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Evaluating the implementation of family-centered substance use treatment for pregnant and postpartum people: A mixed-methods study

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Abstract

Introduction: Family-centered substance use treatment (FCSUT) approaches for pregnant and postpartum people have the potential to prevent intergenerational transmission of adverse childhood experiences (ACEs). Guided by two theoretical frameworks drawn from implementation science (the Consolidated Framework for Implementation Research [CFIR] and the Reach, Effectiveness, Adoption, Implementation and Maintenance [RE-AIM] framework), this study used a mixed methods approach to answer: (1) What is the extent to which FCSUT approaches are offered for pregnant and postpartum people seeking substance use disorder (SUD) treatment? and (2) How are FCSUT approaches for pregnant and postpartum people implemented?

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Author agreement

All authors have reviewed and agreed to the content presented in this manuscript and accompanying materials.

Disclaimer

The findings and conclusions in this paper are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.josat.2024.209409.

Methods: This study utilized a sequential mixed methods design that began with quantitative data collection followed by qualitative data collection. The quantitative component consisted of service provision surveys of facilities that provided FCSUT to pregnant and postpartum people (n = 118). The qualitative component consisted of semi-structured in-depth interviews with administrators and providers working at FCSUT facilities (n = 26) and pregnant and postpartum people who were currently receiving or had previously received services in the last two years from FCSUT facilities (n = 27). The qualitative findings were used to deepen understanding of the quantitative findings.

Results: Findings from the quantitative survey of treatment facilities' FCSUT provision revealed that while most facilities offered services related to substance use treatment, behavioral health, and parenting skills development or parent training, a smaller proportion offered services related to prenatal and postpartum health, sexual and reproductive health, and family-related services. Qualitative in-depth interviews with program administrators and providers and pregnant and postpartum people who had participated in FCSUT programs revealed major themes around expanding reach of facilities by maintaining participants' familial connections, resources for implementation and maintenance of FCSUT, the importance of program adaptation, and gaps in service delivery.

Conclusions: Results indicated there is a wide range of FCSUT services offered at treatment facilities across the United States. Furthermore, while many pregnant and postpartum people expressed positive experiences with FCSUT, there are some areas that should be considered for future progress to be made.

Keywords

Family-centered substance use treatment; Pregnant and postpartum people; Implementation science; Adverse childhood experiences; Mixed-methods research

1. Introduction

Adverse childhood experiences (ACEs) are preventable, potentially traumatic events that occur in childhood (0–17 years), such as experiencing violence, abuse, or neglect; witnessing violence in the home; and having a family member attempt or die by suicide (Felitti et al., 1998; National Child Traumatic Stress Network, 2019). ACEs can also include aspects of the child's environment that undermine their sense of safety, stability, and bonding (Felitti et al., 1998; National Child Traumatic Stress Network, 2019), such as exposure to parental substance use, which is associated with children's exposure to child maltreatment (U.S. Department of Health & Human Services, 2020). The ongoing opioid overdose public health problem and increases in psychostimulant-involved overdose (e.g., methamphetamine) suggest that children's exposure to caregiver substance use, and other correlated ACEs, remains high (Han et al., 2021). Further, health and human service systems are overburdened by efforts to mitigate the effects of substance use and other ACEs on children and families across the United States (Meyer et al., 2014).

For pregnant and postpartum people, rates of substance use disorder (SUD) are increasing; for example, the prevalence of opioid use disorder increased from 1.5 per 1000 delivery

hospitalizations in 1999 to 6.5 per 1000 delivery hospitalizations in 2014 (Haight et al., 2018; Substance Abuse and Mental Health Services Administration, 2012). Further, the rate of infants referred to child protective services for prenatal substance exposure continues to climb (U.S. Department of Health & Human Services, 2020). Comprehensive and integrated substance use treatment programs that address pregnant and postpartum people's unique needs, integrate families into care, and provide parenting programs have the potential to reduce the intergenerational transmission of ACEs from parent-to-child (Ashley et al., 2003).

1.1. Family-centered substance use treatment (FCSUT) approaches to treatment

Pregnant and postpartum people with SUD often require additional support while undergoing treatment because of their unique health needs and family responsibilities (NIDA, 2020). Additionally, pregnancy and the postpartum period is a critical juncture for people who may be at risk of losing their parental rights. However, this period offers a unique opportunity for interventions focused on disrupting the intergenerational transmission of ACEs by strengthening parenting skills, meeting parents' needs, improving parent and child health, and preventing child abuse and neglect. Integrated programs that combine evidence-based treatments for SUD with other preventive services and effective parenting interventions are shown to benefit both parents seeking treatment and their children (Centers for Disease Control and Prevention, 2019; Niccols et al., 2010; Niccols, Milligan, Smith, et al., 2012).

Family-centered substance use treatment (FCSUT) approaches for pregnant and postpartum people involve a “comprehensive array of clinical treatment and related support services that meet the needs of each member in the family, not only the individual requesting care” (p. 1) (National Center on Substance Abuse and Child Welfare, 2021). FCSUT is an evolving approach to treating SUD. As such, FCSUT programs tend to vary in the services that they offer, the length of time over which services are provided, and the type of service setting (National Center on Substance Abuse and Child Welfare, 2021; Werner et al., 2007). However, a shared characteristic of FCSUT programs is that individuals seeking treatment are provided access to a comprehensive array of services that meet both their individual and family needs. Examples of services include: individual, family, or relationship behavioral health counseling; childcare services; ancillary community-based programs and services, such as parenting classes, intimate partner violence (IPV) prevention, human immunodeficiency virus (HIV) and sexually transmitted infection (STI) testing and education, and job and employment assistance; and social welfare services (Werner et al., 2007). FCSUT programs can also offer services unique to pregnant and post-partum people, such as family planning, pre- and postnatal care, and breastfeeding support, which are recommended by the Substance Abuse and Mental Health Services Administration (SAMHSA) as key services for pregnant and postpartum people with SUD (Substance Abuse and Mental Health Services Administration, 2018).

Positive outcomes of FCSUT programs for program participants include but are not limited to: (1) increased rates of family reunification and permanent child placement (Grella et al., 2006), (2) decreased child abuse potential (Barlow et al., 2019), (3) reduced rates of infants with prenatal substance exposure (Milligan et al., 2011), (4) improved parenting

attitudes and skills (Catalano et al., 1999; McComish et al., 2003; Niccols, Milligan, Sword, et al., 2012), (5) improved maternal and parental physical and mental health (Ashley et al., 2003; Barlow et al., 2019; Milligan et al., 2011; Niccols et al., 2010), and (6) improved psychosocial and family functioning for children, parents, and family members (McComish et al., 2003; Sword et al., 2009).

Despite the benefits of FCSUT, few treatment programs for pregnant and postpartum people incorporate family-centered elements into their treatment plans. Findings from the 2019 National Survey of Substance Abuse Treatment Services (N-SSATS) revealed that only 5.9 % of facilities provided child care for clients' children, 2.5 % offered residential beds for clients' children, 38.3 % provided services related to IPV, 58.4 % provided HIV/AIDS education, counseling, and support, and 66.1 % provided assistance with obtaining social services (Substance Abuse and Mental Health Services Administration, 2020). No information was collected on whether facilities offered services related to pregnancy or reproductive health care (e.g., family planning, prenatal care, breastfeeding education) or whether parenting interventions to prevent ACEs were offered as a part of care. Further, few facilities (24.3 %) had programs designed specifically for pregnant and postpartum people (Substance Abuse and Mental Health Services Administration, 2020). To disrupt the intergenerational transmission of ACEs, research is needed to understand the implementation of FCSUT for pregnant and postpartum people.

1.2. Implementation science and FCSUT for pregnant and postpartum people

Implementation science involves identifying the barriers that reduce the uptake of evidence-based interventions and practices, and the methods and strategies that facilitate their uptake (Bauer & Kirchner, 2020). Two theoretical frameworks drawn from implementation science that are useful tools for understanding and improving the implementation of programs and interventions are the Consolidated Framework for Implementation Research (CFIR; a determinant framework of implementation; Damschroder et al., 2009) and the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) framework (an evaluation framework of implementation; Glasgow et al., 2019). Determinant frameworks seek to understand or explain the factors that influence implementation outcomes (Nilsen, 2015). Evaluation frameworks aim to help practitioners understand how to translate evidence-based interventions into practice by specifying the aspects of implementation that can determine implementation success (Nilsen, 2015). The integration of both a determinant framework (CFIR) and an evaluation framework (RE-AIM) may enhance understanding of how FCSUT programs for pregnant and postpartum people are currently being implemented and the ways in which they can be improved and expanded.

CFIR seeks to understand or explain factors that influence implementation outcomes, barriers, and facilitators (Damschroder et al., 2009). We used CFIR to guide the research design and interpretation of findings. CFIR consists of five domains, including program characteristics, outer setting, inner setting, characteristics of individuals, and process. Program characteristics are the key attributes of FCSUT interventions that influence implementation success. Outer setting describes external factors that influence FCSUT implementation, such as client needs, regulations and policies, and incentives. Inner

setting describes internal factors that influence FCSUT implementation, such as culture, communication, and structural characteristics. Characteristics of individuals refer to the characteristics of those involved in implementation FCSUT. Lastly, processes are those that are required to implement FCSUT. In the current study, CFIR guided the development of research questions, survey questions, and in-depth interview guides.

RE-AIM describes the process through which evidence-based interventions are adopted, implemented and sustained according to five outcomes: Reach, Effectiveness, Adoption, Implementation, and Maintenance (Glasgow et al., 2019). We utilized RE-AIM to guide the design and interpretation of study findings to understand the extent to which and how FCSUT approaches are being implemented for pregnant and postpartum people. In our application, Reach describes the number, proportions and representativeness of pregnant and postpartum people and their families receiving FCSUT. Effectiveness is the impact of FCSUT on outcomes, such as maternal and child health. Adoption refers to the number, proportion, and representativeness of settings and staff who develop and participate in delivering FCSUT. Implementation is the extent to which FCSUT is being delivered as designed. Lastly, Maintenance refers to the extent to which approaches are sustained over time.

1.3. Present study

The purpose of the current study was to conduct formative research on FCSUT approaches for pregnant and postpartum people across the United States with the aim of informing prevention of intergenerational transmission of ACEs and further ACEs exposures for children of pregnant and postpartum people (Centers for Disease Control and Prevention, 2019). Toward this aim, a mixed-methods study was conducted through a survey of a sample of FCSUT facilities and in-depth interviews with SUD providers and administrators affiliated with FCSUT facilities and with pregnant and postpartum people treated for SUD at FCSUT facilities. The purpose of the survey was to provide a quantitative overview of facilities' service delivery, while the qualitative interview methods used in the in-depth interviews were designed to allow for a deeper understanding of how and why the identified implementation constructs vary across programs and populations. Using the RE-AIM and CFIR frameworks, this study sought to broadly answer two research questions: (1) What is the extent to which FCSUT approaches (including the extent services, supports, and interventions) are offered for pregnant and postpartum people seeking SUD treatment? and (2) How are FCSUT approaches for pregnant and postpartum people implemented?

2. Methods

2.1. Study design

This study utilized a sequential mixed methods design that began with quantitative data collection (conducted between September and October 2022) followed by qualitative data collection (conducted between February and August 2023). The quantitative component consisted of service provision surveys of facilities that provided FCSUT to pregnant and postpartum people. The qualitative component consisted of semi-structured in-depth interviews with administrators and providers working at FCSUT facilities and pregnant and

postpartum people who were currently receiving or had previously received services in the last two years from FCSUT facilities.

The Fors Marsh Group Exemption Review Board (ERB) reviewed the quantitative research protocol. The surveys of service provision were considered research involving human subjects, but exempt per 45 CFR 46.104(d)(2). The ERB determined that the quantitative surveys were exempt because the research surveyed administrators at FCSUT centers to understand the current state of these facilities, services offered, and how these programs operate, and participant identities were not to be readily or easily ascertainable, accidental disclosure of responses would not reasonably place subjects at risk, no minors were involved, pregnant and post-partum people were not involved, and participation in the research was voluntary. The Advarra Institutional Review Board (IRB) reviewed the qualitative in-depth interview research protocol that was also determined exempt from IRB oversight per 45 CFR 46.104(d)(2). The IRB granted this exemption with the understanding the research project was only conducted as submitted and no personal identifiable information was collected and recorded.

All participants were informed of the potential risks and benefits associated with study participation and were provided with an electronic informed consent form before completing the survey or participating in an in-depth interview. For the in-depth interviews, the Centers for Disease Control and Prevention granted the study a Certificate of Confidentiality to protect the privacy of study participants, and the study obtained verbal consent at the start of each interview.

2.2. Quantitative survey of treatment facilities' FCSUT provision

The study team developed a short, web-based survey to assess the provision of FCSUT for pregnant and postpartum people. The survey asked about facility characteristics, available services, patient characteristics, and patients' use of services. The study used SAMHSA's FindTreatment.gov database (Substance Abuse and Mental Health Services Administration) to identify 634 facilities that met the study's inclusion criteria, which included: (1) offers childcare or beds for children, (2) operates in the United States (including Washington, D.C. and U.S. territories), and (3) provides services for pregnant and postpartum people. Through random selection, 400 facilities were identified for potential participation in the survey, and ultimately 365 of those facilities were contacted via email invitation to facility administrators. Thirty-five facilities were not sent an email, because the study team could not obtain contact information. Of the 365 facilities that were contacted, 118 facilities (32 %) consented to participation and completed at least one survey item. Facilities did not receive compensation for participation.

Descriptive statistics in Stata Version 18 assessed facility characteristics. The study applied weights created using iterative proportional fitting to minimize biases due to differences in the characteristics of the nonrespondents and the respondents and to improve the precision of the survey-based estimates (Valliant et al., 2018).

2.3. Qualitative in-depth interviews

Whereas the purpose of the quantitative survey was to provide an overview of facilities' service delivery, we used qualitative interview methods to allow for a deeper understanding of how and why identified implementation constructs vary across programs and populations. As such, in-depth interviews were conducted with administrators and providers working at facilities that provided FCSUT to pregnant and postpartum people and with pregnant and postpartum people who were currently receiving or had previously received services in the last two years from FCSUT facilities. Of the 46 facilities who reported in the survey that they would be willing to participate in follow-up interviews, 23 facilities were identified for potential participation based on a number of criteria that were chosen to maximize variety in the types of FCSUT facilities selected (e.g., type of services offered, outpatient or residential facility, U.S. state of location, and Medicaid expansion in state of location). Of the 23 facilities invited via email, seven facilities agreed to participate. Facilities were asked to share the study information with potential participants via email or message boards and to help field questions about study participation. Facilities were provided templates to send to or to post for potential participants that included a secure hyperlink to an informed consent form and an eligibility screener via Jotform, a Health Insurance Portability and Accountability Act (HIPAA)-compliant online form. Potential participants used the link to assess eligibility and provide informed consent.

The study team collaborated with FCSUT facilities to recruit participants for the in-depth interviews. The goal was to recruit three to four pregnant and postpartum people and three to four administrators and providers, per facility, who met the eligibility criteria. To be eligible for participation, pregnant and postpartum people had to be 45 years old or younger and no more than two years postpartum or postadoption or have graduated from treatment within the previous two years after having been pregnant or postpartum during their treatment at the facility. Administrators and providers had to be employed by the facility at least part-time for one year or more. Eligible administrators and providers and pregnant and postpartum people were asked to provide basic demographic information, including age, sex/gender, race/ethnicity, and education. Additionally, pregnant and postpartum people were asked about their income, number of children, marital status, and involvement with child welfare and other services. Eligible administrators and providers were asked about their profession, years active in their field, and current position. If eligible and interested in participation, participants were asked to provide their contact information and invited to schedule an interview. A total of 53 eligible participants (27 pregnant and postpartum people and 26 administrators and providers) completed an in-depth interview. Supplement 1 provides a study flow diagram for the qualitative interviews. Participating facilities received a $500 stipend, and interview participants received a virtual gift card of $120 as tokens of appreciation.

Guided by the RE-AIM and CFIR frameworks and informed by the primary research questions and preliminary findings of the survey, the study developed two semi-structured interview guides. The interview guide designed for pregnant and postpartum people included questions related to their perspectives and engagement with family-centered services (e.g., parent training) and the benefits of these types of services. The interview guide designed

for administrators and providers included similar topics but were adapted to include topics related to adoption, implementation, and maintenance of FCSUT and family-centered services. Both interview guides are in Supplements 2 and 3. The study mapped CFIR and RE-AIM concepts onto all in-depth interview guide questions for both groups. Interview administrators completed Collaborative Institutional Training Initiative (CITI) training and trauma-informed training that included guidelines for cultural competency, sensitivity, and reflexivity (Alexander et al., 2020).

Between February and August 2023, 53 in-depth interviews were conducted via Zoom by trained research staff at Fors Marsh. Interviews were audio recorded with the participants' permission, and recordings were transcribed using TranscribeMe, a HIPAA-compliant vendor. Research staff analyzed all transcripts using a multistep iterative process to determine emergent themes. First, research staff with experience in qualitative methods at Fors Marsh developed a preliminary codebook based on summary notes from each interview, the research questions, and research frameworks that guided the study (i.e., RE-AIM and CFIR). The codebook contained high-level thematic codes, or “nodes,” that captured overarching research questions. Then, the data manager reviewed the summary notes from the interviews and added smaller, nuanced “subnodes” within each high-level node. Then, research staff applied codes to a small subset of transcripts, as well as in vivo codes. The research team reviewed these new inductive codes and deductive codes to create a final codebook. This process was used for each set of transcripts (administrators and pregnant and postpartum people), and the research staff applied codebooks to each set of transcripts. Next, six coders began to code transcripts following the constant comparative method (Glaser, 2014). One team of three coders coded the administrator and provider interview transcripts, and one team of three coders coded the pregnant and postpartum people interview transcripts. Coders were trained researchers at Fors Marsh with experience in qualitative research methods and coding qualitative text. Throughout the coding process, each team met weekly to discuss emergent themes, any discrepancies in codes, and whether any new subnodes should be added to the codebook. This process of iteratively adding subnodes continued until the coding teams exhausted all salient themes and discussion between all coders on a team and the data manager corroborated the themes.

To assess interrater reliability (IRR) for coded interview transcripts, the study compared each coder's output to another coder's output using NVivo 12 qualitative analysis software to provide three Cohen's kappa (κ) (i.e., coder 1 × coder 2; coder 1 × coder 3; coder 2 × coder 3) per coding team (i.e., pregnant and postpartum people interview transcripts and administrator and provider interview transcripts). The goal of this process was to reach a minimum Cohen's κ coefficient of ≥0.70 (O'Connor & Joffe, 2020). Based on double coding of approximately 20 % of interview transcripts, Cohen's κ values ranged from.71 to 0.88 for the administrators and providers coding team and 0.71 to 0.72 for the pregnant and postpartum people coding team. The remaining transcripts were divided between the three coders on each team and were each coded once. Coders met regularly to discuss and identify emergent themes. Major themes were identified by grouping like subthemes together in Microsoft Excel. Researchers met and reviewed how themes and subthemes hung together and agreed upon a final outline. We used illustrative quotes to summarize themes.

3. Results

3.1. Quantitative survey of treatment facilities' FCSUT provision

Table 1 provides a summary of the characteristics of the 118 facilities who participated in the survey. Respondents were primarily facility administrators (80.8 %). Most facilities offered services related to substance use treatment and behavioral health: addiction/substance use treatment (99.6 %), treatment planning (99.6 %), intake and assessment (98.7 %), connection to community resources (98.4 %), planning for aftercare (96.8 %), group support services (94.7 %), recovery support services (93.4 %), and mental and behavioral health treatment (92.2 %). A smaller proportion of facilities offered services related to prenatal and postpartum health, sexual and reproductive health, and family-related services: childcare (59.2 %), residential beds for children (52.2 %), HIV/STI services (64.6 %), family planning services (46.8 %), prenatal care (42.1 %), and postpartum care (40.4 %). Almost all (90.0 %) facilities offered parenting skills development or parent training. Additionally, 62.8 % of facilities offered domestic violence/interpersonal violence services and counseling, and 83.4 % offered gender-specific care.

Approximately two-thirds of facilities (64.9 %) offered FCSUT at their facility for more than five years, while 15.5 % offered FCSUT for less than one year. Most facilities served 25 or fewer pregnant and postpartum people annually (55.2 %), and nearly one-fifth (18.7 %) of facilities reported that they served >100 pregnant and postpartum people per year. Over half of facilities indicated that they require pregnant and postpartum people to meet certain requirements to access services (56.5 %).

3.2. Qualitative in-depth interviews

The demographic characteristics of pregnant and postpartum people and program administrators and providers who participated in the in-depth interviews are in Table 2. Several factors that influenced the implementation of FCSUT for pregnant and postpartum people were identified. In the text that follows, we summarize major themes, including: (1) Expanding Reach of Facilities by Maintaining Participants' Familial Connections; (2) Resources for Implementation and Maintenance of FCSUT; (3) The Importance of Program Adaptation; and (4) Gaps in Service Delivery. Illustrative quotes are included in the text, and additional quotes are provided in Supplement 4.

3.3. Expanding reach of facilities by maintaining participants' familial connections

Most pregnant and postpartum people and administrators and providers agreed that the extent to which pregnant and postpartum people participated in FCSUT was influenced by their ability to maintain connections with their children while receiving treatment. Many pregnant and postpartum people indicated that they were motivated to seek treatment so they could provide a safe and sober environment for their children, improve their parenting, and/or regain custody of their children. Thus, many pregnant and postpartum people and administrators and providers reported that clients seek out FCSUT so that their young child(ren) can live with them while receiving treatment. For example, a facility treatment assistant noted: "*I think probably the biggest thing is because they're able to keep their child while in treatment with us. And that is, I think, a lot of the reason that so many of*

our clients come to our facility specifically, because other treatment centers don't have the resources or are even willing to take pregnant clients or clients who have young children." Many pregnant and postpartum people and administrators and providers noted that few facilities provide residential beds for children and/ or childcare, so it can be very difficult for parents to find treatment that will accommodate their needs. Some pregnant and postpartum people and administrators and providers also noted that a few FCSUT facilities help clients with impending court cases and provide documentation regarding receipt of services as a motivating factor for participation in services.

Some pregnant and postpartum people and administrators and providers noted that pregnant and postpartum people are often granted priority access to FCSUT or SUD treatment, in part, because of pregnancy. A pregnant person currently receiving services at a facility stated: "[This facility], *in particular, favors pregnant and young mothers and women and children, so we're a priority, I guess they call it So, if we need a bed, we take priority. So, it's just really easy to get in there if you have kids or are pregnant.*" Similarly, some administrators and providers indicated that pregnancy status can directly facilitate access to residential SUD treatment, since beds for clients who are pregnant or postpartum are often prioritized. A facility administrator noted: "*We're getting a lot of pregnant women, and when they go through their assessment and we do have an opening*, [being] *pregnant will always trump. Somebody else could be waiting on our list, and if somebody pregnant jumps in, they're always going to trump her.*"

Conversely, pregnant and postpartum people and administrators and providers reported that program reach is limited by a lack of knowledge or awareness of family-centered services. A facility parent advocate and counselor stated: "*I think that if a lot of families knew that there was a place* [for them to] *go and get help and* [they] *could stay together as a family, I think people would do it more. Sometimes people are not aware of that, so dad tends to leave, or mom tends to leave, and they think that they have to find someone to watch these kids while we go do this or that, when you can bring your family with you. And a lot of people just don't know that A lot of people want to do better, but they don't have the opportunity because no one will take them as a family… but we take everyone where they are. So, I think just some more awareness in the community that there are programs like this that's going to focus on family-centered programming. Keeping the families together.*"

Because of this general lack of awareness about facilities that provide FCSUT services, most pregnant and postpartum people and administrators and providers indicated successful outreach stems directly from the involvement of caseworkers, hospitals, or legal advocates: "*We worked closely with a couple* [of] *local hospitals in our city that we are located in. And we worked with their social workers at the hospital so they know that they can give information on our program*" (Facility manager). However, pregnant and postpartum people also indicated that having more informed and proactive outreach from facilities or medical providers could improve program reach.

3.4. Resources for implementation and maintenance of FCSUT

Most administrators and providers mentioned that resources and funding were pivotal to initially implementing services, adapting services for their clientele, and ensuring

sustainment of a family-centered approach. Sources of funding included private donors, state and federal grants, and reimbursements from Medicaid and private insurance. A few administrators and providers indicated that their facility was part of a larger organization or agency; in these instances, the parent agency provided funding for services, staff training, and other resources.

Some administrators and providers noted that the quality and availability of services often vary by facility, and this was partly due to funding issues. A facility's licensed marriage and family therapist mentioned that, due to funding issues, their facility was not able to provide consistent childcare or support groups, especially when there were competing demands: "*Funding—that's always a fun one—not enough staff, that you can't do childcare or run a group when two people have to be in court and two people have an assessment for their kids.*" Administrators and providers also mentioned that adequate levels of funding are needed to increase staff pay and training to maintain a family-centered approach. A facility's women and children specialist reported that their facility needs additional funds to train staff in mental health crisis situations because of the high co-occurrence of substance use and mental health challenges among clients: "*I think a lot more* [mental health] *training would help too as far as communication, how we communicate and deal with those who are not only suffering from substance use abuse but also* [from] *mental health… if you don't have the skills, the training to be able to de-escalate situations like that, then someone* [could] *either get hurt or the client leaves.*"

Lastly, many administrators and providers and pregnant and postpartum people recognized that facilities, especially smaller facilities and/or those that are family-owned and operated, have to diversify their revenue streams to ensure that their programs are sustainable. A facility manager noted that they have a nursery for clients' children, and this was one of their few income-generating services at the facility: "*We bill through our nursery that we have here. The only other income-generating position is our nursery because we can bill* [it] *out—all our clients are on some sort of state assistance for childcare, and we help get them connected to that So, we bill to the state.*" Not only was this beneficial to the facility, but it also helped keep families together, expand their reach, and facilitate program maintenance.

3.5. The importance of program adaptation

Many administrators and providers indicated that their family-centered program was adapted and implemented based on the needs of their communities. As noted by a facility administrator, some facilities were either the only one available within the community or the "*first treatment program in* [the] *county for women and children.*" Administrators and providers from one treatment facility indicated that community need drove FCSUT program adoption at that facility because the state required a certain number of FCSUT programs to qualify for expanded funding: "*That's how we got started. And we partnered really heavily with our county because they needed it in order to qualify for some of the expanded funding under our state's waiver. So, they helped us with the policies and procedures and implementing some of the paperwork.*"

Many pregnant and postpartum people reported that their treatment facilities often adapted programs to fit the needs of their clientele and to fill gaps in the community. A postpartum

person who had completed treatment said: "*At the* [community center], *there was a parenting class… And that parenting class had more to do with all age ranges, but at the house, when I was there, there was a lot of toddlers and infants, so they geared the study to what we needed at the time.*" Some administrators and providers also emphasized the importance of having staff who reflect the demographics of the clients they serve. For example, one facility administrator noted that they found having all-female counselors was important to their clients because many had a history of traumatic experiences with men:

> "Having a good match of treatment provider for the clients that you have. All of our counselors are female. And I think that that is actually a really important piece in delivering gender-specific treatment. Our women have had a lot of trauma at the hands of men. And our counselors are really relatable. And coincidentally, all of our counselors have lived experience and are in their own recovery. That's not a requirement for the position, but I think it does help."

Pregnant and postpartum people were also aware of the importance of continuously improving program adaptation to meet the needs of clients from different backgrounds. A postpartum person who had recently completed treatment stated: "*I think that they could've maybe integrated how cultural differences affect people in recovery, because it does make a difference. Mental health is not discussed among Black people as much as you would like for it to. And just, those are things people don't always consider.*" Many administrators and providers recognized that additional training and revisions to program content or services would help ensure that FCSUT is individualized and culturally appropriate. A facility's parent advocate and recovery coach said: "*We have done organization-wide training on* [cultural competency and gender identity] *and continue to do so to make sure that we're being inclusive. And so that's been the biggest one lately, and it's been really cool. We've had really good changes. And we ask the residents what they think could be improved, and we try out their suggestions… I think that's one thing that I love about this place most, it's everchanging and ever improving or trying to improve. Sometimes stuff don't work out, but they just keep going.*"

3.6. Gaps in service delivery

Several gaps in service delivery and areas of improvement for FCSUT were identified. Some pregnant and postpartum people reported that while their treatment facility took a family-centered approach by allowing children to join clients during treatment, they also felt that their entire family was not prioritized. A postpartum person who was currently in treatment reported: "*In my situation, it would just be nice to see my family again… It'd be great if they could do family counseling.*" Another postpartum person who recently completed treatment said they were not able to see their family during the start of treatment, and this was emotionally challenging for them: "[I] *didn't really get to see [my family in] the beginning. They didn't get to share that part, and I feel like the first 90 days in recovery is kind of the most important, where you need people to talk to.*"

Some pregnant and postpartum people also mentioned that their children needed more services tailored to their needs, such as therapy, medical services, and more childcare options. A pregnant person who completed treatment said: "*My children were not getting the*

proper medication [at the facility]. They were miserable. And I was getting yelled at for the children crying." In addition to children, several pregnant and post-partum people mentioned that their partner or spouse also needed SUD treatment. Some reported that they would have liked to undergo treatment together or would have liked for their partner or spouse to receive other types of family-centered services, like parent training. A post-partum person who completed treatment said: "*I watched [my partner] kind of get thrown to the wayside a lot And it affected us as a family to this day… But I felt like I got more help than he did, and I just wish that family services would be inclusive of the family more because he was kind of portrayed to be this monster in this whole process because he didn't force me to get clean.*"

In addition to more family involvement, some pregnant and post-partum people also mentioned that they would have preferred a longer treatment duration or to have their children be able to stay with them longer. A postpartum person who completed treatment said: "*I was only there for 30 days…But as far as parenting goes and learning about being a parent and including me with my son, I think they would have been helpful. I just wasn't there along enough, honestly.*" Conversely, pregnant and postpartum people from one facility reported that they were allowed to take as much time as they needed for treatment. These clients reported that they felt much more prepared for parenting after treatment and maintaining sobriety.

Some pregnant and postpartum people and administrators and providers noted that facilities often imposed burdensome requirements on clients to access services, such as mandated detoxification, engaging in medication-assisted treatment (MAT), and/or ambiguous and subjective intake requirements (e.g., scores on assessment tools that inform patient placement and treatment). A postpartum person who completed treatment said: "*The most difficult part for me was… I went from using drugs every day on the street, and then I was supposed to go to drug and alcohol* [detox center]. *And I had to be clean or sober for at least 24 hours to get put on this medically assisted treatment. So, that in itself was difficult to be out on the streets, using every day, and then just get clean.*" As a result of some of these intake requirements, some pregnant and postpartum people were not readily able to receive services. Many pregnant and postpartum people also noted that there is limited support for family-centered services such as detox facilities, even though that is often required to move into residential treatment.

4. Discussion

FCSUT approaches for pregnant and postpartum people have the potential to prevent the intergenerational transmission of ACEs (Centers for Disease Control and Prevention, 2019). Guided by two theoretical frameworks drawn from implementation science (i.e., CFIR and REAIM), the purpose of the current study was to use a mixed-methods approach to broadly answer two research questions: (1) What is the extent to which FCSUT approaches (including the extent services, supports, and interventions) are offered for pregnant and postpartum people seeking SUD treatment? and (2) How are FCSUT approaches for pregnant and postpartum people implemented? Findings from the quantitative survey of treatment facilities' provision of FCSUT services revealed that while most facilities offered

services related to substance use treatment and behavioral health (e.g., addiction/substance use treatment, treatment planning, intake and assessment, connection to community resources, planning for aftercare, group support services, recovery support services, and mental and behavioral health treatment) and parenting skills development or parent training, a smaller proportion of facilities offered services related to prenatal and postpartum health, sexual and reproductive health, and family-related services (e.g., childcare, residential beds for children, HIV/STI services, and family planning services). Additionally, qualitative in-depth interviews with program administrators and providers and pregnant and postpartum people who had participated in FCSUT programs revealed major themes around expanding reach of facilities by highlighting how FCSUT helps maintain participants' familial connections, resources for implementation and maintenance of FCSUT, the importance of program adaptation, and gaps in service delivery. While many pregnant and postpartum people expressed positive experiences with FCSUT, findings indicate several areas in which improvements can be made to facilitate future progress in provision of FCSUT.

While many pregnant and postpartum people shared that the opportunity to remain united with their children removed a barrier to accessing SUD treatment, other barriers to accessing treatment were identified. We found that one half of the facilities surveyed impose requirements that potential clients must meet before they begin treatment. In-depth interviews suggest that pregnant and postpartum people are prioritized when facilities have an opening. However, some pregnant and postpartum people expressed that these strict requirements, such as detoxing before beginning treatment at the facility, acted as additional barriers to their access to treatment. While achieving detoxification from physically dependent substances is thought to be an important first step of the rehabilitation process (Center for Substance Abuse Treatment, 2006), these requirements may be especially difficult for pregnant and postpartum people for the same reasons that warrant FCSUT, such as not being able to bring their children to a detoxification center.

Results from the survey also indicated that there is a lack of standardization across the types of services offered at different FCSUT facilities. Qualitative interviews dove deeper into these findings to reveal that funding, or lack thereof, often dictated what types of services can be offered due to the staff and training needed to provide such services. While standardization of services across facilities may offer benefits (i.e., greater flexibility for clients seeking treatment, increased evaluation opportunities, and ensuring clients across the country are receiving the same quality of care), both administrators and providers and pregnant and postpartum people conveyed the importance of adapting treatment to meet clients' unique needs. They also spoke about the benefits of providing treatment and services that were sensitive to different cultural backgrounds, such as employing facility staff that mirror the client population (i.e., by race/ethnicity and gender identity) and providing staff with opportunities to increase cultural competency. Cultural background may factor into how different groups respond to treatment approaches (Taylor, 2003). Therefore, FCSUT facilities may need to continually adapt treatment using culturally informed and best evidence approaches to meet the needs of their clientele.

Another major service gap was the limited involvement of male partners and other family members for some clients seeking treatment at FCSUT facilities. In many qualitative

interviews, pregnant and postpartum people expressed a desire to have the father of their children be further included in their treatment program, either because their partner needed treatment for SUD, or they felt their partner could benefit from the skills taught at the FCSUT facility. The goal of FCSUT is to provide a whole family approach to SUD treatment without solely focusing on pregnant and postpartum people and their children. It is advised to involve all family members, including fathers or other parents, and older children, in FCSUT treatment as doing so creates an enhanced support system for pregnant and postpartum people after leaving treatment facilities and teaches families coping skills to create a healthy family system (Werner et al., 2007). However, it should be noted that in cases of abuse, pregnant and postpartum people may need to be provided the opportunity to seek treatment at women-only facilities.

4.1. Limitations

We used a mixed-methods study design to understand the implementation of FCSUT for pregnant and postpartum people. For the quantitative survey, we drew a random sample of 400 facilities to survey and were able to reach 365 facilities (91 %). However, only 118 facilities responded to the survey (32 % response rate). As a result, the reliability and validity of the quantitative study results may be limited. We did employ survey weights to correct for nonresponse bias and ensure results reflect the study population. In addition, the survey was cross-sectional, and we cannot determine any temporal relationships between the facility characteristics assessed. Our goal, however, was to describe the breadth of available services offered to pregnant and postpartum people receiving treatment at FCSUT facilities. Study findings are not generalizable to facilities beyond this study sample or to facilities that do not offer FCSUT.

Regarding the qualitative in-depth interviews, the generalizability of study findings is limited to our study sample, and we are unable to make inferences about patterns in the study setting or in facilities across the entire United States. However, we were able to recruit a mix of pregnant and postpartum people who were currently receiving treatment or recently completed treatment. Our study findings provide a unique insight into the implementation of FCSUT programs from both clients and providers. Further research with larger and more diverse samples of pregnancy and postpartum people, as well as administrators and providers, could provide data on implementation gaps of FCSUT in the United States.

4.2. Conclusions

Pregnant and postpartum people with substance use disorder face a number of structural barriers to accessing treatment and other services (e.g., criminalization of substance use during pregnancy, stigma, lack of or inadequate health insurance coverage, limited and inequitable access to services and providers in local communities). Inequitable access to FCSUT for pregnant and postpartum people may contribute to increasing rates of prenatal substance exposure and potential exposure to ACEs among children. This formative research aimed to ultimately improve broader implementation and sustainability of FCSUT approaches for pregnant and postpartum people due to its potential to disrupt the intergenerational transmission of ACEs.

The results from this mixed methods study indicate that there are a wide range of services offered at FCSUT facilities across the United States, and implementation of FCSUT centered around four major themes (1) expanding reach of facilities by maintaining participants' familial connections, (2) resources for implementation and maintenance of FCSUT, (3) the importance of program adaptation, and (4) gaps in service delivery. Findings suggest FCSUT programs include transparently communicating requirements with pregnant and postpartum people before beginning treatment and expectations while residing at the facility. Findings also suggest that FCSUT facilities may choose to prioritize evaluating their services and service delivery to ensure they are meeting the diverse needs of their clients. Finally, FCSUT facilities may prioritize a whole family approach when possible, including fathers and other caregivers in treatment, family counseling, and skills-based parenting classes. FCSUT programs may be a promising approach to preventing ACEs (CDC, 2019). The findings from this study are intended to highlight the implementation of FCSUT approaches for pregnant and postpartum people across the United States with the aim of informing the prevention of intergenerational transmission of ACEs and ACEs exposure for children of pregnant and postpartum people.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Characteristics of facilities who responded to survey.

	Frequency	Weighted percentage	Number of responses
Respondent's professional role at Facility[a]			118
Administrator	94	80.8	
Practitioner and/or Health Care or Human Services Provider	21	21.3	
Logistics Coordinator	5	4.29	
Other	14	10.7	
Services offered at facility[a]			
Facility services			
Intake and assessment	111	98.7	114
Crisis assessments	98	86.8	113
Residential treatment	81	66.4	113
Planning for aftercare	109	96.8	113
Substance use treatment services			
Addiction/substance use treatment	112	99.6	113
Withdrawal management (detoxification)	34	28.1	113
Recovery support services (e. g., mutual help groups)	107	93.4	113
Medication-assisted treatment	77	66.5	113
Treatment planning	112	99.6	113
Prenatal and postpartum health services			
Prenatal Care Services	49	42.1	113
Postnatal or Postpartum Care Services	48	40.4	113
Lactation Support Services	31	25.3	113
Parenting skills development or parent training	100	90.0	113
Childcare	68	59.2	113
Residential Beds for Children	63	52.2	113
Sexual and reproductive health services			
Family planning services	56	46.8	113
HIV/STI testing, counseling, and education	77	64.6	113
Behavioral Health Services			
Mental and behavioral health treatment	106	92.2	113
Family and Couples Counseling	81	68.8	113
Group support services and counseling	108	94.7	113
Social Services			
Social welfare case management	80	71.8	112
Housing support	84	73.3	113
Court advocacy	80	72.1	113
Financial benefit support	58	51.3	113
Connection to community resources	111	98.4	113
Other Services			

	Frequency	Weighted percentage	Number of responses
Primary Care Services	44	36.2	113
Domestic Violence/	74	62.8	113
Interpersonal Violence Related Services and Counseling			
Other Programs that Protect and Promote Health and Wellbeing	79	68.9	113
Gender-Specific Care	95	83.4	113
Other health services	21	19.5	110
Length of time FCSUT offered at facility			112
Less than 1 year	19	15.5	
1–5 years	19	19.6	
More than 5 years	74	64.9	
Number of PPP served annually			110
1–25	57	55.2	
26–50	20	14.5	
51–75	6	4.6	
76–100	7	7.0	
More than 100	20	18.7	
PPP must meet requirements to access services			112
Yes	64	56.5	
No	40	35.7	
Not sure	8	7.9	

Note: Not all percentages add up to 100 % due to rounding. Weighted percentages were used to minimize nonresponse bias; survey weights created using iterative proportional fitting.

Abbreviations: FCSUT = Family-centered substance use treatment; PPP = pregnant and postpartum people.

[a]Participants were instructed to respond to all options that apply.

Table 2

Sociodemographic characteristics of pregnant and postpartum people and administrators and providers who participated in the in-depth interviews.

	Pregnant and postpartum people (*n* = 27)		Administrators and providers (*n* = 26)	
	Frequency	**Percent**	**Frequency**	**Percent**
Age				
18–24 years	0	0	2	7.7
25–34 years	11	40.7	4	15.4
35–44 years	16	59.2	9	34.6
45–50 years	0	0	4	15.4
51 years and older	0	0	7	26.9
Gender Identity				
Female	26	96.3	25	96.2
Male	0	0	1	3.9
None of these	1	3.7	0	0
Race[a]				
White	22	81.5	20	76.9
Black or African American	5	18.5	4	15.4
Asian	2	7.4	1	3.9
American Indian or Alaska Native	4	14.8	2	7.7
Native Hawaiian or Other Pacific Islander	3	11.1	0	0
Other race	1	3.7	0	0
Prefer not to answer	1	3.7	1	3.9
Ethnicity				
Hispanic or Latino	5	18.5	5	19.2
Not Hispanic or Latino	21	77.8	20	76.9
Prefer not to answer	1	3.7	1	3.9
Participants				
Currently receiving services	14	51.9	–	–
Previously received services	13	48.1	–	–
Supervises/manages programs	–	–	9	34.6
Provides health care services	–	–	11	42.3
Provides other services	–	–	6	23.1

Gender Identity was determined using respondents' answers to “Do you currently describe yourself as male, female, or transgender?” Response options included male, female, transgender, or none of these.

[a]Note: Participants could select multiple options. Accordingly, percentages do not sum to 100 %.