Alcohol and pregnancy

Helen Castledine reviews the guidance and evidence on what impact alcohol has on the health of women and their babies before and during pregnancy and during breastfeeding. She also considers the impact of guidance, the effectiveness of interventions to reduce alcohol consumption, and the role of NCT practitioners.

UK government guidance on alcohol consumption

On 8th January 2016, UK government guidelines on alcohol consumption changed, following a review, to provide clarity and reflect the current evidence-base. The Chief Medical Officers for England now recommend that as a precaution, pregnant women, or women planning to become pregnant, should consume no alcohol, thereby minimising the risk to the unborn child. The more alcohol consumed the greater the risk. However, the guidance also stresses that the risk is likely to be low for women who have consumed small amounts of alcohol before they knew they were pregnant, or during pregnancy (see box: How many units is low intake?)

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The new guidance is in line with international consensus, and replaces previously conflicting and confusing advice on alcohol consumption during pregnancy. Previous NICE guidance stressed no alcohol consumption during the first three months because of the increased risk of miscarriage, and low consumption for the rest of the pregnancy. RCOG guidance had stated that there was no evidence that consuming small amounts of alcohol was harmful, and paradoxically, Department of Health advice had advocated alcohol avoidance during pregnancy but recommended a safe limit of up to four units a week for pregnant women.

The health impact of alcohol consumption
Alcohol is the third biggest risk factor for death and disability, after smoking and obesity, and women are at more risk than men to the harmful health impacts of alcohol consumption, even if drinking at lower levels than men. Moderate and excessive alcohol consumption is associated with poorer health outcomes and increased risk of certain illnesses. These include cancers of the mouth, throat, oesophagus, bowel, stomach, liver and breast cancers (the risk of breast cancer increases with increasing alcohol consumption), liver disease, cirrhosis and other alcohol-related liver diseases, memory loss and shrinkage of the brain, heart disease and damage to the heart muscle.

There is also a greater risk associated with alcohol consumption amongst lower socio-economic groups. The reasons for this increased susceptibility are not known, but these groups may be predisposed to the harmful effects of alcohol due to other lifestyle factors such as diet and increased prevalence of smoking.

Alcohol consumption pre-pregnancy, during pregnancy and whilst breastfeeding
There are short- and long-term risks to the health of babies of women who consume alcohol during pregnancy, as well as their own long-term health. There is an increased risk of miscarriage in first trimester, and placental abruption and birth defects in babies. Anderson et al found that in the first trimester, women who reported consuming two to three-and-a-half drinks per week were 1.66 times more time likely to miscarry than women who abstained. Women who reported consuming four or more drinks per week were 2.82 times more likely to miscarry. Between weeks 13-16, women who reported consuming two to three-and-a-half drinks per week were 1.57 times more likely to miscarry. And women who consumed more than four drinks were 1.73 times more likely to miscarry compared with women who abstained. The study found there was no increased risk of miscarriage after 16 weeks of pregnancy.

Excessive alcohol consumption during pregnancy is associated with foetal alcohol syndrome, which can cause facial abnormalities and long-term learning and behavioural disorders, some of which can be permanent. Moderate drinking and binge drinking are associated with foetal alcohol spectrum disorders, which affect children’s development (see box: How many units is low intake?). Often the symptoms of these disorders are not apparent at birth or during the early months of life, but become more apparent as the child develops, and are often underdiagnosed.
Moderate alcohol consumption during pregnancy increases the risk of a woman having a baby with deficits in social skills, gross and fine motor function, neural correlates of response inhibition and memory in childhood. The evidence shows that even drinking more than one to two units a week increases the risk of having a baby who is small for gestational age, of low birth weight and has restricted growth. However, the risk to babies of women who consume small amounts of alcohol before they know they are pregnant or during pregnancy has been determined to be low.\textsuperscript{1}

Lower initiation of breastfeeding and breastfeeding rates are associated with alcohol consumption during pregnancy and immediately post birth.\textsuperscript{7} Consuming alcohol whilst breastfeeding can affect the behaviour of the baby, including sleeping patterns. Women who consume alcohol whilst pregnant are likely to continue after the birth. Moreover, research classifying women as at high-risk and low-risk of alcohol consumption found that high-risk women were more than twice as likely not to breastfeed, and that women who are aware of the risks are more likely to stop breastfeeding.\textsuperscript{8}

Alcohol consumption is also a major risk factor in sudden infant death syndrome (SIDS) or cot death. The risk of SIDS is increased if babies co-sleep with an adult, and further increased if women who co-sleep with their infants have consumed alcohol.\textsuperscript{9} Blair et al\textsuperscript{10} found that many of the deaths in a co-sleeping environment resulted from a significant interaction between co-sleeping and recent parental use of alcohol or drugs (31\% versus 3\% of random controls). Additionally O’Leary et al\textsuperscript{11} found that the risk of infant death was more than double for babies of women diagnosed with an alcohol disorder during pregnancy.

**Risk factors for alcohol consumption during conception, pregnancy and breastfeeding**

Alcohol consumption prior to conception is a significant risk factor for alcohol consumption during pregnancy.\textsuperscript{12} The majority of women either do not drink (19\%) or stop completely once they are pregnant (40\%). However, almost a third of women do continue to consume alcohol once pregnant.\textsuperscript{1,13} Risk factors for moderate and excessive alcohol consumption for pregnant women include being aged 35 and over, ethnicity (white), having a professional or managerial occupation, and moderate to high alcohol consumption prior to pregnancy. Women may consume alcohol for social reasons or as a coping mechanism, which makes reducing consumption more complex.\textsuperscript{13}

**The impact of guidelines on alcohol consumption**

There is a direct correlation between increased understanding of the impact of alcohol consumption and increasing levels of education, however many women ignore advice about alcohol consumption. It is unclear why women do not abstain; they may be aware of the health impacts of the alcohol consumption but they may not fully understand them or believe they are consuming alcohol within a safe limit. This has been compounded in recent years by media coverage and conflicting guidelines that have advocated abstinence and a safe low-level of consumption.
Women may continue to consume alcohol despite being advised about the evidence for abstinence. Dunney et al found that a quarter of women studied in a Dublin hospital consumed alcohol throughout pregnancy, and a third during breastfeeding even after receiving advice on alcohol consumption.14 With regard to education level, research shows that although highly educated women understand the risks better, they are more likely than less well-educated women to consume alcohol during pregnancy and whilst breastfeeding.15,16

Women’s disregard for advice may be due in part to previous conflicting advice and guidance that in England and Wales suggested safe limits of alcohol consumption. Women may also be aware of advice to their mother’s generation by health professionals to boost their iron levels by drinking Guinness. Consequently, many women find it difficult to understand why this was once acceptable, and even encouraged, but recommended no longer.17

Historically, women may not have adhered to guidance because it was inconsistent and difficult to understand (for both mothers and health professionals). One qualitative study on women’s attitudes to alcohol consumption and sources of information in the UK found that women recognised the conflicting advice appearing in the media, and that this was reflected in a lack of direction from midwives.18

**The influence of health professionals and interventions to reduce alcohol consumption**

The evidence for effective interventions for reducing alcohol consumption in women planning to conceive or who are pregnant or breastfeeding is inconsistent and weak.19 However, due to their frequent contact with women, health professionals such as midwives and GPs are well-placed to intervene.20,21 Moreover, interventions are more effective if women have the same midwife throughout pregnancy, and are able to develop a relationship with him or her. With the use of screening tools, ranging from a simple set of questions to a comprehensive questionnaire, health professionals can identity women who consume alcohol more effectively, although not always. The most effective intervention in reducing alcohol consumption before, during and after pregnancy is the provision of information and advice to the mother, both during a face-to-face consultation and with a leaflet to take home, thereby enabling her to make an informed choice.13 Information must also be up-to-date and evidence-based and presented in systematic way that reflects the best practice.12

Government guidelines for health professionals to advise women on reducing alcohol consumption appear to be effective.22,23 Brief interventions - which encourage reflection on unhealthy behaviour with a view to initiating change - are effective in reducing alcohol consumption24 and are well-received by women and midwives.20,25,26 There is some concern, however, that their use could alienate pregnant women.27 Health professionals also need appropriate training and confidence, but unfortunately this is often lacking.21,28 The evidence suggests that midwives and other health professionals should routinely ask women about their alcohol consumption.29
Motivational interviewing is an alternative and potentially effective intervention. This person-centred counselling technique explores unhealthy behaviour to identify factors that will motivate change, and uses these to achieve a change in unhealthy behaviour. It is effective at reducing alcohol consumption prenatally, but the evidence on its effectiveness during pregnancy is not clear.\textsuperscript{30,31}

Increasingly, the general public are using Apps and websites such as Change for Life as sources of information and as behaviour change tools. The potential for web-based interventions to reduce alcohol consumption amongst pregnant women has received little attention so far from the research community, although one web-based self-help guided change intervention to reduce alcohol consumption during pregnancy was just as effective as a mail-based version, with 58\% reducing their risk.\textsuperscript{32} Other web-based interventions were acceptable and effective in pilot trials and warrant further research.\textsuperscript{33,34}

Partners have a key role to play in influencing mothers’ decisions about alcohol consumption.\textsuperscript{15} Partners can provide support and encouragement, including through considering whether to give up alcohol consumption themselves.\textsuperscript{29} Inclusion of partners can also improve the effectiveness of brief interventions.\textsuperscript{23}

The incomplete knowledge of many health professionals is a barrier to providing effective interventions that would enable women to make an informed choice about alcohol consumption.\textsuperscript{21,35} Consequently, most women do not receive comprehensive up-to-date evidence-based information about the impact of alcohol consumption. Without increasing training, understanding and awareness among health professionals, it is difficult for them to identify those most at risk, and identify and deliver the most effective interventions.\textsuperscript{13,17}

**Conclusion**

Alcohol consumption is a key public health issue that can lead to poor health outcomes. Following years of conflicting guidance, the UK government now advises no alcohol consumption prior to conception or during pregnancy. There is strong evidence that moderate and excessive alcohol consumption can have a negative impact on a baby’s health, both before birth and during early childhood. Providing advice and support to women about alcohol consumption during pregnancy is challenging because although many women to understand the risk of alcohol consumption, they may not necessarily alter their behaviour. Partners should also be included in interventions as they can provide support and encouragement.

However, the majority of health professionals urgently need to improve their knowledge and skills in advising women about reducing alcohol consumption. Further research is needed on the development of effective interventions.
References


24. Moyer A, Finney JW. Brief interventions for alcohol problems: factors that facilitate
Key points

- UK guidance: women planning to become pregnant and pregnant women should not consume alcohol.
- Long-term alcohol consumption is associated with cancer, and other serious health conditions.
- Women who consume alcohol prior to conception are likely to continue to do so during pregnancy.
- Excessive and moderate alcohol consumption during pregnancy is associated with miscarriage, poorer birth outcomes and long-term health issues for the baby.
- Educated white women over the age of 35 are more likely to consume alcohol and continue to do so once pregnant.
- Alcohol consumption during breastfeeding can impact the baby's behaviour and initiation and duration of breastfeeding.
- Health professionals' knowledge and understanding of alcohol consumption is poor and makes them less confident to discuss with pregnant women.
How many units is low intake?

- Units represent the alcohol content of a drink, which is usually expressed by the standard measure ABV (alcohol by volume) to indicate the amount of alcohol as a percentage of the total volume of liquid. For example, if a wine is “12% ABV” or “alcohol volume 12%” it means that alcohol comprises 12% of the volume of the wine.

- The total units in any drink can be calculated by multiplying its total volume (in ml) by its ABV and dividing the result by 1,000.

- Example: the number of units in a pint (568ml) of strong lager (ABV 5.2%):
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  5.2 \% \times 568 \text{ ml} \div 1,000 = 2.95 \text{ units}
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- A 750ml bottle of red, white or rosé wine (ABV 13.5%) contains 10 units.

- A handy tool is Alcohol Concern’s [unit calculator](http://www.nhs.uk/Livewell/alcohol/Pages/alcohol-units.aspx).

- Moderate drinking is classified as consuming 15-34 units per week and binge drinking is consuming more than twice the lower risk levels in one day (>6 units).

Adapted from [http://www.nhs.uk/Livewell/alcohol/Pages/alcohol-units.aspx](http://www.nhs.uk/Livewell/alcohol/Pages/alcohol-units.aspx)

Helen Castledine is a research networker and represents her NCT branch at her local MSLC. With a degree in history, Helen worked as a youth worker and completed a Masters in community and health development before moving into public health. Over the past ten years she has gained an MSc in Public Health and held senior posts. Helen’s four children range from ten years to five months in age.