BMJ 2015;351:h5232 doi: 10.1136/bmj.h5232 (Published 6 October 2015)

HEAD TO HEAD

Should women abstain from alcohol throughout pregnancy?

Everyone agrees that current advice on alcohol is inconsistent and confusing, but whereas **Mary Mather** and **Kate Wiles** conclude we should move to a clear recommendation to abstain, **Patrick O'Brien** thinks it is wrong to assume pregnant women cannot understand the evidence

Mary Mather *retired consultant paediatrician, London*, Kate Wiles *NIHR doctoral research fellow, Biomedical Centre, Guy's and St Thomas' NHS Foundation Trust and King's College London* , Patrick O'Brien *consultant honorary senior lecturer in obstetrics and gynaecology, University College London Hospitals, London, UK*

Yes—Mary Mather and Kate Wiles

No advisory body in England and Wales gives a clear recommendation to abstain from alcohol in pregnancy. The Department of Health recommends that pregnant women should avoid alcohol but undermines the advice by giving an apparently "safe" level for alcohol in pregnancy: that if a woman "chooses to drink" she should drink no more four units a week.[1] The National Institute for Health and Care Excellence (NICE) emphasises avoiding drinking alcohol in the first three months of pregnancy because of an association with miscarriage.[2] The Royal College of Obstetricians and Gynaecologists states that small amounts of alcohol have not been shown to be harmful.[3]

International consensus

Current guidance flies in the face of evidence and international consensus. The US surgeon general first advised women not to drink in pregnancy in 1981. Current US guidance states "that there is no known safe amount of alcohol to drink while pregnant, no safe time to drink and no safe kind of alcohol."[4] Pregnant women in Canada, Denmark, France, Norway, Israel, Mexico, Australia, Ireland, New Zealand, Spain, the Netherlands, and Scotland are advised to abstain from alcohol.[5]

Nearly 4000 papers have now been published confirming the teratogenicity of alcohol. There is no evidence that alcohol is beneficial to embryonic and fetal development. Teratogenicity has been conclusively shown in clinical, behavioural, and epidemiological studies, and undisputed teratogenic effects include fetal alcohol syndrome, mental retardation, a spectrum of developmental and behavioural abnormalities, and low birth weight.[6]

Worldwide estimates are that at least 1% of live births are affected by prenatal alcohol, and alcohol is the leading preventable cause of birth defects and developmental and learning disability.[7] Although we lack UK prevalence data, this figure translates into 7000 affected babies a year in the UK, more than the combined total of infants affected by Down's syndrome, cerebral palsy, sudden infant death syndrome, cystic fibrosis, and spina bifida.

Light drinking in pregnancy

Investigation of the effects of maternal drinking during pregnancy on a child's development is complicated by confounding factors including socioeconomic status and smoking. In addition, most studies rely on retrospective recall of alcohol consumption during pregnancy. The British Millennium Cohort Study is often quoted as showing that light drinking during pregnancy is not linked to adverse behavioural or cognitive outcomes. A cohort of infants followed up at 3, 5, and 7 years seemed to show that children born to light drinkers had more favourable developmental profiles than those whose mothers abstained.[8] However, after statistical adjustment these differences largely disappeared. Women who choose to drink while pregnant may have other protective characteristics compared with abstainers. A large prospective UK study showed that the pregnant woman most likely to drink was aged over 35, in a managerial or professional occupation, and from a white ethnic background.[9]

Clinical studies cannot detect small effects on brain development. It is impossible to reassure a woman who drinks lightly during pregnancy that alcohol did not cause a small drop in the IQ of her child. A meta-analysis in 2014 showed that occasionally drinking as little as two glasses of wine in pregnancy can adversely affect a child's behaviour and results at school.[10]

Systematic review data, which informed the NICE guidance, led to the conclusion that the evidence regarding low to moderate alcohol consumption in pregnancy was not strong enough to exclude risk.[11] Absence of evidence does not equate to evidence of absence of harm.

Correspondence to: M Mather marymather@doctors.org.uk, P O'Brien patrick.obrien@uclh.nhs.uk

All "prescribing" in pregnancy is a balance between risk and benefit. The balance in relation to alcohol falls clearly on the side of risk. Alcohol is not essential to the health or wellbeing of a pregnant woman and is known to be teratogenic to her baby. Alcohol is not a drug that would ever be "prescribed" in pregnancy, and it is not a drug that should ever be advised.

Confusing barrage of mixed messages

Current advice to pregnant women is contradictory and confusing. Few pregnant woman or professionals understand the concept of a "unit" of alcohol.[12] Many pregnant women continue drinking in pregnancy to a level that puts their babies at risk. A recent UK prospective study showed that the proportion of women drinking alcohol during pregnancy was 79%, 63%, and 49% for the first, second, and third trimesters.[9] Few of these women were considered to be problem drinkers.

The alcohol level and timing at which fetal damage occurs is unknown and likely to vary from pregnancy to pregnancy. Nutrition, genotype, phenotype, ethnicity, metabolism, and cigarette smoking will all have an effect. The influence of each of these variables can never be fully known for each individual pregnant woman; the only ethical advice that can be given is abstinence from alcohol in pregnancy.

The NHS Constitution states a commitment to easily accessible, reliable, relevant information in a format that can be understood. Current guidelines regarding alcohol in pregnancy fall short. Advice needs to be clear, unambiguous, and acknowledge that an absence of evidence of harm is not the same as safety. Pregnant women must know that there is no threshold of alcohol consumption that is certain to be safe. Until this information is provided, pregnant women in England and Wales will be unable to make an informed choice about their use of alcohol in pregnancy.

No—Patrick O'Brien

The medical arguments in this debate are well rehearsed.[2 3 13 14] In general terms, the evidence can be summarised as follows: heavy drinking in pregnancy can cause fetal alcohol syndrome; there is some evidence that alcohol in the first trimester may increase the risk of miscarriage; and there is a spectrum of disorders that are less severe than fetal alcohol syndrome that fall under the umbrella term fetal alcohol spectrum disorders. Considerable uncertainty remains around the blurred edges of the robust evidence[8 15]—for example, just how common are fetal alcohol spectrum disorders and what proportion of these cases can reasonably be attributed to alcohol use?

It is also argued that there can never be a safe lower limit of intake even if there is no robust evidence of harm below that threshold. The evidence collated by the various UK bodies that have recently considered this question (the Royal College of Obstetricians and Gynaecologists,[3] the National Institute for Health and Care Excellence (NICE),[2] the Department of Health,[13] and the British Medical Association)[14] is broadly consistent for obvious reasons—the literature reviews yield the same results.

Different advice

What differs is not the evidence collated but the advice issued based on this same body of evidence. The royal college and NICE recommend abstention while trying to conceive and during the first 12 weeks of pregnancy; after that, they say, "not more than one or two units, not more than once or twice a week does not appear to be harmful." They also advise that binge drinking should be avoided.

The Department of Health advice runs as follows: "If you're pregnant, or planning to become pregnant, you should avoid alcohol altogether. But, if you do opt to have a drink, you should stick to no more than one or two units of alcohol once or twice a week to minimise the risk to your baby." However, the BMA advice, reiterated at their recent annual conference[16] is that "women who are pregnant, or who are considering a pregnancy, should be advised not to consume any alcohol."[14]

Our relationship with our patients

These differences raise a fundamental question around the nature of our relationship with our patients. Common arguments put forward in support of abstention are that the conflicting advice is confusing for women, they do not understand what a unit of alcohol is, and it is impossible to know whether moderate alcohol intake after 12 weeks' gestation is harmful. All of these, it is argued, should lead to the advice that alcohol should be completely avoided throughout pregnancy. I disagree with this line of argument.

Women are intelligent and autonomous. On a daily basis, for example, obstetricians and midwives explain to women the complexities of screening and diagnostic tests for Down's syndrome. We do not shy away from the discussion just because it is complex. We do not say "This is difficult for you to understand; just have an amniocentesis." We respect our patients' autonomy and recognise that it is our responsibility to find a way of imparting the information in a way that is understandable to them, then support them in coming to a decision. All disciplines engage in similar complex discussions; surely we are capable of explaining the meaning of a unit of alcohol to pregnant women or those planning a pregnancy.

Although this is an easy task when counselling individuals, it is clearly more difficult when it comes to educating an entire population. However, just because the task is complex and challenging does not mean that we should legislate for the lowest common denominator. It is not beyond our wit to explain the current evidence, including its limitations, to the wider population, particularly in the era of ubiquitous social media and internet access.

Our failing

We have produced a raft of conflicting guidance for women on this subject. This is our failing, not theirs. The solution is not to abrogate our responsibility by advising, "We've confused you, so just abstain: it's safer." We need to resolve these inconsistencies then present the evidence in a clear and unambiguous way. This is not to imply that we should conceal the fact that in some areas the evidence cannot provide a clear, unambiguous answer.

We all deal with uncertainty in our lives on a daily basis; pregnant women are no less capable of doing so. One thing is clear: if we try to appeal to the lowest common denominator, most women will seek the evidence online and judge it for themselves. And if they perceive that we have been making value judgments on their behalf, or professing certainty where none exists, we are certain to lose their trust.

Competing interests: We have read and understood BMJ policy on declaration of interests and declare the following interests: MM is an unpaid trustee of the FASD Trust. PO'B is a spokesperson for the Royal College of Obstetricians and Gynaecologists but wrote the article in a personal capacity.

Provenance and peer review: Commissioned; externally peer reviewed.

1 NHS Choices. Can I drink alcohol if I'm pregnant? 2014. www.nhs.uk/chq/Pages/2270.aspx?CategoryID=54#close.
2 National Institute for Health and Care Excellence. Antenatal care. Nice guideline CG62. 2008. www.nice.org.uk/guidance/cg62/chapter/1-recommendations#lifestyle-considerations.
3 Royal College of Obstetricians and Gynaecologists. Alcohol and pregnancy. 2015. www.rcog.org.uk/en/patients/patient-leaflets/alcohol-and-pregnancy/.
4 Centre for Disease Control and Prevention. The effects of alcohol use during pregnancy and later developmental outcomes, an analysis of previous studies. 2013. www.cdc.gov/ncbddd/fasd/features/key-finding-acer.html.
5 International Alliance for Responsible Drinking. Drinking guidelines for pregnancy and breast feeding. http://www.iard.org/Policy/Policy-Resources/Policy-Tables-by-Country/Drinking-Guidelines-for-Pregnancy-and-Breastfeeding.
6 Streissguth AP, Landesman-Dwyer S, Martin JC, Smith DW. Teratogenic effects of alcohol in humans and laboratory animals. *Science* 1980;209:353-61.
7 May PA, Gossage JP. Estimating the prevalence of fetal alcohol syndrome: a summary. *Alcohol Res Health* 2001;25:159-67.
8 Nykjaer C, Alwan NA, Greenwood DC, et al. Maternal alcohol intake prior to and during pregnancy and risk of adverse birth outcomes: evidence from a British cohort. *J Epidemiol Community Health* 2014;68:542-9.
9 Kelly Y, Iacovou M, Quigley M, et al. Light drinking versus abstinence in pregnancy – behavioural and cognitive outcomes in 7 year-old children: a longitudinal cohort study. *BJOG* 2013;120:1340-7.
10 Flak AL, Su S, Bertrand J, Denny CH, Kesmodel US, Cogswell ME. The association of mild, moderate, and binge prenatal alcohol exposure and child neuropsychological outcomes: a meta-analysis. *Alcohol Clin Exp Res* 2014;38:214-26.
11 Gray R, Henderson J. Review of the fetal effects of prenatal alcohol exposure. 2006. www.npeu.ox.ac.uk/downloads/files/reports/Alcohol-in-Pregnancy-Report.pdf.
12 Mukherjee R, Wray E, Curfs L, Hollins S. Estimation of alcohol content of wine, beer and spirits to evaluate exposure risk in pregnancy: pilot study using a questionnaire and pouring task in England. 2013. *Int J Alcohol Drug Res* 2013;2:71-8.
13 NHS Choices. Alcohol in pregnancy. www.nhs.uk/conditions/pregnancy-and-baby/pages/alcohol-medicines-drugs-pregnant.aspx#close.
14 BMA Board of Science. Fetal alcohol spectrum disorders: a guide for healthcare professionals. BMA, 2007.
15 Kelly Y, Sacker A, Gray R, et al. Light drinking in pregnancy, a risk for behavioural problems and cognitive deficits at 3 years of age? *Int J Epidemiol* 2008;38:129-40.
16 Fenton S. Pregnant women should not drink alcohol at all, warn experts after confusion over guidelines. *Independent* 2015 Jun 22. www.independent.co.uk/life-style/health-and-families/health-news/pregnant-women-should-not-drink-alcohol-at-all-warn-experts-after-confusion-over-guidelines-10336102.html.

Cite this as: *BMJ* 2015;351:h5232