal education on substance use disorders in pregnant and perinatal populations in your nursing program? Select all that apply.	☐ No ☐ Yes, in a required nursing course ☐ Yes, in a required nursing clinical ☐ Yes, in a non-required elective nursing course ☐ Yes, in a non-required elective nursing clinical ☐ Other
What other formal education on substance use disorders in pregnant and perinatal populations have you received?	_____

Have you received formal education on substance use disorders in other (non-pregnant/perinatal populations) in your nursing program? Select all that apply.	☐ No ☐ Yes, in a required nursing course ☐ Yes, in a required nursing clinical ☐ Yes, in a non-required elective nursing course ☐ Yes, in a non-required elective nursing clinical ☐ Other
What other formal education on substance use disorders in other populations have you received?	_____
Have you used any of the following sources related to substance use disorders in pregnant and perinatal populations on your own/outside formal educational settings?	☐ Attended nursing conferences ☐ Read nursing journals & articles ☐ Attended webinars ☐ Talking to other healthcare providers ☐ YouTube ☐ Church/religious setting ☐ Community perinatal program/support group ☐ Using search engines such as Google or Yahoo ☐ Other sources on the web ☐ Other _____
What other sources related to substance use disorders in pregnant and perinatal populations have you sought out?	_____
Please describe any additional sources not listed above or add details about sources you indicated you've accessed	_____

Approximately how many hours have you spent obtaining information related to substance use disorders in pregnant and perinatal populations on your own/outside formal educational settings?	◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5 ◯ 6 ◯ 7 ◯ 8 ◯ 9 ◯ 10 ◯ 11 ◯ 12 ◯ 13 ◯ 14 ◯ 15 ◯ 16 ◯ 17 ◯ 18 ◯ 19 ◯ 20 ◯ 21 ◯ 22 ◯ 23 ◯ 24 ◯ 25 ◯ 26 ◯ 27 ◯ 28 ◯ 29 ◯ 30 ◯ 31 ◯ 32 ◯ 33 ◯ 34 ◯ 35 ◯ 36 ◯ 37 ◯ 38 ◯ 39 ◯ 40 ◯ More than 40
When was the most recent time you sought information about related to substance use disorders in pregnant and perinatal populations on your own?	◯ In the last month ◯ 1 - 3 months ago ◯ 4 - 6 months ago ◯ 7 months - a year ago ◯ More than a year ago
Are you currently enrolled in or have you completed a maternal nursing course (obstetrics, gynecology, or women's health related) in your nursing program?	◯ Yes ◯ No ◯ please specify
please specify	_____
Are you currently enrolled in or have you completed a maternal nursing clinical experience (obstetrics, gynecology, or women's health related) in your nursing program?	◯ Yes ◯ No

Which region of Tennessee best describes where you go to school?	◯ West Tennessee ◯ Middle Tennessee ◯ East Tennessee ◯ Other
How else would you describe the region in which you attend school?	_____
Do you have any personal experiences (non-nursing experiences) with substance use disorders? Select all that apply.	☐ Yes, I have current or past medical history with a substance use disorder ☐ Yes, with an immediate family member ☐ Yes, a member of my extended family ☐ Yes, with a close friend ☐ Yes, with an acquaintance/friend you don't keep in close contact with ☐ Yes, with a co-worker/colleague ☐ No ☐ Other
What other personal experiences (non-nursing experiences) with substance use disorders have you had?	_____

Indicate the extent to which you agree or disagree with the following statements					
	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I received comprehensive formal education on substance use disorders in pregnant and perinatal populations in my nursing program	○	○	○	○	○
I have actively sought out information on substance use disorders in pregnant and perinatal populations on my own	○	○	○	○	○
I am knowledgeable about substance use disorders in pregnant and perinatal populations	○	○	○	○	○
I know how to care for pregnant and perinatal women with substance use disorders	○	○	○	○	○
I feel comfortable treating pregnant and perinatal women with substance use disorders	○	○	○	○	○
I know where to go if I need more information about substance use disorders in pregnant and perinatal women	○	○	○	○	○
I have taken care of someone in my life (not in a professional capacity) with a substance use disorder	○	○	○	○	○

Did you receive formal education on substance use disorders in pregnant and perinatal populations in your nursing program? Select all that apply.	☐ No ☐ Yes, in a required nursing course ☐ Yes, in a required nursing clinical ☐ Yes, in a non-required elective nursing course ☐ Yes, in a non-required elective nursing clinical
Did you receive formal education on substance use disorders in other (non-pregnant/perinatal populations) in your nursing program? Select all that apply.	☐ No ☐ Yes, in a required nursing course ☐ Yes, in a required nursing clinical ☐ Yes, in a non-required elective nursing course ☐ Yes, in a non-required elective nursing clinical

Appendix I: AADAP Scoring Document

Attitudes about Drug Abuse In Pregnancy – Answer Key (Bolded & Shaded)

Questionnaire: Below are 34 statements about the effects of prenatal substance exposure, addition, and its effects.

Part A: Please indicate whether you believe the statement is true, false, or are not sure by circling the response which corresponds to your choice.				
No.	Statement	True	False	Not Sure
1	It is well established that full-term infants with prenatal cocaine exposure have long-term deficits.	1	**2**	3
2	In general, illegal drugs seem to have more serious consequences for prenatally exposed babies than legal drugs.	**1**	2	3
3	As a result of the increase in cocaine use there are many preterm babies with serious medical problems.	**1**	2	3
4	Substance abusers usually stick to a single drug rather than using a variety of drugs.	1	**2**	3
5	The withdrawal from cocaine experienced by infants can last several months.	**1**	2	3
6	Sudden Infant Death Syndrome (SIDS) occurs more frequently in alcohol, tobacco and other drug-exposed infants.	**1**	2	3
7	Prematurity is one of the serious consequences of prenatal cocaine exposure.	1	**2**	3
8	Drug abusers often have family members or significant others who also abuse drugs or alcohol.	**1**	2	3
9	All prenatal alcohol and drug use results in birth defects.	1	**2**	3
10	Drug abuse in pregnancy is associated with a high rate of pregnancy complications.	**1**	2	3
11	Prenatal drug and alcohol exposure have been found to be a cause of learning problems in school age children.	**1**	2	3
12	Child abuse and neglect are often reported in families where drug and alcohol abuse are a problem.	**1**	2	3
13	Making a pregnant woman feel guilty about her substance abuse is an effective way of stopping alcohol and drug use.	1	**2**	3
14	Black women are more likely to use drugs and alcohol than white women.	1	**2**	3
15	Prenatal addiction causes changes in the brain that make a child more likely to become an addict or alcoholic later.	**1**	2	3
16	Cocaine is often used by women who do not abuse other drugs.	1	**2**	3
17	Cocaine is more damaging to the unborn child than most other drugs.	1	**2**	3
18	Women who abuse drugs and alcohol usually associate with men who do too.	**1**	2	3

Part A: Please indicate whether you believe the statement is true, false, or are not sure by circling the response which corresponds to your choice.				
No.	Statement	True	False	Not Sure
19	Nicotine abuse (cigarettes) causes more deaths per year in the United States than any other abused substance.	**1**	2	3
20	Among young women, cocaine abuse is a better problem than alcohol abuse.	1	**2**	3

Part B: Please indicate how much you agree or disagree with each statement by circling the response which corresponds to your office.						
No.	Statement	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
21	The best thing to do for drug-exposed babies is to remove them from the homes of their birth mothers.	1	2	3	4	5
22	Women who abuse drugs and alcohol during pregnancy are more concerned with themselves than with their babies.	1	2	3	4	5
23	Prenatal drug and alcohol use should be considered a form of child abuse.	1	2	3	4	5
24	Women who abuse drugs during their pregnancy should be punished by being put in jail.	1	2	3	4	5
25	All pregnant women should be given a urine screen for drugs.	1	2	3	4	5
26	Taking care of infants who are born sick or addicted as the result of their mother's drug abuse places an unfair burden on society.	1	2	3	4	5
27	Drug addicts forget about their babies when they leave the hospital.	1	2	3	4	5
28	Abusing drugs makes people manipulative and unreliable.	1	2	3	4	5
29	Substance abusing women should have their tubes tied.	1	2	3	4	5

Part B: Please indicate how much you agree or disagree with each statement by circling the response which corresponds to your office.						
No.	Statement	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
30	When I hear about the effects of alcohol and drug abuse on infants, I feel angry at their mothers.	1	2	3	4	5
31	Drug and alcohol abuse by women that endangers children should be handled through the legal system.	1	2	3	4	5
32	Children of alcoholics usually have more emotional problems and do less well at school than other children.	1	2	3	4	5
33	To prevent further damage to the fetus, pregnant drug abusers should be put in jail until their baby is born.	1	2	3	4	5
34	The mother is responsible for the damage done to her unborn child by alcohol or other drugs.	1	2	3	4	5
Comments: Please make any additional comments that you would like in this section. Mention anything you think that we missed or other ideas about these problems that have occurred to you.						

For information contact: Barbara A. Redding, EdD, RN, CNE

[redacted]

Email: [redacted]

VITA

JESSICA ECKENRODE PATRYLO

Education:	Ph.D. Nursing, East Tennessee State University, Johnson City, Tennessee, 2021
	M.S. Nursing, Nurse Educator Track, Mansfield University of Pennsylvania, Mansfield, Pennsylvania, 2015
	B.S.N. Nursing, The Pennsylvania State University, University Park, Pennsylvania, 2012
	Public Schools, Mechanicsburg, Pennsylvania
Professional Experience:	Assistant Professor of Nursing, Austin Peay State University, Clarksville, Tennessee, 2015-Present
	Registered Nurse
	NorthCrest Medical Center, Springfield, TN, 2014-2020
	Pinnacle Health, Harrisburg, Pennsylvania, 2012-2014
Publications:	Eckenrode, J. (2018). The three Bs: Bonding, breastfeeding and baby friendly. *International Journal of Childbirth Education, 33*(2), 40-41.
	Wilson, D., & Eckenrode, J. (2020). Do you know about the aronia berry? *Beginnings, 40*(2), 20-23.
Honors and Awards:	District 03 TNA Educational Recipient Winner, 2018