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## Narratives of neonatal abstinence syndrome

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## Introduction

Neonatal abstinence syndrome (NAS) is a group of physiological and behavioral problems that occurs in neonates exposed to any opioid-derived substance while in utero. The number of infants born with NAS has increased more than five-fold since 2000 and continues to rise. The purpose of this study was to identify facilitators and barriers to caring for these new mothers and infants. Stories were analyzed to understand how these mothers make sense of their experiences and how their relationships with nurses can empower them to become competent parents, while supporting their recovery from substance use. Mothers' narratives expressed fear, mistrust and remorse that their substance use led to the risk that their baby could suffer from NAS, the marginalization of their families, and the reality that their "baby could be taken away." These women revealed histories of childhood/adult trauma, depression/anxiety, disrupted relationships, and intimate partners leading them into opiate use, and seeking prescriptions for pain. These mothers' stories give voice to the intersecting consequences of childhood trauma, intimate partner violence, and over prescription of opioids. Nurses' narratives parallel mothers, describing the stunning increases of infants with NAS, the recognition that opioid use disorder begins with prescriptions, struggles with trust and maintaining hope, and the difficulties they face while caring for this vulnerable population. Nurses' stories articulate the need for more long-term treatment and support. Nurses expressed grave concern that these women do not get adequate follow up.

Involving nurses in the prevention of neonatal abstinence syndrome (NAS) and lessening deleterious effects on the next generation are clear ways nurses can contribute to better outcomes for women with opioid use disorder (OUD) and their newborns. The purpose of this study was to describe the way mothers with OUD can be supported to care for their newborns. Neonatal abstinence syndrome (NAS) is a patterned collection of physiological and behavioral problems occurring in newborns regularly exposed to opioid-derived substances while in utero. Clinical symptoms of NAS appear 24–72 h after birth, presenting as central nervous system irritability, gastrointestinal problems, and temperature irregularities (Ko et al., 2017; MacMullen, Dulski, & Blobaum, 2014; USNLM, 2014). This paper will review current literature, discuss research results and propose a model for caring for new

mothers with OUD and their newborns.

## Background significance

Between 2000 and 2012 the rate of maternal opioid use increased by almost 500%. Currently, the U.S. rate of newborns exposed to opioids in utero is 8–30 per 1000 live births, depending on geography and state. Rural and urban areas are particularly hard hit. Approximately 50–90% of infants born to mothers suffering with OUD require some type of pharmacologic interventions, while no pharmacologic interventions are FDA approved (Bagly, Wachman, Holland, & Brogley, 2014; Brown, Doshi, Pauly, & Talbert, 2016; Patrick et al., 2012). The cost of caring for newborns with NAS increases with hospital length of stay and mothers with OUD often have several children. The added cost associated with caring for newborns with NAS who are treated pharmacologically is about \$60,000. In 2012, \$1.5 billion was spent by hospitals with 80% financed by Medicaid (Ko et al., 2017; Patrick et al., 2012). The incidence of babies born to mothers with substance use disorders (SUDs) shows no signs of slowing (Young, Borden, & Shea, 2014), with concomitant use of prescription opioids and benzodiazepines appearing as a particularly dangerous problem (Hand, Short, & Abatemarco, 2017).

Neonatal abstinence syndrome was first identified in the U.S. in the mid-1800s, during another surge in opioid use among women. Infants often died after birth and treatment options were few (Kocherlakota, 2014). Opioid use disorder has reached epidemic proportions and, again, pregnant women are no exception. Today, it is recommended that opioid dependent pregnant women initiate or continue opioid replacement therapy (methadone or buprenorphine) to improve perinatal and neonatal outcomes for mothers and infants. Abrupt withdrawal is inadvisable (Pritham, Paul, & Hayes, 2012). Neonatal abstinence syndrome is a consequence of history repeating itself in the form of an opioid epidemic (Ko et al., 2017). Understanding the ways in which nurses can intervene to promote better health and prevent the cycles of relational disruption, violence and poverty that plague this population is critical.

In October 2017, the opioid crisis was declared a national public health emergency. In 2014, 38% of all Americans had used prescription opioids. There has been a startling uptick of opioids being prescribed

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for pregnant women (Desai, Hernandez-Diaz, Bateman, & Huybrechts, 2014). Over 20% of pregnant women enrolled in Medicaid filled at least one opioid prescription. Unemployment, poverty and lack of health insurance are associated with higher rates of prescription drug misuse and substance use disorders (SUDs) in adults. Hopelessness, disenfranchisement and social trauma in combination with socioeconomic struggle are possible contributing factors. The geographical distribution of worst outcomes includes densely populated cities and rural areas. Opioids may be contributing to a 20% decline in the U. S. workforce. One estimate of the total economic burden of the epidemic calculated approximately \$80 billion a year (Blumenthal & Seervai, 2017; Ko et al., 2017).

Overdose deaths in Massachusetts related to OUDs have risen sharply, resembling death statistics seen 30 years ago with the AIDS epidemic (Bebinger, 2017). For instance, in 2015, 4.4% of people older than 11 years old in the state of Massachusetts (MA) had a diagnosable OUD. By 2016, the rate of opioid related deaths in the United States had tripled since 2011. According to the Massachusetts Department of Public Health [MA DPH] (2017), populations significantly more at risk of dying from opioid overdose are those who are (1) released from jail, (2) experiencing homelessness, (3) diagnosed with a severe mental illness (SMI) and, (4) mothers who have given birth 6–12 months previously. Pregnant women who discontinue opioids and relapse are at even greater risk of overdose death (SAMHSA, 2016). Concomitant use of benzodiazepines is particularly dangerous (Hand et al., 2017). The complicated connections among pregnancy, birth and relapse is poorly understood.

## Literature review

New mothers with OUD can learn, thrive and care for newborns who experience NAS in environments perceived as warm and non-judgmental. Infants with NAS are difficult to care for because of their myriad symptoms. However, these infants are less symptomatic while being cared for by their mothers (McQueen & Murphy-Oikonen, 2016). Nurses have been successfully using more holistic approaches designed to minimize the need for pharmacological interventions for NAS, such as skin to skin, breast-feeding, rooming in, increased bonding, swaddling, nutrition, low stimulus environments, parent education, and social support; while normalizing mothers' experiences and encouraging recovery from SUDs (Bagly et al., 2014; MacMullen et al., 2014). Breast-feeding increases maternal oxytocin, mediating maternal exposure to physical, psychological and emotional stress; and lowering cortisol levels and may be protective for neonates exposed to opioids in utero (Zhang et al., 2017). Clearly, an integrated, holistic model of care that includes knowledge of physiology along with treatment for co-occurring SUDs and psychiatric comorbidities is needed.

There are barriers to implementing holistic models of care. Forming trusting relationships takes investment on both sides. Pregnant women are not likely to divulge critical information, such as the concomitant use of alcohol, tobacco or other drugs, due to fear of stigma and shame. Maintaining a nonjudgmental and supportive attitude facilitates disclosure. Nurses who listen to women's stories and form trusting relationships can lessen reluctance to being honest with caregivers. (McQueen & Murphy-Oikonen, 2016; Pritham et al., 2012).

## Gender differences

Mothers with OUD and their newborns are vulnerable, marginalized populations who are at high risk of poor outcomes. A chilling statistic confirms that women are three times more likely to overdose on opioids following the birth of a child (MA DPH, 2017). These tragic results may be related to the underlying gender differences in (a) initiation, (b) patterns of use, (c) acceleration of disease course, and (d) help-seeking cues mediated by biologic, psychological, cultural, and socioeconomic factors (Greenfield, Back, Lawson, & Brady, 2011). Women without

parental responsibilities are more likely to be accurately diagnosed with a substance use disorder (SUD) and, in general, men are more likely than women to receive treatment (Sallaup, Vaaler, Iversen, & Guzey, 2016).

Understanding the origins of gender differences in SUDs, especially in relation to vulnerability for relapse and responsiveness to substances following pregnancy and birth is important for nurses to support women with OUD care for their newborns and remain active in the parental role. Gender differences, relational disruption and traumatic experiences have all been identified as possible antecedents to women developing OUD and giving birth to newborns at risk of neonatal abstinence syndrome (NAS) (SAMHSA, 2016).

Neurobiologically mediated responses to stress, such as cortisol release which contributes to brain development and future behavior, are different between the sexes beginning in utero. Female newborns have a higher Hypothalamic Pituitary Adrenal (HPA) response to stress than males. Further, maternal oxytocin may help buffer the stress that can interfere with parental bonding behavior by diminishing HPA activation (Zhang et al., 2017). These differences may predispose women to mental health, relational and attachment difficulties that contribute to development of SUDs. Post-Traumatic Stress Disorder (PTSD) and SUDs are highly comorbid. Women are twice as likely to be diagnosed with PTSD (Back et al., 2014). Women with SUDs have higher rates of severe traumas such as sexual and physical assault, and are more likely to be re-victimized (Gearon, Kaltman, Brown, & Bellack, 2003).

## Trauma

Higher rates of SUDs have been associated with women with histories of multiple traumas, including homelessness. Women with trauma related symptoms and SUDs are frequently underdiagnosed (Scott, Coleman-Cowger, & Funk, 2014). It is not clear how underdiagnosed PTSD is in this population of new mothers with OUD. Interestingly, substance use is the most common pathological outcome in adolescents who have experienced maternal neglect or withdrawal. For women who are exposed to trauma, disrupted caregiving can take discreet forms and may not be obvious to healthcare providers (Lyons-Ruth, Bureaub, Easterbrook, Obsutha, & Hennighausen, 2013). These intergenerational patterns of trauma, neglect, and substance use are predictable, cyclic and potentially modifiable (Furber et al., 2015). Intervening as early as possible in the cycle is crucial to stop intergenerational transmission.

## Attachment

Bowlby (1980) saw attachment as the lens with which people make meaningful sense of themselves and others, specifically in relation to early caregiver relationships. Early experiences form the basis for developing processes of empathy, trust and self-soothing. Encouraging new mothers with OUD to explore emotions identified with becoming a new mother, practice new ways of relating and responding to intimate relationships, can expand their repertoire to include healthy attachment and bonding (Vetere & Dallos, 2008). Disorganized-attachment styles are most prevalent among children who have experienced trauma. Dissociative parental behaviors are more common among mothers grappling with unresolved trauma and socioeconomic risk. There is good evidence that reparative relationship experiences help interrupt intergenerational cycles of disorganized attachment (Granqvist et al., 2017).

After birth, hormones help facilitate attachment behaviors and learning experiences. Nurturing and caregiving behaviors are sensitive to physiological and environmental stressors which may affect neuronal cortical plasticity (Dulac, O'Connell, & Wu, 2014). Oxytocin, synthesized in the hypothalamus and released in the pituitary gland, is linked to maternal behavior and prosocial learning. Oxytocin sensitive neurons may also project to the ventral striatum, stimulating dopamine

release, strengthening maternal attachment behaviors (Strathearn, Fonagy, Amico, & Montague, 2009).

### Relational disruption

Parental drug use disrupts the ability of adults and children to form secure attachments and supportive relationships (Solis, Shadur, Burns, & Hussong, 2012). Women who are highly sensitive to stress may withdraw from infants who seek soothing, setting in place an escalating pattern of disorganized attachment (Lyons-Ruth et al., 2013). Mentalization is a self-regulating process involved in developing links among personally meaningful early experiences and how those experiences are represented in narrative form. Mentalization transforms affective experiences in relation to a caregiver's implicit and explicit abilities to sensitively reflect and communicate into a cognitive scheme for relationship building and bonding (Bouchard et al., 2008). This process weaves the social and psychological capacity to understand the behaviors of self and others together (Fonagy & Allison, 2014). Early experiences form the basis for future caregiving roles and attachment styles. Young children are highly attuned to the psychological and physical states of adult in their environments. These internalized representations determine the ways we see ourselves and others and how we see and relate to the world (Vetere & Dallos, 2008).

### Marginalization

Stories describe people's lives, reveal intentions, motivations and meanings beyond actual words. Story-telling represents the intersection of culture, language, society and politics in time. The way in which stories are told or re-storying, has the power to influence the future and change the direction of peoples' lives (Bruner, 2004). Women with OUD, who have just given birth, can rework the trajectory of their lives and their children's lives by exploring all facets of the life-event of birth, literally and metaphorically. There is strong epidemiological evidence emerging of adverse outcomes in infants with NAS throughout childhood including maltreatment, visual disorders, mental health issues, and behavioral problems putting this population at high risk. Interventions need to be tailored to support these vulnerable newborns and mothers (McQueen & Murphy-Oikonen, 2016). Nurses who care for new mothers and their newborns in the hospital following birth have a brief window of time to foster healing environments that promote acceptance, transforming the life-story of both. Listening deeply to the stories of marginalized women struggling to learn parenting skills while not using substances, builds the essential scaffolding women need to move from the margins of social, health and political risk to a more central place of safety and inclusion (Hall & Carlson, 2016). Moments spent with new mothers transforms their stories and co-creates the counternarrative. Co-creating narratives can be a powerful vehicle for healing and give new meaning to the world (Pellico & Chin, 2007).

For this narrative study, the stories of 12 maternity nurses, one allied healthcare professional, 10 mothers in a hospital-based rooming-in program, and 3 mothers in a residential care facility were collected between June 2015–June 2016. All data were collected in the state of Massachusetts, where opioid overdose deaths have skyrocketed. Rich descriptions were accessed through narrative, event-focused stories told in their own voices. Nurses and new mothers revealed the social, health and political complexity of drug dependence, gender, trauma, and vulnerability and the role of dominant culture. The aims of this narrative qualitative research study were to understand (1) the way mothers with OUD and the nurses who care for them and their newborns, construct and relate meanings through autobiographical descriptions of life events and experiences, and (2) the barriers and facilitators to care, recovery and healing.

## Methods

Researchers conducting this study sought to clarify the barriers and facilitators to providing quality care while an innovative program for new mothers with OUD was implemented on a small maternity unit in central MA, and how mothers with OUD perceive being cared for by nurses and other professionals. The primary investigator (PI) is an advanced practice nurse, with board certification in psychiatric mental health, and was introduced to a registered nurse that worked on the maternity unit by a colleague. The study originated to understand and describe cultural changes in care and education that registered nurses (RNs) began to implement. The PI received Institutional Review Board (IRB) approval June 29, 2015 from the Worcester State University IRB. The PI conducted all semi-structured interviews with maternity nurses and mothers, asking the following questions: (a) mothers "Tell me your story of giving birth, what you found helpful and what you did not" and (b) nurses "Tell me your story of caring for mothers with OUD and their infants. What has been helpful and what has not."

The PI spent time on the maternity unit and met with participants and nurses on the unit or in private places off unit in areas of their choosing. Two of the lead-nurse program developers referred women to the study and assisted with the contact. The PI also was involved in developing a volunteer program to assist in caring for newborns with NAS on the unit, in partnership with nursing students at a local university.

Three participant mothers, and one allied healthcare professional were interviewed at a residential treatment center (RTC) for women with SUDs who were pregnant or had their newborns with them during treatment. This connection was developed with the RTC from the PI's involvement in continuing care meetings with the program leaders and the nurse manager. These interviews added another temporal dimension to the study.

A total of 26 interviews took place between June 29, 2015–June 29, 2016. All participants received a \$25 grocery gift card. Mothers' ages ranged from 21 to 34 years. One father participated briefly with the mother's permission. One mother was Asian-American while the remaining participants were white. The nurses' years of experience ranged from 5 to 40 years. Limitations to the study were the lack of racial and cultural diversity. Interviews were audio-recorded and transcribed verbatim. Participants were given confederate names and all location names were removed from the transcripts. Two students (one graduate and one undergraduate) assisted with transcription and preliminary data analysis after being trained in human research methods. Another psychiatric-mental health nurse practitioner (PMHNP) with expertise in women's issues and trauma treatment assisted with coding and data analysis. Data analysis was checked with an expert RN.

Narrative method offers a close-up look at transitional events in a person's life by highlighting how these events are perceived by the individual, embedded in the larger cultural context, time and space (Bruner, 2004; Hall & Powell, 2011). Narrative inquiry is a way to understand human experience through stories (Kim, 2016). Stories told through narratives represent how experiences are given meaning and organized into a cohesive whole. Stories also have the power to bring unexplored meanings to life. Sometimes the telling about of a significant life event such as birth, enables positive change (Chase, 2005). Bruner (2004) sees narrative method as a way for people to develop insight into automatic thinking and acting, while examining outcomes and consequences with increased consciousness. Truths, facts and realities are constructed upon what people think, believe and feel (Stanley, 2013). A model for re-storying was constructed from the viewpoint of mothers, nurses and the dominant culture; representing a shift toward the cocreation of a new narrative (Creswell, 2007).

NVivo was used to assist in analysis. Initial coding of the data started with narrative analysis, identifying basic themes across cases and arranging a timeline (Patton, 2015). Creating a story timeline

became increasingly difficult as new mothers' narratives often lacked basic temporal structure and cohesion. The second phase of analysis focused on analysis of the narratives: how new mothers' and nurses' put meaning to their experiences and how their stories revealed unquestioned assumptions about themselves and the world (Bruner, 2004). Themes were coded and compared for similarities and differences among participants with attention to the concepts of biography, history, and society (Mills, 1959) and the interactive processes among participants and the sociocultural context. Mothers' and nurses' personal narratives were examined to understand the meanings ascribed to events and circumstances (Chase, 2004).

## Results

This section contains raw data from mothers' transcripts to demonstrate the preliminary themes of developing OUD, trauma/disrupted relationships, violence, incoherent birth stories, incarceration, homelessness, relationships with nurses, and attachment/bonding. Nurses reflected on their own responses to caring for women who exposed their newborns to opioids and other drugs. Nurses' narratives vacillate among expressions of anger, blame and compassion toward the mothers in care, and sometimes were critical of colleagues. All names in text are confederate. Mothers were also identified with the length of pregnancy, age of their newborns and/or other children, while registered nurses (RNs) and allied health professionals were identified by profession and years of experience.

### Developing opioid use disorder

New mothers described similar relational scenarios about how they were first introduced to opioids, developing OUD, and exposing their newborns to opioids in utero. Themes of unresolved grief, loss, pain, sickness and confusion figure prominently in these stories.

It was kind of like a perfect storm of things. *My fiancé got into a motorcycle accident and got prescribed Percocet.* They gave him a bunch of refills. My grandmother died unexpectedly, and I ended up getting really depressed. And, it started off. I took them one time to get through the funeral and within a month I was taking them every day to numb myself. And before I knew it, I needed it or I'd be wickered sick.

(Jane, 21, newborn 4 days)

Right before I found out I was pregnant I met somebody in AA, he used heroin and I relapsed. I went to his house drunk one night asked him to get me Percocets. *He took my car and my money and came home with a bag of dope and put it in a needle.* I was in the shower so when I got out, it was already in the needle ready to go. I was like 'It's my money, I'm not gonna waste it.' So, it was just kind of put there and I made a conscious decision to try it.

(Bonnie, age 25, 7 mos. pregnant)

When I was 25, that's when I first started. I met my boyfriend. He was into Percocet and Oxycontin. I'm from a very small town and high school. We drank and smoked marijuana, it was never heroin or any other drugs. Nothing like that was around when I was in high school. But nowadays everyone is dying. *My prom date is dead. Half of my graduating class is dead from overdoses.*

(Claire, age 32, 7 mos. pregnant)

The women talked of emotionally charged traumatic events leading them to relapse or begin to use heroin after using prescribed pills that were diverted by intimate partners.

Two years after my brother died of an overdose, my husband was arrested. The SWAT team came to our house. It was awful. He robbed a pharmacy and went to jail for 5 years. He's been in and out of jail. But, I really lost it last time when he was in jail. I stayed sober

for 90 days. I was on Suboxone and I was taking care of the kids. I was honest with DCF and I was working closely with them [DCF] so I had the kids. Then I relapsed. *That's when I started using heroin. Before that, I only used pills.*

(Celene, age 37, twins 5 mos. old, 3 other children)

Nurses recognize that pregnant women have been overprescribed opioids, contributing to the increase incidence of NAS across all socioeconomic levels.

We have many that are educated, hard-working, in a family, who get addicted for a lot of reasons. Like previous surgery and they got addicted to Percocet. And, I find those harder because, they should..., not that everyone shouldn't know better, but these people are educated.

(Barbara, RN educator, 30 years of experience)

### Trauma/disrupted relationships

In the first phase of data analysis, it was clear that almost all the mothers had experienced traumatic events, including homelessness, violence and relational disruptions which may have played a role in their developing OUD, relapsing or switching to heroin use. Incoherent patterns of expression, typical of complex trauma were also noted in narratives (Back et al., 2014). An allied health professional and two nurses describe the mothers with OUD they work with.

There's not too many that come in that haven't had something go on in their life. But they have to work through it to be able to stay sober. They've seen too many things. They have trauma from it. They can't sleep because they have nightmares. They can't function because they have flashbacks. Not all of them severely, but *there's always some kind of emotional trauma that they have.*

(Gina, allied health professional, 15 years of experience)

*Some women don't have anything.* They don't have jobs, a place to live or they're staying with other people and don't have any means of support. They don't have any family, or they have horrible family situations. That's always very difficult.

(Genie, RN, 21 years of experience)

You see cycles and patterns. They left their house at 18 because they didn't get along with their parents. Sometimes they're back in a bad situation to get their baby to go home with them. They have been living with their boyfriend and found *their boyfriend is abusive. He's the one doing drugs, he's the one who got her hooked.* We get her into a treatment program, she gets clean, and where does she go from there? She goes back to the situation that put her there in the first place. *I don't think there is a lot of support. And there is a lot of stigma.*

(Barbara, RN educator, 30 years of experience)

Most of the mothers began using diverted opioids when introduced by an intimate partner. About half have family members who have struggled with SUDs, demonstrating the intergenerational cycles of substance use and attachment difficulties.

*My mom was a heroin addict.* She used for 10 years. I ended up having to go to foster care. She ended up going to jail. My life was chaotic when I lived with my mother. But I remember seeing her needles and stuff. My life was bad. When my boyfriend asked me to do heroin, I wanted to know what was so great about it that my mom had left me for it, so I wanted to know what was so good about it that made my mom not want to be there for me. So, I tried it. And of course, I liked it.

(Chelsea, age 21, second child, age 3 mos.)

Many women struggle with intimate relationships and violence.

When I was 17, I had a miscarriage at 4 1/2 months. They told me I would never have children. This is the one thing that I have always

wanted, to be able to have a child. I didn't want to risk it. I just couldn't be with my boyfriend. *We'd fight every day until we would start to get high and it was just toxic.*

(Bonnie, 7 mos. pregnant)

Listening to the mothers' voices within the narratives, revealed how they strive to construct their identities in relation to becoming mothers, while subsequently struggling with their recovery from OUD, histories of poor role modelling, and internalized stigma.

My mother and my grandmother were big on complaining about things and never really doing anything to change them. *I think that is where I get the lack of motivation from.* But, my mom was also the sole provider in the home. *My dad was an alcoholic.* You know, I have trouble holding a job. I have trouble sticking to things. Obviously, I have the substance abuse. I don't know if I really would blame it on my childhood so much. My dad passed away when I was young and then my mother passed away 10 years after. So, I blame it more on not having parents, not having family, not having a good support system.

(Helena, age 30, newborn 12 days, 6 years old)

The role of trauma and disrupted relationships emerged when narrative data were examined for temporal consistency, coherence and birth stories. Descriptions varied, some women sounded detached, dissociative, guilty, remorseful or prosaic. Although relational disruptions were common, there was little understanding of how these unhealthy intimate relationships came to be or how their relational patterns could be changed. These patterns were also reflected in the way mothers reflected on their infants' NAS symptoms.

#### Birth stories

Birth stories were fragmented and objectified, focusing on pain, fear, confusion, loss, and guilt. Some used avoidance with idealized notions of a projected future without any difficulties. Repeatedly, the fear of being stigmatized as an 'addict' mother or having a 'methadone baby' was expressed, creating barriers to integrating their embodied experience. Mothers clearly understood the role of cultural discourse around mothers with SUDs, pushing their lives further to the margins. Watching their newborns suffer with NAS was a consistent theme. Mothers wrestled with identifying and tolerating emotional responses in the here-and-now, often moving quickly to other peripheral topics further avoiding affective responses.

It's been completely eye-opening. You never really understand things until they happen to you. I had everybody saying, 'Oh, just wait, you know, you can't explain it but when it happens to you like it's like the best feeling ever.' It makes you feel good about yourself to be able to say, 'I have a son'. It means a lot to me and it makes me feel like I have purpose. *Somebody relies on me, needs me, and wants me. So, I like it. I love being a mom so far.*

(Jane, age 22, newborn 4 days)

I was scared. It was my first child. *The whole pregnancy was very surreal* just because, it was very odd to me to know that there was another human growing in my body and once the kicking starts and the movement, *it's just very bizarre* as a first-time mom. It feels weird and, also, the body changes and physical changes but, you know? I had him. *I was just petrified because I'm an addict.* I was scared that I'd be in severe pain and they wouldn't believe me and that they'd think I'm med seeking or something and, it ended up working out, everything was fine, it was, you know.

(Claire, age 32, baby 7 mos.)

It was hard. If I end up having a child again I probably wouldn't be on methadone. I would try to not be on anything because it was really *sad to see him suffer for something that I did to him.* He didn't ask for that and he didn't ask to be in this world, especially to suffer and

be sick because I know what it's like to feel sick and I just felt bad. I mean, to come into the world and feel like that his first month. It's sad to see your baby, you know, hurting in any type of way.

(Chelsea, age 21, second child, age 3 mos.)

Women told of the emotional elation of becoming a mother by expressing unrealistic expectations about motherhood, contrasted with underlying fear and guilt.

It's awesome. It's just like such a full feeling. Above his crib I have a plaque and it says, *A baby fills a space in your heart that you didn't know was there.* And that's like so true because I never knew how full my heart feels. I didn't think I was missing anything before but now it feels like I was. Now that he's here I feel complete, you know what I mean?

(Jennifer, age 22 years, newborn 5 days)

Going to jail was the best thing for me at that time seven years ago. I went to jail then, too. Same thing, *homeless, living in hotels, addicted to drugs.* When I got out of jail, my son's father got out of jail the same day, we got pregnant with our first son. This time was a little bit different, I was already pregnant. But, the first time it kept me sober for a few years. *I believe that this time it keeps me sober forever.*

(Helena, age 30, newborn 12 days, 6 years old)

One mother shared insight into how important it was for her to be treated like the other mothers who did not have OUD.

Everybody says the birth of your child is supposed to be that happiest day of your life and *if somebody is treating you as if you're not of value or your less than anybody else in any one of those rooms, that takes away from the moment that is supposed to be the best day of your life.* No doubt about it. This has been that happiest 4 days of my life.

(Clarice, age 27, newborn 4 days)

Nurses expressed complicated emotional reactions to caring for mothers with OUD who are giving birth, sometimes sounding rigid and rule bound. Establishing supportive and non-threatening communication is necessary to manage pain control (Keegan, Parva, Finnegan, Gerson, & Belden, 2010).

It's tough. You don't want to get angry. *They [mothers] are going to be the cause of their baby's suffering* and withdrawal. So, you just try to treat them like other patients. I'm not going to change how I care, I'm still going to care for them the same way. But, they do need to be informed of what's going to happen after the birth; withdrawal, consequences, things like that.

(Sue RN, 33 years of experience)

My philosophy is always to treat every patient the way I would want to be treated; if it was my sister, my mother, or me in that bed. No judgment. I go through the same thing I would if it was a happily married couple or if this woman never took a Tylenol. But, I do see other nurses a little more stand-offish with the patients that are using drugs. A little more distant, not as hands on, empathetic, sympathetic to their pain. I've heard comments where, *'Oh yeah, they are just looking for more meds.'* *But, childbirth is painful!*

(Bridget RN, 17 years of experience)

Sometimes they want to keep the babies even though they know they physically and financially can't because they've got such a bad past. They know everything's going to get pulled up, but they still come, and they're here visiting their baby in the nursery. They try to the very last moment the kid goes into foster care. *I rarely get sad. I try to displace it because you can't take it all home.*

(Korey, RN, 8 years of experience)

All participants described positive outcomes from mothers and babies being able to room-in at the hospital after birth while newborns received medical treatment for NAS.

We have criteria for them to room-in. They have to take care of their baby; they have to get up for the feeds and all that. Oh, the bonding! The rooming-in is huge. Yes, absolutely. *I think it contributes to their desire to do what they are supposed to do.*

(Renee RN, 19 years of experience)

Contact with the mother makes the most difference for the newborns. Being held and staying with their mothers, skin to skin. You can't put NAS babies down, they want to be held and their mothers hold them. *Some say you are masking the symptoms. I think you are treating them.* (Ronnie RN, 14 years of experience).

*I'm really grateful that I can stay here with him and I don't have to leave him. You know what I mean?*

(Jennifer, age 22 years, newborn 5 days)

## Nurses

Mothers portrayed nurses as idealized, understanding, educated, judgmental and suspicious.

To be completely honest, I feel like there might be a few nurses that were a bit judgmental. They made me feel a little uncomfortable, a little sad. I felt like I couldn't be tired without being accused of trying to use my dose of Methadone to get high. *Or, you know, my baby couldn't wake up hungry without being, you know, a 'Methadone baby', or being compared to a normal baby.*

(Molly, age 22, newborn 11 days)

A lot of the nurses are good. They don't roll their eyes at you. It's like, 'Oh ok, you are on the Subutex, you know.' Very open, talking openly about it, which helps because you don't feel like it's an un-touchable subject. You don't feel like, 'We don't talk about that.' Some of the nurses don't have the characteristic to be supportive. The way they say things sometimes comes across wrong. It's hard because I'm in an emotional state. I just had a baby. It might not be necessarily a horrible thing they're saying, but it gets taken that way. *A lot of nurses are understanding, some aren't so understanding.*

(Faith, 26, newborn 3 days)

Nurses made observations about nurse colleagues and the need for education and support.

The more education nurses have about dealing with NAS babies or drug addicted mothers, the bigger the difference it has made in caring for them. I think understanding that process of addiction, what they go through, what the babies are going through, helps. It's my job to harness all the research and get it out there. To say, 'Hey, listen, this is what's happening, this is where we're going. This is what the research says.' We need to help these patients and as the nurses have been more accepting, it's made a huge difference. I do feel sometimes that *when moms come in and they are addicted, that becomes the main focus of their care.*

(Genie RN, 21 years of experience)

Nurses expressed themes of mistrust, anger, judgment, honesty, responsibility, rules, hypervigilance and skepticism. They struggled with maintaining their professional identities while describing how emotionally difficult the work of caring for new mothers with OUD can be. One mother described the frustration she has had dealing with some nurses who suspect she is trying to leave to get drugs.

Even though I haven't relapsed and haven't had any issues, that's now a concern with the nurses because I got aggressive with a nurse last night. I am going outside! If that takes me walking outside and signing myself out of this hospital, that's what I am doing. And, I was so defiant on going outside that she took it like I was trying to go outside and get some drug to use.

(Faith, 26, newborn 3 days)

## Attachment

Mothers talked about how important education and rooming-in were to forming attachments and bonding, sometimes including the father. All participants, mothers and nurses elaborated on the importance of holistic interventions such as rooming-in and skin to skin.

Skin to skin really consoles them and relaxes them because they have your scent and they can feel your heart beat and your warm body heat. It's really good to do skin to skin. It's really good to bond. *It helps to bond with them and to calm them down.*

(Chelsea, age 21, second child, age 3 mos.)

It was nice to see them bond. She reacts to my fiancé almost as well as she does to me. She is a daddy's girl. I think it's great that they allow him to be here because it is a great bonding time for them. He gets to learn the things that I learn. *He kind of knows what she is going through because he quit cold turkey.* I think that makes him extra sympathetic to her. *Staying with her in the hospital gives us both support and makes us both feel more comfortable with this huge task we are taking on.*

(Jane, 21, newborn 4 days)

One father discussed his experience of his son's birth and described his process of bonding as a new family.

I don't understand how they wouldn't want you to be as a family. The most important time I feel like for bonding as a family is when he first comes out. That's when everybody's emotions are the highest. I think that is when the best bonding, like skin-to-skin right away is so important. Because *if you put a baby in this little plastic thing and he's by himself in a room somewhere, like what psychologically can that do to somebody further down the line?*

(4-day old Carl's father)

Nurses observe the role fathers can play in the care of their newborns and the interactions in parent relationships. They also saw rooming-in as a way for babies with NAS to withdraw more comfortably while being cared for by their mothers.

We see everything from dads who are nonexistent to mothers who say, 'Oh my God. If he finds out he's going to kill me.' We can't tell him. How are we going to do that? Like your baby is going to be here for four weeks on morphine and the father of the baby doesn't know? We've seen everything. We've seen supportive dads, a lot of them have supportive extended family. *Some have no family.*

(Genie, RN, 21 years of experience)

The moms want the help. As soon as we started this program and bonding process, the babies going skin-to-skin, staying with the moms for those first 48 h if they can, the babies did so much better. *They were so much less stressed out. They withdrew more comfortably with less intervention needed.*

(Hannah, RN, 22 years of experience)

One new mother described her ambivalence about becoming attached to her newborn due to fear of losing him. Early separation from mothers' post-partum is also predictive of increased rates of abuse and neglect for the newborn (Nikoo et al., 2015).

I had a daughter when I was 16. I think I suffered from postpartum depression because *I just didn't have that mother's instinct.* She ended up being adopted. And like my life kind of went downhill from there and I started using. I was afraid because with my daughter being taken that they would try to take my son and my mom said it would happen. So, I tried not to get attached to him too much.

(Chelsea, age 21, second child, age 3 mos.)

## Analysis

Language and structure are central to understanding self through narrative. The narrative coherence of a person's life can be fragmented and lost, potentially disrupting the ability to integrate the meaning of experience or to see oneself as worthwhile, deserving of a good life (Atkins, 2016). The intersecting tensions among the mothers' and nurses' narratives show how difficult and fragile these nurse-patient-environment relationships can be. The act of following a story requires understanding the successive actions, thoughts and feelings of the characters and noticing the hidden aspects of the situation (Ricoeur, 1980). These new mothers with OUD reveal how they view themselves and their fears about how they are seen by others. Nurses bring to light the contradictory sets of societal beliefs and values at work. Examining the barriers and facilitators to caring for this vulnerable population moves nursing science a step forward.

## Barriers

The barriers to forming healthy attachments and preventing the intergenerational transmission of unhealthy relationships, violence and SUD are multilevel and complex (Granqvist et al., 2017; Rain, Cilento, Macdonald, & Mar, 2017). Educating healthcare professionals about the perceived barriers to care is a priority in this marginalized population. The extreme marginalization associated with SUDs results in stigma that continues to affect people even after remaining in treatment (Kreek, 2011) and healthcare experiences can further perpetuate marginalization by contributing to social isolation (Roberts & Beitel, 2014). Almost all mothers' stories include the internalized shame and stigma associated with OUD while experiencing the life event of birth as disjointed, pain-filled and 'not normal.' Fig. 1 describes the disconnection that mothers exhibit when triggered by their emotional state and they don't have the skills to mentalize. Nurses sense this lack of connection without the language to build a bridge or understand these barriers to caring and communication.

I just feel like they feel like they are being judged. I don't really know how to explain it. But, *I just feel like they just have that wall sort of built.*

(Renee, RN, 19 years of experience)

Sometimes they are just in denial. They say, 'It's cranky because of this...' *They make up excuses why the baby is symptomatic.* But, I don't think they want their baby to suffer.

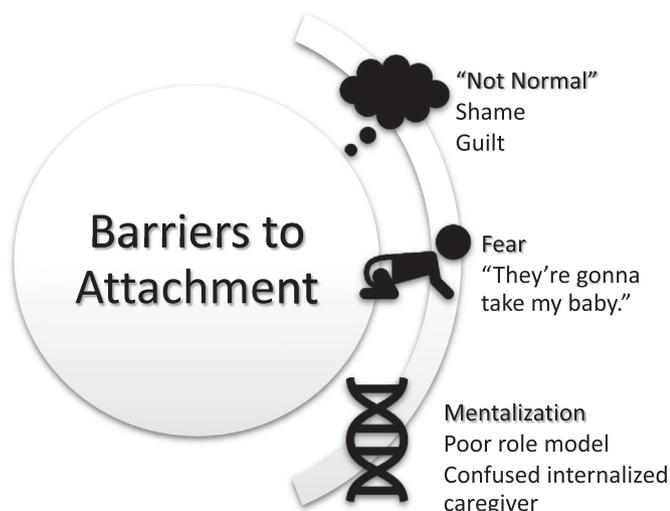


Fig. 1. Barriers to attachment. This figure illustrates barriers in caring for mothers with opioid use disorders and their newborns.

(Sue, RN, 33 years of experience)

Emotions such as shame and guilt compound the panic and fear these new mothers demonstrate. Nurses experience the stress secondarily with varying abilities to manage their own emotions.

There is a level of stress. *Everybody is afraid they are going to lose their baby* to DCF.

(Ronnie, RN, 14 years of experience)

I was so excited to have her. I've been wanting to meet her for so long, but this little part of me dreaded it because I was so afraid, you hear horror stories, and *I was so afraid that these people were going to take my baby for no reason or something.*

(Jane 21, newborn 4 days)

Experiencing the marginalization and stigma associated with consequences of OUD, the extreme panic associated with the possibility of having their baby taken away, and dealing with healthcare providers who may not understand the fragile internalized image of caregiving, can interrupt bonding and damage mothers' abilities to form healthy attachments to their infants or repair the affective mentalizations of poor caregiving role models (Kreek, 2011). Fig. 1 depicts mothers' internalized shame, external stressors and inability to mentalize. The loss of a coherent mentalizing narrative invokes panic and fear, further disrupting attachment behaviors. Poor role modelling of caregivers during development of early attachment relationships, disrupts one's ability to self-organize. Mentalizing, a very human skill, is based on the capacity to understand self and other and depends on early relationships with caregivers who were caring and attentive (Fonagy and Bateman, 2016). New mothers with OUD who perceive caregivers as judgmental and stigmatizing will not be supported to develop healthy attachment relationships with their newborns.

Women with SUDs have high rates of physical and sexual abuse and are at risk of revictimization (Gearon et al., 2003). Trauma is prevalent in populations of marginalized women and has profound effects on mental health, maintaining relationships, low self-esteem and propensity to develop OUD (Roberts & Beitel, 2014). Although guidelines are being developed for clinicians treating OUD and care for new mothers and infants with NAS concurrently, there are few resources dedicated to understanding the barriers to attachment or reparative caregiving relationship building (SAMHSA, 2016).

## Facilitators

In contrast to stigmatizing storylines, mothers expressed positive responses to feeling accepted and included in decision-making processes. Nurses who hold a safe emotional space for mothers to explore their birth experience provide a counternarrative to internalized shame and guilt, do a warm hand off to the next caregiver. Nurses can give mothers with OUD and their newborns an opportunity to co-create a healthier life story. This process requires caregivers to sensitively reflect on mothers' beliefs and expectations and understand that the ability to create coherent life stories depends upon attachment experiences in families (Dallos & Vetere, 2014). Fig. 2 depicts a model for successfully working with new mothers with OUD by keeping a nonjudgmental stance, role modelling healthy caregiving, and healing relationships.

The nursing staff guides you and gives you the tools you need to handle the situations that are going to come up with the baby like going through withdrawals. That's given me so much *more confidence in myself being a mom.* If I hadn't come here, I'd be much more stressed out and that would rub off on her. I think that the individual nurses are the ones that make the biggest difference.

(Jane 21, newborn 4 days)

I feel like there is *always one nurse who is going to be supportive and understanding* and be nice at least. At least one, usually a lot more, but at least there is one nurse that will go out of her way.

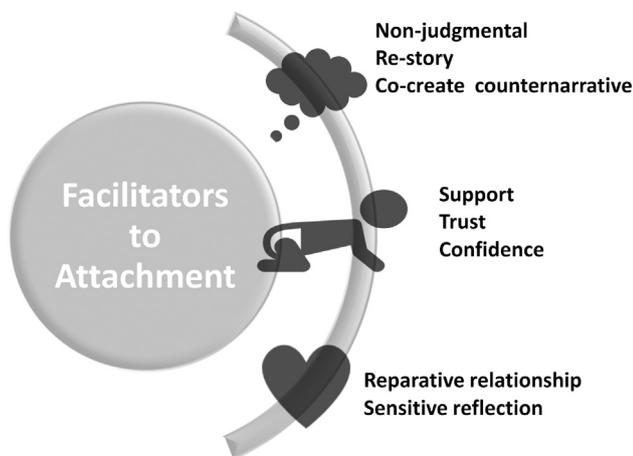


Fig. 2. Facilitators to attachment. This figure illustrates facilitators in caring for mothers with opioid use disorders and their newborns.

(Molly, age 22, newborn 11 days)

New mothers respond positively to nurses when they feel less fearful about being judged and more confident, opening the door to healthy relating. This is the context where repairing previous mentalizations about the caregiving role and healthy attachment takes place. Nurses who role model healthy caregiving behaviors while sensitively reflecting affective responses assist with the reparative process of recovery.

I tried to learn as much about NAS as I could because I want to be as active as possible in her care. Obviously, I am hoping that she doesn't have to get the medicine, but *I'd much rather see her get the medicine than suffer*. I try to find out how she is doing, what I can do to make it easier on her and *the nurses have been really great with that*. And, they make a big difference for her.

(Jane 21, newborn 4 days)

Fostering resilience involves validation, recognition and exploring new ways to cope with interpersonal struggles. Assisting new mothers integrate narratives about their past, current and future can build a bridge to recovery, bringing meanings and feelings together into a more coherent sense of self and other, and interrupting intergenerational reenactments (Bateman & Fonagy, 2016).

### Implications for practice and education

Reflective, sensitive and nuanced clinical techniques have the potential to change unhealthy patterns of relating to self and other, a step on the way to stop transmission to the next generation. Supporting clinical interventions that work are public health priorities. Clearly, there is a need for greater clinical and academic education.

Understanding the barriers and facilitators in caring for this vulnerable population are important topics for all nurses and healthcare providers (Ko et al., 2017; McQueen & Murphy-Oikonen, 2016). Introducing nurses who come in contact with this population of women to the concepts of trauma, mentalization and attachment gives a theoretical base to a multifaceted and complex social problem that deserves attention (Granqvist et al., 2017). Practice models that address attachment and mentalization should be introduced in clinical areas and nursing education. Further study should be made of the concept of pain in childbirth for women with OUD and how to reconceptualize the experience in this marginalized population.

### Conclusion

This study provided insight into the lives of new mothers with OUD

and the nurses who care for them. Traumatic events, disruptive relationship patterns, violence, caregiver mentalizations and fear of stigmatization cycle around intergenerational patterns of substance use resulting in NAS (Kreek, 2011). Women with SUDs continue to be underdiagnosed despite increasing rates of opioid use and risk of NAS (Sallaup et al., 2016). The incidence of newborns exposed to opioids is increasing along with the numbers of women with OUD (Levensen, 2015; Martin, Longinaker, & Terplan, 2015). Prevention likely entails long-term, supportive, at-home services with well-educated nurses.

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