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Breastworks: Breastfeeding practices among women with substance use disorder☆

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1. Introduction

Women of childbearing age comprise 40% of the United States population that have a substance use disorder (SUD) and North Carolina has a prevalence rate of SUD affected deliveries that are higher than the nation at 7.8 per 1000 (Forray, 2016; Haight, Ko, Tong, Bohm, & Callaghan, 2018). Substance use disorder places infants at risk of adverse health outcomes and even death (Kocherlakota, 2014). When SUD in pregnant women does not end in fetal demise or congenital anomalies, the infant will likely experience symptoms of neonatal abstinence syndrome (NAS), or withdrawal. The symptoms of NAS often have neurologic, respiratory, and gastrointestinal sequelae, which can be fatal (Kocherlakota, 2014). The risk of infant morbidity and mortality can be minimized with breastfeeding. Yet, women with SUD are less likely to breastfeed (56%) than the general population (81.1%), further limiting the potential for infant well-being (Centers for Disease Control and Prevention, 2016; Schiff et al., 2018).

The benefits of breastfeeding for newborns are well known and widely supported by the Academy of Breastfeeding Medicine (ABM), American Academy of Pediatrics (AAP), American Colleges of Obstetricians and Gynecologists (ACOG), and the Surgeon General (AAP, 2012; ACOG, 2015; Reece-Stremtan, Marinelli, & ABM, 2015; United States Department of Health and Human Services [USDHHS], 2011). The Surgeon General set goals and provided 14 strategies to decrease infant morbidity and mortality through breastfeeding support, which in turn should impact healthcare costs (USDHHS, 2011). This was a critical milestone in breastfeeding advocacy for women in drug rehabilitation programs who breastfed their newborn (Bagley, Wachman, Holland, & Brogley, 2014). However, despite such societal shifts, mothers with SUD often do not breastfeed or they wean early (Reece-Stremtan et al., 2015).

Debate continues about the risks versus benefits of breastfeeding among women with SUD, even if they are in a drug rehabilitation treatment program (Wachman et al., 2016). It is not well understood how SUD influences breastfeeding decisions; hence this study intended to explore the research question: How does SUD influence maternal breastfeeding practices?

2. Methods

2.1. Design

This pilot study used a qualitative descriptive research design to interview women in North Carolina with SUD who had recent experience breastfeeding their infant. A qualitative descriptive design allows the participant to provide information based on their experience and perspective, while permitting the researcher to remain close to the data to better understand a clinical problem (Sandelowski, 2010). Due to the vulnerability of this population, in-person interviews were considered the best method to present the voice of participants yet protect their privacy and safety. The study received approval from the university institutional review board and a waiver of signed informed consent was obtained.

2.2. Setting and sample

Recruitment of participants for this study took place in two branches of an outpatient drug rehabilitation therapy program in eastern North Carolina that provide services to individuals for behavioral health and substance abuse problems. Both macro- and micro-level factors influenced research recruitment with this population (Cook & Larson, 2018). Macro-level factors included multiple IRB amendments and agency obligations, such as accreditation visits. Micro-level factors included transportation, childcare, and daily recovery routines. Rapport was built with the agency nurse manager who was the primary gatekeeper at these locations. Both indirect and direct recruitment approaches were used. Indirect recruitment involved the nurse manager and office staff distributing invitational flyers to eligible participants. Direct recruitment involved the first author making site visits to explain the study and distribute flyers to eligible participants.

A total of six women participated in the pilot study. The women ranged in age from 18 to 31 years, with a mean age of 25 years (Table 1). All the women were currently in the drug rehabilitation program. The women were predominantly young, White, and unemployed. Three were single, two were married, and one was

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Table 1
Demographic Characteristics of Women with SUD (N = 6).

Characteristic	n	%
Age		
18–22	2	33
23–27	2	33
28–32	2	33
Race/ethnicity		
White	5	83
Minority	1	17
Education level		
Some HS	2	33
HS/GED	2	33
Some College	2	33
Occupational status		
Unemployed	4	67
Part-time	1	17
Full-time	1	17
Pregnancies		
1–2	3	50
3–4	1	17
≥5	2	33
Marital status		
Single	3	50
Separated/divorced	1	17
Married	2	33

separated. One third of the participants had some college education while two-thirds had a high school education. Two of the women had previous miscarriages; one of them had four. The number of living children for each woman ranged from one to five. On average the women had 3 children. Four women were experiencing legal issues regarding child custody. One woman was currently breastfeeding. Two women had just weaned their infants from breastfeeding, while two others had weaned their infants over a year ago. Another woman was pregnant and had breastfed her last child. Interestingly, most of the women reported initiating drug use at a young age with either an intimate partner or family members.

2.3. Data collection

Interviews were conducted by the principal investigator at the outpatient drug rehabilitation therapy sites or in the participant's home. Non-verbal cues were observed for perceived comfort with the discussion as it progressed. A semi-structured interview guide was developed by the researcher based on a priori knowledge and from the extant literature. Questions allowed the participant to provide information important to her story and the researcher an ability to probe for clarification.

Rapport was established with the participants through general conversation that occurred prior to the interview process. Interviews were audio-recorded and lasted between 30 and 45 min. Examples of interview questions were: (a) Tell me about your decision to breastfeed, (b) Describe what breastfeeding was like for you, and (c) How has alcohol or drugs affected your family life?

2.4. Data management and analysis

The audio recordings were saved on an encrypted, university-approved, research drive. Interviews were transcribed by the first author within 48 h and were saved as de-identified data, using identification numbers and pseudonyms, on the same protected drive as the audio recordings. Verification was performed by the second author, an experienced qualitative researcher, who reviewed transcripts for clarity and accuracy. Once verification was complete, the audio recordings were deleted.

Content analysis was initially performed by hand through multiple readings of the transcripts and organization of key segments of data in a matrix by interview questions. This process facilitated within and across case comparisons to search for patterns, commonalities, and differences. Code words were derived from the extant literature and noted throughout the transcripts (Saldaña, 2016). Code words such as losing control and children, “battlin' wid addiction”, and providing for and interacting with babies were noted to be in concert with the literature. This approach allowed for preliminary codes to be tested on an initial text from the data, then applied to the remaining texts to create a second analytic matrix (Bernard, Wutich, & Ryan, 2017). The second matrix was used to link similar code words, determine categories and the overarching theme. Intercoder reliability was substantial with consensus above 80% (Bernard et al., 2017). Ellipses were used to indicate where extra words were removed, commas indicated pauses, and dashes referred to unfinished words. As qualitative researchers, we acknowledge that these were honest accounts of their addictions provided during interviews. Rigor was maintained through protecting participant privacy during interviews and confidentiality through protected storage, transcription within 48 h, reflexivity, and bi-weekly researcher meetings to discuss data (Polit & Beck, 2017).

3. Results

The overarching theme in this study was given the term *Breastworks* following discussion of the meaning these women gave to the importance of breastfeeding and a priori researcher knowledge. Breastworks is a historical military term used to describe temporary barriers formed during the Civil War to protect soldiers from enemy fire (American Battlefield Trust, 2019). In this study, *Breastworks* depicts the protection that breastfeeding provides infants, but also reflects the constant, unrelenting fight these women face daily. This theme is represented by three categories: The Battle, The Lockdown, and The Best Shot.

3.1. The Battle

The Battle was characterized by an overwhelming sense of struggle and a constant, cycle of using drugs, getting clean, and relapsing. The overwhelming sense of struggle came from the participant's emotional, often teary responses during the interviews. The vicious cycle comes from quotes such as “Monkey on my back” and “spiraling out of control”. One participant described her loss of the battle in the comment:

CPS had to get called on me… I was so far in my addiction, my baby had to be placed in temporarily kinship with my sister, because I was like out there, I was, ya know, too far gone, especially, cuz I lost my two other kids… I was battlin', trying to stay clean to keep my child, but at last my child had to go stay with my sister. When I was in addiction, sisters against sisters, me and my mother against each other (28-year-old Black woman).

Child custody disputes such as in this often influenced the ability to breastfeed because of separation of the mother and infant.

For another participant, the battle involved “getting sick every day” and to feel better she had to “get high”. She described addiction as “relapse starts in your head”. The Battle was further noted by this participant in her near-death experience and the tragic loss of her sister:

> I started getting sick every day and I had to do it [use drugs]. It was like, I didn't want to, but I had to, to feel better. And it wasn't, it's not, it wasn't fun anymore. It was more of like a monkey on my back. And I couldn't stop. … It's hard. It's the hardest thing ever ‘cuz you know the first thing you want to do when something goes wrong you're like I wanna get high, I wanna get high, I wanna get high. And like, relapse starts in your head, you relapse before you even do it. So, if you're thinking about doing it, making plans or whatever, you've already relapsed. And umm it's not a game I mean it's not all fun and games, its serious I've died before and they had to bring me back to life. Me and my sister died…we did a few bags and we both

died. And three days later, that's when she passed away for good. And even after I died, it didn't, I never s-, I didn't stop. It didn't even wake my-, it didn't even wake me up, like mmm, still kept doing it. (19-year-old White woman).

Recovery maintenance and relapse prevention requires daily on-site medication administration and attendance of multiple weekly group therapy sessions lasting several hours. Most women in this study explained how this daily routine overtakes the priority to breastfeed during their addiction trajectory.

One participant initially described recovery as easy, then clarified that it had been easy only after she began treatment. She described events leading up to treatment as part of The Battle in this way:

… its nothing I ever wanted to be or do, it just kinda like happened, and I was stuck. And uh, it was hard getting out of it, especially when you don't [know] there's things to do to get out of it. Umm, so yeah, uh, before [inpatient drug rehabilitation] it was really hard, like I just stayed at, umm, before I got pregnant with her, before that, 'cuz I didn't know about the ways that you can get help. It's kinda like you gotta be at your rock bottom to get help. Like you gotta really lose everything for people to say look these are, these programs to go get help. I mean, I was 90 pounds when I finally got help. Like, I was nothing. (27-year-old White woman).

The internal need to fight for their own health, often not knowing their resources until it was too late to maintain custody of their infant, frequently prevented their ability to breastfeed their infants as they desired.

In addition to personal battles with addiction, several participants experienced the Battle with hospital staff while their infants were hospitalized for NAS. One woman shared her experience in this manner:

…one of the nurses, she wasn't, it's not that she was just outright ugly, but, ya know, the way that she said, ‘well, we're probably gonna have to start your daughter on a morphine drip because of your subutec, like, I just felt like … I knew that I tried to get sober so many times and this is the only thing that really worked for me … I had guilt, but I felt like it would be worse if I didn't take it because I would be on something else… (31-year-old White woman).

The nurse's words, “your subutec,” appeared to blame the mother, causing feelings of guilt for her daughter's withdrawal, though she did what she felt was best at the time. Others shared similar feelings they experienced while watching their infants go through NAS. Such experiences of perceived stigma often deterred the women from breastfeeding or contributed to early weaning. These fights to maintain recovery and custody of their children affected the strength of *Breastworks* in their lives.

3.2. The Lockdown

The Lockdown was characterized by social and legal consequences the women faced in relation to their addiction. Women identified social consequences that included avoiding relapse triggers, such as former friends and partners, being shunned by family members, and preventing boredom. Several women acknowledged how “boredom” contributed to relapse because of available time to think about drugs. Women identified legal consequences that included interactions with social services and law enforcement. One participant stated:

I am on complete lockdown, or I was. Umm, my grandparents, most of my family didn't know about the drug use until after I got, umm, put in jail. And my grandparents had to wait until all the charges from all the different counties came in before she could bond me out. And conditions of the bond were: you know, you stay with me, you follow my rules, I we-, I didn't drive a car for the first-, by myself, for at least three or four months after I got home. Umm, and it was-, it was rather embarrassing. [Now] I don't leave my house! This is it. This is my safe space. For the most part I try not to hang out with anybody. (23-year-old White woman).

Staying in a “safe space” and caring for an infant were motivation to remain abstinent from drugs, thus breastfeeding was an integral part of recovery maintenance.

Several women had experienced child custody issues in the past with Child Protective Services or adoption. One participant who had used drugs with her mom in the past, and was now trying to stay clean explained:

Well, umm, I don't have my kids right now, umm, I got my termination parental rights taken from me when I moved up here and decided to get clean. So, I think, ya know, my kids, although they know who I am, they know that umm, that I'm not there for them, ya know, that, much. I don't think they know that I chose drugs over them, but I mean, I really wanna be open and honest with them when they get older. (22-year old White woman).

Loss of parental rights was viewed as a lockdown because women had to leave their children to enter drug rehabilitation. Adoption was also viewed as a lockdown in the tensions between giving up a child and wondering about the repercussions of adoption. These tensions are depicted in this comment:

I wanted to try to get my life back together and stop using drugs. And stay on methadone while I was there, or while I was pregnant, then when I had the baby I chose adoption. It was a very tough decision but at 2004 I knew that I wasn't, It's not that I wasn't ready to be a mother, but I knew that, ya know, I obviously wanted to stop the pain pills, but I still wanted to, have fun. ... I've gotten pictures up until he was three, and then… it was a open adoption. I left it open, but I've just kind of closed the chapter on that just because I have two beautiful daughters now. And, I guess I'm scared that day comes and he will look at me and say, ya know, ‘well, mom, why didn't you keep me?’ (31-year-old White woman).

Though this woman admitted to her choice of giving up her son up for adoption, she recounted the fear of meeting him and being asked, ‘mom, why didn't you keep me?’ several times throughout the interview. Issues surrounding child custody often influenced breastfeeding because of the potential for or actual separation of the mother from the infant. The Lockdown both deterred and strengthened *Breastworks* in these ways.

3.3. The Best Shot

The Best Shot was characterized by identifying SUD as a problem, finding inner strength to overcome it, interacting and bonding with their babies, and aspiring to do better. All the women felt that breastfeeding offered their infants a better chance in life. One participant who was currently breastfeeding talked about the “best shot at life” in this comment:

Mostly I feel like he had a, kind of a rough start, I mean with my drug use and my pregnancy. I wanted to, I'm trying to make all the right decisions for him now. And fed is best; however, I believe breast is best than best. Is better than best it's, Research proves it and I want to give him the best shot at life he can have right now. (23-year old White woman).

Aspiring to do better was evident in several interviews. One participant, explains how she did not breastfeed her son and now she aspires to do “all I can to help” her daughter:

With [son], I felt like I was kinda gypped out of it. Umm and, I, I didn't feel as much of a bond and everything. And I just always heard that you get a bond with your baby, and this and that. So, I was like, you know, that's, that's the main thing, just having her healthy, and also I wa, I kinda felt like, ya know, I disadvantaged her in the beginning, let me do all I can to help. (27-year-old White

woman).

While all the women acknowledged the benefits of breastfeeding, four mentioned benefits and frustrations with using a nipple shield to be successful. The need to use a nipple shield came from the disorganized suck and prematurity of these infants. The frustrations included that the nipple shield was an added technical step to the process of breastfeeding and easily lost due to their transparency. In some cases, the nipple shield was helpful. In contrast, others felt the emotional tumult surrounding its use far outweighed the benefit of using it, thus it contributed to early weaning in some cases. The Best Shot depicted a strong and successful decision to breastfeed and supported the notion of *Breastworks*.

4. Discussion

This qualitative descriptive study was conducted to achieve the aim of understanding how SUD influences maternal breastfeeding practices. Although limited by a sample of six women who were primarily white and recruited from one drug rehabilitation program, the findings present the maternal perspective of how SUD influenced their breastfeeding decisions and move the science closer to identifying interventions to support breastfeeding among this population. Further, this rural sample contradicts other investigators who have reported most drug use among ethnic minority populations in urban areas (Mennis & Stahler, 2016). The population served by the drug rehabilitation treatment program is 75% White (C. Smith, personal communication, December 19, 2018). Thus, this sample is representative of the population served by this program.

Breastworks represents lack of protection or protection of infants through breastfeeding, symbolized by losing or winning the battle against drugs. The battle for these women began in their teens and in the company of intimate partners or family members. These participants described unique battles with each child in relation to SUD. Unique battles included infant adoption, foster care, and child custody with family supervision. No matter the presenting battle, children remained a mother's motivation to win their battle. Although these women did not stop using drugs with their first child, most stopped with subsequent children. This notion of recovery with a subsequent child was expressed in the comment, “It's kinda like you gotta be at your rock bottom to get help.” Loss of custody of their children removed their motivation to stay clean, consequently accelerating the relapse cycle in some cases. Due to potential relapse, the debate continues about the benefits of removing children from their biological mother versus keeping them in a less predictable environment (Lester, Andreozzi, & Appiah, 2004).

Separation of children from mothers could have long-term detrimental effects on the development of the children. The Lockdown is related to losing the battle. Many of these women served time in jail for their SUD, lost parental rights, and struggled with social and legal consequences. In the case of an open adoption, the decision to do so and the concern for later repercussions left shackles on that mother's soul. Inpatient experiences with clinicians, such as perceptions of being judged by hospital staff, was part of the societal battle women faced.

Breastworks also represented winning the battle against drugs. Many women chose to breastfeed their infant after identifying the disadvantage or “rough start” they gave their infants from exposure to drugs and to lessen their guilt. The “best shot” was an indication of winning the battle because the women admitted their problem, sought rehabilitation, avoided triggers, and maintained custody of their child. Some of the women indicated that they wanted to give their infant the best shot at life because they were “gypped” out of the bonding experience of breastfeeding and want their infant to have a better start in life. All the mothers knew the general benefits of breastfeeding, such as boosting the infant's immune system, but just a few voiced that breastfeeding could mitigate NAS. The literature supports findings these women were aware of the benefits of breastfeeding, but the debate still remains with clinicians (Wachman et al., 2016).

During this pilot study, recruitment of six participants took 11 months (Cook & Larson, 2018). This demonstrates the battle that women with SUD experience in their daily rehabilitation journey. Prior custody issues, law enforcement involvement, a lack of social support for transportation and childcare, and competing obligations in life all contribute to their lack of trust of researchers and decreased ability to participate in research.

4.1. Implication for practice and research

This study has provided an initial exploration of the intersection of breastfeeding decision-making and women with SUD. Breastfeeding among women with SUD holds even more benefits for the mother-baby dyad than the general population, yet they are much less likely to breastfeed (Demirci, Bogen, & Klionsky, 2015). This study suggests ways the social environment influences breastfeeding practices among women with SUD.

It may be helpful to engage socially influential individuals in breastfeeding education regarding SUD. Friends and family members may need basic education on what the general breastfeeding benefits are, additional breastfeeding benefits for women with SUD and their infants, and ways to promote confidence in the women regarding their ability to breastfeed. Clinicians may need detailed education about the specific breastfeeding benefits for women with SUD and their infants, training that promotes reflective thought about personal opinions that may affect patient care, and techniques to help them provide evidence-based advice. Such education will better equip influential individuals to support these women in their decisions to breastfeed their infant, thereby improving infant health outcomes.

This study provided some insight on perceptions of stigma among women with SUD and infant well-being. Future research should delve deeper into the exploration of stigma related to breastfeeding among this population. Understanding their perception of stigma related to breastfeeding with treatment of SUD may offer further guidance toward developing interventions to improve breastfeeding support for this population.

Declarations of interest

None.

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