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PRACTICE POINTER

Alcohol, smoking, and other substance use in the perinatal period

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What you need to know

- Ask about substance use in all women who are pregnant or planning pregnancy
- Early brief interventions may be effective when delivered by non-specialists in primary care
- Support for women who use substances during pregnancy may involve liaison with other services such as midwifery and specialist drug and alcohol services

Case scenario

A 30 year old primiparous woman is delighted to find herself pregnant and comes to your surgery for confirmation of the pregnancy. You discover that she is smoking 20 cigarettes a day, and she is worried that she went to a friend's wedding around the time of conception and drank so much that she couldn't remember what had happened until the next day. She also reports occasional recreational use of cannabis.

Next steps

Advise her of the risks of smoking and of alcohol and cannabis use during pregnancy. The biggest risk for her pregnancy at present is her smoking.

Offer referral to a specialist pregnancy smoking cessation clinic.

Clarify with her how much cannabis and alcohol she is using. Brief intervention may be sufficient, but regular or heavy use of either substance may warrant referral to specialist drug and alcohol services.

Many women use substances during pregnancy. For example, the global prevalence of alcohol consumption during pregnancy is 9.8%.[1] Moreover, 10.4% of pregnant women in England were known to be smoking tobacco at the time of delivery.[2] Prevalence of cannabis use during pregnancy in a UK cohort has been reported as 5%[3] but is likely to increase over coming years.[4] Pregnancy may be a woman's first time engaging with health services and may be a motivator to stop or reduce her substance use.[5] In this article we offer an overview of assessment and interventions for substance use in the perinatal period. We focus on alcohol, tobacco, and cannabis use, as these are more commonly encountered by generalist clinicians.[6]

How this article was made

We reviewed relevant UK guidelines and papers from our reference libraries, in addition to reference searches on key papers. Our recommendations are based on these evidence based guidelines and the literature cited by them.

Exploring substance use in pregnancy

The World Health Organization recommend healthcare providers ask all pregnant women about substance use (past and present) as early as possible in pregnancy and at every antenatal visit.[7] When asked about substance use, a woman may feel unable to disclose this as she may feel judged or worry that her parenting ability will be questioned. Such inquiry is therefore best done by a professional who the woman trusts and with whom she has established a rapport, preferably in the preconception period.[8] Box 1 lists suggestions for what to ask in the consultation, such as type and quantity of substances used and impact on daily life, which is important to consider when evaluating risk.

Box 1: Questions to consider asking about substance use during pregnancy or in women planning a pregnancy

- *Ask permission*—"Is it OK if I ask you some questions about substance use that can affect pregnancy?"
- *Use third person*—"Health professionals are encouraged to ask all women in pregnancy about substance use. Is it OK if we explore this?"
- *Assess types and amounts of substances*—"What are you taking? How do you use it and how often? Are you using anything else? How much are you spending?"
- "Is your partner or anybody else in the family also using substances?"
- "What is your understanding of the impact of the substance use on you and your baby during pregnancy?"
- "Are you booked with maternity services and receiving antenatal care?"
- "Have you been referred to any other services such as a specialist addictions service? What are those services currently providing?"
- "Who is supporting you during pregnancy and after birth?"
- "Would you like to breastfeed?"

Ask about symptoms of anxiety and depression[9] and physical ill health. Consider the broader stressors occurring alongside substance use. Are there others in the family or household who are also using substances? Be aware that substance use can be associated with violence, abuse, and exploitation.[10] Histories in which there are high levels of social, medical, and psychological morbidity and polysubstance use may raise safeguarding concerns about risk for the mother, her unborn infant, and wider family.[11] Always explain conditions under which you may have to breach confidentiality,[12] and if you need to make a safeguarding referral, discuss this with the woman beforehand whenever possible and provide ongoing support.

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Managing substance use in pregnancy

Develop and agree a management plan in collaboration with the woman, based on a risk-benefit discussion informed by up-to-date evidence. The plan will differ with the type and level of substances used and local availability of services.

Brief interventions

Offer brief interventions early in pregnancy for women seeking to reduce or stop their substance use.[7] Brief interventions are short, structured interventions to encourage behaviour change. Box 2 suggests questions you might ask.[13] These include asking about current level of use and discussion with the woman about the potential risks of substance use and support available.

Box 2: Questions to ask in a brief intervention

- "What is your understanding of how the substances that you are using may affect your pregnancy and baby?"
  - This may be followed by giving information about risks in an empathetic and non-judgmental way
- "Have you thought about cutting down?"
  - This may be followed with discussion about perceived barriers to stopping or reducing substance use
- "Would you like more information about how we can support you with cutting down?"
  - This may be followed by further information about options for support, with an emphasis on individual responsibility for decision making
- Always end by instilling hope that the woman is capable of change

There is moderate quality evidence that brief intervention in primary care can reduce harmful or hazardous alcohol consumption by around a pint of beer (475 mL) or a third of a bottle of wine (250 mL) each week.[14] There is evidence for the effectiveness of interventions as brief as providing a patient information leaflet.[15] However, there is less evidence to support the use of brief interventions for other substances[16] and limited understanding of how this may translate to women in pregnancy.

Follow-up

After brief intervention, further contact with the woman may be required. This provides an opportunity to develop a relationship and further explore substance use. It is also allows women who are initially ambivalent about change to consider the information that you have given them at the initial contact,[17] although it is also important to emphasise the importance of stopping or reducing use as early in pregnancy as possible. Liaise with midwifery, who can also help in signposting to services such as smoking cessation and who sometimes have a specialist midwife for substance misuse. Refer to local substance use services if more extended psychological interventions are required.[18] Women who may benefit from referral to specialist drug and alcohol services are those who are dependent on substances such as alcohol and opioids (see box 3 for ICD criteria[19]), who require substitute prescribing, or who have complex comorbidities. These women may also benefit from perinatal psychiatry services if they are available.

Box 3: ICD-11 criteria for dependence[19]

For any substance, three or more of the following should have been present together at some time during the previous year.

- Strong desire or compulsion to take the substance
- Difficulty in controlling substance-taking behaviour, such as onset, termination, or levels of use
- Physiological withdrawal state when substance use is stopped or reduced (symptoms vary depending on the substance); may also be associated with use of the substance (or a closely related one) to relieve or avoid the withdrawal symptoms
- Tolerance, whereby increased doses of the substance are required to achieve effects originally produced by lower doses
- Neglect of alternative pleasures or interests other than the substance
- Persistence of substance use despite knowledge of its potential harms

UK Department of Health guidelines encourage breastfeeding, even in women who continue to misuse substances, except in those using cocaine or crack cocaine or high doses of benzodiazepines.[20] Aim to discuss breastfeeding intentions as early in pregnancy as possible, individualising the risk-benefit discussion to the specific substance use profile.

Alcohol

There is no known safe alcohol consumption level in pregnancy, so a conversation with a woman who is worried that she has drunk alcohol in early pregnancy can be challenging. Heavy drinking and binge drinking (≥8 units for men or ≥6 units for women on one occasion) in pregnancy is associated with an increased risk of prematurity and low birth weight[21 22] and a range of physical, behavioural, and learning problems, collectively known as fetal alcohol spectrum disorders. Neonates may also experience a withdrawal syndrome. However, it is important to emphasise that this is a dose-response relation[23] and that the association between lower levels of consumption (<4 units per week) and adverse outcomes is less clear.[24] Nonetheless, current advice from UK and Australian departments of health and the US Centres for Disease Control and Prevention (CDC) is to abstain completely from alcohol in pregnancy.[18 25 26]

Support pregnant women using alcohol to stop (ideally) or reduce their alcohol consumption.[20] There are several screening tools for use in the non-pregnant population, such as the three question AUDIT-C,[27] although there is limited evidence for its validity during pregnancy.[28 29]

For women dependent on alcohol, refer to a service that can support early detoxification,[7] ideally as an inpatient, with chlordiazepoxide as per usual protocol.[30] Advise against stopping drinking suddenly because of the risk of life threatening complications of alcohol withdrawal such as seizures. There are insufficient data on safety to support use of relapse prevention medication such as acamprosate, disulfiram, and naltrexone in pregnancy.[30] However, risks of relapse versus maintaining abstinence need to be weighed for each woman.

Tobacco

Smoking during pregnancy is associated with a range of adverse offspring outcomes, including reduced fetal growth.[31] It is also associated with an increased risk of miscarriage, prematurity, placental abruption, and stillbirth.[31] Provide information about the magnitude of the risk: in 2018 there were four stillbirths per total 1000 births in England and Wales.[32] Risk of stillbirth is estimated to increase by 47% in women who smoke during pregnancy,[33] increasing the baseline risk to almost six in 1000. A dose-response

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relation has been observed; the risk is increased by 9% in women who smoke nine or fewer cigarettes a day versus 52% in women who smoke 10 or more.[33]

Offer referral to all pregnant women currently smoking or who have stopped in the previous two weeks to specialist smoking cessation services.[34] There is moderate to high quality evidence from systematic reviews that psychosocial interventions improve rates of smoking cessation (by 35%) and subsequently reduce rates of low birth weight (by 17%).[35] NHS England advise that carbon monoxide testing be offered at antenatal booking and as required throughout pregnancy to identify women exposed to tobacco.[36] This may be conducted within a framework known as "Ask (smoking status), Advise (results of carbon monoxide screening), Act (refer to smoking cessation services)."[37] Consider alternatives that are likely to be safer than cigarettes, such as nicotine replacement therapy, within the context of an informed discussion with the woman.[37 38] Bupropion and varenicline are not indicated for smoking cessation in pregnant or breastfeeding women.[30]

Cannabis

Tetrahydrocannabinol, the main psychoactive component of cannabis, readily crosses the placental barrier.[39] Synthetic cannabinoid receptor agonists (SCRAs) such as "spice" are also potent stimulators of the endocannabinoid system, and their safety during pregnancy is unknown. Some observational studies have found an association between cannabis use and a range of adverse obstetric and neonatal outcomes and longer term adverse child neurobehavioural outcomes, but other studies have failed to confirm such an association.[40-43] Given this uncertainty, encourage women using cannabis in pregnancy to achieve complete abstinence.[30 44] Be aware of the potential for cannabis, when smoked with tobacco, to potentiate the adverse effects of both substances.[45]

Quantify how much cannabis is being used and consider a brief intervention for lighter use, but in cases of heavy use offer referral to specialist drug and alcohol services where more intensive psychosocial interventions may be offered. The questions in box 1 can help in determining whether cannabis plays a lesser or greater role in a woman's life.

Opioids in the perinatal period: key facts

- Use of opioids (street heroin and other prescribed and non-prescribed opiates) by the mother may lead to withdrawal in the fetus and/or overdose in the mother.[46] Other possible risks include those from injecting (such as infected injection sites and bloodborne viruses); the effects of comorbid alcohol, benzodiazepine, or stimulant use; poor diet and malnutrition; neglect of personal care; domestic violence; and poor engagement with obstetric services.
- Neonatal abstinence syndrome occurs in 70-95% of neonates exposed to opioids, including opioid substitute therapy during pregnancy.[46] Signs include a high pitched cry, rapid breathing, ineffective sucking, and excessive wakefulness.
- Methadone or buprenorphine (as per standard protocols) is prescribed at a dose that stops or minimises illicit opioid use, with a focus on maintaining stability.[7] Methadone dosing may need to be increased in the third trimester of pregnancy as its metabolism increases.[20] Consider split dosing to minimise fetal intoxication or withdrawal.[47] The choice of buprenorphine versus methadone should be individualised to the patient, and switching during pregnancy, particularly if use is well maintained, is discouraged.[7]
- Generally avoid opioid detoxification during pregnancy; relapse rates are high, and risks are greater from failed detoxification and relapse to illicit drug use than from opioid maintenance treatment.[7 30] However, in particularly stable women who choose detoxification, the second trimester is recommended.[20]
- Women may relapse after pregnancy. Warn them that they may have lost their tolerance and could overdose unexpectedly.
- If a child of an opioid using mother has been taken into care after birth, the woman may be at increased risk of suicide.[48]
- Opioid use, including methadone and buprenorphine, is not an absolute contraindication to breastfeeding.[20]

Benzodiazepines in the perinatal period: key facts

- Benzodiazepine use is often comorbid with other substance use[49] and may exacerbate the neonatal abstinence syndrome associated with opioid use during pregnancy. However, consider and ask about benzodiazepine use (including prescribed benzodiazepines) in all pregnant women.
- Evidence is conflicting regarding short and long term impacts of benzodiazepines on the developing infant.[50-53] "Floppy baby syndrome" (including poor muscle tone, hypothermia, lethargy, and breathing and feeding difficulties) has been reported in neonates exposed to benzodiazepines in utero. Make women aware of these potential risks, but such risks should be weighed against the necessity of benzodiazepines' short term use in, for example, alcohol detoxification.[7]
- WHO guidelines for benzodiazepine withdrawal recommend gradual dose reduction with long acting benzodiazepines at the lowest effective dose for as long as is required to manage withdrawal symptoms. Gradual taper will reduce these symptoms. Consider inpatient admission for benzodiazepine detoxification in pregnancy, given the risks of withdrawal such as seizures.[7]
- Benzodiazepines are transferred into breast milk; there is little concern about breastfeeding when taken at normal prescribed doses, but higher doses may lead to infant sedation, irritability, and withdrawal. As "normal prescribed doses" may vary internationally and guidelines do not specify, this advice should be applied with caution.[7]

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Stimulants in the perinatal period: key facts

- Stimulants such as cocaine, amphetamines, and mephedrone are all potent vasoconstrictors that can affect the developing fetus at any gestation, leading to the obstetric complications of placental abruption and premature rupture of membranes and a potentially increased risk for congenital anomalies, low birth weight, and preterm birth.[54 55] Advise women using stimulants of these risks and encourage them to stop completely.
- A neonatal withdrawal syndrome has been reported in some infants involving symptoms such as vomiting and restlessness.[56]
- Consider inpatient care in the management of stimulant withdrawal during pregnancy.[7] There are currently no clinically effective substitute or relapse prevention medications to treat stimulant dependence, making psychosocial interventions the mainstay of treatment.
- Women using stimulants should be advised not to breastfeed.[7]

How patients were involved in the creation of this article

One of the article's authors, CK, has lived experience of the topic. She was consulted throughout the article's production, including its conceptualisation and during the writing process, when she stressed the importance of asking all women about their substance use during pregnancy. She also emphasised the value of professionals discussing referrals to children's social care with the woman before the referral being made.

Education into practice

- How do you ask women attending your practice to report their pregnancy about their substance use?
- What training has your practice nurse received on giving smoking cessation advice to pregnant women?
- How many pregnant women attending your practice are smokers, and what proportion have been offered smoking cessation advice?

Further educational resources

- Royal College of Paediatrics and Child Health. Safeguarding—learning resources. https://www.rcpch.ac.uk/resources/safeguarding-learning-resources
- NCSCT. Smoking cessation: a briefing for midwifery staff. https://www.ncsct.co.uk/usr/pub/Midwifery_briefing_%20V3.pdf
- Smokefree Action Coalition. E-cigarettes in pregnancy. https://smokefreeaction.org.uk/wp-content/uploads/2019/09/ASH-ecig-infographic-A5_v6.pdf.
  - A patient infographic on E-cigarettes in pregnancy
- Royal College of Obstetricians and Gynaecologists. Alcohol and pregnancy. https://www.rcog.org.uk/en/patients/patient-leaflets/alcohol-and-pregnancy/
  - A patient information leaflet

Current guidelines

- UK Department of Health. Drug misuse and dependence: UK guidelines on clinical management. 2017. https://www.gov.uk/government/publications/drug-misuse-and-dependence-uk-guidelines-on-clinical-management
- British Association for Psychopharmacology. Consensus guidance on the use of psychotropic medication preconception, in pregnancy and postpartum 2017. https://www.bap.org.uk/pdfs/BAP_Guidelines-Perinatal.pdf
- World Health Organization. Guidelines for the identification and management of substance use and substance use disorders in pregnancy. 2014. https://www.who.int/substance_abuse/publications/pregnancy_guidelines/en/
- British Association for Psychopharmacology. Evidence-based guidelines for the pharmacological management of substance abuse, harmful use, addiction and comorbidity. 2012. https://www.bap.org.uk/pdfs/BAP_Guidelines-Addiction.pdf
- UK National Institute for Health and Care Excellence (NICE). Antenatal and postnatal mental health: clinical management and service guidance (clinical guideline CG192). 2018. https://www.nice.org.uk/guidance/CG192
- NICE. Pregnancy and complex social factors: a model for service provision for pregnant women with complex social factors (clinical guideline CG110). 2010. https://www.nice.org.uk/Guidance/CG110
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