Introduction

This evidence summary seeks to address the following questions relating to perinatal and addiction mental health support:

*What is the effectiveness of mental health interventions for either perinatal or addiction support? What are the crossovers between the two?*

About the evidence presented below

The evidence presented below is focused on clinical trials and studies which evaluate the effectiveness of certain mental support methods.

Accessing resources

We have provided links to the materials referenced in the summary. Some materials are paywalled, which means they are published in academic journals and are only available with a subscription. Some of these are available through the [The Knowledge Network](#) with an NHS Scotland OpenAthens username. The Knowledge Network offers accounts to everyone who helps provide health and social care in Scotland in conjunction with the NHS and Scottish Local Authorities, including many in the third and independent sectors. [You can register here](#). Where resources are identified as ‘available through document delivery’, these have been provided to the original enquirer and may be requested through NHS Scotland’s [fetch item service](#) (subject to eligibility).

Where possible we identify where evidence is published open access, which means the author has chosen to publish their work in a way that makes it freely available to the public. Some are identified as author repository copies, manuscripts, or other copies, which means the author has made a version of the otherwise paywalled publication available to the public. Other referenced sources are pdfs and websites that are available publicly.
Background

Overall the literature has shown that perinatal and infant mental health and addiction needs are recognised internationally. A collaborative and integrated care approach is required in order to identify problems and offer interventions early, reducing morbidity and mortality, and improving health and social outcomes for mothers, infants and their families.

Evidence

Articles


This article explores perinatal health care professionals’ perspectives on barriers and facilitators to addressing perinatal depression. This study starts from the premise that perinatal depression is common and has a range of negative effects on mother, foetus, child and family. Barriers for families accessing services persist, and depression remains under-diagnosed and under-treated.

This study conducted four 90-minute focus groups with perinatal health care professionals, including obstetric residents and attending physicians, licensed independent practitioners, nurses, patient care assistants, social workers and administrative support staff.

They found that there are a range of barriers and facilitators to addressing perinatal depression at patient, provider and system-level. Provider-level
barriers included lack of resources, skills and confidence needed to diagnose, refer and treat perinatal depression. Limited access to mental health care and resources were identified as system-level barriers. Facilitators identified included targeted training for perinatal health care professionals’, structured screening and referral processes, and enhanced support and guidance from mental health providers.

This study argues that there is a complex set of interactions between women and perinatal health care professionals which contributes to perinatal depression being untreated. Service gaps could be closed by addressing identified barriers through integrated obstetric and depression care and enhanced collaborations. Future intervention testing could include targeted training, improved access, and mental health provider support to empower perinatal health care professionals’ to address perinatal depression, and thereby improve delivery of depression treatment in obstetric settings. This study highlights the need for better practitioner training.


Substance use and addiction constitute a prominent factor contributing to families becoming engaged in the child welfare system. In this study, nine key informants, four supervisors and five front line staff, from five different child welfare organizations across Ontario, Canada provide insight into the training they have received during their careers and what additional training they would value to enhance their ability to deal with this issue. The importance of this was highlighted as the majority of service users on participants’ caseloads were reported to have addiction issues. Study participants also reported that the training they had received from their organizations did not fully prepare them to work with this issue that was so prominent in their clients’ lives. All nine key informants indicated that they
required additional training and education to better meet the primary mandate of child welfare: to keep children safe.


The importance of comprehensive, coordinated, and individualized service provided by an interdisciplinary team of professionals who are supportive, nonjudgmental, and nurturing has been widely acknowledged.

This article provides an evaluation of the New Choices program. The New Choices program is an example of a centralized, multi-sector approach to service delivery in a large urban centre in Ontario, Canada, that offers one-stop shopping for women with substance use issues who are pregnant and/or parenting young children. The program components include addiction groups and counselling, nutrition counselling and skill development, parenting education, peer support, and an enriched children's program. In addition, it provides linkages with prenatal services, a family physician, a perinatal home visiting program, and other services as appropriate.

As part of evaluating this program, interviews were conducted with women participants to gain insight into their experiences in New Choices and perceptions of any changes attributed to program involvement. Perceived benefits included decreased substance use, improved maternal health, enhanced opportunity for employment, increased access to other resources, enhanced parenting skills, and improved child behaviour and development. Women highly valued the comprehensive and centralized approach to service delivery that provided a range of informal and formal supports.

This is a qualitative meta-synthesis conducted to provide insight into the processes that contribute to recovery in integrated programs and women's perceptions of benefits for themselves and their children.

This review found that across various studies, women experienced a number of favourable outcomes. These included: development of a sense of self; development of personal agency; giving and receiving of social support; engagement with program staff; self-disclosure of challenges, feelings, and past experiences; recognizing patterns of destructive behaviour; and goal setting. A final process, the motivating presence of children, sustained women in their recovery journeys. Perceived outcomes included benefits for maternal and child well-being, and enhanced parenting capacity.

Below is discussion of most common mental health interventions for perinatal and addiction mental health.

**Most common interventions**

Perinatal and substance abuse treatment interventions can be grouped into either pharmacological or psychosocial methods.

Psychosocial and behavioral interventions are already utilized to treat substance use disorders across substances and populations. The majority of evidence-based treatments that were found by this review for prenatal substance use include: motivational interviewing and motivational enhancement therapy, cognitive-behavioral therapies, contingency management, and community reinforcement approaches.
Motivational interviewing based (MIB) techniques are cognitive-behavioural interventions that are standardized and reproducible. They are based on motivational interviewing, a concept initially developed for the treatment of alcohol addiction (Miller 2003). It is a counselling style which aims to encourage behaviour change by helping individuals explore and resolve the ambivalence surrounding their substance use (Rollnick 1995).

Another common used intervention for substance abuse is contingency management (CM) (Haug et al 2014). CM treatments are based on the principle of positive reinforcement as a means of triggering behaviour change. There are different methods of CM reinforcement including low value cash incentives, voucher incentives, prize-draw methods and clinic privileges. A typical example of a CM programme would be supermarket vouchers awarded to service users receiving methadone maintenance treatment for provision of drug-free urine samples (Haug et al 2014).

Over the last decade, the clinical evidence demonstrating CM efficacy in reinforcing drug abstinence has been established (for a good summary see Sitzer 2006). CM has not been routinely implemented into services in the United Kingdom (UK), however it has been implemented and evaluated in the United States. Studies have reported a number of barriers to implementation including reservations from staff around increased workloads, ethical considerations and potential damage to staff-client relationships (SSA 2019).

Below is an overview of some of the evidence on these current mental health interventions for perinatal drug use.


https://doi.org/10.1007/s11469-019-00205-y
This article describes a new prenatal psychosocial intervention developed for substance-abusing pregnant women in a hospital setting in public healthcare in Finland. The intervention presented here included two main elements. The aim of the intervention was to enhance the substance-abusing mothers’ curiosity toward the personality and development of the baby. The two elements described are (a) interactive use of ultrasound imaging, a simplified version of the ultrasound consultation; and (b) a new pregnancy diary, both strengthened with a mentalization focus. This intervention was focused on improving attachment, depression and anxiety among women with substance use problems.

The participants were 90 pregnant women referred to obstetric outpatient care due to recent or current substance use and randomized into intervention (n = 46) and control (n = 44) groups. The intervention was expected to help the mother to think of the fetus as a separate person, enhance maternal–fetal attachment, and increase the mother’s motivation to take better care of her own health.

Overall, the intervention presented here did not lead to significant improvements to attachment, depression and anxiety issues. The negative findings could be explained by the small sample size, the use of only self-report measures in the outcome assessment, or insufficient effect of the intervention on prenatal depression, anxiety, and parenting within this very high-risk group of pregnant women.


This article explores several psychosocial treatments for substance abuse among pregnant women. The authors argue that women who abuse tobacco, alcohol, and illicit substances during pregnancy are best served by
comprehensive substance abuse treatment services to address their complex psychosocial needs and comorbid mental health conditions.

This study especially considers those treatments that address the behavioral effects of substance abuse during pregnancy, such as interpersonal difficulties, occupational challenges, or social functioning, limited coping skills, poor self-care and inadequate nutrition, lack of early and regular prenatal care, family dysfunction and compromised parent-infant bonding.

The treatment methods considered aim to address mental health issues, including trauma history, and reduce exposure to dangerous situations associated with drug culture involvement, including criminal activity; sexual, physical, and emotional abuse, violence and sexually transmitted diseases. Below are some examples of treatments delivered in the community (as opposed to a clinical setting) and their effectiveness.

A common treatment used for addiction is counselling. It is typically used to enhance motivation to quit, problem-solving, and coping skills.

Counselling is often delivered in person by a range of providers, by telephone, through interactive computer programs, or audiovisual equipment.

It may happen as a brief intervention (eg, <5 min) or more intensive treatment (ie, over multiple sessions).

The authors deem counselling to be more effective to support women in quitting smoking during pregnancy, particularly when combined with other strategies.

This article argues it is unclear whether a particular type of counseling is more effective than others. Moreover, increasing intervention intensity does not correspond to an increased effectiveness among pregnant tobacco users.

Another common method reviewed here and also considered above is motivational interviewing. Nonetheless, motivational interviewing (MI) research with pregnant women has led to mix results. In 1 small-scale study a
1-hour MI session involving empathetic, person centered feedback was associated with a reduction in alcohol drinking by pregnant women who had the highest blood alcohol concentrations during early pregnancy compared with women who received informational letters only.

In contrast, a 30-minute MI session focused on establishing empathy, developing discrepancy, rolling with resistance, and supporting self-efficacy was not effective in decreasing prenatal drinking. Moreover, MI interventions have not been associated with behavior change in low-income pregnant women who smoke or abuse illicit drugs.

Another study (Yonkers et al 2012) concluded that motivational enhancement therapy (MET) plus cognitive-behavioral therapy (CBT) had similar results to brief advice alone in reducing use of illicit drugs and alcohol among perinatal women recruited from prenatal sites. These investigators suggested that brief advice is efficient and can be easily integrated with prenatal care, whereas MET and CBT may be more suited for chronic and severe substance abuse.

More widely, **contingency management** (CM) approaches (also known as motivational incentives) have been effective for improving retention and drug abstinence among substance abusers in treatment.

CM is particularly relevant during a time limited period such as pregnancy, when a positive response to the intervention has substantial impacts on maternal and infant outcomes.

CM interventions have consistently been shown to improve retention in drug abuse treatment and access to prenatal services for pregnant women, however, more current reports have generally found CM does not impact on substance use outcomes.

Nonetheless, a recent randomized clinical trial of CM versus a noncontingent voucher control did find higher rates of cocaine-negative urine tests and longer duration of cocaine abstinence among pregnant and postpartum women who received CM treatment. The cost of CM programs makes clinical
application challenging in community based treatment clinics. Moreover, stigma and related negative public perceptions of paying women to abstain from substance use during pregnancy are often difficult to overcome.

Another common treatment described in this article is the **Twelve Step Facilitation (TSF)**. TSF is a manualized, structured approach based on the 12 steps of AA with emphasis on steps 1–5. It is predicated on the theory of addiction as a spiritual and medical disease. Goals are abstinence and commitment to participation in AA. TSF does not seem to be superior to other evidence-based outpatient treatment approaches in pregnant cocaine-dependent women.

Another approach is **CBT**. Based on principles of social learning theory, alcohol and drug use are treated through CBT as maladaptive coping strategies. CBT addresses a broad spectrum of problems (eg, interpersonal, intrapersonal anger, depression). It focuses on skill deficits and increasing coping ability in high-risk situations. Related approach integrates cognitive-behavioral, motivational interviewing, and relapse prevention techniques in a group context. There is however little evidence of CBT in pregnant substance abusing women, but CBT is widely used among other female populations, including pregnant women with depression.

**Behavioural Couples Therapy (BCT)** is designed for married or cohabitating couples seeking treatment of substance abuse. Goals are to decrease substance use, build support for abstinence, and improve relationship functioning. It includes a recovery contract between partners and therapist.

In women, BCT decreases alcohol and drug use and increases marital happiness compared with IT. Women with worse relationship functioning at baseline improved more in BCT compared with IT. Rates of intimate partner violence also declined for women in BCT; the decline persisted for 2 y. However, the authors claim that BCT has not been tested in pregnant substance abusing women.
This study compares the use of motivational enhancement therapy or motivational interviewing with cognitive behavioral therapy (MET-CBT) alongside brief advice for treatment of substance use in pregnancy. They enrolled 168 substance-using women who had not yet completed an estimated 28 weeks of pregnancy. Obstetrical clinicians provided brief advice, and study nurses administered manualized MET-CBT. The primary outcome was the percentage of days in the prior 28 days in which alcohol and/or drugs were used immediately before and 3 months post delivery.

Individual behavioral therapy that combined MET and CBT (MET-CBT) was adapted from existing manuals into six sessions that could be delivered in conjunction with prenatal and immediate postnatal care visits. The content included motivational enhancement, functional analysis, safe sexual behavior, communication skills, relapse prevention and problem-solving skills. Research nurse therapists had the flexibility to offer additional sessions or to repeat topics if there were time and need. Each session lasted approximately 30 min.

Brief advice was a manualized version of standard interventions offered by obstetrical doctors and nurses. The manual provided guidance on the risks of substance use, the importance of abstinence, and the benefit of seeking drug and alcohol treatment outside of the prenatal setting. Brief advice was administered by the participant's obstetrical provider and typically lasted around 1 min.

In this randomized controlled trial of MET-CBT versus brief advice integrated with prenatal care visits, substance use decreased significantly across groups and rebounded after delivery, with no significant differences in abstinence rates or days of substance use between groups. For women with an abuse or
dependence diagnosis, there was a trend toward cutting down in the MET-CBT group and quitting in the brief advice group. There was also a trend toward a reduction on preterm birth for MET-CBT participants as compared to those in the brief advice group.


This study describes an intervention that includes components of motivational interviewing and cognitive therapy. In a pilot study conducted in 2006–2007, five non-behavioral health clinicians were trained to provide the treatment to 14 women. Therapy was administered concurrent with routine prenatal care at inner-city maternal health clinics in New Haven and Bridgeport, Connecticut, small urban cities in the USA. Substance use was monitored by self report, and urine and breath tests.

MI and CBT for substance misuse were simplified and combined into one-on-one, 30-minute “skills training sessions” that primary healthcare personnel could be trained to deliver to their pregnant patients.

One key skill was taught during each 30-minute session. Sessions followed a 10-10-10 rule that included 10 min for review of homework or activities from the prior session, 10 min for the main skill training of the session, and 10 min to assign homework and introduce the topic for the next session. Although there is a suggested sequence to the topics, therapists are taught that they may modify the order of sessions or repeat them, as clinically warranted.

Fourteen subjects provided consent and voluntarily participated in this pilot.

This pilot found that a behavioral treatment can promote a reduction in hazardous substance use in pregnant women. On average, the days of drug use during the preceding month decreased by nearly half at endpoint. This occurred despite the fact that pilot subjects on average only received 4 sessions of the intended 6- session protocol. However, interpreting results from this pilot are limited by the small number of women, the generally low
degree of substance use in our sample and the lack of a comparison condition.


Milagro and FOCUS are two New Mexico programs that provide comprehensive, coordinated care, including medication-assisted treatment, to former users of prenatal substances during pregnancy (in the Milagro Program) and for three years post-birth (in the FOCUS Program). This mixed methods study explored the lived experiences of women from this complex, high-risk population, using a high-engagement sample of women who utilized services at both Milagro and FOCUS. Twenty-four former opioid users ages 25 to 42, with children ages 3 months to 35 months, were interviewed about their experiences of substance use, treatment services, and motherhood.

All participants reported having positive interpersonal support from the Milagro and FOCUS programs. This study suggests that comprehensive, coordinated care from pregnancy through toddlerhood that fosters strong therapeutic alliances between providers and patients, can effectively engage women in this population and help sustain both sobriety and well-being. Suggestions for future research, such as exploring the potentially critical role of therapeutic relationships in the engagement process for this substance-using population, are offered.


This paper reports on a study designed to explore factors contributing to better outcomes for substance abusing pregnant and parenting women in residential treatment, and, as a result, contribute to better outcomes for their children. The setting was three live-in units focusing on supporting both
abstinence from substances and mother-child relationships. Participants were 18 mother-baby pairs in treatment from perinatal phase to 4 months of child’s age. Pilot results demonstrated more sensitive maternal interaction tended to be associated with higher pre-and postnatal reflective functioning and better child developmental scores at 4 months of child’s age. Reflective functioning (RF) refers to the essential human capacity to understand behavior in light of underlying mental states and intentions. An indicated conclusion is that enhancement of maternal reflective ability seems an important focus in developing the content and effectiveness of interventions for substance abusing mothers.


The purpose of this scoping study was to review the research literature on parenting programs for Indigenous families impacted by substance use in Australia, Canada, New Zealand, and the USA. Overall, the scoping study identified limited research on parenting interventions for Indigenous families affected by substance use. However, preliminary evidence suggests that culturally safe, strengths-based interventions have the potential to support parenting, health, and wellness outcomes. Key mechanisms contributing to positive outcomes found in the scoping study were: (1) self-determination of parents, families, and communities; (2) connection to culture and traditional values; (3) healing from intergenerational, historical, and lifetime trauma; (4) building trust through cultural safety; and (5) pregnancy as a critical period to offer substance use treatment.
Evidence reviews:

Terplan, Ramanadhan et al (2016), Psychosocial interventions for pregnant women in outpatient illicit drug treatment programs compared to other interventions

This is an overall review which focuses only on psychosocial interventions like motivational interviewing and contingency management. It aims to assess the effectiveness of psychosocial interventions for women enrolled in outpatient illicit drug treatment and to evaluate the effect of such interventions on increasing maternal and neonatal abstinence, and/or improving attendance and retention. It is a robust piece of evidence that measures the success of the methods against specific outcomes and markers: birth and neonatal outcomes:

- Preterm birth (gestational age at birth <37 weeks)
- Low birth weight
- Length of time spent in hospital post delivery
- Maternal toxicology
- Maternal self-reported drug use
- Neonatal toxicology at delivery
- Attendance and retention in treatment, as well as
- Maternal and neonatal drug abstinence.

This Cochrane review argues that the benefits of contingency management interventions on drug abstinence are not as profound in pregnant women as in the general population of people in drug treatment. Motivational interviewing methods in contradiction also do not have consistent effects on subsequent abstinence (Miller 2003) in drug treatment.
In conclusion, psychosocial interventions when taken in the presence of other comprehensive care options do not translate into better neonatal or obstetrical outcomes, nor are they associated with greater illicit drug abstinence or increased treatment retention among pregnant women.

The included trials rarely captured maternal and neonatal outcomes and there was no data on cost benefit. Though psychosocial interventions were found to reduce days neonates were hospitalized after delivery, it is unclear if this observation is reflective of real effect or delivery practices. Therefore, there is insufficient evidence to evaluate the effect of psychosocial interventions on birth or neonatal outcomes among pregnant women in treatment. Overall, the current quality of evidence was low to moderate and future studies should measure these outcomes systematically.


This article describes several psychosocial and behavioral interventions used to address substance use and dependence during pregnancy like contingency management, motivational support and CBT interventions.

Psychosocial and behavioral interventions are seen to have particular value when providers and pregnant women are seeking to minimize drug exposures to the fetus. Numerous factors, including difficulty recruiting participants and the ethical challenges to conducting randomized controlled trials with women during pregnancy, have limited research in this area.

Although contingency management, motivational support, and cognitive behavioral interventions have been tested in individual and group settings, sample sizes have been small and findings have been modest at best. Outside of research, progress in psychosocial interventions for pregnant women using substances has been made on community fronts, particularly as treatment of substance dependence is being increasingly embedded into prenatal care.
Key points

The evidence found is often of a clinical nature and focuses on certain methods like motivational interviewing, contingency management and CBT. The evidence is ambiguous on the effectiveness of either method in relation to different outcomes.

The key takeaway points are that different methods aid different outcomes and that needs to be clearly established.

The focus is on women and addiction support and there is little evidence that considers a family perspective.

Several of the studies above stress that comprehensive care and support that fosters strong therapeutic relationships can have the best outcomes and can effectively engage women in this population and help sustain both sobriety and well-being.
References


Terplan, Ramanadhan et al (2016), Psychosocial interventions for pregnant women in outpatient illicit drug treatment programs compared to other interventions


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