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Practice Pointer

Alcohol, smoking and other substance use in the perinatal period

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Authors' contributions

CAW conceived the project and consulted with EF, CK and JS in devising the scope. CW drafted the initial manuscript and EF, CK and JS provided review and editing of the final version.

Conflicts of interest

Authors declare no competing interests.

Alcohol, smoking and other substance use in the perinatal period

Commented [tn1]: The 3rd point is too long and it's not clear what the take home message there is. I suggest choosing something else

Commented [WC2R1]: I have altered this.

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 the primary care setting.
- Support for women who use substances during pregnancy may involve liaison with other services such as midwifery and specialist drug and alcohol services.

Many women use substances during pregnancy. For example, global prevalence of alcohol use 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] and prevalence of cannabis use during pregnancy in a UK cohort has previously 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] Yet many clinicians feel ill equipped to advise women on their substance use during this period. 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 the generalist clinician[6]; we focus less on the more complex population engaging in polysubstance use.

Commented [tn3]: in the UK?

Commented [WC4R3]: Have added.

Exploring substance use in pregnancy

The World Health Organisation 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, the woman may feel able unable to disclose this as she may feel judged or worry that her parenting ability will be questioned. Therefore such enquiry is best done by a professional who the woman trusts and with whom she has established a rapport, preferably in the preconception period.[8] Suggestions for what to ask in the consultation are listed in Box 1. Such questions may include type and quantity of substances used and impact on daily life, which is important to consider when evaluating risk.

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] Such 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] if you need to make a safeguarding referral discuss this with the woman beforehand whenever possible and provide ongoing support.

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.

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 and Box 2 provides suggestions of questions to ask;[13] this includes enquiry by the clinician about current level of use and discussion with the woman about the potential risks of substance use and support available.

In primary care there is moderate quality evidence that brief intervention in harmful or hazardous drinkers can reduce 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 giving 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.

Following 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

Commented [tn5]: This paragraph is about what to ask next if the woman discloses substance use, but it feels like there's a chunk missing on the things you might ask/discuss once someone's disclosed substance use. Suggest you start with something about this, eg "Ask about the type and quantity of the substances used." Is there anything else you need to ask about that isn't here or in box 1. Eg have they wanted to cut down since becoming pregnant? Have they been able to? Would they like expert help? Etc. Then that would lead on nicely to considering broader stressors.

Commented [WC6R5]: Have restructured.

Commented [tn7]: What are these? (briefly)

Commented [WC8R7]: Expanded this sentence and added a reference to GMC GMP.

Commented [tn9]: I've divided this paragraph into 2 and suggest a new box: The GP reader wants to know: 1. How do I do this? (first paragraph and box) and 2. are they important enough to not talk about whatever else we were going to discuss in this 10-15 minute consultation (second paragraph)

Commented [WC10R9]: New box added.

Commented [tn11]: I think that for most GPs if they had a patient who disclosed substance use in pregnancy they would consider the pregnancy such an important flag that they'd feel uncomfortable only recommending brief advice within a consultation – or the leaflet mentioned below. Could you offer an answer to this here? Eg should you have a low threshold for offering referral and endeavour to offer the most support available? Or is there a lack of evidence to support that and within the limited resources available should GPs use a more step wise approach tailored to the individual?

Commented [WC12R11]: More discussion around next steps has been added.

Commented [tn13]: Do you want to specify here the population?: women with non-dependant substance use

Commented [tn14]: 1.I feel like you need to describe what these are in more detail here – to make the article more practical. Is this an intervention within the ...

Commented [WC15R14]: Box added.

Commented [tn16]: Another thing missing is some advice on what happens after the brief intervention – is there any follow up? Do you offer referral to those who want to stop ...

Commented [WC17R16]: Extra discussion added.

Commented [tn18]: Use this paragraph to summarise the evidence(the above one is to describe what they are). Given the huge body of evidence in this field I felt that ref 9 was ...

Commented [WC19R18]: Additional references added. Thank you.

Commented [tn20]: This could be potentially misinterpreted as 'just give everyone a leaflet'. This highlights to me that there must be different levels of ...

Commented [WC21R20]: More discussion added about next steps.

sometimes have a specialist midwife for substance misuse. If more extended interventions are required, referral to other services may be necessary. Women who may benefit from referral to specialist drug and alcohol services are those who are dependent on substances such as alcohol and opioids[18] (Box 3), who require substitute prescribing or who have complex comorbidities. A range of psychosocial interventions are available in specialist drug and alcohol services.[19] These women may also benefit from perinatal psychiatry services if they are available.

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 relationship[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 US Centres for Disease Control and Prevention (CDC) is to abstain completely from alcohol in pregnancy.[19 25 26]

Support pregnant women using alcohol to ideally stop or if not, reduce their alcohol consumption.[20] There are a number of 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 due to life-threatening complications of alcohol withdrawal,

Commented [tn22]: It's not really clear when this would be – dependant users are discussed below, so who are you referring to here? Should GPs follow up patients to see if they've been able to stop with their brief intervention?

Commented [WC23R22]: I hope the paragraph above helps with this.

Commented [tn24]: See comment above this one - What about the woman who wants to cut down or stop but who can't, even after your brief intervention? Should they be referred? Do UK specialist services offer this (is it in their contract?)

Commented [WC25R24]: Again more discussion added to paragraph above about this.

Commented [tn26]: Not clear who 'such' refers to – all who are dependant? Or do you mean those who have mental health problems in addition to drug/alcohol?

Commented [WC27R26]: Altered wording.

Commented [tn28]: Check – 6 units alcohol on one occasion associated with FASDs? It's incredibly common for people in early pregnancy to binge drink before they realise they are pregnant – is there are clear association even here? It's important that this statement doesn't over-generalise or imply that the risks are greater than they are (eg by combining outcomes for regular heavy drinkers with someone who had half a bottle of wine at 4 weeks pregnancy). However, if the risk is the same regardless of the consumption then that would be an important learning point.

Commented [WC29R28]: I have acknowledged this uncertainty a bit more.

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, clearly 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 still birth.[31] Provide information about magnitude of risk; for example 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 this risk to almost six in 1000. A dose-response relationship has also been observed; the risk is increased by 9% in women who smoke nine or fewer cigarettes per day versus 52% in women who smoke ten or more.[33]

Offer referral to all pregnant women currently smoking or who have stopped in the last two weeks to specialist smoking cessation services.[34] There is moderate to high quality systematic review evidence 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 similar framework to the brief intervention discussed above known as 'Ask (smoking status), Advise (results of carbon monoxide screening), Act (refer to smoking cessation services)'.[37] Consider alternatives which are likely to be safer than cigarettes, such as nicotine replacement therapy (NRT), within the context of an informed discussion with the woman.[37 38] Bupropion or varenicline are not indicated for smoking cessation in pregnant or breastfeeding women.[30]

Cannabis

Tetrahydrocannabinol (THC): the major psychoactive component of cannabis, readily crosses the placental barrier.[39] Synthetic cannabinoid receptor agonists (SCRAs), e.g. '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 and a range of adverse obstetric and neonatal outcomes and longer-term adverse

Commented [tn30]: As with alcohol, some absolute and relative risks would enable clinicians to explain the risks more clearly to patients and enable them to make an informed decision.

Commented [WC31R30]: Done.

Commented [tn32]: Ref 26 says moderate-high quality

Commented [tn33]: Or the brief intervention model described above? I'm not sure if 'very brief advice' is the same, although it seems that brief interventions are at least 5 minutes, whereas this seems shorter?

Commented [tn34]: Observational studies have found an association between…

child neurobehavioral outcomes but others have failed to observe 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 adverse effects of both substances.[45]

Quantify how much cannabis is being used and consider a brief intervention in less heavy users but offer referral to specialist drug and alcohol services for heavy users, where more intensive psychosocial interventions may be offered. The questions in Box 1 can help in distinguishing these groups of women for whom cannabis may play a lesser or greater role in their lives.

Commented [tn35]: 'who take / use' – misusing is a judgemental term, and begs the question: is there a way of taking cannabis in pregnancy that isn't misusing it?

Commented [WC36R35]: Changed throughout.

Commented [tn37]: Suggest tying this in with the general advice in the intro – I'd infer from this for that non-heavy users a brief intervention within the consultation or psychosocial intervention are the main options?

Useful resources for clinicians

Royal College of Paediatrics and Child Health safeguarding learning resources for professionals: https://www.rcpch.ac.uk/resources/safeguarding-learning-resources

Smoking cessation: a briefing for midwifery staff: https://www.ncsct.co.uk/usr/pub/Midwifery_briefing_%20V3.pdf

Patient infographic on electronic cigarettes in pregnancy: http://smokefreeaction.org.uk/wp-content/uploads/2017/06/SIPe-cig-infographic.pdf

Royal College of Obstetricians and Gynaecologists alcohol and pregnancy patient information leaflet: https://www.rcog.org.uk/en/patients/patient-leaflets/alcohol-and-pregnancy/

Current guidelines:
UK Department of Health. Drug misuse and dependence: UK guidelines on clinical management (2017).
Available from: https://www.gov.uk/government/publications/drug-misuse-and-dependence-uk-guidelines-on-clinical-management

British Association for Psychopharmacology (BAP). Consensus guidance on the use of psychotropic medication preconception, in pregnancy and postpartum (2017).
Available from: https://www.bap.org.uk/pdfs/BAP_Guidelines-Perinatal.pdf

World Health Organisation (WHO). Guidelines for the identification and management of substance use and substance use disorders in pregnancy (2014).
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http://www.who.int/substance_abuse/publications/pregnancy_guidelines/en/

British Association for Psychopharmacology (BAP). Evidence-based guidelines for the pharmacological management of substance abuse, harmful use, addiction and comorbidity (2012).
Available from: https://www.bap.org.uk/pdfs/BAP_Guidelines-Addiction.pdf

UK National Institute for Health and Care Excellence (NICE). Clinical guideline (CG192)- Antenatal and postnatal mental health: clinical management and service guidance (2018).
Available from: https://www.nice.org.uk/guidance/CG192

UK National Institute for Health and Care Excellence (NICE). Clinical guideline (CG110)- Pregnancy and complex social factors: a model for service provision for pregnant women with complex social factors (2010).
Available from: https://www.nice.org.uk/Guidance/CG110

UK National Institute for Health and Care Excellence (NICE). Public health guidance 26- How to stop smoking in pregnancy and following childbirth (2010).
Available from: https://www.nice.org.uk/guidance/PH26

Commented [WC38]: Tom, in the box above, you changed useful resources to resources for clinicians but there are two patient resources, so we should omit these resources or instead keep title as useful resources.

How patients were involved in the creation of this article

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 prior to the referral being made.

Case scenario

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

Next steps:

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

Offer referral to specialist pregnancy smoking cessation clinic.

Clarify with Clare how much cannabis and alcohol she is using. Brief intervention may be sufficient but if heavier use of either substance, referral to specialist drug and alcohol service may be indicated.

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 of your pregnant women are smokers and what proportion have been offered smoking cessation advice?

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.

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?

Commented [tn39]: Would you ask how much they are spending on it? I'm thinking about the financial impact, that can often be considerable – and a quick way to establish the quantity of consumption??

Commented [WC40R39]: Added.

Commented [tn41]: Do lay people know this term? 'after birth'?

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 information giving about risks in an empathetic and non-judgemental 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 this?

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 she is capable of change.

Box 3- ICD-11 criteria for dependence[18]

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, e.g. 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.

Box 4- 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 blood-borne viruses), the effects of co-morbid alcohol, benzodiazepine and stimulant use, poor diet and malnutrition, neglect of personal care, domestic violence and poor engagement with obstetric services.
- Neonatal abstinence syndrome (NAS) occurs in between 70 and 95% of neonates exposed to opioids, including opioid substitute therapy (OST) during pregnancy.[46] Signs include a high-pitched cry, rapid breathing, ineffective sucking and excessive wakefulness.
- Methadone or buprenorphine (as per standard protocols) are 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 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 more at risk of suicide.[48]
- Opioid use, including methadone and buprenorphine, are not absolute contraindications to breastfeeding.[20]

<u>Box 5- Benzodiazepines in the perinatal period: key facts</u>

- Benzodiazepine use is often co-morbid with other substance use[49] and may exacerbate the neonatal abstinence syndrome (NAS) associated with opioid use

during pregnancy. However, consider and enquire 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 their short-term use in, for example, alcohol detoxification.[7]
- WHO guidelines recommend gradual dose reduction using long-acting benzodiazepines at the lowest effective dose, for as long as is required to manage the symptoms of withdrawal. Gradual taper will reduce symptoms of withdrawal. 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 less 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]

Box 6- 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.

Commented [tn42]: Affect them how? Are there a couple of common examples?

- Women using stimulants should be advised not to breastfeed.[7]

Commented [tn43]: Should not, or should be advised not to? Or strongly advised not to. And perhaps explain why. I'm conscious of the wording here given the topic.

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