NHS Health Scotland

Interventions to reduce illicit drug use during pregnancy (and in the postpartum period)

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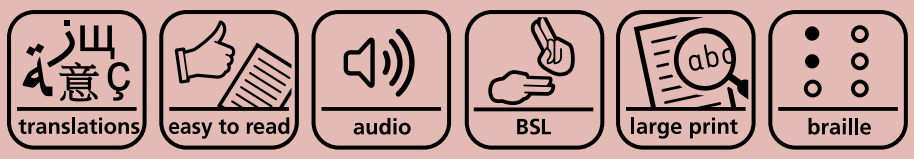

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About this briefing

This briefing aims to provide an update of the best available evidence from systematic reviews* or reviews of effective interventions to reduce drug misuse among pregnant women. It is based on a review of the evidence undertaken in 2015 and early 2016.

Key points

There is little robust evidence about the effectiveness of interventions to reduce illicit drug misuse among pregnant women or mothers in the early postpartum period. Most of the evidence comes from studies that have been carried out in the USA. Key findings indicate that:

- Pharmacological interventions: there is no significant difference between the effectiveness of methadone, buprenorphine or slow-release morphine in the treatment of pregnant women who are addicted to opiates.
- Psychosocial interventions: there is no significant difference in the treatment outcomes between psychosocial interventions compared to usual care.
- Brief intervention: there is limited but promising evidence about the effectiveness of brief interventions to reduce illicit drug use among postpartum women.
- Home visits: there is insufficient evidence to recommend the routine use of home visits in response to pregnant or postpartum women with an illicit drug problem.

* A systematic review is a complex and time-consuming approach for summarising the results of several carefully designed studies (i.e., controlled trials). As the authors pool together numerical data about the effects of interventions through a process called meta-analyses these reviews are extremely valuable. They also consider the evidence about the benefits and/or harm arising from specific interventions. In this way, systematic reviews summarise the existing research on a topic and the findings are often used to inform recommendations for healthcare policy and practice.

- Any intervention to address drug misuse during pregnancy needs to take into account other complex lifestyle factors and circumstances. These impact on pregnant and postpartum women and may therefore require multiple interventions.

Background

Illicit drug use (including cocaine, amphetamines, opioids and marijuana) during pregnancy has been associated with a wide range of adverse neonatal outcomes, including intrauterine growth restriction; preterm birth; lower birth weight; neonatal abstinence syndrome; fetal distress; neurocognitive delays and impairment, and drug misuse later in adolescence.[1, 2, 3]

During the postpartum period, illicit drug use is also associated with an increased risk of child neglect, violence exposure, physical abuse, and maternal mental health issues.[1]

All of the commonly used opiates, including heroin and methadone, can produce neonatal abstinence syndrome in infants born to opiate dependent mothers. Neonatal abstinence syndrome includes all of the symptoms of adult withdrawal syndrome in addition to irritability, poorly coordinated sucking and, in the most severe cases, seizures and death.[4] Furthermore, women who are injecting drugs are also at risk of infection including hepatitis C and HIV, with the potential for vertical transmission[*] to the infant.[3]

Mother–infant attachment and responsiveness is also compromised through drug misuse, with postnatal depression and domestic abuse further complicating the mother–infant relationship. Mothers subsequently tend to be reluctant to attend health facilities for education, medical treatment or social support.[3]

[*] Vertical transmission is defined as the passage of a disease-causing agent (pathogen) from mother to baby during the period immediately before and after birth. Transmission might occur across the placenta, in the breast milk, or through direct contact during or after birth.

Drug use in the Scottish general population

Similar to the rest of the UK and Europe, the illicit use of drugs – particularly opiates, benzodiazepines and psycho-stimulants – causes significant problems in Scotland. During 2014/15, drug use in Scotland was reported in 6% of all adults; however this increased to 18.8% among those aged 16 to 24 years of age.

The key issues with drug use are primarily social, such as increased criminal behaviour, prostitution, unemployment, family breakdown and homelessness. Other problems are more clearly associated with health issues, including the transmission of communicable diseases (such as HIV and hepatitis) and injecting-related injuries. Because the drug using population is hidden, prevalence figures can only ever be estimates. (See the Scottish Public Health Observatory (ScotPHO) drugs pages for more detail.)

Drug use among children has continuously declined since 1998. In 2013 approximately 9% of 15 year olds and 2% of 13 year olds reported having taken drugs in the last month, compared to 24% and 8% in 1998. The most commonly reported illicit drug use was cannabis, followed by stimulants, psychedelics, gas, glue or other solvents and opiates (See the Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS) report 2013 for more detail.)

Drug use during pregnancy

Illicit drug use among pregnant mothers in Scotland is very low and is declining. Only 1% of pregnancies recorded drug misuse in 2014/15, of which around 50% was opiate misuse. However, the rate of maternity bookings at which drug misuse was recorded varies considerably across Scotland, with almost a five-fold difference between some health board areas (See the ScotPHO drugs pages for more detail.)

In relation to deprivation, the rate of maternity bookings in 2014/15 during which drug misuse was recorded was six times higher in the most deprived category of social deprivation (22 per 1000 births) compared to the least deprived (3.5 per 1000 births).

With regard to birth outcomes, 80% of mothers for whom drug misuse during pregnancy was recorded had a full-term normal birth. This compared with 90% of all births. Thirteen per cent of births in which maternal drug misuse was recorded were pre-term births – almost double the percentage recorded among all births (7%).

The proportion of babies affected by maternal drug use (where the baby was affected by, or had withdrawal symptoms from, maternal use of drugs) was 6 per 1000 live births for the period 2012/13 and 2014/15. When compared to a similar aggregated rate of live births to mothers for whom drug misuse was recorded (13 per 1000 live births for the period 2012/13 and 2014/15), it can be seen that just under half of the babies for whom maternal drug misuse was recorded were affected by or had withdrawal symptoms as a result of maternal drug use.

Although the numbers of infants affected by maternal drug use seem relatively small, if we take account of the impact that drug misuse can have on the mother, her family and neonatal/child outcomes, the overall impact for the child and family could be considerable.

Effective evidence summary

Pharmacological interventions

Maintenance treatment for opiate dependent women with methadone and buprenorphine during pregnancy and in the postpartum period can provide a steady concentration of opiate in the pregnant woman's blood and can therefore help to prevent the adverse impact on the fetus of repeated substance withdrawal. These treatments also help to reduce illicit drug use, improve compliance with obstetric care and improve neonatal birth weight. Nonetheless, despite such treatments neonatal abstinence syndrome remains.[4]

Currently the evidence is still too limited to draw firm conclusions about whether methadone or buprenorphine treatment during pregnancy is the most effective. This highlights the need for more randomised controlled trials with adequate sample size to enable the comparison of different maintenance treatments.

Findings from one systematic review[4] found evidence of insufficient differences between methadone and buprenorphine or slow-release morphine to conclude that one treatment was superior over another in response to all relevant birth and neonatal outcomes. While methadone seems superior in relation to retaining patients in treatment programmes, buprenorphine seems to result in less severe neonatal abstinence syndrome.

Psychosocial interventions

Despite some evidence of effective psychosocial interventions in response to drug use among the general population, it is unclear whether psychosocial interventions are effective in response to drug use among pregnant women due to a lack of specific studies. Even where trials were conducted with

pregnant women, maternal and neonatal outcomes were rarely captured in the reporting of findings.

Evidence from one systematic review[2] compared contingency management (such as incentives and vouchers) and motivational interviewing-based interventions with a control group. The control group comprised usual care consisting of pharmacological treatment, such as methadone maintenance, counselling, prenatal care, sexually transmitted infection (STI) counselling and testing, the provision of transport to care provider, and/or childcare. Although few included studies reported on maternal and neonatal outcomes, no differences were observed in relation to pre-term birth, maternal toxicity at delivery, or low birth weight. However, the results showed that neonates remained in hospital for fewer days after delivery in the contingency management intervention groups.

Brief interventions

Among pregnant women, brief motivational interventions[*] have been shown to modestly improve smoking cessation rates[5] and alcohol abstinence[6]. However, few studies have examined the effect of brief interventions in response to illicit drug use during pregnancy or in the postpartum period.

Evidence from one review[1] found limited yet promising evidence of the benefit of brief interventions to reduce illicit drug use among postpartum women. Two of the four included randomised controlled trials tested similar computer-delivered single-session interventions but only one showed positive benefits in the intervention group in relation to their self-reported abstinence and toxicology screening at three and six months. Neither of the remaining randomised controlled trials that assessed specialised treatment use found differences between the intervention and control groups.

[*] Motivational interviewing is a directive, client-centred counselling style for eliciting behaviour change by helping clients to explore and resolve ambivalence.

Home visits

Home visits are one way of facilitating links between pregnant or new mothers and a particular service. Home visits can include pregnancy care, health surveillance and promotion, counselling, social support, education, facilitation of mother–infant interaction and the promotion of parenting as well as drug or alcohol services.

Evidence from one systematic review[3] found insufficient evidence to recommend the routine use of home visits for pregnant or postpartum women with a drug or alcohol problem.

Inequality and equality

There is clear evidence that illicit drug misuse during pregnancy is more prevalent among women living in deprived areas (six times higher) compared to women living in affluent areas. (See the ScotPHO drugs pages for more detail.) In view of other adverse lifestyle factors, such as alcohol or tobacco use, as well as economic instability and family relations, any drug misuse intervention needs to address a wide range of complex factors rather than taking a single approach to reduce or prevent drug misuse.

Based on Macintyre's framework of guiding principles for effective policies and interventions to address health inequalities for the 2008 Ministerial Task Force, interventions for problem drug users are assessed as most likely to have some impact on health inequalities, as they target a disadvantaged group and provide intensive support.[7]

Conclusion

Most of the evidence included in this briefing is relatively old and focused on populations in the USA, thereby limiting their relevance to a Scottish context. Few of the reviews highlight effective interventions. This may be partly due to the limited number of studies, the low quality and potential bias of included studies, as well as a lack of RCTs conducted with pregnant and postpartum women who have an illicit drug problem.

Given the complex and often chaotic lives illicit drug users experience, combined with pregnancy, it is unlikely that a single intervention will be effective in reducing their drug misuse. An integrated, person-centred approach is likely to be required to enable pregnant mothers to be drug-free.

Scottish policy links

The Road to Recovery: A New Approach to Tackling Scotland's drug problem (2008). The Scottish Government's 2008 national drugs strategy mainly focuses on recovery for drug users, but takes a wider, more holistic approach by looking at prevention, treatment and rehabilitation, education, enforcement and protection of children.
www.gov.scot/Resource/Doc/224480/0060586.pdf

Getting our priorities right (2013). This Scottish Government's guidance is to provide an updated good practice framework for all child and adult service practitioners working with vulnerable children and families affected by problematic parental alcohol and/or drug use. It has been updated in the particular context of the national GIRFEC approach and the Recovery Agendas, both of which have a focus on 'whole family' recovery.
www.gov.scot/Resource/0042/00420685.pdf

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