DEVELOPMENT OF A PSYCHOEDUCATIONAL PARENTING GROUP FOR MOTHERS ADDICTED TO OPIOIDS WITH INFANTS WITH NEONATAL ABSTINANCE SYNDROME

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I HEREBY RECOMMEND THAT THE DISSERTATION PREPARED UNDER MY SUPERVISION BY KAITLYN EICHINGER ENTITLED DEVELOPMENT OF A PSYCHOEDUCATIONAL PARENTING GROUP FOR MOTHERS ADDICTED TO OPIOIDS WITH INFANTS WITH NEONATAL ABSTINANCE SYNDROME BE ACCEPTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PSYCHOLOGY.

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Abstract

Neonatal Abstinence Syndrome occurs when an infant is exposed to opioids in utero and has many associated health concerns post-partum. In the US in 2012, approximately 22,000 infants were born with NAS. Mothers of these infants have a unique set of needs that affect their ability to adequately care for their infants as they transition home with their infant after giving birth. However, few programs specifically address the needs of this population. The program described in this dissertation is based upon a thorough review of the literature and seeks to fill the gap in the available programming for women with an opiate addiction who have a baby born with NAS. It describes a 6-session psychoeducational program that is designed for a medical setting to help mothers prepare for the transition out of the hospital and back to their homes. This program covers topics including, education on NAS, typical and atypical child development, coping skills, interpersonal skills, problem solving, and community resources.
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Dedication

This program is dedicated to the many women and families who have been affected by opioid addiction. It is my hope that this program can be a healing part of your journey.
Chapter 1

Statement of the Problem

Internationally, it is estimated that between 26 and 36 million people abuse opioids. Approximately 2.1 million people in the United States (US) have substance use disorders (SUD) related to prescription opioid pain relievers, and an estimated 467,000 are addicted to heroin (Volkow, 2014). Additionally, US opioid drug use had quadrupled in the past decade (Reddy, Davis, Ren, & Greene, 2017). In the US, drug overdose is the leading cause of accidental death with 47,055 deaths in 2014 (American Society of Addiction Medicine, 2016). In 2014, prescription opioids were involved in 18,893 unintentional drug overdoses, and 10,574 were related to heroin. This increase in the rate of opioid addiction, including heroin and prescription opioids, has caused an urgent need for research and services targeting individuals with opioid addictions, especially pregnant women and women with infants born addicted to drugs.

Women are more likely to have chronic pain, be prescribed pain relievers at higher doses, and use them for longer periods of time (American Society of Addiction Medicine, 2016). During the years 1999 to 2010, prescription pain reliever overdose deaths increased more than 400% in women as compared to a 237% increase in men. This indicates that not only is opioid epidemic spreading quickly throughout the US, but it is impacting women more often than ever before. Heroin use among women increased 100% between 2002 and 2013 as compared to a 50% among men (US Department of Health and Human Services, Office on Women’s Health, 2016). Women who use opioids
are also more likely to have mental health problems and use opioids as their coping mechanism (Davie-Gray, Moor, Spencer, & Woodward, 2013; Kissin, Svikis, Morgan, & Haug, 2001). When women who are addicted to opioids become pregnant, they increase the likelihood that their child will be born addicted to opioids as well, a condition called Neonatal Abstinence Syndrome (NAS).

NAS is a complex and highly variable condition characterized by central nervous system, autonomic nervous system, and gastrointestinal dysfunction and is caused by opioid exposure during pregnancy (Stover & Davis, 2015). In 2012, it was estimated that 21,732 infants were born with NAS in the US (Patrick, Davis, Lehmann, & Cooper, 2015). According to The American College of Obstetricians and Gynecologists (2017), approximately 30-80% of infants born with in utero opioid exposure display symptoms of NAS. Researchers have found that the incidence of NAS in the US has doubled during the years 2009-2012 and is on the rise as the incidence of opioid use increases (Patrick, Davis, Lehmann, & Cooper, 2015). The costs of treating NAS have also increased during the last 15 years. In 2000, the mean hospital charges for treating NAS were $39,400, and in 2009 those costs increased to $53,400 (Patrick et al., 2012). This indicates that increasing amounts of taxpayer dollars are being spent on treating NAS in infants.

NAS can result in low birth weight, prematurity, respiratory complications, feeding difficulties, and seizures. (Association of State and Territorial Health Officials, 2014). Additionally, infants with NAS have central nervous system irritability, autonomic overactivity, and gastrointestinal disturbances. These symptoms interfere with normal sleeping and eating patterns and the infant’s ability to communicate with their caregiver.
There are mixed findings as to whether there are long-term adverse neurodevelopmental side effects due to the use of opioids during pregnancy. Some studies suggest that infants exposed to opioids in utero have lower cognitive abilities, reduced motor functioning, and are smaller in size than infants not exposed to opioids (Hunt, Tzioumi, Collins, & Jeffery, 2008; McGlone & Mactier, 2015). Additionally, mothers of infants with NAS were found to be less responsive and share less enjoyment in their interactions with their infant (Johnson & Rosen, 1990; Burns, Chethik, Burns, & Clark, 1997).

Considering the increasing incidence of women using opioids and infants born with NAS, it is critical that services are tailored to meet the specific needs of mothers with an infant with NAS. While many therapies have addressed general drug use in women and have targeted the relationship between the mother and her child/children, there is a paucity of literature on treating mothers with an infant with NAS.

The overall aim of this project is to create a group psychoeducational program for mothers with infants with NAS. Objectives for the program include increasing knowledge and skills regarding caring for an infant with NAS, knowledge of general child development, positive parenting skills, coping skills, providing access to community resources, and providing social support. The program will teach these skills through several modalities including role-play, worksheets, media, and discussion. Women will leave the program with the skills and knowledge to better care for their infant and have practical parenting skills that they will be able to use as their child grows. Additionally, they will have a better understanding of their triggers and develop coping skills to help them be the best parent they can be. All mothers will leave the program with access to
community resources and develop an action plan to take with them as they go home with their infant.
Chapter 2

Literature Review

Women and Addiction

In order to provide the best treatment for pregnant women who are addicted to opioids, it is important to understand women with opioid addictions and how they may differ from men with opioid addictions. Back, Payne, Simpson, and Brady (2010) conducted a study with a nationally representative sample of over 55,000 participants to examine gender differences in opioid use and dependence. In their sample, 68% were White, 12% were African American, 14% were Hispanic, and 6% were Other. They found that lifetime and current rates of opioid use were 13.6% and 5.1%, respectively. More men endorsed lifetime and current use than women. Rates of opioid dependence were 0.66% for current dependence and 13.2% for lifetime dependence with no difference between genders. More men reported receiving treatment for drug and alcohol problems than women. More female opioid users reported serious psychological distress than male users. The most common source of obtaining opioids was from friends and family and the second most common was from a doctor. The most common types of opioids obtained were hydrocodone products, codeine products, and oxycodone products with no gender differences among the type of opioid used. For women, significant predictors of opioid use were serious psychological distress and cigarette use. Predictors of opioid dependence were cocaine, marijuana, and hallucinogen use (Back, et al., 2010).
Back, Lawson, Singleton, and Brady (2011) interviewed 24 men and women with current opioid dependence to examine gender differences in history of use, route of administration, type of opioids used, time of opioid consumption, motives for using, method of introduction to opioids, and simultaneous use of other substances. Of their sample, 66% were Caucasian, 29% were African American, and 4% were Hispanic. They found that women were approximately six years older than men when they first began using but were only three years older than men when they began to use them regularly. All participants in this study were taking prescription opioids in pill form, with over half chewing the pills and more men than women crushing and snorting the pills. The most commonly used opioids were OxyContin, Lortab, Vicodin, and Percocet with no difference between genders. Both men and women reported that they use opioids to increase their energy levels (Back, et al., 2011). However, women reported using opioids to cope with interpersonal stress more than men, whereas men reported using opioids for physical pain and the pleasurable effects. Both men and women started using opioids when they were prescribed by a physician for a physical condition, and then they continued to use them after their prescription ended. The second most common way to start using opioids was obtaining them from friends and family. Women were found to use opioids first thing in the morning, whereas men were more likely to use in the evening. Finally, they found that most people endorsed smoking cigarettes and half endorsed using other illicit drugs with no gender differences.

Additionally, Green, Serrano, Licari, Budman, and Butler (2009) investigated gender differences in opioids users who were seeking treatment. Their sample was predominately white with approximately 26% Non-white minority. They found that
women with an opioid addiction were just as likely as men to report using methadone, cocaine, inhalants, and barbiturates, in addition to opioid use but were more likely to report benzodiazepine and amphetamine use than men. Women were more likely to be divorced or separated, live with their children, experience family conflict, and have health problems. They were also more likely than men to report psychological distress, physical, and sexual abuse. They also analyzed risk factors and found that both men and women were more likely to use opioids if there was a family conflict in the past month, if they lived with someone using opioids, if they had psychiatric problems, if they had a history of previous drug abuse, or if they recently were prescribed pain medication.

Taken together, these studies provide valuable information about the characteristics of women who use opioids. The results revealed that the majority of individuals using opioids were White, followed by African Americans and Hispanics. Women were older than men when they began using, took opioids in pill form, used hydrocodone, codeine, and oxycodone products, and were introduced to them by doctors or family and friends. Women were more likely to report using opioids to cope with interpersonal stress and with negative emotions such as regret, shame, and anger. Women were more likely to experience interpersonal problems and health problems, which may increase their stress levels. Men were more likely to report using opioids for physical pain, to enhance sexual intimacy, or for the pleasurable effects of the drug. Women were more likely to use opioids first thing in the morning before they get out of bed, indicating that women may use opioids as a way to cope with daily stressors. They also used other drugs like nicotine, alcohol, cocaine, marijuana, and hallucinogens, and were more likely to be experiencing psychological distress than men.
There are also biological differences between men and women and how opioid addiction develops in women. The telescoping effect is the concept that explains how women become addicted to drugs more quickly than men. It was originally used to describe the accelerated negative consequences of drinking in women as compared to men (Fox & Sinha, 2009). This phenomenon means that women progress more quickly than men from initial use to addiction.

The telescoping effect has been found in other forms of drug addiction, including opioid addiction. Hernandez-Avila, Rounsaville, & Kranzler (2004) examined the relationship between age of alcohol, cocaine, opioids, or cannabis use and age of dependence. They found that there was no difference in age of use onset between males and females. In opioid-dependent women, the investigators found that women reported fewer years of regular pretreatment use of opioids than men. Similar results were found for cannabis and alcohol users. While this study did not find support for women having a later onset of opioid use, it supports the telescoping effect in opioid, alcohol, and cannabis users in that they has a shortened time from initial use to dependence.

Back, Lawson, Singleton, & Brady (2011) found that women were on average six years older than men when they started using opioids but were only three years older when they started using them regularly. These results indicate that women begin using later in life and develop addictions at a faster rate, which also provides support for the telescoping effect in women.

On the other hand, Holscher et al. (2010), studied gender differences in opioid addiction in Europe. They did not find support for the telescoping effect in women with opioid addiction. However, they measured the telescoping effect differently in that
women not only had to have a later onset of use but also had to have a more severe and longer duration of dependence than men. Other studies looked at the differences in duration from use onset to dependence in men and women, without the addiction needing to be more severe. While there is disagreement as to whether the telescoping effect is present for women who use opioids, this discrepancy may be a result of the difference in the definition of the telescoping effect. Thus, it is still an important consideration when working with women with opioid addiction.

In addition to biological risks, there are several other risk factors for opioid addiction in women. One significant risk factor for opioid use in women is childhood abuse. Heffernan et al., (2000) examined the relationship between opioid use and childhood abuse among 763 men and women at a psychiatric hospital. They found that patients with a history of childhood abuse were more likely to report heavy opioid use than those without a history of childhood abuse. They also found that opioid use was more common in individuals reporting physical abuse alone or physical and sexual abuse than those reporting sexual abuse only.

Conroy, Degenhardt, Mattick, and Nelson, (2009) examined characteristics and risk factors for child maltreatment in opioid-dependent individuals in Australia. They used a matched sample to assess for childhood maltreatment among opioid users. Their results indicated that females addicted to opioids were more likely than non-addicted individuals to experience penetrative sexual abuse, multiple incidents of sexual abuse, and for the perpetrator to be someone known to them. This study contrasts Heffernan et al. (2000), in that they found evidence that sexual abuse in women is related to opioid abuse.
Drug use has been determined to be one part of a cluster of behaviors that are linked with childhood abuse. Wilson and Widom (2008) investigated the mediation relationship between prostitution, homelessness, delinquency and criminal behavior, and school problems as a pathway from childhood abuse and neglect to illicit drug use in middle adulthood. They found that prostitution, homelessness, delinquency and criminal behavior, and school problems mediated the pathway between childhood abuse and neglect and illicit drug use in women. These results indicate that drug use was a part of a larger behavioral syndrome as a result of childhood abuse and neglect. The same was not found to be true for men. While not all women who abuse opioids will have a history of childhood abuse and neglect, it is important to consider these factors when working with women who use opioids. This study also suggests that it is important to consider the effects of homelessness, prostitution, delinquency, criminal behavior, and school problems as they may be comorbid.

Bartholomew and colleagues (Bartholomew, Courtney, Rowan-Szal, & Simpson, 2005; Bartholomew, Rowan-Szal, Chatham, Nucatola, & Simpson, 2002) studied child maltreatment among women addicted to opioids entering methadone treatment. In the 2002 study, they found that 39% of their sample reported a history of sexual abuse. Similarly, in the 2005 study, 40% of their sample reported a history of sexual abuse. Their results indicated that women with a history of sexual abuse were more likely than women without a history of sexual abuse to have also experienced physical and emotional abuse. They were also more likely to report psychological problems such as depression, anxiety, and suicidality, and use drugs for psychological reasons. They also reported more family relationship problems and more drug-related problems. This study
supports the claim that childhood abuse is a risk factor for opioid addiction and provides support for a connection with psychological problems.

Becker, Sullivan, Tetrault, Desai, and Fiellin (2008) examined the characteristics associated with opioid dependence. They used a nationally representative sample to examine differences between opioid and non-opioid users. Results indicated that individuals with opioid addiction have higher rates of panic symptoms, depressive symptoms, and social phobic/agoraphobic symptoms than the general population. They also found 13% of past-year opioid users met criteria for opioid dependence.

Further, Martins, Keyes, Storr, Zhu, and Chilcoat (2009) investigated the association between nonmedical opioid use and psychiatric disorders by examining the temporal relationship between them. They found that preexisting mood disorders such as bipolar, depression, anxiety, and panic disorders were associated with an increased likelihood of opioid use. Similarly, preexisting opioid use was associated with an increased likelihood of the same disorders. These results suggest that people with preexisting psychiatric disorders may use opioids to self-medicate and/or that opioid use precipitates the onset of psychiatric disorders. Either way, it is important to note that drug use and psychiatric comorbidity are highly intertwined.

Jaimson, Butler, Budman, Edwards, and Wasan (2010) investigated differences between male and female opioid use. Their sample included individuals from five states from pain management centers. Their results indicated that women endorsed more items regarding emotional and affective distress than men. Women were also more likely than men to have a history of abuse and to have a history of psychiatric illness. When working with women addicted to opioids, just treating the opioid addiction is not sufficient.
Additional mental health disorders need to be considered, assessed for, and treated appropriately. These co-occurring mental health issues will impact the course of treatment and recovery.

Further, Warren, Stein, and Grella (2007) examined the effects of social support and self-efficacy in male and female clients with co-occurring disorders on substance abuse treatment effectiveness. Their results revealed that those with greater support at the time of treatment entry from others who believed the client could abstain from drugs post-treatment had higher rates of success in treatment. Similarly, individuals who had a greater sense of well-being and self-efficacy had better treatment outcomes than those with low self-efficacy. These results indicate that both social support and sense of self-efficacy are protective factors in drug treatment and support positive outcomes.

**Pregnancy and Addiction**

During the years 2008-2012, approximately 27.7% of privately insured and 39.4% of Medicaid-enrolled women of childbearing ages (15-49) filled a prescription for an opioid each year (Ailes et al., 2015). These numbers suggest that there are a substantial number of women of childbearing age at risk for developing opioid dependence. From 2005-2011, 14.4% of pregnant women with private insurance filled a prescription for opioids during pregnancy, and from 2000-2007, 21.6% of Medicaid-enrolled women filled a prescription for opioids during pregnancy (Bateman et al., 2014; Desai, Hernandez-Diaz, Bateman, & Huybrechts, 2014). This indicates that a sizeable portion of pregnant women has access to opioids. Prevalence of opioid use in pregnant women ranges from 1% to 21%, and heroin is the most commonly abused illicit opioid, which
crosses the placenta within one hour of maternal use. (Keegan, Parva, Finnegan, Gerson, & Belden, 2010).

It is important to understand the demographics and characteristics of pregnant women with opioid addiction in order to understand their life circumstances. Kissin, Svikis, Morgan, and Haug (2001) examined the psychosocial characteristics of treatment-seeking opioid or cocaine-dependent women. Their sample consisted of 86% African American women and 14% Caucasian women. In their sample, 74% of women endorsed using opioids. Women began using heroin during the ages 12-32. The majority of women reported having no close friends, had a history of abuse, and had at least one parent with a drug or alcohol problem. Many addicted pregnant women were homeless, unemployed, had other children born exposed to drugs, and used multiple drugs, including alcohol and tobacco. Additionally, more women who live in rural areas use opioids during pregnancy as compared to urban women (Shannon, Habens, & Hays, 2010).

Similarly, Davie-Gray, Moor, Spencer, and Woodward, (2013) studied methadone-maintained women in New Zealand. They compared methadone-maintained women with a general non-methadone control group. They found that methadone-maintained women had a higher rate of teenage pregnancy, were more likely to have had a miscarriage or stillbirth, have had a pregnancy terminated, and tested positive for Hepatitis C. They were more likely to be welfare dependent, unemployed, have a mental health disorder, and smoke tobacco during pregnancy. They were also less likely to have a stable partner, and it was likely that their partners were also using drugs. These various factors impact their pregnancy and their ability to care for their infants.
Black, Stephens, Haber, and Lintzeris (2012) assessed the pregnancy history, pregnancy risk, and contraceptive use of non-pregnant women attending opioid treatment programs in Australia. They found that women in treatment had a high rate of pregnancy with almost a third of women reporting six or more pregnancies. They also found increased adverse pregnancy outcomes including stillbirth, miscarriage, and termination. Approximately half of their sample reported using a method of contraception. These results indicated that many of these women were not using contraception and were experiencing high rates of pregnancies. Women addicted to opioids were also found to have a perceived sense that they could not or would not get pregnant due to incorrect assumptions about fertility issues (Harding & Ritchie, 2003). This false sense of infertility is likely to lead to more unwanted pregnancies. It may also lead to more drug use during pregnancy because women who did not think they could become pregnant may not take precautions to quit using before they become pregnant.

Women with opioid addictions also tend to have higher rates of unplanned pregnancies. Heil et al. (2011) examined three types of unintended pregnancies, mistimed (wanted a child but not at that time), unwanted (did not want a child), and ambivalent (mixed feelings about wanting a child), in opioid using women. Results indicated that nine out of every ten pregnancies were unintended pregnancies. Approximately equal numbers of pregnancies fell into the three subtypes. They also found that women with unintended pregnancies were more likely than women with intended pregnancies to have used illicit substances in the last 30 days before drug screening. This study revealed that pregnant women with an opioid addiction are less likely to have planned their pregnancy.
Therefore, they may still have been using drugs when they became pregnant and may not have sought out appropriate care.

Additionally, pregnant women with opioid addictions have more severe mental health problems and higher rates of mood disorders (Davie-Gray et al., 2013; Kissin et al., 2001). Kashiwagi et al., (2009) examined psychopathology in women in Switzerland who were pregnant and addicted to opioids. They found that the majority of their sample had psychiatric diagnoses. Diagnoses included depression, bulimia, and anxiety. Similarly, Smith, Costello, & Yonkers (2015), looked at the association between opioid use during pregnancy and a psychiatric diagnosis. They found that women reporting any depressive or anxiety disorder or SSRI use had greater odds of opioid use during pregnancy than those with no depressive or anxiety disorder or no SSRI use. These findings suggest that pregnant women who are addicted to opioids are also more likely to have other comorbid psychiatric disorders, which needs to be assessed during treatment.

Eggleston et al. (2009) examined pregnant women seeking drug abuse treatment. They compared women diagnosed with Posttraumatic Stress Disorder (PTSD), another psychiatric disorder, or no disorder. This sample consisted of 91% African American women, 12% Caucasian women, and 2% identified as Other. They found that women who were addicted to opioids and had a diagnosis of PTSD were more likely than those without a diagnosis or those with another psychiatric diagnosis to endorse current and lifetime suicidal ideation. They also found that individuals in the PTSD group had higher rates of aggression than other women. Women with PTSD had more interpersonal difficulties and more negative interpersonal relationships than those in the other groups. Given the high rates of childhood abuse and intimate partner violence that these women
are likely to have encountered, it is possible that a large number of pregnant women addicted to opioids may have PTSD or PTSD symptoms. Therefore, it is critical to assess for PTSD for pregnant women who are addicted to opioids in an evaluation due to the high rates of suicidal ideation, aggression, and interpersonal difficulties.

Pregnant women who are addicted to opioids are less likely than women not addicted to opioids to utilize prenatal care (Bauer et al., 2002). Bauer and colleagues (2002) examined mothers who were using cocaine, opioids, or no drugs shortly after giving birth. This sample consisted of 50% African American women, 35% White women, and 15% identified as Other. They found that only 77% of the drug-exposed mothers received one or more prenatal visits with an average of 7 visits. In the non-exposed comparison group, 97% received prenatal care with an average of 11 visits. This finding is likely because women addicted to opioids face many barriers that limit access to prenatal care and prenatal drug treatment.

The most prevalent barrier to treatment is fear that they will be reported to Children’s Protective Services (CPS) for exposing their child to drugs. The Guttmacher Institute (2017) states that 24 states and the District of Columbia consider substance use during pregnancy to be child abuse under civil child-welfare statutes and 23 states and the District of Columbia require health care professionals to report suspected prenatal drug use, and 7 states require them to test for prenatal drug exposure. Jessup, Humphreys, Brindis, and Lee, (2003) interviewed pregnant women and women who had a child in the previous year who were seeking substance abuse treatment. This sample consisted of 55% African American women, 22% White women, 20% Latina women, and 3% Native-American women. They found that the majority of women feared losing custody of their
child/children, or incarceration. They were afraid to seek care because they feared their drug use would be detected. Some women also reported that domestic violence and their partner’s substance abuse was a barrier to treatment due to financial dependence on their partner. Additionally, some women reported that poverty, homelessness, and incarceration prevented them from seeking care. Alto and O’Connor (2011) reported similar barriers to treatment, including fear of being reported to child welfare services. They also reported that economic barriers, such as the cost of treatment, potential job loss, housing security, and financial dependence on a partner who may be abusing drugs or may be abusive make it increasingly difficult to access drug treatment and prenatal care regularly. They may have difficulty going to appointments, paying for appointments, or have a partner who does not want them to seek drug addiction treatment. Similarly, Falletta and colleagues (2018) interviewed women who were pregnant or recently pregnant and were receiving opioid treatment. They found that the women had both positive and negative views of CPS but the fear of losing custody of their children was a barrier to seeking appropriate treatment during pregnancy.

Despite barriers, it is critical that opioid-addicted pregnant women seek treatment. Detoxification and relapse cause fluctuations of opioid levels and can cause unfavorable fetal outcomes (Unger, Jung, Winklbaur, & Fischer, 2010). Essentially, if a woman detoxes and then relapses cyclically, the fetus will be in increased distress. Intrauterine abstinence syndrome occurs when the fetus goes through withdrawal in utero (McCarthy, 2012). This withdrawal can cause a potentially fatal syndrome involving hypoxia, meconium staining, and vasoconstriction. Meconium staining is a sign that the fetus is in distress. Vasoconstriction affects nutrient transport and gas exchange, meaning that the
fetus is not receiving proper nutrition or oxygen. Withdrawal in utero may also be responsible for the adverse effects seen in the post-natal development of these babies. Thus, it is more beneficial for mothers and a protective factor for the fetus to be on a methadone maintenance treatment plan where they will be maintained at a consistent level and prevent in-utero withdrawal symptoms.

Opioid substitution programs provide methadone or buprenorphine to pregnant women addicted to opioids. Methadone is the treatment of choice during pregnancy, but there is growing evidence that buprenorphine is as effective as methadone (Alto & O’Connor, 2011). Both drugs are likely to result in increased complications during pregnancy, including intrauterine growth restriction, third trimester vaginal bleeding, preterm delivery, stillbirth, decreased infant head circumference, and decreased placental functioning (Keegan et al., 2010). However, these effects are more favorable than the intrauterine death that may occur if these drugs are not used. Buprenorphine use has similar results to methadone as it still is likely to result in NAS in 40-90% of neonates. There is mounting evidence that buprenorphine results in better indications of fetal well-being, requiring fewer days of treatment, and less morphine (Jansson et al., 2011; Jones et al., 2010; Soyka, 2013).

The Maternal Opioid Treatment: Human Experimental Research (MOTHER) study is an eight-site, double-blind, double-dummy randomized trial. Jones and colleagues (2010) compared methadone and buprenorphine treatments during pregnancy in pregnant women with opioid addiction. Their results indicated that the two drugs were comparable in their effectiveness and results. However, methadone had better retention, and patient satisfaction and buprenorphine required less morphine for the infants and
fewer days of treatment. Naltrexone is another drug that can be used during pregnancy. Its chemical makeup protects against overdoses, but it is still being researched to support its efficacy and safety for use during pregnancy (Geraghty & Dixon, 2012).

**Neonatal Abstinence Syndrome**

Many complications can arise as a result of opioid exposure in-utero. Dryden, Young, Hepburn, and Mactier (2009) investigated infants born to mothers using drugs and found that more of these infants were born before 37 weeks of gestation as compared to the non-drug using population. They also found that the infants weighed less and had a smaller head circumference. Similarly, Greig, Ash, and Douiri (2012) examined neonatal characteristics of infants born to mothers on methadone substitution. Their study revealed that these infants as compared to a control group, had a lower gestational age, were more likely to be born prematurely, had lower birth weights, and had smaller head circumferences. These studies indicate that babies born with in-utero opioid exposure are at a higher risk for complications after birth.

Higher doses of maternal methadone before delivery are associated with increased need for treatment for withdrawal for the infant. Wouldes and Woodward (2010) examined the relationship between maternal methadone use and infant outcomes. They found that there was a linear relationship between maternal methadone use and infant outcomes. This means that the greater the methadone dosage, the more increased risk the infant had of being born preterm, having low birthweight, and requiring hospitalization. Another study by Lim, Prasad, Samuels, Gardner, and Cordero (2009) also examined infant outcomes from mothers on methadone. Their study revealed that every 5.5 milligram increase in methadone dosage was associated with one additional day of NAS
treatment, indicating that higher methadone doses are associated with longer duration of NAS symptoms in infants. Further, a study examining the predictors of NAS found that exposure to additional substances, such as selective serotonin-reuptake inhibitors and nicotine also impact the onset and severity of NAS symptoms (Patrick et. al., 2015).

Symptoms of NAS typically appear between 24-48 hours after birth for infants exposed to heroin, 36-60 hours after birth for infants exposed to buprenorphine, and 48-72 hours after birth for infants exposed to methadone (Stover & Davis, 2015). It is recommended that infants who have been exposed to any opioid be monitored for 4-7 days for the presence of NAS symptoms. However, Doyle, Smirk, Bowman, Doyle, and Kamlin (2014) completed a retrospective study of infants who received treatment for NAS and when they were admitted for treatment. They found that 95% of infants were admitted for treatment by day five of life and of the babies being treated by day seven, 98.5% were admitted before day five. Their research indicates that post-natal observation for NAS could be shortened to five days and accurately capture most infants who require treatment. Diagnosis of NAS is comprised of maternal interviews and infant toxicology screenings for suspected NAS (Clark & Rohan, 2015).

NAS predominately affects dysregulation in the central nervous system, autonomic nervous system, and gastrointestinal system functioning (Logan, Brown, & Hayes, 2013). Central nervous system symptoms include lethargy, hypotonia, hypertonia, seizures, agitation/irritability, hyperactivity, restlessness, poor sleep pattern, high-pitched crying, and excessive crying (Clark & Rohan, 2015; Jansson & Velez, 2011; Logan, Brown, & Hayes, 2013). Autonomic system symptoms include fevers, state control, and problems with sensory and motor functioning. Gastrointestinal symptoms include poor
sucking, excessive sucking, loose stool, vomiting, and poor feeding. Other NAS symptoms include metabolic, vasomotor, and respiratory problems such as nasal stuffiness, sneezing, yawning, and hypertension (Clark & Rohan, 2015). Symptoms may be affected by the type of drug used. Methadone results in more severe tremors, hyperactive Moro reflex, sneezing, loose stool, and nasal stuffiness compared to buprenorphine exposed infants (Gaalema et al., 2012). This may indicate that buprenorphine exposed infants will have more favorable outcomes than methadone-exposed infants.

**Treatment of NAS.** It is crucial that caregivers are trained to interpret and respond to their infant’s symptoms. If the caregiver’s interaction style does not match with the needs of the infant, the infant’s recovery may be prolonged, and they may become increasingly dysregulated (Jansson & Velez, 2011). If the caregiver provides too much stimulation or an insensitive environment, the infant will have an adverse response to the stimulation. Caregivers need to be able to interpret signs of distress to avoid increased infant dysregulation. Infant dysregulation can lead to problems with feeding, sleeping, and interactive pattern, which may lead to increased problems as the infant develops.

There are two types of treatment for NAS symptoms. The first is pharmacological care and the second is nonpharmacological care. Nonpharmacological care is also called comfort care. In infants with NAS, 60-80% need pharmacological care to manage symptoms (Kocherlakota, 2014). Pharmacological intervention is typically morphine or methadone. Once the symptoms begin to dissipate, medication is weaned according to the intensity and number of symptoms (Logan, Brown, & Hayes, 2013). Comfort care
consists of ensuring that the environment is dark, quiet, and relatively stimulus free. Swaddling, massage, skin-to-skin contact, music therapy, and aromatherapy can also be used (Clark & Rohan, 2015; Sutter, Leeman, & His, 2014). These comfort care techniques may help reduce the severity of NAS symptoms. Additionally, frequent hypercaloric feedings can be used for infants with difficult feeding patterns to help regulate their sleep and eating cycles (Stover & Davis, 2015). Treatment also includes supporting mother-infant bonding, which is achieved through breastfeeding, rooming-in, and family education (MacMullen, Dulski, & Blobaum, 2014; Sutter, Leeman, & His, 2014). Breastfeeding has also been found to reduce the need for pharmacological treatment and the severity of NAS symptoms (Bagley, Wachman, Holland, & Brogley, 2014). Mother-infant bonding techniques help the mother to identify signs that the infant is dysregulated and how to care for the infant appropriately.

The location of the treatment of infants with NAS has been found to affect the length of time needed for treatment. Backes and colleagues (2012) compared the efficacy of inpatient treatment for NAS to a combined inpatient and outpatient treatment program. They found that the hospital stay was shorter in the combined group (average 13 days) than in the inpatient group (average 25 days). The duration of treatment was longer at 37 days for the combined group and 21 days for the inpatient group. They also found that the methadone dosages were similar between the two groups and that there were no differences in hospital readmissions for both groups. The combined group was found to have approximately $14,000 less in hospital costs than the inpatient-only group.

Smirk, Bowman, Doyle, and Kamlin (2014) conducted a similar study comparing inpatient care to a home-based detoxification program. Their results showed that the
home-based infants had shorter hospital stays, approximately 19 days as compared to the inpatient group, approximately 40 days. However, there was no significant difference in the duration of treatment, 36 and 42 days respectively. Further, Saiki, Lee, Hannam, and Greenough (2010) found that infants treated on the postnatal ward, where they are with their mothers, as opposed to the neonatal unit had reduced duration and number of days in the hospital (16 days and 20 days, respectively). In sum, these studies provide evidence that outpatient treatment or treatment in which the infants are with their mothers, results in shorter hospital stays, similar or reduced duration of treatment, and reduced financial burden.

**NAS and development.** Although research on the long-term impact of opioids on children’s development is scarce, research suggests that cognitive development and physical development are affected (Konijnenberg & Melinder, 2011). It should be noted that not all children exposed to opioids have long-term adverse effects and some of the long-term effects seen may be due to exposure to other drugs in utero. Hunt, Tzioumi, Collins, and Jeffery (2008) examined the neurodevelopmental outcomes of infants with NAS. They used the Bayley Scales of Infant Development to measure cognitive function at 18-months and used the Stanford Binet Intelligence Scale, the Reynell Expressive Language Scale and Verbal Comprehension A Scale, and McCarthy Motor Scale, at the three year follow up. They also used the Vineland Social Maturity Scales at 18 months and three years. They found that babies with NAS were shorter, had cognitive developmental delays, had decreased motor function, and had delayed social-emotional skills at 18 months and three years compared to their non-addicted counterparts. McGlone and Mactier (2015) found that at six months babies with NAS had reduced
visual acuity, lower weight, lower locomotor skills and decreased personal-social, language-hearing, and eye-hand performance than non-addicted babies. Additionally, Beckwith and Burke (2015) investigated that long-term effects of prenatal opioid exposure using the Bayley-III. They found that the babies exposed to opioids had lower language and cognition abilities, but motor skills were similar to non-addicted babies.

De Cubas and Field (1993) examined a group of 20 school age children who were exposed to methadone and compared them to a non-exposed group of children. They used the Stanford-Binet Intelligence Scale – Form L-M and the Kaufman Assessment Battery for Children achievement scales to measure cognitive and achievement abilities. Their results showed that the methadone-exposed children had lower IQ and achievement scores. However, these differences were not significantly different. Additionally, Hans (1989) followed a group of methadone-exposed infants until age two. The Bayley Scales of Infant Development were used to assess the toddlers at age two. Results indicated that the methadone-exposed infants lagged behind the non-exposed infants in physical growth and they were lower in cognitive development. However, these differences were not significant. Thus, there is accumulating evidence that there are prolonged effects of opioid exposure in babies and children with NAS. However, results are mixed regarding the long-term neurodevelopmental impact on children.

Postpartum

Mother-infant relationship. Once children are born with NAS, there are several variables that need consideration for healthy development, including attachment, social support, resources, and aftercare treatment. Additionally, there are several barriers that
make it difficult for women to access the treatment they need to ensure their child’s healthy development.

Attachment theory describes the emotional bond between infant and caregiver (Bowlby, 1979). This relationship is co-created with the infant and caregiver through repeated social interactions. These interactions are then internalized in the infant as an attachment system. This system regulates safety, exploration, and interpersonal relationships. These social interactions become internal working models. Internal working models are increasingly complex mental representations of self and others and guide behaviors in relationships by directing perceptions of others, assigning meaning to experiences, and regulating affective responses to various social interactions (Bretherton, 1985). Attachment is often considered in terms of the mother-infant relationship.

Several factors may affect the mother-infant relationship with mothers who are addicted to opioids and their infants with NAS. First, methadone-maintained women find it difficult to see their infant suffering from NAS symptoms and may feel guilty (Velez, & Jansson, 2008). Others, such as partners, family, and health care providers, may overtly or covertly blame the mother for her drug use and for causing the infant to have NAS (Velez, & Jansson, 2008; Worley & Delaney, 2017). These social pressures may lead to increased feelings of maternal guilt and may cause the mother not to see her infant. In turn, absence and guilt may increase maternal distress making it more difficult for the mother to accurately interpret the infant’s cues and respond appropriately to her infant. When the mother cannot respond to the infant effectively, it affects how she bonds and interacts with her baby. Attachment will be impaired because the infant will learn that the mother cannot appropriately attune to the infant.
Overall levels of infant interactions and vocalizations were low for women addicted to opioids, and the women were less responsive to their infants and responded more harshly. (Johnson & Rosen, 1990; Hans, Bernstein, & Henson, 1999). As discussed, less responsiveness and inappropriate responsiveness negatively affect the mother-infant attachment. Burns, Chethik, Burns, and Clark, (1997) found that drug using mothers had less enjoyment and pleasure when playing with their infants than non-drug abusing mothers. This can negatively impact the mother-infant dyad as they showed less mutual arousal, enthusiasm, and enjoyment than non-addicted dyads. Additionally, Salo et al. (2010) investigated mother-child interaction between mothers who were using opioids and their infants. The mother-child interaction was assessed from a 4-minute taped session of mother-infant free play and was rated using the Emotional Availability scales. They found that the mothers who were using opioids were less sensitive, less structured, and more intrusive and hostile. Their infants were less responsive and less involved with their mother in the play session. This, in turn, affects how the mother and baby are bonding and the quality of the attachment relationship being formed.

Suchman, McMahon, Slade, & Luthar, (2005) examined drug-dependent mother’s own early bonding, perceptions of social support, and maternal depression. This sample consisted of primarily European American (42%) and African American women (41%). They found that the mother’s perceptions of the level of social support impacted levels of depression and drug use severity. Additionally, their own early bonding experience and their relationship with their children was also mediated by their perception of social support. Thus social support was a crucial factor in the mother’s mental health and how mothers bond with their children.
While drug use impacts attachment, it is not the sole determinant of impaired mother-child attachment. Seifer and colleagues (2004) examined children born exposed to cocaine, opioids, and other substances and their attachment relationship. Their sample consisted of African American and White women. They found that children exposed to opioids and cocaine had slightly lower rates of attachment security than non-exposed infants, but that the stability was low over time and was associated more with child temperament, parent-child interaction, and the caregivers’ parenting self-esteem. Thus, when working with the mother-child dyad, it is crucial that other aspects of the mother-infant relationships are addressed, not just the drug use. Mothers need to understand their child’s temperament and how to meet their child’s needs. Access to resources that help them learn how to interpret their child’s needs is crucial to help them feel confident in their parenting and meet their infant’s needs.

One way to assess attachment is through the Working Model of the Child Interview (Zeanah, Beniot, Hirschberg, Barton, & Regan, 1994), which elicits the mother's representation of the child and their relationship with the child. It is an hour-long structured interview that seeks to elicit the mother's thoughts, feelings, and perceptions about the infant or child. The interview asks mothers to describe specific examples of the infant’s personality, their interactions, what pleases them or displeases them, as well as their thoughts and feelings when the infant is upset or fussy. They are also asked how they think their child will develop and about their child’s future. While the interview has a formal scoring system, it does not need to be used to determine treatment planning. Interviews are labeled as balanced (the caregiver comfortably describes strengths and weaknesses while remaining empathetic), disengaged (lack
emotional connection to the child and describe the child in generic terms), or distorted (involved with the child but may seem confused by the child or are too focused on themselves to focus on the child).

**Other factors to consider postpartum.** Other psychosocial factors also need to be considered when working with postpartum women with opioid addictions. In a clinical review, Savage and Platt (2014) found that articles discussing the care of opioid-dependent mothers only explained pharmacologic care. However, these articles failed to discuss psychosocial issues and treatment as a part of postpartum care. Depression, unsafe housing, relapse, posttraumatic stress, lack of skill or job training, social support, and lack of childcare are all psychosocial factors that need to be considered as part of the postpartum intervention. Additionally, these factors have been found to be barriers to employment for postpartum women, and that may affect the quality of care for their children (Bowden & Goodman, 2015). However, when these issues are addressed, such as providing access to job skills training and increasing their social support, they help protect against the associated negative impacts.

Another negative impact of opioid addiction on families involves family cohesion. Hans, Bernstein, and Henson (1999) found that opioid addicted mothers were less likely than non-addicted mothers to be living with their children or be the primary caregiver. This was due to relapse in drug use, the death of the mother, maternal incarceration, or initiation of substance abuse treatment. Families with mothers who are addicted to opioids are less likely to stay intact as the children grow up.

One area that needs to be assessed is knowledge about general child care and development and childcare specific to the care of a child with NAS, which may also
reduce the number of children removed from their parents. Rizzo et al. (2014) examined parenting skills and concerns among pregnant women treated with buprenorphine for opioid dependence during pregnancy. They found that these women demonstrated deficits in parenting skills and a medium risk of abuse potential, as measured by open-ended questions about parenting and a self-report measure of parenting attitudes. Many women endorsed using corporal punishment as their main discipline method with little knowledge of alternative discipline strategies. As an intervention, it will be important to enhance mothers’ knowledge about child development and provide them with alternative positive parenting techniques, which will positively impact their child’s development.

Community resources and supports are one way to assist mothers with the concerns listed above. Organizations such as Early Head Start and Help Me Grow are evidence-based programs that assist children and families of infants and young children (Mayoral, 2013; Ohio Department of Health, 2014). They seek to improve developmental outcomes for families in low socioeconomic communities. They also help the families connect to other resources in their community to further increase their livelihood. Additionally, the United States Department of Labor provides several different services to help individuals gain job skills necessary for employment, such as My Next Move, My Skills My Future, and Career One Stop. (United States Department of Labor).

Additionally, given the high rate of comorbid mental health disorders and opioid use (Davie-Gray, et al., 2013; Eggleston et al., 2009; Smith, Costello, & Yonkers, 2015), providing access to mental health services as well as specific substance abuse treatment programs are important services for this population to be linked to in the community.
Psychoeducational and Skills Groups

Psychoeducational groups provide information and opportunities to practice skills as well as providing members with increased social support and belongingness (Yalom & Leszcz, 2005). Psychoeducational groups for individuals with SUDs are designed to provide individuals with education related to substance abuse, behaviors, and consequences (USDHHS, SAHMSA, 2015). This type of group is highly structured and is designed to provide information the will be directly applicable to the participants’ lives. In substance use populations, psychoeducational groups are used to help individuals reframe the impact of substance abuse in their life, discover avenues for change, help them learn more about their disorder and recognize roadblocks to recovery, and help them identify other resources that may be helpful in recovery. Skills groups seek to teach skills that help participants build skills that will aid in their recovery (USDHHS, SAHMSA, 2015). These skills include refusal skills, social skills, communication skills, emotion regulation skills, and parenting skills. La Salvia (1993) suggested that a psychoeducational group is an important addition in addiction treatment due to the specific focus on developing coping and problem-solving skills. Similarly, these skills can be used to improve the parent-child interaction and improve parenting skills. Psychoeducational parenting groups can help increase parenting skills, reduce child misbehavior, and improve the parent-child relationship (Berge, Law, Johnson, & Wells, 2010). Psychoeducational groups offer parents specific learning opportunities, provide new knowledge, assist in problem-solving, and increase the sense of self-efficacy and parenting competence (Fisher, Feekery, & Rowe, 2011). However, there is a paucity of research on psychoeducational groups for mothers with children with NAS.
Steinhardt and colleagues (2015) investigated the effectiveness of a parent training program on the interaction between preterm, very low birthweight infants and their parents. Their study examined an intervention that consisted of six educational sessions followed by five or fewer hours of live sessions with the parents, infant, and a trained nurse. These sessions focused on infant care and interactions with their infant. Their results showed that these infants were more likely to respond appropriately to parents than infants in a control group. This research suggests that parent training programs can have a positive effect on the parent-child relationship in infants.

Plasse (1995) conducted a psychoeducational parenting skills group in a substance abuse treatment center. The group used journaling, role-playing parenting techniques, and focusing on the relationship between group members as forms of interventions. The group focused on pregnancy and the hopes and fears experienced during pregnancy, development from infancy through adolescence, and parenting strategies. Plasse (1995) found that parents can learn about development, parenting, communication, and gain healthier coping skills, while also addressing other aspects of their addiction. Qualitative outcome data suggested that psychoeducation around parenting and drug abuse was an effective treatment intervention.

In addition to parenting groups, groups are also effective in treating SUDs. Scherbaum et al. (2005) conducted a controlled trial examining a cognitive-behavioral psychotherapy group to reduce concomitant drug use in methadone maintenance therapy (MMT). The cognitive-behavioral group consisted of twenty 90-minute sessions where the goal was to help the individual understand situations that predispose them to use drugs. The groups included both men and women. The MMT therapy alone and the MMT
plus cognitive-behavioral group therapy both showed significantly decreased drug use at the end of treatment, but there was no significant difference in drug use between the two groups. However, the MMT plus treatment group had less drug use six months post-treatment, indicating that the group therapy promoted longer-lasting changes in drug use among methadone-maintained individuals.

Overall, there is research to suggest psychoeducation and cognitive-behavioral based therapies can be effective with individuals who use opioids, with mothers of infants, and with mothers who are in drug addiction recovery. They have been shown to increase positive mother-child interactions and parenting skills. However, no program has been published to specifically target mothers with infants who are being treated for NAS and the unique challenges these women may face.

**Purpose of Current Program**

Based on the literature review, there is a paucity of research on the number and type of psychoeducational group interventions for women who have babies with NAS. The needs of mothers with opioid addiction, once they have given birth and are released from the hospital, have not been previously addressed in a psychoeducational group format. The goal of this dissertation is to design a psychoeducational program to address the unique needs of mothers addicted to opioids who have an infant born with NAS. The program will provide psychoeducation about their child’s development as well as teach them skills and provide them with resources that address the challenges that are unique to these women. The program will target issues around caring for an infant with NAS, general child development, parenting skills, coping skills, and discussion around having access to community resources.
Chapter 3

Program Model

The present program is a psychoeducational parenting program for mothers who have an infant with Neonatal Abstinence Syndrome. This program focuses on child development, parenting strategies, coping skills, and assistance in accessing community resources. Additionally, this program serves to broaden the types of programs that are available for mothers with an infant with NAS by providing a program that is specific to their needs.

The goal of the program is to provide information and skill building to help the mothers’ better care for their infants. This will be achieved through the following objectives: (1) educating about NAS and how to care for an infant with NAS, (2) educating about general child development, (3) increasing positive parenting skills, (4) increasing coping skills to manage stress, (5) providing access to community resources and, (6) providing an atmosphere of social support. It should be noted that the purpose of the program is not to treat the mother’s substance use or to co-existing psychological disorders, but rather a psychoeducational and support group. This program should not be considered a drug treatment or family therapy and should not be used as a stand-alone treatment. While it is important to consider the entire ecosystem of the individual, including the individual, mother-child dyad, family, and community, this program is narrowly focused on psychoeducation and skill building for the individuals in the program around issues of drug abuse and parenting. Treatment should include adjunctive
individual therapy as well as treatment for the mother-child dyad and family systems. Additionally, community resources will be presented to link individuals to other services once the program ends to ensure continued access to services.

**Guiding Theories**

**Cognitive Behavioral Theory.** The program is based on cognitive behavioral theory (CBT). The premise of cognitive behavioral theory is that dysfunctional thinking is core to psychological disturbances (Beck, 2011). In this theory, people’s thoughts, feelings, and behaviors are interconnected. One’s automatic thoughts influence their emotions and how they behave. As thoughts are at the core of psychological problems, therapy addresses one’s deeper cognitions about themselves, the world, and other people in order to produce more lasting change. Much of the work in CBT focuses on identifying automatic thoughts, emotions, and core beliefs, as well as, learning how to modify and evaluate thoughts. While this is a core part of CBT, these aspects were not addressed and challenged directly in this program due to the psychoeducational nature of the program as opposed to a therapy focus. Another major component of CBT is psychoeducation and skill building, which was the central focus of the program. Psychoeducation involves teaching participants about something, generally a diagnosis or a set of skills such as parenting techniques (Australia Institute of Professional Counselors, 2014). The goals of psychoeducation involve transferring information, supporting treatment, and helping the participants move towards self-efficacy (Beck, 2011). The program will focus on gaining knowledge and skill development aspects of CBT, such as problem solving and coping skills. Problem-solving skills include learning steps to analyze a problem, identifying options for coping, evaluating the options, deciding on a plan, implementing the plan, and
evaluating its effectiveness (Cully & Teten, 2008). CBT teaches problem-solving as a way to aid the participant in learning skills that help them gain control over life issues. This is key to teaching not only practical problem resolution but also emotion-focused coping. CBT also teaches relaxation exercises to help reduce tension, stress, and anxiety (Cully & Teten, 2008). Relaxation training is one aspect of teaching coping skills. Additionally, skills training specifically with substance abuse clients focuses on learning to recognize triggers for drug use, signs of cravings, and how to cope with the urge to use substances (Carroll, 1998). CBT also promotes learning social and interpersonal skills which helps the mothers learn how to increase their social support networks and build healthier relationships. Other key aspects of cognitive behavioral therapy that will be utilized in the program include role-plays and homework. Role-plays will be used to demonstrate different techniques as well as to allow the women to practice the skills they are learning. Homework will be used to generalize the skills they are learning in the program to their own lives. The women will be asked to try various skills outside of the session, return to the next session and discuss what worked and what may not have worked and why.

Motivational Interviewing. The program also utilizes motivational interviewing, a directive, client-centered approach that is used to help participants change their behaviors by exploring and resolving ambivalence (Rollnick & Miller, 1995). Motivational interviewing is a focused, goal-directive form of therapy that focuses on eliciting motivation from the participant to change by exploring and overcoming ambivalence to change and supporting self-efficacy. Techniques in motivational interviewing include reflective listening, acceptance, and affirmation, reinforcing the
participants’ self-motivational statements, expression and recognition of problems, eliciting desire and intention to change, and monitoring participant’s degree of readiness for change. Motivational interviewing does not involve direct confrontation or challenging of the participant, but rather encourages reflection and empathy as a means of change. Motivational interviewing is an evidence-based treatment for various mental health disorders, substance use disorders, and other chronic health conditions (Pilkey, Steinberg, & Martino, 2015; SAMHSA-HRSA, nd).

**Attachment Theory.** This program also utilizes attachment theory, which as described earlier, defines the emotional bond between infant and caregiver (Bowlby, 1979). Attachment is a relationship that is co-created with the infant and caregiver through repeated social interaction, which are internalized in the infant. This system regulates self-regulation, safety, exploration, and interpersonal relationships. These social interactions become internal working models (Bretherton, 1985). Attachment is affected by the caregivers’ ability to perceive and sensitively respond to an infant’s signs of emotional distress (Mayes & Truman, 2002). Attachment interventions aim to increase caregivers’ ability to accurately identify when an infant is in distress, interpret their signals, and accurately and sensitively respond to the infant’s needs (Suchman, DeCoste, Castiglioni, Legow, & Mayes, 2008). Intervention can also include exploration of the caregiver’s emotions, assumptions, and expectations for the child and shifting these views if they are overly negative as well as include play based interventions.

**Format**

The program consists of six group sessions with the mothers who have an infant born with NAS that will take place two times a week for one and a half hours. The intervention
is intended to take place while their infant is in the hospital to ensure easy access to services, which averages between 20-40 days. Thus, the program will be brief, only six sessions, and occur twice a week to ensure maximum intervention time without overburdening the mothers and allowing them to complete the program while their infant is in the hospital. Also, the program will be an open group with each iteration of the program following the previous week in succession. This ensures that the mothers can begin as soon as their infant is born and can join mid-program. If they join mid-program, they can continue and attend the classes that they missed in the next iteration. While this is not ideal for group continuity, the women can join as soon as their infant is born to ensure that they are getting the full benefit of the program while their infant is in the hospital. While the ideal number of participants is six to eight, the program may be run with more or fewer individuals. Two facilitators are ideal, however, the program can be run with only one facilitator or more than two. Facilitators must be independent licensed mental health professionals, other licensed professionals of similar training (i.e., licensed independent social worker, licensed professional counselor), or trainees under the supervision of a licensed psychologist/professional. Main instructional modalities will include, activities, games, worksheets, and videos. The program is designed to take place within any hospital or outpatient facility that cares for infants with NAS before they go home with their families.

Participants

In order to be included in the program, participants must be women, 18 years of age, and have an infant who has been confirmed to have NAS and receiving treatment or monitoring. Participants will be excluded from the program if their child is not receiving
NAS treatment or monitoring at the start of the program, if they are actively psychotic or experiencing severe psychiatric symptoms that would disrupt the program, and if they are under 18 years of age. They will also be excluded if they are perceived to be inebriated or high based on the facilitator’s judgement. Participants will be referred to the program by their physicians at the hospital if their child is confirmed to have NAS and the physician determines that the program would be an appropriate fit for the mother. Mothers need to have been medically cleared by their physician in order to attend the program and infants should be at least three days old as this is typically when NAS is confirmed and gives mothers time to heal post-delivery.

Materials

a. Sample Informed Consent: This form provides a brief description of the program, and a signature is required to participate in the program. An informed consent form from the hospital in which the program is being run may also be utilized in place of the sample informed consent form provided in this program.

b. Parent Information Form: This form includes demographic information including age, race/ethnicity, previous mental health diagnosis and treatment, family income, number of children, and number of children diagnosed with NAS. This form will also include basic questions regarding mothers’ knowledge of NAS and confidence in parenting skills.

c. Parenting Stress Index (PSI) (Abidin, 1990): The PSI is a 120-item self-report screening measure used to measure stress in the parent-child relationship. It contains six child-related subscales: Adaptability,
Acceptability, Demandingness, Mood, Distractibility/Hyperactivity, and Reinforcement of Parent. It also has 7 parent-related subscales: Depression, Attachment, Restriction of Role, Sense of Competence, Social Isolation, Relationship with Spouse, and Health. It also contains a 19-item life stress scale.

d. Satisfaction Survey: A satisfaction survey with questions involving the mothers’ satisfaction with the program.

Procedure

Before participation in the program, participants must complete an informed consent form. Once this has been completed, mothers complete a series of pre-program assessment measures including the PSI and the Parent Information Form. These forms are completed in session one to ensure that all paperwork is completed before the program. The assessment measures assess the mothers’ knowledge of NAS, confidence in parenting skills, their child’s development, and their stress level. Once the mother has completed all six sessions, she completes a post-program assessment of the same measures in the pre-program assessment to measure the change from pre- to post-program intervention with the addition of a satisfaction survey to assess mother satisfaction with the program.

Session Content

Session 1: Getting to Know You. Session one begins with getting to know the women and their families. This will include information on their pregnancies, their relationships, their drug use, as well as completing questions from The Working Model of the Child Interview (Zeanah, Beniot, Hirschberg, Barton, & Regan, 1994). The goal of
this session is to help the women build insight and to reflect on their pregnancy and relationship to their infant.

**Session 2: NAS and Your Infant.** Session two provides psychoeducation about NAS and how to care for an infant with NAS. This session provides information on pharmacological and nonpharmacological treatment of NAS as well as opportunities for the women to practice nonpharmacological treatments with a nurse. This session covers bonding with their baby and how to interpret their baby’s cues and respond to them. This session requires the assistance of a licensed nurse who is skilled in treating infants with NAS. The goal of this session is to understand NAS symptoms and the different types of treatment options that are available for infants with NAS as well how to understand how infants communicate.

**Session 3: Child Development and Parenting.** Session three teaches child development over the first year of their child’s life and what to expect. It also provides information on potential red flags for developmental milestones. Further, this session teaches mothers how to build positive relationships with their baby and ways to interact with their infant. The goal of this session is to understand child development over the first year of their child’s life and what to expect in terms of developmental milestones and developmental delays. Also, another focus of this session is to teach how to build positive relationships with their baby as infants shift from being “sick” to normalcy, as well as ways to enjoy their baby.

**Session 4: Triggers and Coping Skills.** Session four covers individual triggers for stress for the mothers, effects of stress and developing coping skills. The goal of this
Session is to understand stress and their individual stressors as well as learn stress management techniques and coping skills to reduce negative effects of stress.

**Session 5: Social Support and Problem Solving.** Session five addresses the women’s social support networks and where they can find positive social support. This session teaches about healthy relationships, communication, managing interpersonal conflict, and building problem-solving skills. The goal of this session is to understand and identify social supports as well as to understand and be able to utilize problem-solving steps.

**Session 6: Community Day and Action Planning.** Session six involves integrating community partners into the session to connect mothers with appropriate services. The end of this session consists of action planning steps for moving forward once their baby is discharged. The goal of this session is to link the women to community partners and organizations that are available and to create and action plan for when they leave the hospital with their baby.

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**Chapter 4**

**Conclusions**
This psychoeducational program was developed for women with an infant with Neonatal Abstinence Syndrome. Its purpose was to provide women with information about NAS and child development as well as to help the women develop coping skills, communication skills, and problem solving skills and gain access to community resources. This program was designed to meet the need for programming as opioid use rates as well as the number of babies born with NAS continue to increase (Patrick, Davis, Lehmann, & Cooper, 2015). In addition, this program seeks to fill a gap in services, as no other programs have been published specifically for this population. The program should be used in a hospital or other outpatient care facility that provides treatment for infants with NAS. The intended population is mothers with a newborn receiving treatment for NAS and is not intended for women with older infants or for women using opiates not prescribed by their doctor. It is a brief program that is intended to bridge services before the mothers go home with their infant. It is not intended to replace therapy or address drug use directly. One study found that the average length of stay for treating NAS without medication was 16-17 days and the average length of stay for treating NAS with medication was 22-23 days (Patrick, Davis, Lehmann, & Cooper, 2015). Thus, in order to ensure easy access to care while the infant is receiving treatment at the care facility, the program is completed in six sessions occurring twice a week. Classes are intended to be offered at the same care facility as the infants to provide ease of access to services while they are visiting their infant.

Several key areas are addressed throughout the program. The first session focuses on getting to know the women. It also facilitates a conversation to help the women think more about their relationship with their infant to help foster attachment with their infants.
Parent-child attachment has been linked to several developmental outcomes including self-reliance, emotional regulation, and social relatedness and competence (Sroufe, 2005). The *Working Model of the Child Interview* elicits the mother’s thoughts, feelings and perceptions about the infant, which influences the parent-child attachment (Zeanah & Anders, 1987). This interview was used to help mother gain insight into their relationships with their infant in order to facilitate positive attachment.

The second session focuses on NAS. This topic was chosen to help educate the women on the cause of NAS as well as how treatment is conducted for these infants. This area is important to help prevent NAS in subsequent pregnancies as well to help the women feel empowered to provide appropriate care to their infants both at the hospital and as they transition home. Parents of medically fragile infants, defined as premature or sick infants requiring hospitalization in the NICU, often participate in discharge classes due to the specific skills needed to care for infants at home (Schlittenhart, Smart, Miller, & Severtson, 2011). Babies with NAS require specific interventions as part of their treatment. It is important for mothers to gain knowledge about how to treat their infant so they can appropriately care for them. Thus, incorporating specific knowledge and skill building about NAS was important to include in this program. The second session also focuses on understanding baby’s cues to help foster the mother’s ability to respond to the infant and increase the bond between mother and baby. As women addicted to opioids were found to be less responsive to their infants and responded more harshly to their infants, (Johnson & Rosen, 1990; Hans, Bernstein, & Henson, 1999), it was important to address communication between the mother and infant in order to foster positive communication and responsiveness.
The third session focuses on child development and ways to interact with their baby in developmentally appropriate ways. Most pediatricians rely on parent report or rely on parents bringing up concerns about their child’s development at well-child checks when screening for developmental delays (Glascoe, Squires, & Lipkin, 2007). Thus it was important that mothers are familiar with typical and atypical child development to ensure that they are able to get their child access to appropriate resources and evaluations if necessary. Additionally, activities were provided as ways for mothers to help foster their child’s development as well as continue to build a positive relationship with their child. Mothers’ engagement and play with their children promote healthy development and helps build positive parent-child relationships (Reading, 2007). Therefore, it was important to provide mothers with information on different ways to play with their infants to support development and the mother-infant relationship.

The fourth and fifth sessions focus on coping skills, interpersonal skills, and problem-solving skills. As La Salvia (1993) and United States Department of Health and Human Services (2015) suggested, and important addition to addiction treatment is a specific focus on developing coping, communication, problem-solving skills, as this is often an area that individuals with SUDs have difficulties with. It is important to help the mothers build skills to cope with stress and develop interpersonal skills to help them manage the upcoming stressors of motherhood and caring for an infant with NAS. They will also need to develop problem-solving skills to manage the many problems that may arise when parenting a child. It is also important to teach coping skills as an alternative to drug use (Marlatt & Donovan, 2005).
The sixth session focuses on access to community resources and planning for after the program ends. As many factors such as depression, unsafe housing, relapse, posttraumatic stress, lack of skill or job training, social support, and lack of childcare affect child care quality, it was important to include a session that specifically addressed access to community resources that would assist women in leading healthy lives. Further, action planning outlines specific goals or actions for behavioral health change (Bodenheimer, Lorig, Holman, & Grumbach, 2002; Lorig et al., 2006). Planning and goal setting can increase the likelihood that individuals will accomplish and achieve their goals. For that reason, it was important to include in this program a time when the mothers plan out their next steps as they transition back home to help them be successful as they move forward.

**Limitations**

One limitation of this program is that it is brief and psychoeducational. It is not intended to use as group therapy or long-term intervention. Howell and Chasnoff (1999) found that short-term interventions are not likely to be effective due to the chronic nature of substance use disorders. Anderson and colleagues (1986) compared a process oriented family group to a psychoeducational family group for individuals with an affective disorder in an inpatient unit. Researchers found that both types of groups helped patients feel more optimistic and more in control of their lives. There were no significant differences between the two groups in terms of knowledge or attitudes. However, families and patients were more satisfied with the psychoeducational group, likely due to a desire for information and how to manage the disorder. The authors suggested that
beginning with a psychoeducational group and then moving to a process-support group may be the most beneficial.

This psychoeducational program is also a group design and is limited in the amount of individualization the sessions can provide for each participant. However, a study completed by Weiss, Jafee, de Menil, and Cogley (2004) examined the literature comparing 24 different modalities of group therapy with individuals with substance use disorders. Their results indicated that there were no significant differences between individual and group therapy formats. They also found that group counseling was a beneficial component of “treatment as usual.” Further, their examination of the literature found that not one type of group format was more effective than another. Thus, the group format of the present program may be beneficial when combined with other treatments and the group modality likely does not negatively impact learning.

An additional limitation is that due to the emphasis on NAS and the first year of infant development, the program may not be as beneficial for mothers of older babies. This leaves out children and mothers affected by NAS that are still young and could potentially benefit from this program. Another limitation is the rolling group entry. A closed group may allow for a greater cohesion and sense of social support. However, Yalom and Leszcz (2005) indicated that therapeutic factors associated with rolling groups include that a positive group culture can be more easily passed on to new members when the group is kept at capacity. However, a negative group culture or hostile interactions are also more easily passed on to new members. Tasca and colleagues (2010) conducted a study to determine the impact of rolling membership on group culture. They examined 229 adults receiving treatment for eating disorder. Their results indicated that individual’s
alliance to the group increased every week they participated in group therapy. They also found that on weeks when other group members rated the group alliance higher, individuals rated their group alliance higher as well. Results indicated that the group culture is passed on when member leave and affects an individual member’s alliance toward the group. While this study differed in population and the type of group from the present program, it provides some evidence that the current program’s rolling admission may not have a negative impact on group culture and cohesion. However, if a negative interaction is established, this could negatively impact future members of the group and should be monitored.

A closed group impacts when a new mother can join the program because there are only certain time points in which mothers can join the program, which may not align with when they need the program. A key component of the program is that women can attend once they have recovered from delivery and complete the program while their infants are receiving treatment. This component is essential to reduce the barriers to attending the program and ensure that the women can benefit from the program during their child’s treatment in the hospital. Additionally, a closed group also allows for sequential movement through the sessions. In the current program, each session reviews homework from the previous session and provides practice opportunities. In the rolling group format, the sequential nature is somewhat interrupted and it reduces opportunities to practice outside of session and review homework. However, each session was designed to contain unique content that does not necessarily require skills from the previous session. Thus, to ensure that the women can maximize their attendance and experience
the positive impact of the program, the benefits of an open group outweigh the risk of an inherited negative culture and sequential movement through sessions.

Another limitation is that the session content was based on the literature but did not include a needs assessment from the women who would utilize this program. A health needs assessment is a method of determining what the most important needs of a particular group or community are (Wright, Williams, & Wilkinson, 1998). A health needs assessment includes assessing the wider social and environmental needs of a population and includes behavioral and psychological health care. A health needs assessment is a systematic method of identifying unmet needs of a community and provides clear objectives to inform an intervention. A needs assessment would have provided additional information on topics that would be most beneficial to the women. Access to mothers who gave birth to an infant with NAS was challenging to the author to conduct a needs assessment during the time frame of the project. This project initially started as conducting a needs assessment, however, after several failed attempts to access this population, the content of the project changed to developing the program to ensure timely completion of the dissertation. Due to the high-risk nature of this population, the sensitivity of the topic, and the barriers faced by this population, the author gleaned that she needed to spend significant amount of time within this community to form relations and trust to be able to conduct a needs assessment.

**Future Directions**

There are several future directions for this program. First, it would be beneficial to run a pilot of the program to ensure that it is effective in meeting the goals of the program. In addition to a pilot, continued research and program evaluation should be
completed measuring the efficacy of the program. Program evaluations can be used to assess accountability of the program to determine if it meets expectation, improve the program, and provide information about how the program works to other program developers or academics (Lapan & Hayden, 2009). A program evaluation of this program could be used to determine what changes need to be made as well as to continue to contribute to the literature on this population. One way to measure the effectiveness of the program is to evaluate changes in participant’s knowledge and attitudes based on the pre- and post- evaluation measures. These measures include the Parent Information Form as well as the Parenting Stress Index that are completed by the mothers before the program and at the completion of the program. As there are not many programs such as this one, it is important to demonstrate effectiveness for continued use as well as contribute to the knowledge about this population for other researchers.

It would also be beneficial to complete a needs assessment and to run focus groups on the content of the sessions to determine the needs of this population and to ensure that the program is meeting those needs. If the focus groups produce evidence that this population has additional needs that this program does not meet, it is critical to amend and adapt the program to fit those needs. As this is a developing area of research, this program should be viewed as an evolving program. As research and technology change and develop, the program will need to adapt and include new developments into the session contents. In addition, after each iteration of the program incorporating the feedback into the program will ensure that we are continuing to improve areas of the program and better catering to the needs of this population.
Second, in addition to improving the existing program, additional programs need to be developed. There are few resources similar to this type of program for this population. It would be beneficial for aftercare programs to be developed that are more therapeutic and long-term. As Anderson and colleagues (1986) suggested, beginning with the psychoeducational group followed by a process-oriented group may be beneficial. Additionally, psychoeducational groups are considered useful and necessary but not sufficient for substance use disorder treatment. (USDHHS, SAHMSA, 2015). Thus, this psychoeducational program should also include additional programming focused more on process-oriented content and additional focused addiction treatment. As additional programs are added and a greater diversity of participants gain access to the program, it will be important to consider additional cultural factors that may need to be incorporated into the existing program.

An additional area that would be beneficial for this population is to focus on attachment with their baby and continue to build on the skills introduced in this program. The Mothers and Toddlers Program is a 20-week individual attachment-based parenting intervention for mothers of toddlers (12-36 months) with a substance use disorder (Suchman, et al., 2008). A pilot study of the program found that the program showed moderate improvements in mother’s sensitivity to child’s cues, increased their response to child distress, and fostered social-emotional and cognitive growth. Mothers had more balanced view of their toddler and made more accurate attributions of their child’s behavior. An intervention such as the Mothers and Toddlers Program would be beneficial to incorporate in to the follow-up treatment after completing the psychoeducational program. Howell and Chasnoff (1999) found that programs need to address the often
adversarial tension between child-focused and mother-focused providers. Rather, programs should view the mother-infant dyad as the client. Therefore, continuing to address the mother-infant dyad will be important in follow-up procedures.

In addition to a focus on attachment, research indicates that an enhanced services program that provides services such as transportation, child care, community outreach, case managers, medical screenings, housing assistance, parenting classes, and employment services, substantially improved the outcomes of addiction treatment (Marsh, D’Aunno, & Smith, 2002; Mclellan et al., 2002). Women with opiate addictions are more likely to have additional mental health needs and higher rates of mood disorders (Davie-Gray et al., 2013; Kissin et al., 2001). Therefore, further enhanced services would be beneficial and this psychoeducational program could be incorporated in to a comprehensive treatment program. Further, extended care would provide additional tracking and long-term progress monitoring of these women and babies.

Finally, this program could also have various adaptations. The program could be modified for use in community mental health settings to broaden the reach of the program. In a community mental health setting, this program could be adapted to include pregnant women who are maintained with medication under the care of a doctor. It would not be beneficial for women taking opiates not supervised by a physician. It would be less beneficial for women with older infants or infants no longer being treated for NAS. Additionally, in a community mental health setting, it would be more feasible to have a closed group format as well as having sessions weekly, rather than twice a week. Session content could be adapted to include information for pregnant women including delivery and what to expect from doctors immediately after delivery, such as information on the
Neonatal Intensive Care Unit (NICU) and what medical supports may be in place. In a community mental health setting, it would also be important to consider additional barriers such as transportation, child care, and unstable housing and living environment.

The program could also be modified to incorporate fathers in a co-parenting focused program. Fathers would also likely benefit from the information contained in the program. In a co-parenting format, it would be important to ensure that the group maintains its psychoeducational nature and not become couples counseling. Additionally, considering the known co-occurrence of drug use and partner violence or having a partner who also abuses drugs (Davie-Gray, Moor, Spencer, & Woodward, 2013), it would be important to also have a mothers only group. It is critical that the women are allowed to choose which group they would prefer to participate in to ensure their comfort and ability to participate in the group fully.

The program could be adapted to be a closed-group format as well. In a closed-group format, several iterations of the group would need to be running at the same time. In order to keep the program easily accessible, it would be ideal if a new group started every week. This would also require multiple facilitators or increased availability of the facilitators to run several groups a week. Benefits of a closed group include increased group cohesion, trust, and sequential movement and continuity between the session materials.
Appendix

Program Sessions

Session 1: Getting to Know You

Objectives:

- Get to know the women and their families and begin to establish rapport and group cohesion.
- Participants will complete pre-program paperwork.
- Participants will provide information on their pregnancies, their relationships, their drug use, as well as completing questions from *The Working Model of the Child Interview* with the goal of gaining insight about how they view their infant.

Materials:

- Sign-In Sheet
- Pens
- Course Folder
- Pre-program paperwork packets
- Poster paper
- Markers
- Materials for Ice Breakers
- Homework Sheets

I. Informed Consent (Appendix A1)
   a. Prior to the first session, participants should have completed an informed consent form. If not on file, have them complete one prior to signing in.

II. Introduction and Overview (35 minutes)
   a. Have participants sign-in on sheet (Appendix A2).
   
   b. Distribute course folders
      i. Folders should include a pen and a legal pad for note taking. It should also include a list of the session dates and topics that will be covered (Appendix A3)
   
   c. Have mothers complete all pre-program paperwork (20 minutes)
      i. Pre-program paperwork packets should include Parent Information Form (Appendix A4) and Parenting Stress Index.
d. Introduce self and co-facilitators

e. Discuss confidentiality and limits of confidentiality (5 minutes)
   i. Say: “confidentiality will be promised by the facilitators, meaning that we will not discuss information about the group. However, since this is a group format confidentiality cannot be guaranteed by other participants. We ask that everyone respect each other’s privacy and confidentiality and not discuss other people’s information outside of group. If you are talking to someone about group, keep it focused on your experiences and what you are learning.”

f. Group guidelines (5-10 minutes)
   i. Have the mothers come up with 4-5 guidelines that they will follow throughout the course of the group. Examples: keeping what is said in group, in group, one person talks at a time, not using cell phones, etc. Write group rules on a sheet of poster paper to hang up during each group session.

g. Introduce purpose of today’s session
   i. Say: “The purpose of today’s session is to reflect on your pregnancy, relationships, relationship with your infant, and drug use in order to help you learn more about yourself and what you want to get out of this program.”

III. Ice Breakers (10 minutes) – have participants complete 1-2 ice breaker games (can be different from those listed below)

a. Connect
   i. Requires a small ball or something to throw. The first person lists things they like to do until someone else also enjoys that and they say “connect.” Then the first person tosses the ball to the person who said connect and then that person starts listing things they enjoy doing until someone says “connect.” This continues until all people have had a turn with the ball.

b. Skittles
   i. Requires mini packets of skittles or m&m’s. Give each person a mini pack of candy and tell them to pick 4-5 candies. Each candy color represents something they have to say about themselves. Example could be favorite activities, favorite foods, dream vacation, favorite movies, etc.

IV. The Working Model of the Child Interview (40 minutes)
i. **Say:** “This is an informal discussion that is meant to help you have a better understanding of yourself and your children.”

ii. This section is an informal interview with the women. Have them discuss the questions together (Appendix A5). Facilitators should remain in the spirit of Motivational Interviewing and seek opportunities to promote positive change and encouragement. Topics should be moved through sequentially but the specific questions should be worked through fluidly and flexibly. Add probes as necessary to get the conversation going between the participants.

V. **Assign Homework (5 minutes)**

i. Explain that this week’s homework is a narrative assignment where they will write down their goals for the program and what they hope to get out of the program (Appendix A6).
Dear Participant,

You have been referred for participation in a psychoeducational program for mothers with a child with Neonatal Abstinence Syndrome. You are invited to participate in a six session program focused on learning parenting strategies as well as strategies to help you manage stress during this new transition in life. The weekly sessions will be approximately 90 minutes. It is our hope that by the conclusion of the program you will have an action plan for you and your family with access to resources and supports to help you and your family be as successful as possible.

By signing the bottom of this form, you are indicating your understanding that information regarding you and your family will be held in confidence with the exception of situations that may be harmful to the health and safety of others, including yourself and your children. It is your right to accept, refuse, or stop services at any time.

___ I accept
___ I decline services

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Appendix A2: Sign-In Sheet

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### Appendix A3: Session Topics Sheet

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<th>Session 1 – Getting to Know You</th>
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<td>Session 2 – NAS and Your Infant</td>
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<td>Session 3 – Child Development and Parenting</td>
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<td>Session 4 – Stressors and Coping Skills</td>
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<td>Session 5 – Social Support and Problem Solving</td>
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<td>Session 6 – Community Day and Action Planning</td>
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Appendix A4: Parent Information Form

Name: ___________________________________________________________

Age: __________

Race/Ethnicity: _______________________________

Family Income: _______________________________

Number of children: ____________

Number of children diagnosed with Neonatal Abstinence Syndrome (NAS): __________

Have you ever been diagnosed with or treated for a mental health condition? Please List.
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

What is NAS the result of? ________________________________________________

Symptoms of NAS include (circle all that apply):

- Tiredness
- Seizures
- Irritability
- High-pitched crying
- Lack of crying
- Excessive crying
- Vomiting
- Sneezing
- Coughing
- Yawning
- Poor Sucking
- Constipation
- Loose Stool
- Fevers

The only treatment for NAS requires pharmacological use of prescription drugs?

True  False

My baby will most definitely have long-term cognitive delays because of NAS

True  False

How confident do you feel in your abilities to care for your infant?

Very Confident  Somewhat Confident  Somewhat lacking confidence  Very Much Lacking Confidence
How confident do you feel about your knowledge of child development and knowing when your child may not be developing like other children?

- Very Confident
- Somewhat Confident
- Somewhat lacking confidence
- Very Much Lacking Confidence

I know which coping skills are most effective for me.

- True
- False

I use my coping skills regularly.

- True
- False

My main strategies for handling interpersonal conflict include:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Please list problem solving steps:

1. ______________________________________________________________
2. __________________________________________________________________
3. __________________________________________________________________
4. ______________________________________________________________
5. __________________________________________________________________

I know what resources are available in my area.

- True
- False
Appendix A5: Interview Questions

1. Tell us about your pregnancy.
   a. Probes:
      i. Was it planned or unplanned?
      ii. How did you feel emotionally?
      iii. What were you doing during pregnancy (i.e. working)?
      iv. Have you ever been pregnant before?
      v. When did the pregnancy seem real to you?
      vi. What were your impressions of the baby when you were pregnant?
      vii. What sense did you have of the baby’s personality?
      viii. Who was there to support you during pregnancy?

2. Tell us about your Labor and Delivery.
   a. Probes:
      i. What was labor like?
      ii. What was your first reaction when you saw the baby?
      iii. How did you family react to the baby?
      iv. Were there any complications during delivery?
      v. Who was there to support you during labor and delivery?

3. Tell us about your Newborn.
   a. Probes:
      i. How did you decide on a name?
      ii. What has the experience of feeding been like for you?
      iii. How have these first days been with your baby?
      iv. What concerns do you have for your baby?
      v. How have you and the baby managed separations?
      vi. What symptoms has your baby shown?
      vii. How have you reacted emotionally to those symptoms?
      viii. How would you describe your relationship with your baby?
      ix. How has your relationship with your baby changed since pregnancy?

4. Tell us about your baby’s future
   a. Probes:
      i. How do you expect your relationship with your baby to change over time?
      ii. How do you expect you will change over time?
      iii. Are you worried about your child’s future? What do you worry about?
iv. What do you think will be the most difficult time in your child’s development?
v. What are your hopes and dreams for your child?
Appendix A6: Homework

Reflect on this week’s discussion and write down what your goals are for yourself during this program. What do you hope this program will help you with? What topics would be most helpful to you?

________________________________________________________________________

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References


Session 2: NAS and Your Infant

Objectives:

- Participants will be able to identify symptoms of NAS and identify their infant’s cues
- Participants will be able to identify pharmacological and nonpharmacological treatments for NAS
- Participants will be able to provide nonpharmacological interventions to their infants.

Materials:

- Folders for new members
- Group guidelines
- BabyCues: A Child’s First Language Cards and DVD
- Baby dolls and swaddles (if not provided by nurse/doctor)

I. Introduction and Overview (10 minutes)
   a. Have them sign-in on sheet (Appendix B1)

   b. If new participants – introduce facilitators, provide folder and pre-program paperwork, have them introduce themselves to the group.

   c. Review confidentiality and group guidelines that were created in previous session

   d. Review previous session
      i. Say: “Last session we discussed your pregnancies, deliveries, your infants, and your hopes and dreams for the future.” Highlight any additional points that were generated from last week’s discussion.

   e. Review homework from previous session

   f. Introduce purpose of session
      i. Say: “The purpose of today’s session is to understand NAS symptoms and the different types of treatment options that are available for infants with NAS as well how to understand how your infant communicates.”

II. Symptoms of NAS (15 minutes)
   a. What is NAS?
      i. Say: “NAS is caused by drug use that occurred while pregnant. Research suggests that higher doses of methadone or other opioids increase the likelihood that the baby will have NAS. When mothers are pregnant with their baby, some of the methadone or other opioids are passed to the baby through the placenta. When
the baby is born and is no longer getting that drug from the placenta, he/she will go through withdrawal. NAS is characterized by these withdrawal symptoms.”

b. Finnegan Scale
   i. Say: “The Finnegan Scale is a measure that will most likely be used by your baby’s doctor to measure their baby’s symptoms. Doctor and nurses will monitor your baby for symptoms and score their symptoms based on the rating scale. Then a total number is created that indicates the number and intensity of symptoms your infant is experiencing.”

c. Symptoms of NAS
   i. Say: “Symptoms of NAS may not appear right after birth, but generally appear somewhere between 24-72 hours after birth, depending on the type of opioid the infant was exposed to. Babies that are at risk for NAS will be observed for 4-7 days after birth for signs and symptoms of NAS. A toxicology screen may also be completed to determine the level that is present in the infant’s system. Each baby may experience different symptoms and not all infants will experience every symptom. Some may also experience different severity levels of the various symptoms.”
   ii. Go through the symptom sheet (Appendix B2)

III. Treatment (35 minutes)
   a. Pharmacological Treatments
      i. Say: “We are not medical doctors. The following information is general information on drug treatments. For your baby’s specific treatment, consult with your baby’s doctor. 50-70% of infants with NAS will need some type of pharmacological treatment. This is most often morphine or methadone and as symptoms begin to lessen, as indicated by their Finnegan score, doctors will begin to wean the infant off of the medication.”

   b. Non-Pharmacological Treatments
      i. Say: “It is best to work with your baby’s nurses to ensure that you are properly doing the various techniques and you should work with your nurses throughout your stay at the hospital.”
      ii. Go through the Comfort Care Guide (Appendix B3)

   c. Reading Your Infant’s Cues
      i. This activity is completed with the BabyCues: A Child’s First Language Cards and DVD. Go through the cards and introduce the cues.
ii. **Say:** “Infants cannot yet talk to communicate their needs. Instead we need to be able to interpret their body cues in order to understand and give our babies what they need. Babies have engagement cues and disengagement cues and these cues can be subtle or potent. Disengagement cues are signs that the baby may need a break from the interaction. Engagement cues are signs that your baby is ready to interact with you.”

iii. Use the videos as demonstrations of how a baby’s cues may change during an interaction. Then give each mother a set of cards and see if they can sort them by engagement-subtle, engagement-potent, disengagement-subtle, and disengagement-potent.

iv. **Say:** “Sometimes, when a baby is showing more subtle disengagement cues, the baby may need you to slow down, pause, or lower your voice. These signs do not always mean that you must put the baby down or stop all interaction with them. Some signs may indicate tiredness or hunger.”

v. Use the videos and the cards to determine which cues show that a baby may be tired or hungry.

IV. Practice skills (25 minutes)
   a. For this segment, you will need to arrange to have a nurse or doctor come in to teach the mothers how to appropriately interact with their baby. Baby dolls should be used for the mothers to practice these skills on. Skills that should be covered include:
      i. Proper swaddling
      ii. Massage
      iii. Skin-to-skin
      iv. Music and aromatherapy
      v. Hypercaloric feeding and breastfeeding
   b. In addition to specific skills, have provider talk about the different medications the infant may be on and what to expect while the baby is on medications such as which symptoms are likely to dissipate first and which may persist after the infant leaves the hospital.

V. Assign Homework (5 minutes)
   a. Practice and reflect on skills used (Appendix B4)
Appendix A1: Sign-In Sheet

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## Appendix B2: Symptom Sheet

Adapted from: Western Australian Centre for Evidence Based Nursing & Midwifery, Neonatal Abstinence Scoring System, January 2007

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Description</th>
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<tbody>
<tr>
<td>High-pitched cry</td>
<td>Scored if high-pitched at its peak or if it is high-pitched throughout. Infant is scored if crying is prolonged, even if it is not high-pitched.</td>
</tr>
<tr>
<td>Sleep</td>
<td>A premature infant on 3 hourly feeds can sleep for 2½ hours at most. This should be scored if the baby sleeps less than 2 hours, less than 1 hour or if the baby does not sleep between feeds.</td>
</tr>
<tr>
<td>Moro reflex</td>
<td>The Moro or startle reflex is a normal reflex of young infants and occurs when a sudden loud noise causes the child to stretch out the arms and flex the legs. This is scored if the infant exhibits pronounced jitteriness (rhythmic tremors that are symmetrical and involuntary) of the hands during or at the end of a Moro reflex. As well as if jitteriness and clonus (repetitive involuntary jerks) of the hands and/or arms are present during or after the initiation of the reflex.</td>
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<tr>
<td>Tremors</td>
<td>This is scored based on if the tremors are mild or moderate to severe when disturbed or undisturbed. Undisturbed refers to the baby being asleep or at rest.</td>
</tr>
<tr>
<td>Increased muscle tone</td>
<td>Scored if excessive or above-normal muscle tone or tension is observed - muscles become &quot;stiff&quot; or rigid and the infant shows marked resistance to passive movements, e.g. if the infant does not experience any head lag when being pulled to the sitting position; or if there is tight flexion of the infant’s arms and legs (unable to slightly extend these when an attempt is made to extend and release the supine infant’s arms and legs).</td>
</tr>
<tr>
<td>Excoriation</td>
<td>Excoriations (skin abrasions resulting from constant rubbing against a surface that is covered with fabric such as bed linen). Scored only when excoriations first appear, increase or appear in a new area.</td>
</tr>
<tr>
<td>Myoclonic jerks</td>
<td>Scored if involuntary muscular contractions which are irregular and exceedingly abrupt (usually involving a single group of muscles) are observed.</td>
</tr>
<tr>
<td>Generalized convulsions</td>
<td>In the newborn infant generalized seizures or convulsions are often referred to as tonic seizures. They are most commonly seen as generalized activity involving tonic extensions of all limbs, but are sometimes limited to one or both limbs on one side. Unusual limb movements may accompany a seizure. In the upper limbs these often resemble &quot;swimming&quot; or &quot;rowing.&quot; In the lower limbs, they resemble &quot;pedaling&quot; or &quot;bicycling.&quot; Other subtle signs may include eye staring, rapid involuntary...</td>
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<tr>
<td>Movement/Sign</td>
<td>Description</td>
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<tr>
<td>Movements of the eyes, chewing, back arching, and fist clenching.</td>
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<tr>
<td>Sweating</td>
<td>Scored if sweating is spontaneous and is not due to excessive clothing or high room temperature.</td>
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<tr>
<td>Hyperthermia</td>
<td>Temperature should be taken per axilla. Mild pyrexia (99-100.9°F) is an early indication of heat produced by increased muscle tone and tremors. More severe hyperthermia is indicated when the body temperature is 101°F or greater.</td>
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<tr>
<td>Yawning</td>
<td>Scored if more than 3 yawns observed within the scoring interval.</td>
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<tr>
<td>Mottling</td>
<td>Mottling is the marbled appearance of pink and pale or white areas and is present on the infant’s chest, trunk, arms, or legs.</td>
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<tr>
<td>Nasal stuffiness</td>
<td>Scored if the infant sounds congested; mucous may be visible</td>
</tr>
<tr>
<td>Sneezing</td>
<td>Scored if more than 3 sneezes observed within the scoring interval.</td>
</tr>
<tr>
<td>Nasal flaring</td>
<td>Scored only if repeated dilation of the nostrils is observed without other evidence of lung or airways disease.</td>
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<tr>
<td>Respiratory rate</td>
<td>Respirations are counted for one full minute. Scored only if &gt;60 per minute without other evidence of lung or airways disease or if respiration involves drawing in of the intercostal muscles (retractions).</td>
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<tr>
<td>Excessive sucking</td>
<td>Scored if hyperactive/disorganized sucking, increased rooting reflex, or attempts to suck fists or thumbs (more than that of an average hungry infant) are observed.</td>
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<tr>
<td>Poor feeding</td>
<td>Scored if the infant demonstrates excessive sucking prior to feeding, yet sucks infrequently during a feeding taking a small amount of breast milk or formula, and/or demonstrates an uncoordinated sucking reflex (difficulty sucking and swallowing). Premature infants may require tube feeding and should not be scored for poor feeding if tube feeding is expected at their gestation.</td>
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<tr>
<td>Regurgitation</td>
<td>Scored if at least one episode of regurgitation is observed even if vomit is contained in the mouth.</td>
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<tr>
<td>Loose/watery stools</td>
<td>Scored if loose (curds/seedy appearance) or watery stools (water ring on diaper around stool) are observed.</td>
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Appendix B3: Comfort Care Guide

There are several things you can do to help your baby to be more comfortable while he/she is experiencing withdrawal symptoms.

**Quiet and Calm**
- Keep lights dim
- Turn off the TV
- Keep phones on silent
- Speak in a low, calm voice
- Minimize visitors
- Let baby sleep, except for feeding

**Use Skin-to-skin**
Cuddle with your baby against a bare chest. This will support breastfeeding and help regulate your baby’s temperature. It also helps support bonding with baby. Use a light blanket to keep you and baby warm, but be sure it doesn’t cover baby’s face.

**Swaddle Baby**
This will be taught in class. You can always ask your nurse to help you swaddle your baby. This can help baby feel safe and secure and can help baby cope with withdrawal symptoms.

**Infant Massage**
This will be taught by the nurse in class. Use soft, slow movements to help calm baby. Avoid patting baby’s back.

**Music and Aromatherapy**
This will be taught in class. Use calm and soft music to soothe baby.

**Hypercaloric feeding and breastfeeding**
These will be taught in class by the nurse. Consult with your baby’s doctors and nurses to determine the best feeding regiment for your baby.

**Take care of yourself**
It’s okay to take a break if you are feeling overwhelmed or frustrated. Take some deep breaths, relax, and find some people who can support you.
Appendix B4: Homework

It is important that the skills you have learned today are practiced before you take your baby home so that you feel comfortable and confident in your skills at home. This week practice the following and write a short reflection on your time with your baby.

What NAS symptoms is your baby displaying?

________________________________________________________________________

________________________________________________________________________

Notice a time when your baby is displaying an engagement cue. What was your baby doing? Was it subtle or potent?

________________________________________________________________________

________________________________________________________________________

Notice a time when your baby is displaying a disengagement cue. What was your baby doing? Was it subtle or potent?

________________________________________________________________________

________________________________________________________________________

Practice swaddling your baby. How did you feel doing the swaddle? How did your baby respond?

________________________________________________________________________

________________________________________________________________________

Use skin-to-skin. What was it like doing this with your baby? How did he/she respond?

________________________________________________________________________
References


Session 3: Child Development and Parenting

Objectives:
- Participants will understand typical development over the first year of their child’s life
- Participants will be able to identify problems that may occur in typical development
- Participants will learn strategies for developing a positive relationship with their infant

Materials:
- Folders for new members
- Group guidelines
- Handouts

I. Introduction and Overview (10 minutes)
   a. Have them sign-in on sheet (Appendix C1)

   b. If new participants – introduce facilitators, provide folder and pre-program paperwork, have them introduce themselves to the group.

   c. Review confidentiality and group guidelines that were created

   d. Review homework from previous session

   i. **Say:** “Last session we discussed the causes and symptoms of NAS. We also reviewed that different treatments that your baby might receive and how you can help them be more comfortable during this time. We looked at different cues your baby may give you to indicate if they want interaction or if they need a break.” Highlight any additional points that was generated from the group discussion.

   e. Review homework from previous session

   f. Introduce purpose of session

   i. **Say:** “The purpose of today’s session is to understand child development over the first year of your child’s life and what to expect as well as problems that may occur. We will also discuss, how to build positive relationships with your baby as you shift from your baby being “sick” to normalcy and enjoy your baby.”

II. Infant Development (45 minutes)
   a. **Say:** “Babies do not all develop at the same rate. There is an age range in which babies develop skills. If your baby is not yet showing the skills at the age listed, do not be alarmed, some babies will develop these skills earlier and some later. The ages listed are an average. If your baby is significantly delayed, that is when you want to contact your pediatrician.”
b. Go through **Your Baby’s Development** (Appendix C2) and **Developmental Warning Signs** (Appendix C3) and review each stage of development. Discuss typical and atypical development. Answer any questions as you teach the material.
   i. Birth-3 Months – typical and atypical development
   ii. 4-6 Months – typical and atypical development
   iii. 7-9 Months – typical and atypical development
   iv. 10-12 Months – typical and atypical development

III. Bonding with Baby (30 minutes)
   a. Go through and review different activities the mothers can do to bond and play with their babies. (Appendix C4)
      i. Birth-3 Months
      ii. 4-6 Months
      iii. 7-9 Months
      iv. 10-12 months

IV. Assign Homework (5 minutes)
   a. (Appendix C5) – Pick three bonding skills and practice
Appendix C1: Sign-In Sheet

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## Appendix C2: Your Baby’s Development

<table>
<thead>
<tr>
<th>Age</th>
<th>Cognitive</th>
<th>Motor</th>
<th>Social</th>
<th>Language</th>
</tr>
</thead>
</table>
| Birth – 3 months | ● Looks and follows object  
               ● Recognizes faces, objects, and voices | ● Head control – may still be wobbly  
               ● Lift head when lying on stomach  
               ● Grasp reflex declines  
               ● Holds objects  
               ● Pulls at clothes | ● Cries to express displeasure  
               ● Social smile  
               ● Vocalizes and smiles to familiar people  
               ● Shows awareness to strange situations | ● Looks at parent when talking  
               ● Makes other noises – coos, squeals, babbles  
               ● “Talks” when spoken to |
| 4-6 months   | ● Explores and plays with hands  
               ● Reaches for objects  
               ● Hand-eye coordination  
               ● Mouths objects  
               ● Watches objects when dropped  
               ● Prefers complex visual stimuli | ● Sits with support  
               ● Bears some weight on legs when held upright  
               ● Rolls over  
               ● Can grasp and hold objects  
               ● Chewing and biting  
               ● Can pull chest and stomach off the floor  
               ● Holds a bottle | ● Laughs  
               ● Enjoys being rocked or bounced  
               ● Gets upset if you take a toy away  
               ● Can distinguish family and strangers | ● Makes many sounds  
               ● Makes vowel-consonant combinations  
               ● Makes one syllable sounds |
| 7-9 months   | ● Able to fixate on small objects  
               ● Awareness of depth and space  
               ● Can pull string to obtain object  
               ● Reaches for toys  
               ● Bangs objects | ● Bounces when held in a standing position  
               ● Transfers objects from on hand to another  
               ● Sits without support  
               ● May stand while holding on to objects  
               ● Pincer grasp  
               ● Begins crawling | ● Responds to name  
               ● May not like having diaper changed or getting dressed  
               ● Increased interest in pleasing parents | ● Begins combining syllables  
               ● Understands no  
               ● Responds to verbal commands |
| 10-12 months | ● Object permanence begins to develop  
               ● Follows pictures in book  
               ● Explores objects more thoroughly  
               ● Recognizes objects by name  
               ● Places objects into containers | ● Can go from stomach to sitting  
               ● Recovers balance when standing  
               ● Walks with support – may attempt independent steps  
               ● Rolls a ball  
               ● Sits from standing position  
               ● Turns pages in book | ● Waves bye  
               ● Repeats actions that draw attention  
               ● Plays interactive games  
               ● Becomes excited when a task is learned  
               ● Shows frustration  
               ● Shows affection  
               ● Clings to parent in new situations  
               ● Show independence in familiar settings | ● Understands “bye-bye”  
               ● Says “mama” or “dada” with meaning  
               ● Says other single words  
               ● Comprehends meaning of several words  
               ● Imitates sounds  
               ● Understands simple commands |
Appendix C3: Developmental Warning Signs

If your baby is not doing the following by their first birthday or by age indicated, talk to your child’s pediatrician

By 2 Months:
- Doesn’t respond to loud sounds
- Doesn’t watch things as they move
- Doesn’t smile at people
- Doesn’t bring hands to mouth
- Can’t hold head up when pushing up when on tummy

By 4 Months:
- Doesn’t watch things as they move
- Doesn’t smile at people
- Can’t hold head steady
- Doesn’t coo or make sounds
- Doesn’t bring things to mouth
- Doesn’t push down with legs when feet are placed on a hard surface
- Has trouble moving one or both eyes in all directions

By 6 Months:
- Doesn’t try to get things that are in reach
- Shows no affection for caregivers
- Doesn’t respond to sounds around him
- Has difficulty getting things to mouth
- Doesn’t make vowel sounds (“ah”, “eh”, “oh”)
- Doesn’t roll over in either direction
- Doesn’t laugh or make squealing sound
- Seems very stiff, with tight muscles
- Seems very floppy, like a rag doll
- Persistence of newborn reflexes

By 9 Months:
- Doesn’t bear weight on legs with support
- Doesn’t sit with help
- Doesn’t babble (“mama”, “baba”, “dada”)
- Doesn’t play any games involving back-and-forth play
- Doesn’t respond to own name
- Doesn’t seem to recognize familiar people
- Doesn’t look where you point
- Doesn’t transfer toys from one hand to the other
- In ability to locate sounds

By 12 Months:
- Doesn’t crawl
- Can’t stand when supported
- Doesn’t search for things that she sees you hide
- Doesn’t say single words like “mama” or “dada”
- Doesn’t learn gestures like waving or shaking head
- Doesn’t point to things
- Loses skills he once had
Appendix C4: Bonding with Baby

Birth – 3 months
- Hold baby
- Cuddle with baby in relaxing moments
- When baby is relaxed, stroke, pat, gently rub different parts of baby’s body
- Speak softly to baby
- Expose baby to different kinds of music
- Sing to baby
- Lightly rub different textures and materials against baby’s skin
- Gently exercise baby’s arms and legs
- Make facial expressions towards baby as you talk to baby
- Create a good sleep environment for baby – including a routine, dark, quiet area, and put to sleep on their backs
- Put baby on tummy for tummy time
- Show pleasure as you play with baby
- Keep baby on a routine as much as possible
- Play with different toys such as soft books, rattles, balls, etc.

4-6 months
- Continue to hold and cuddle baby
- Talk to baby in engaging ways using facial expressions
- Imitate baby’s sounds
- Make changing’s fun with kisses, soft touches, and engagement
- Gently massage baby
- Hand baby different objects
- Comment on what baby is doing
- Bounce baby up and down when baby is in a standing position
- Play with a variety of toys with baby
- Make bath time fun an enjoyable with toys and engagement
- Put baby on tummy

7-9 months
- Continue to hold and cuddle baby when baby indicates that they want to be held
- Continue to talk to baby
- Build towers with baby for baby to knock over
- Let baby begin to pick up small bits of food
- Put out pots and pans and a wooden spoon for baby to drum on
- Baby will imitate your sounds and imitate them back
- Have a back and forth conversation with baby
- Make bath time and changing time fun
- Look at picture books with baby
- Play with toys with baby
- Put baby on tummy
10-12 months
- Talk, sing, cuddle, and hold baby
- Put objects out for baby to reach and grab
- Play peek-a-boo with baby
- Play with stacking toys
- Give baby a container with toys in it for baby to dump, fill, and repeat
- Hide an object in your hand for baby to find
- Read stories to baby
- Play pat-a-cake
- Play “catch-me!”
- Roll ball to baby
- Put out objects that baby can put in and take out of muffin tin (make sure baby can’t swallow them)
- Make animal noises with baby
- Talk about what you are doing and narrate what baby is doing
- Play with puzzles and other toys
Appendix C5: Homework

Select three bonding strategies to try with baby:
Circle the three you tried and reflect on how it made you feel and how baby responded

- Hold baby

__________________________________________________________________

__________________________________________________________________

- Cuddle with baby in relaxing moments

__________________________________________________________________

__________________________________________________________________

- When baby is relaxed, stroke, pat, gently rub different parts of baby’s body

__________________________________________________________________

__________________________________________________________________

- Speak softly to baby

__________________________________________________________________

__________________________________________________________________

- Sing to baby

__________________________________________________________________

__________________________________________________________________

- Make facial expressions towards baby as you talk to baby

__________________________________________________________________

__________________________________________________________________
References


Session 4: Stressors and Coping Skills

Objectives:
- Participants will understand stress and its function
- Participants will be able to identify their individual stressors
- Participants will learn and be able to use stress management and coping skills
- Participants will create a plan for dealing with stress

Materials:
- Folders for new members
- Group Guidelines
- Handouts
- Notecards

I. Introduction and Overview (10 minutes)
   b. Have them sign-in on sheet (Appendix D1)
   c. If new participants – introduce facilitators, provide folder and pre-program paperwork, have them introduce themselves to the group.
   d. Review confidentiality and group guidelines that were created
   e. Review previous session
      i. Say: “In our last session, we discussed what typical development looks like over the first year of an infant’s life as well as some warning signs to look out for during this first year. Additionally, we talked about different ways to play and interact with your baby during the first year of life.” Highlight any additional points that were generated during the discussion.
   f. Review homework from previous session
   g. Introduce purpose of session
      i. Say: “The purpose of today’s session is to understand stress and each of your individual stressors. You will also learn new stress management techniques and coping skills to help reduce negative effects of stress.”

II. What is stress? (10 minutes)
   a. Ask participants what they think stress is.
   b. Say: “Stress is the body’s reaction to a change or to a challenging situation. This requires a physical, mental, or emotional response in order to overcome the stress. Stress can come from any situation or event that makes you feel nervous, anxious, frustrated, or angry. These situations or things are called stressors. Each person has different things that stress
them out as well as different responses to stress. However, stress is a normal part of life and is even necessary for growth. If we have too much stress or if we do not have healthy ways to deal with our stress, then serious problems may arise as a result.”

III. Individual Stressors and Your Response (35 minutes)
   a. **Say:** “First, we will talk about causes of stress or our stressors. Things outside of us can cause stress but so can things that happen internally. Our stress can also be self-generated.”
      i. Refer to Appendix D2: **Causes of Stress** and discuss external and internal causes of stress. Ask participants what internal and external things cause them stress.

   b. **Say:** “Relationship difficulties can be an especially difficult type of stress. Whether it is a stressful family relationship, romantic relationship, or friendship, these are often the most stressful because we often rely on social relationships to help get us through other tough situations. Even when a relationship is stressful, we often want to keep those relationships. It can be very difficult to end relationships that are not good for us.”
      i. Discuss with participants if they have experienced this type of interpersonal stress.

   c. **Say:** “Next we will talk about our reactions to stress. We all have some type of physiological response to stress such as racing heart, getting hot, or muscles getting tense. We may also notice other changes to our emotions or our thinking. We may be more irritable or have difficulty concentrating. What are signs that you are feeling stressed?”
      i. Facilitate conversation about signs of stress.

   d. **Say:** “Stress can also be harmful to our bodies if experienced over a long period of time.”
      i. Go through the effects of chronic stress. Also ask if they have experienced any long-term consequences of stress.

   e. **Say:** “We also talked earlier about how everyone responds to stress differently and we may not always do the most helpful things to manage our stress. We might yell at our family or loved ones when we are feeling stressed. We might turn to alcohol or other drugs to help cope with stress. We might ruminate or think about what’s stressing us out over and over again, which can lead to more anxiety. Maybe we just feel overwhelmed and give up for the day. What do you do when you are feeling stressed?”
      i. Ask participants what they do when they are feeling stressed out. This section is likely to bring up drug use habits. If this occurs, help participants make the connection between experiencing stressful situations and their drug use.
IV. Managing Stress (30 minutes)
   a. **Say:** “We often need to do something to help us manage our stress more effectively. There are 2 ways of managing stress: In the moment and preventative stress management. Sometimes we get really stressed out and we may need to do things in the moment to help calm ourselves down. It is often helpful if we have practiced these strategies beforehand so that in the moment they are easier to use.”

   b. Go through ideas on Appendix D3 of strategies to use in the moment.
      i. **Say:** “What happens if you shake a bottle of coke and then open it? (it explodes). What happens if after shaking the coke, you slowly open it a little at a time? (we release the pressure preventing an explosion). This also happens to us if we do not find ways throughout the day to relieve some of the stress rather than let it build up, potentially leading to an explosion. Has this ever happened to anyone?”
      ii. Go through ideas on Appendix D3 of preventative strategies that can be used.
      iii. Note card activity: Hand out a note card to each participant. Have them label one side “In the Moment” and the other “Preventative.” Have them write down 3-4 strategies they will use for each category and allow time to share answers.

V. **Assign Homework (5 minutes)**
   a. Homework is to practice one of their “In the Moment” and one or their “Preventative” strategies and to reflect on their stress. (Appendix D4)
Appendix D1: Sign-In Sheet

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Appendix D2: Causes and Signs of Stress

External Causes of Stress
- Major Life Changes – Divorce, loss of job, new job, moving, marriage
- Financial Problems
- Work or School – working long hours, not having a job, working third shift, working in dangerous environment
- Relationship Difficulties
- Being too Busy
- Children
- Family
- Death
- Chronic illness
- Traumatic event

Internal Causes of Stress
- Worry
- Being Pessimistic
- Negative self-talk
- Unrealistic expectations
- Perfectionism
- Lack of flexibility
- Feeling like life is out of control

Signs of Stress
- Heart Racing
- Muscles Tensing
- Body getting hot
- Low energy
- Headaches
- Upset stomach including nausea, diarrhea, and constipation
- Insomnia
- Frequently sick
- Lack of sexual desire
- Clenched jaw/teeth grinding
- Difficulty relaxing
- Feeling lonely, worthless, depressed
- Avoiding other
- Easily frustrated or agitated
- Constant worrying
- Racing thoughts
- Forgetfulness
- Inability to focus
- Poor judgement

Effects of Chronic Stress
- Pain
- Heart Disease
- Digestive issues
- Sleep issues
- Depression
- Weight Problems
- Autoimmune disease
- Skin problems
Appendix D3: Managing Stress

_In the Moment:_
- Take a shower
- Take a deep breath
- Walk Away
- Count
- Get a drink of cold water
- Stop and be aware of your thoughts and feelings
- Use positive self-talk
- Go to a quiet room
- Cry

_Preventative:_
- Workout/Be Active
- Take a bath
- Read a book
- Play with animals
- Guided Imagery
- Meditation
- Prayer
- Talk with a friend or counselor
- Journal
- Paint
- Play with your children
- Listen to music
- Think of 3-5 good things that happened to you each day
- Cook or bake
- Dance
- Have a cup of tea or coffee
- Daydream
- Laugh
- Garden
- Take naps
- Color
- Light Candles
- Sing
- Drive somewhere
- Plan something fun
- Find a few minutes of alone time
Appendix D5: Homework

Select one “In the Moment” and one “Preventative” strategy you are going to practice this week:

My “In the Moment” Strategy I practiced was: ________________________________
Reflections on using this strategy:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
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________________________________________________________________________

My “Preventative” strategy I practiced was: ________________________________
Reflections on using this strategy:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

What I need to work on to continue to manage my stress effectively:
________________________________________________________________________
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References


Session 5: Social Support and Problem Solving

Objectives:
- Participants will be able to identify their social support networks
- Participants will understand the importance of social support and how to build their social support networks
- Participants will be able to identify and utilize problem solving steps

Materials:
- Folders for new members
- Group Guidelines
- Handouts

I. Introduction and Overview (10 minutes)
   h. Have them sign-in on sheet (Appendix E1)
      i. If new participants – introduce facilitators, provide folder and pre-program paperwork, have them introduce themselves to the group.
      j. Review confidentiality and group guidelines that were created
   k. Review previous session
      i. Say: “Last session we discussed stress and our individual stressors. We discussed causes and effects of stress on our bodies and minds. We also talked about how we manage stress and some alternative strategies for managing stress.” Highlight any additional points generated in the previous session’s discussion.
   l. Review homework from previous session
   m. Introduce purpose of session
      i. Say: “The purpose of today’s session is to understand and identify social supports as well as to understand and be able to utilize problem solving steps.”

II. What is social support and who is in your social support network? (5 minutes)
   a. Say: “Social support consists of the individuals in your life that you can rely on in times of need. Social support is not just the number of people in your life but also the quality of those relationships. People may serve different functions. Some might be emotional support, some might be financial supports, and some might be child care supports. We all need social support in our lives to be happy and prosperous.”

III. How to build your social support network (45 minutes)
   a. Identifying Healthy and Unhealthy Relationships (Appendix E2)
      i. Say: “What do you consider a healthy relationship and what do you consider an unhealthy relationship?.”
ii. Go through the **Healthy vs. Unhealthy Relationships** chart.

b. Communication in Relationships (Appendix E3)
   i. **Say:** “Communication is important in any relationship including romantic relationships, family, friends, and co-workers. Communication involves both a listener and a talker. Can you listen and talk effectively at the same time? (allow for response). No we typically can’t do this well. There are two ways we communicate: verbally, which is what we say, and nonverbally, which is what we do. Both are important to think about when we are communicating.”
   
   ii. Go through the **Communication** handout. Discuss nonverbal communication strategies and give examples of how different nonverbal behavior can communicate different things. Demonstrate different tones of voice, eye contact, and body language. Then go through the verbal communication list and review each one providing examples of each.

c. Conflict Resolution (Appendix E4)
   i. **Say:** “Every relationship will have conflicts. After all, a relationship includes two people with different thoughts, feelings, and opinions. Conflict arises from differences and it is critical to understand when a conflict needs to be addressed. It is important to address conflicts early, rather than letting them drag out, which often creates other problems.
   
   ii. Go through the **Conflict Resolution Tips** sheet and discuss with the women.

IV. Problem Solving (25 minutes)

a. What is Problem Solving?
   i. **Say:** “Problem solving consists of series of steps that will help you respond to a situation rather than react to it. Many times we are already doing this in our head but it can be helpful to take some time to think through each step. Different problems may require more time in one step than another. Sometimes you may go through them very quickly and other times they might need more thought. These steps can be used to solve many types of problems, including work problems, interpersonal problems, and daily living problems.”

b. Problem Solving Steps (Appendix E5)
   i. Go through each of the steps on **Problem Solving** sheet.
      1. **Say:** “The first step is Define the Problem. What is the problem? Clearly define it as well as any considerations that need to be made. Example: I need affordable child care 4 days a week for 8 hours each day. I have enough money
to spend x amount on child care. I have some family in the area that may be willing to help. My job is not flexible with hours.”

2. **Say:** “The next step is Brainstorm Solutions. Come up with as many possible solutions and determine the pros and cons of each solution. Example: I could put my child in day care all 4 days. Pro: not an inconvenience to others Con: very expensive. My mother could watch her 2 days and my aunt for 2 days. Pro: free Con: my aunt would have to rearrange her work schedule. My mom could watch her 2 days and she can be in daycare for 2 days. Pro: less expensive, fewer people inconvenienced Con: close to my budget, may have to make cuts elsewhere.”

3. **Say:** “The third step is Pick a Solution. Pick the solution that maximizes the pros and minimizes the cons. In our example, mom will watch her 2 days, and she will go to daycare 2 days with budget cuts to my eating out budget.”

4. **Say:** “Next we Implement the solution. We try out the solution we selected.”

5. **Say:** “Finally, we Review the Results. Determine if that solution is working or not. If so, keep going. If not, start over and try to find a better solution.”

c. **Practice Scenarios**
   i. Have one or two women volunteer to pick a problem they are facing. Have the group brainstorm and walk through the problem solving steps together.

V. **Assign Homework (5 minutes)**
   a. Homework this week is to practice the problem solving steps. (Appendix E6)
Appendix E1: Sign-In Sheet

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### Appendix E2: Healthy vs. Unhealthy Relationships

Adapted from Choose Respect Action Kit, Centers for Disease Control and Prevention

<table>
<thead>
<tr>
<th>Healthy Relationships</th>
<th>Unhealthy Relationships</th>
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<tr>
<td><strong>Equality</strong> – share decisions and responsibilities</td>
<td><strong>Control</strong> – one person makes all the decisions and tells the other what to do</td>
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<td><strong>Honesty</strong> – Tell each other how they feel and share important information</td>
<td><strong>Dishonesty</strong> – lies, steals, or withholds information</td>
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<td><strong>Physical Safety</strong> – feel safe and respect each other’s space</td>
<td><strong>Physical Abuse</strong> – using force, violating personal space and boundaries</td>
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<td><strong>Respect</strong> – treat others like they want to be treated and accept their thoughts, feelings, and opinions. Respects others belongings.</td>
<td><strong>Disrespect</strong> – makes fun of or dismisses the other person’s thoughts, feelings, and opinions. Destroying property.</td>
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<td><strong>Comfort</strong> – feel safe and can be yourself in the relationship</td>
<td><strong>Intimidation</strong> – control over any aspect of their life by using threats or violence</td>
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<tr>
<td><strong>Sexual respect</strong> – never force or pressure sexual activity</td>
<td><strong>Sexual abuse</strong> – forcing any sexual act the other person does not consent to</td>
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<td><strong>Independence</strong> – maintain own identity and each person always maintains the right to end the relationship</td>
<td><strong>Dependence</strong> – “can’t live without” or threatening something bad if the relationship ends. Loss of identity separate from other person.</td>
</tr>
<tr>
<td><strong>Humor</strong> – relationship is enjoyable to both</td>
<td><strong>Hostility</strong> – not enjoying each other’s company, changing behavior so as not to upset the other person, teasing is mean-spirited</td>
</tr>
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Appendix E3: Communication

Non-Verbal Communication:

- Eye contact
- Tone
- Body Language
- Facial Expressions
- Gestures

Active listening – show the person you are listening to them and are taking their point of view seriously

Verbal Communication:

Responding vs. Reacting –

- Reacting is what happens without thinking. When we react to something we often have not thought about what we are saying and how we want to say it. Rather, we just blurt out what comes to mind which can often lead to hurtful things being said or saying things you don’t actually mean.
- When we respond, we have taken a moment to think about what we want to say and how we want to say it. Pause before talking to help keep stress in check. This often leads us to more compassionate and productive conversations.

Using “I” Statements rather than “You” statements

- “You” statements can make people feel defensive and leads to less successful conversations. Ex. “You can’t do anything right! I told you to put the food away. You make me so mad!”
- “I” statements – Using “I” makes the problem about how you are feeling and how the person can help you. Ex: “I get really mad when the food is left out after dinner because then it will go bad. I need you to put the food away after dinner.”

Talk it out in person – if you need to talk to someone, do it in person. Avoid texts where all those important nonverbal communication signals get lost and what you mean to say can come across completely differently.

Sandwich method- Sandwich negative feedback between two positives. Ex: I really like it when you help around the house. I need you to put the food away after dinner. It means a lot to me when you do house chores too.
Appendix E4: Conflict Resolution Tips

Adapted from Conflict Resolution Skills by the Help Guide

1. **Recognize and Manage Emotions:** Recognize your own emotions so you can communicate them. Knowing that you are feeling angry, frustrated, hurt or sad can then lead you what you need to do next in order to have a productive conversation.

2. **Remain calm:** Try not respond not react. Give yourself time to calm down before starting the conversation.

3. **Make the relationships a priority:** Repairing and maintaining the relationship should be the priority over “winning.” Remember to be respectful.

4. **Focus on the present:** Avoid bringing in past things that hurt or annoyed you. Your focus of the conversation should be on the present issues only.

5. **Be specific:** It is easier to address a specific issue rather a vague one.

6. **Pick your battles:** We are going to disagree with people on many, many things. Pick which ones are the most important to address and which ones you can live with not addressing.

7. **Avoid accusations:** This is more likely to make the person defensive and less likely to hear you out.

8. **Listen to the other person:** Encourage them to share their thoughts and feelings. Clarify the real issues and restate what you have heard to make sure you really understand and let them clarify.

9. **Be willing to forgive:** This is an important step in the process. Let go of the urge to punish someone for their wrong doing and forgive them instead.

10. **Learn to let things go:** Some disagreements may not be resolved but the conversation may have given you a better understanding of what is going on for that person. Let that be enough and agree to disagree.
Appendix E5: Problem Solving

1. Define the Problem
2. Brainstorm Solutions
3. Pick a Solution
4. Implement the Solution
5. Review the Results
Appendix E6: Homework

This week practice using the problem solving steps. This may be easiest to practice with a smaller, more manageable problem. The problem may be work related, interpersonal in nature, or daily living related.

1. Define the Problem:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

2. Brainstorm solutions:
   a. __________________________________________
   b. __________________________________________
   c. __________________________________________
   d. __________________________________________

3. Pick a Solution: ________________________________________________________

4. Implement the Solution

5. Review the Results

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Did you need to pick another solution? If so what did you do next?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
References


Session 6: Community Day and Action Planning

Objectives:
- Participants will be able to identify community partners that are available in their area
- Participants will create an action plan for steps they will take after they go home with their infant.

Materials:
- Folders for new members
- Group Guidelines
- Handouts
- Parent Information Form
- Completion Certificates – Sign before session
- Satisfaction Survey

I. Introduction and Overview (10 minutes)
   a. Have them sign-in on sheet (Appendix F1)

   b. If new participants – introduce facilitators, provide folder and pre-program paperwork, have them introduce themselves to the group.

   c. Review confidentiality and group guidelines that were created

   d. Review previous session
      i. **Say:** “Last session we discussed how to build your support community and some strategies for determining if a relationship is a positive one. We also talked about communication and conflict-resolution strategies. Finally, we talked about problem solving strategies when faced with difficult problems.” Highlight any additional points generated from last session’s discussion.

   e. Review homework from previous session

   f. Introduce purpose of session
      i. **Say:** “The purpose of today’s session is to spend some time getting to know community partners and organizations that are available to you and to create an action plan for when you leave the hospital with your baby.”

II. Community Partners (45 minutes)
   a. This part of the program will require significant preparation by the group facilitators prior to this session. The intent of this session is to bring community agencies into the group setting so the women have easy access to these partners. Every community will have different agencies available so it is up to the facilitators to reach out to local agencies and determine
which ones will be a good fit for your community. Recommended agencies include local pediatricians and doctors who are accepting new clients, job and career agencies, support groups, addiction recovery agencies, food pantry’s, safe housing options, therapy/community mental health options, affordable day care, church groups, agencies that provide items for child care, federal or state government agencies, or any other services that your community may offer. Invite them to attend the session and to bring pamphlets as well as business cards to hand out to the women during the session. It is also recommended to see if they would be willing to collect phone numbers of interested women and for the agency to reach out directly to the women following the session.

b. This section can be arranged in different ways. One recommended way is to have each agency set up a table and let the women walk around and talk to each vendor they are interested in. This format is recommended if there are many vendors available (over 7).

c. The second format is to have each vendor take a few minutes to talk to the women as a group to provide an overview of their services. Then have time at the end for the women to mingle with the vendors and gather more information. This format is recommended if there are only 4-7 vendors.

III. Action Planning (20 minutes)
   a. Say: “You have learned about many different things over the course of the class. We discussed NAS, your baby’s development, ways to interact with your baby, and about how to use coping skills and social support. Now we will take some time to create an action plan to help plan your next steps when you go home.”
   b. Use the Action Planning sheet (Appendix F2) to help them plan their next steps. Go through each section and have women fill it out as you go and ask people to share their thoughts and ideas for moving forward.

IV. Closing (15 minutes)
   a. Say: “We have enjoyed working with you and getting to know you and your family over the last few weeks. We hope you can utilize your action plan and the things we have talked about as you move forward. Should you need any additional information from the session, please contact us.”
   b. Provide light refreshments such as cookies. Provide business cards where they can reach you. Add in any other closing remarks.
   c. Pass out completion certificates (Appendix F3).
   d. Have mothers complete the Parent Information form, (Appendix F4), Parenting Stress Index, and complete satisfaction survey (Appendix F5).
## Appendix F1: Sign-In Sheet

Date: 

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Appendix F2: Action Planning

I. If I am in crisis or me or my child is unsafe I will _______________________
   ____________________________________________________________________
   ____________________________________________________________________
   ____________________________________________________________________

II. Infant Development
   a. Name and number of Child’s pediatrician ____________________________
   b. Red flags and developmental milestones I will look for to inform my
      pediatrician about at well baby visits: ______________________________
         __________________________________________________________________
         __________________________________________________________________
         __________________________________________________________________

III. Bonding
   a. I plan to spend (time)____________________ with my child doing
      __________________________________________________________________
      __________________________________________________________________
      __________________________________________________________________
      __________________________________________________________________
IV. Stressors and Coping skills

a. My stressors are _____________________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

b. When I am feeling stressed in the moment I will _________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

  c. I will prevent stress from building up by _________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

V. Interpersonal relationships

a. When I need support I will call _________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
b. I want to work on improving my communication skills by _____________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

c. When facing a problem I will ________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

VI. Agencies to contact

a. I will contact the following agencies ______________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

b. I still need help with ______________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
VII. Short term and long term goals

a. My three month goal is ________________________________
   ___________________________________________________
   ___________________________________________________
   ___________________________________________________

b. My six month goal is ________________________________
   ___________________________________________________
   ___________________________________________________
   ___________________________________________________
   ___________________________________________________

   c. My one year goal is ________________________________
      _________________________________________________
      _________________________________________________
      _________________________________________________
Appendix F3: Certificate of Completion

Certificate of Completion

THIS ACKNOWLEDGES THAT

HAS SUCCESSFULLY COMPLETED
THE PROGRAM

PROGRAM COORDINATOR
Appendix F4: Parent Information Form

Name: ___________________________________________________________

Age: __________

Race/Ethnicity: _______________________________

Family Income: _______________________________

Number of children: ______________

Number of children diagnosed with Neonatal Abstinence Syndrome (NAS): __________

Have you ever been diagnosed with or treated for a mental health condition? Please List.
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

What is NAS is the result of? _______________________________________________

Symptoms of NAS include (circle all that apply):

- Tiredness
- Seizures
- Irritability
- High-pitched crying
- Lack of crying
- Excessive crying
- Vomiting
- Sneezing
- Coughing
- Yawning
- Poor Sucking
- Constipation
- Loose Stool
- Fevers

The only treatment for NAS requires pharmacological use of prescription drugs?

- True
- False

My baby will most definitely have long-term cognitive delays because of NAS

- True
- False

How confident do you feel in your abilities to care for your infant?

- Very Confident
- Somewhat Confident
- Somewhat lacking confidence
- Very Much Lacking Confidence
How confident do you feel about your knowledge of child development and knowing when your child may not be developing like other children?

Very Confident  Somewhat Confident  Somewhat lacking confidence  Very Much Lacking Confidence

I know which coping skills are most effective for me.

True  False

I use my coping skills regularly.

True  False

My main strategies for handling interpersonal conflict include:

_______________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Please list problem solving steps:

1. ______________________________________________________________________

2. ______________________________________________________________________

3. ______________________________________________________________________

4. ______________________________________________________________________

5. ______________________________________________________________________

I know what resources are available in my area.

True  False
Appendix F5: Satisfaction Survey

Please rate how satisfied are you with the level of knowledge gained about NAS

1  2  3  4  5  6  7  8  9  10
Not Satisfied                                    Very Satisfied

Please rate how satisfied you are with the amount of knowledge gained about child development

1  2  3  4  5  6  7  8  9  10
Not Satisfied                                    Very Satisfied

Please rate how satisfied you are with your knowledge and skills gained about coping skills

1  2  3  4  5  6  7  8  9  10
Not Satisfied                                    Very Satisfied

Please rate how satisfied you are with your knowledge and skills gained about communication and problem solving

1  2  3  4  5  6  7  8  9  10
Not Satisfied                                    Very Satisfied

Please rate how satisfied you are with access to community resources

1  2  3  4  5  6  7  8  9  10
Not Satisfied                                    Very Satisfied

Please rate you overall satisfaction with the Empowering Mother’s Program

1  2  3  4  5  6  7  8  9  10
Not Satisfied                                    Very Satisfied
References


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