Original Article

Experiences of Mothers with Substance Use in the Care of Children in the First Year of Life: A Qualitative Content Analysis

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Abstract

Background: Maternal substance use is a significant and enduring issue. Following childbirth, these mothers may encounter challenges in managing problems such as feeding intolerance, inconsolable crying, prolonged hospital stays, and postpartum care. This study aimed to explore the experiences of mothers with substance use and their child care.

Methods: The present qualitative study was conducted using conventional content analysis from July 2023 and March 2024 in Mashhad, Iran. Data collection from semi-structured and in-depth interviews with 20 mothers of individuals with substance use issues continued until saturation was reached and the main categories emerged. The data were analyzed through the conventional content analysis approach of Graneheim and Lundman using MAXQDA 2020 software.

Results: The main concepts derived from the data were categorized into three main categories: "attempting to maintain the child's physical and emotional health," "seeking informational and physical support," and "conflict between maternal role and substance dependence."

Conclusion: The results suggest that although mothers with substance use problems are motivated to care for their children, they are faced with significant challenges in their efforts to properly care for their children. Their care requires comprehensive support programs.

Keywords: Infant Care, Mothers, Qualitative study, Substance use

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Introduction

In recent years, the estimated global prevalence of substance use among individuals aged 15 to 64 is 3.5 to 5.7%.[1] Women are at the greatest risk of developing a substance use disorder during their reproductive years. The prevalence of substance use, both in the general population and among pregnant women, is rising worldwide.[2] In the Middle East, the prevalence of substance use is higher than global estimates.[3] Iran, with approximately 2 million individuals facing substance use issues, has one of the highest rates of substance use in the world, and opium consumption is reported to be up to three times the global average.[4] According to the result of a study, 1.5% of mothers delivered in a hospital were addicted to opioid.[5] Also, a study in the southeast of Iran, focusing specifically on pregnant Iranian women, indicated that the lifetime prevalence rates of substance use disorders and smoking were 15% and 31%, respectively.[6]

Maternal substance use during pregnancy increases the vulnerability of both mothers and fetuses, heightening the risk of adverse health outcomes for both.[7, 8] For instance, perinatal mortality rates are elevated among mothers who engage in substance use,[7] with Iran reporting a maternal mortality rate due to the substance use of 7.69%.[9] Additionally, substance use during pregnancy is associated with an increased risk of prematurity, low birth weight, intrauterine growth retardation, and neonatal abstinence syndrome (NAS).[10, 11] Infants with NAS may exhibit withdrawal symptoms such as extreme irritability, inconsolable crying, vomiting, diarrhea, and seizures, often necessitating prolonged hospitalization.[12, 13] Furthermore, infant mortality rates increase following discharge and hospitalization during the first year of life.[14]

Infants born to mothers with substance use issues often face numerous problems and complications, which can result in these mothers lacking the ability to adequately care for their infants and feeling strained.[15] Caring for these children poses significant challenges for mothers and families, remaining a pressing public health concern with numerous implications for both mother and child.[16] Substance use disorders can disrupt mother-child relationship competencies and parenting, leading to adverse consequences for the child.[17] In fact, substance use is the most common psychosocial risk factor for referrals to child protection services and may result in mother-child separation.[18]

In some studies of mothers' experiences with substance use, they mentioned feelings such as feeling unsupported in society, feeling guilty about substance use or use during pregnancy, feeling judged, and experiencing abandonment of their infants.[19] They also stated that treatment programs did not meet the needs of these mothers.[20]

Despite these challenges, these mothers often express a desire to care for their children. While previous studies have focused on the challenges faced by mothers with substance use disorders and the associated problems of their children. Previous quantitative studies have investigated the impacts of maternal substance use on neonatal outcomes, including the prevalence and severity of neonatal abstinence syndrome and related health care burdens.[13, 21] However, these studies often overlook the caregiving practices and lived experiences of mothers after hospital discharge, particularly in managing infant care at home. There remains a gap in the literature regarding how mothers with substance use disorders navigate post-discharge caregiving responsibilities. To address this gap, the present study aims to explore the experiences of mothers with substance use disorders in the care of their children in the first year of life.

Materials and Methods

This research was conducted using qualitative content analysis with a conventional approach, which allows for new insights and detailed descriptions of the phenomena by letting findings emerge from the data without preconceived notions.[22] This study was conducted between July 2023 and March 2024 in Mashhad city in Iran.

The study involved 20 mothers aged 17 to 41 years who had a history of substance use (either single or multiple drugs) and had children under 12 months old. Participants were selected based on specific inclusion criteria. To be eligible for this study, participants were required to meet several criteria, including being a mother who were engaged in substance use, having a child under 12 months old, being fluent in Persian, and being willing to cooperate and actively participate in the interview, not having mental illness, not having responsibility of her child care, and having a child who does not have any other diseases. Exclusion criteria included lack of willingness to continue participating in the study.

Sampling was conducted in three hospitals in Mashhad, Iran—Qaem, Imam Reza, and Hashemi Nejad—in the Department of Obstetrics and Gynecology, the Neonatal Intensive Care Unit (NICU), and the Pediatric Wards (for children under one year of age). In addition, eligible participants were recruited from substance use treatment centers and methadone distribution clinics in the city, which operated independently from the hospital settings.

The researcher and the participants agreed on the time and place of the interview. The first author of the article conducted semi-structured face-to-face interviews within appropriate locations, including the mothers' homes, hospitals and substance use treatment centers, and methadone distribution clinics. Data were collected with interviews lasting between 30 and 60 minutes each. The researcher initiated each interview by personally introducing the research team and explaining the purpose of the study to the mothers.

A total of 22 interviews were conducted with 20 mothers experiencing substance use. To enrich the categories and clarify certain ambiguities, we repeated interviews five and seven with the respective participants. The interview commenced with a brief conversation to help the researcher engage with the participants and create a comfortable environment. Following this, key questions related to the study objectives were posed, such as: "Tell me about your experiences of childcare," and "How do you attend to your child's needs during the day and night?" Additional exploratory questions were included, like "Could you provide more details?" and "Please share an example or more descriptions from your own experiences to explain".

During each interview session, conversations were audio-recorded with the participants' consent to ensure the accuracy of the data. The recorded interviews were transcribed verbatim into Word documents shortly after each session. The researcher then carefully read each transcript multiple times to get thoroughly familiar with the content. Data collection and analysis were conducted concurrently. Following the Graneheim and Lundman's approach (2020) and using MAXQDA 2020 software, the researcher first repeatedly reviewed the transcripts, identified and condensed meaning units, and then coded these units.[23] The codes were organized into subcategories and categories through a constant comparative process. This process continued alongside data collection until data saturation was achieved.

Trustworthiness was ensured by applying the four Lincoln and Guba criteria: credibility, dependability, confirmability, and transferability.[24] Credibility was supported through prolonged engagement with the data, as well as peer checking of the codes and categories by the research team. Additionally, member checking was conducted by having participants review and confirm the accuracy of interview transcripts. For dependability, parts of the data and analysis process were reviewed by three external experts, and a comprehensive audit trail was maintained. Confirmability was strengthened by seeking evaluation from three qualitative research specialists regarding all phases of the study, particularly data collection, analysis, and category development. To achieve transferability,

we used a thick description of the studied phenomenon and employed maximum variation sampling.

The study was conducted in accordance with the Declaration of Helsinki; it was approved by the Ethics Committee of Mashhad University of Medical Sciences (code IR.MUMS.NURSE.REC.1401.083). Participants were provided with a thorough explanation regarding the research team members, study objectives, confidentiality of information, and their freedom to choose whether to participate. Furthermore, they were required to complete a written informed consent form to participate in the study and to permit audio recording of the interviews. During the transcription process, the data from the interviews were anonymized, and the audio recordings were securely stored to ensure strict confidentiality. Participants were informed that the results of the interviews would be presented in a non-identifiable manner and that any specific information related to the interviews would remain confidential.

Results

In total, twenty-two interviews were conducted with twenty mothers suffering from substance use. The mean age of the mothers was 32.50±7.51 years, and that of the children was 240±121.49 days (Table 1). Finally, eight subcategories and three main categories were identified, as detailed in Table 2, including "attempting to maintain the child's physical and emotional health", "seeking informational and physical support," and "conflict between maternal role and substance dependence".

1. Attempting to Maintain the Child's Physical and Emotional Health

1.a. Efforts to Do Child Care

All mothers who participated in the present study acknowledged that they made efforts to meet their children's physical health needs, just as other mothers did. They diligently responded to their children's requirements for breastfeeding, complementary feeding, diaper changes, and bathing. The mothers reported a sense of pride and fulfillment after

Table 1: Characteristics of the participants (N=20)

Participant	Mothers' age (Year)	Childs' age (day/ month)	Substance type	Job	Level of education	Marital status
P1	35	7 days	Opium	Manual worker	Diploma	Married
P2	33	12 months	Heroin and amphetamine	Housewife	Secondary	Married
P3	41	12 months	Heroin	Manual worker	Primary	Married
P4	41	12 months	Amphetamine & opium	Manual worker	Secondary	Married
P5	32	1 months	Heroin	Manual worker	Primary	Married
P6	28	14 days	Amphetamine	Housewife	Diploma	Married
P7	37	3 months	Opium & amphetamine	Housewife	Secondary	Married
P8	22	8 months	Amphetamine & morphine	Housewife	Diploma	Married
P9	37	12 months	Amphetamine & opium	Chef	Secondary	Married
P10	39	12 months	Amphetamine & opium	Manual worker	Diploma	Married
P11	38	8 months	Amphetamine & opium	Housewife	Secondary	Married
P12	17	5 months	Opium & methadone	Housewife	Primary	Married
P13	35	8 months	Amphetamine & opium	Housewife	Secondary	Divorced
P14	26	12 months	Amphetamine & opium	Housewife	Secondary	Married
P15	17	10 months	Cannabis & amphetamine	Housewife	Illiterate	Married
P16	30	2 months	Amphetamine & opium	Manual worker	Diploma	Single
P17	39	10 months	Methadone & opium	Housewife	Secondary	Married
P18	28	8 months	Amphetamine, opium & methadone	Housewife	Illiterate	Married
P19	28	7 months	Heroin & amphetamine	Housewife	Illiterate	Married
P20	23	3 months	Amphetamine & methadone	Housewife	Diploma	Single

Table 2: Subcategories and categories generated from the data

Subcategory	Main category
Efforts to do childcare Efforts to promote the child's emotional needs Alleviate the child's withdrawal symptoms Focusing on reducing the possibility of child's contamination with drugs	Attempting to maintain the child's physical and emotional health
Seeking information on child care from informal sources Seeking childcare support from their social network	Seeking informational and physical support
Prioritizing addiction over the child's physical needs Neglect of the child's emotional needs	Conflict between maternal role and substance dependence

performing their maternal duties and caring for their children. One mother said:

"I took good care of him. Even after having a cesarean section and still having stitches, I made sure to get up and care for him myself. I didn't allow anyone else to change his diaper; I took on that responsibility and cleaned him myself. I felt proud of myself for being a good mother and for taking care of my child." (P5)

Mothers recognized the significance of enhancing their children's physical health by regularly weighing them, consistently using nutritional supplements, and strictly following exclusive breastfeeding or formula feeding for the first six months. Afterward, they started the complementary feeding for the child. Most mothers adhered to the recommended schedule, brought their children to health centers for monitoring, and followed healthcare professionals' advice on vitamin A-D supplements, multivitamins, and iron drops. A participant stated:

"When my son was born, he was low birth weight. I gave him multivitamins, and I breastfed him for the first six months; after six months, I started giving him formula." (P14)

1.b. Efforts to Promote Children's Emotional Needs

The mothers under study not only addressed their children's physical requirements but also attended to their emotional needs while striving to establish a strong emotional bond with them. Under favorable conditions, meaning when the mothers were not deprived of substances, the mothers engaged in play and talk with their children, ensuring that their drug dependency did not affect their parenting. Most mothers stated that, despite their drug use, they never neglected their children and always made sure their children had everything they needed. A mother said:

"I loved my daughter just like all other mothers. Everything I did was for my child. She wouldn't fall asleep until I sang her a lullaby; sometimes, I would give her a massage and talk to her. I didn't want to give her anything less than she deserved." (P10)

1.c. Alleviation of the Child's Withdrawal Symptoms

Some children under one year of age born to mothers with substance use disorder exhibited symptoms of withdrawal syndrome. The mothers employed non-pharmacological pain management techniques, such as massaging, swaddling, singing lullabies, rocking, and using pacifiers, to ease their babies' pain. The mothers were aware of the cause of their children's unease and discomfort. They felt a profound sense of sorrow regarding this issue and recognized the necessity of discontinuing drug use to ease the child's distress. One of the participants stated:

"When my child is in pain, I swaddle him, stay awake by his side all night, rock his cradle, and sing lullabies." (P3)

1.d. Focusing on Reducing the Possibility of a Child's Contamination with Drugs

Mothers were aware of the transmission of drugs through their breast milk and experienced uncertainty regarding the use of their milk. They had concerns and fears

about contaminating their infants with drugs, prompting them to take actions such as limiting the frequency of breastfeeding and opting for formula. A mother said:

"At first, I used to give my milk, but then I thought that my child would become addicted, so my husband and I bought him formula, and I gave him the formula." (P19)

2. Seeking Informational and Physical Support
2.a. Seeking Information on Child Care from Informal Sources

In some cases, mothers relied on friends and family for information due to a lack of knowledge and concerns about their own and their children's needs, as well as fears of stigma. Some of these individuals turned to online resources to address the care requirements of their children under one year of age. Through this approach, they obtained information regarding the symptoms of children born to mothers with substance use disorders, the adverse effects of maternal addiction on children, and the importance of breastfeeding. A participant stated:

"When I saw my baby was restless and couldn't sleep well, I talked to my mother. She reassured me a little, but I still felt worried and searched online to understand if this was normal for babies like mine." (P6)

2.b. Seeking Childcare Support from their Social Network

Mothers sometimes struggled to care for their children due to their busy schedules or the effects of addiction, and they sought childcare support from their social network. They relied on family, relatives, and friends for assistance with tasks such as feeding the child, changing diapers, and taking the child to doctors or healthcare facilities. A mother stated:

"Because I was abusing substances, I couldn't always take care of my baby. My sister helped a lot by breastfeeding her and sometimes making porridge for her." (P14)

3. Conflict Between Maternal Role and Substance Dependence

3.a. Prioritizing Addiction Over the Child's Physical Needs

Some mothers reported that at times they prioritized their need for substance use over the care needs of their children, choosing to spend money on obtaining and using drugs. One mother said:

"When I left the hospital and got home, my daughter was crying a lot. My aunt kindly told me come and breastfeed her. Unfortunately, I was feeling very sick and dealing with a severe hangover. Even though I was in such a distressed state, I chose to leave the baby at home and went to my friend's house so that I could use drugs." (P16)

3.b. Neglect of Child's Emotional Needs

Among this group of mothers, there is a pattern of neglecting the child's emotional health by not regularly attending healthcare appointments and overlooking the significance of physical touch, eye contact, and verbal communication with the child. This issue was prevalent when mothers utilized various medications or had a high daily consumption. A participant maintained:

"I didn't know how to properly care for my child because of my drug use. There are many things that an addicted mother cannot do for her child, but a healthy mother can do it. For instance, he would try to play with me, but I was hungover. When I was hungover, I would quickly put the baby to sleep instead of playing with him." (P8)

Discussion

This study was conducted to explore the experiences of mothers with substance use regarding the care of children under one year of age, using a qualitative content analysis approach. The findings revealed that mothers with substance use engage in both helpful and unhelpful practices when caring for their children. In this study, mothers demonstrated helpful practices such as "attempting to maintain the child's physical and emotional health" and "seeking informational and physical support".

In this study, mothers demonstrated helpful actions such as trying to maintain their children's physical and emotional health. Mothers reported feelings of pride and satisfaction after fulfilling their maternal responsibilities and caring for their infants, as they not only met the emotional needs of their infants but also attempted to establish an emotional bond with them through play and conversation. Furthermore, most mothers stated that despite substance use, they made every effort to provide for their children's needs and delivered care comparable to that of other mothers, which is in line with the findings of other qualitative studies.[19, 25]

Qualitative research indicates that caring for their children serves as one of the primary motivations for recovery among mothers with substance use problems, as these mothers often view their caregiving role as a central and meaningful purpose in their lives.[26, 27] Our findings regarding the mothers' strong desire to assume an active maternal role and to be recognized as capable caregivers for their children are supported by other recent qualitative studies. A study has similarly shown that caring for the children and embracing the identity of motherhood are central and meaningful aspects of recovery for mothers with substance use problems.[28]

These findings highlight a consistent theme: despite their struggles with substance use, mothers often strive to fulfill their caregiving roles. The emphasis on maintaining the child's health and emotional well-being may stem from deeply ingrained societal expectations of parenthood. However, it is important to consider the context of these studies. Recent qualitative evidence indicates that the extent to which caregivers with concurrent mental health and substance use problems can provide adequate care is shaped by multiple interrelated factors, including their access to appropriate support services, specific types of substances used, and their socio-economic circumstances. Limited access to support, financial hardship, and the nature of substance use all interact to create barriers or facilitators for caregiving capacity and overall social inclusion.[29, 30] Despite the challenges posed by substance use, these women express a desire to nurture their children and maintain their role as caregivers. This aspiration can be a crucial point for intervention and support programs which aim at empowering mothers to provide better care for their children.

The present study also demonstrated that mothers with substance use actively seek both informational and practical support concerning childcare. Consistent with prior studies, it was found that many mothers with substance use disorders lack sufficient knowledge or understanding regarding their children's developmental and emotional needs, highlighting the necessity of targeted parenting education and supportive interventions.[31, 32]

In this study, in certain circumstances, mothers experienced "conflict between maternal role and substance dependence" and prioritized substance use over caring for their children. Additionally, there was a notable neglect in addressing the psychological and health needs of the children. Qualitative studies indicate that children raised by parents with substance use disorders often experience significant emotional neglect, frequent humiliation, and lack of parental affirmation—factors that can result in feelings of abandonment, insecurity, and poor self-esteem.[33, 34]

Furthermore, there were instances of physical abuse towards the children and spending money on substances instead of household necessities.[35] These findings align with the current study, suggesting that substance use can lead to various maladaptive parenting behaviors, including neglect, reduced physical presence, and emotional unavailability. Children affected by parental substance use face a high level of risk.[36] Moreover, maternal substance use is considered a significant risk factor for child maltreatment and neglect.[36, 37]

The adversities commonly associated with substance use are influenced by several

factors; for instance, unstable housing and economic hardship have been strongly correlated. Throughout childhood, the living environments of these children are often characterized by known risk factors, such as low income, low maternal education, maternal mental illness, caregiver instability, housing instability, child abuse and neglect, and minimal paternal involvement. These factors increase the vulnerability of children to physical, academic, and socio-emotional problems.[38] The prioritization of substance use over child needs is not unique to the context of this study. Studies conducted internationally have also documented similar patterns of neglect and maladaptive parenting behaviors.[25] The underlying factors may be related to the neurobiological effects of substance dependence, which can impair judgment, decision-making, and impulse control. Additionally, the social stigma and isolation experienced by mothers with substance use disorders can further exacerbate these challenges. The neglect of infant needs may stem from the overwhelming cravings and withdrawal symptoms experienced by these mothers, making it difficult for them to prioritize the well-being of their children.[19, 39]

Given the deficits in appropriate parenting skills among mothers with substance use disorders,[25] developing and supporting parenting skills is a vital therapeutic component for mothers in recovery. Recent research highlights that rebuilding parenting skills and family relationships not only strengthens relapse prevention efforts but, when combined with innovative approaches such as tailored digital interventions, can provide accessible, ongoing support to enhance both parenting capacity and recovery outcomes.[40, 41]

One of the strengths of the present study is that it investigates the experiences of mothers with substance use in caring for children in the first year of life in Iran. Like any other research, our study has its limitations. First, the findings are based solely on the experiences of mothers with substance use, and do not include the perspectives of other caregivers, such as fathers, other family members, or health providers involved in childcare. Future studies should consider a broader range of participants to capture diverse perspectives. Second, the study participants were all recruited from Khorasan Province, which may limit the transferability of the results to mothers in other regions of Iran with different cultural or socioeconomic backgrounds.

Conclusion

Although mothers with substance use problems are motivated to care for their children, they are faced with significant challenges in their efforts to properly care for their children. Community-based interventions and specialized resources that strengthen motherhood capacity and provide ongoing support can play a pivotal role in promoting healthier outcomes for both mothers and their children.

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Authors' Contribution

FB, MR, HB, and JM made substantial contributions to the conception and design of the study. Data collection and curation were performed by FB. Formal analysis and interpretation were carried out by FB, MR, and JM. All authors participated in drafting, critically reviewing, and revising the manuscript for important intellectual content. All authors have approved the final version of the manuscript for publication and agreed to be accountable for the accuracy and integrity of the work. The corresponding author confirms that all listed

authors meet the authorship criteria and that no one who meets these criteria has been omitted.

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Conflict of Interest

The authors declare that they have no conflict of interest related to this study.

Declaration on the use of AI

No Artificial Intelligence (AI) tools were used in the data collection, analysis, or preparation of this manuscript.

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