Alcohol consumption among pregnant women and brief interventions in the Antenatal setting

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1.0 Aim of this paper

The aim of this paper is to describe the background and rationale for the H4: HEAT target delivery in the antenatal setting, outline the evidence base for the delivery of alcohol brief interventions (ABIs) in the antenatal setting (including current advice to pregnant women), highlight a range of issues related to delivery and to set out how the Maternity Services Action Group can assist the Alcohol Brief interventions Delivery Support Team.

2.0 Background

Excessive alcohol consumption during pregnancy increases the risk of adverse health affects on both mother and baby, in particular Foetal Alcohol Syndrome (FAS) and other Foetal Alcohol Spectrum Disorders (FASD) ([1] [2] [3]). However, difficulties in diagnosing FASDs and lack of robust and routine national data make it difficult to accurately estimate both its incidence and prevalence [3], with under-reporting common.

During pregnancy there is no designated 'safe' level at which women can consume alcohol, although there is no conclusive evidence that small levels of alcohol consumption can adversely affect the unborn baby [4]. Despite this, the most recent advice endorsed throughout the UK by Chief Medical Officers (CMOs) in 2007 adopted a precautionary approach and advised women who are pregnant or trying to conceive to avoid alcohol entirely. If they choose to drink, they should be informed that drinking no more than one or two units of alcohol once or twice per week, and avoiding episodes of intoxication, reduces the risk of harming a developing foetus [4]. Additional advice advises women to avoid alcohol in the first three months of their pregnancy in particular, because of the increased risk of miscarriage [4].
In Scotland, a national clinical guideline (SIGN 74) was published in 2003 [5] recommending the delivery of ABIs for harmful and hazardous drinkers in primary care and also highlighting the potential for delivery in A&E and antenatal settings.

However, limited implementation of SIGN 74 [6] and continuing increases in alcohol related harm in Scotland [7] led the Scottish Government (SG) to set a target for delivery of ABIs (149,449 in the priority settings of primary care, emergency and antenatal by 2011) supported by a substantial increase in funding for alcohol treatment and support services.

### 3.0 The Evidence Base: Overview

Consumption of alcohol in the UK has almost doubled since 1950, with the rate of increase proliferating in the early 1990's [7]. Parallel to this rise in consumption has been an increase in those drinking at harmful levels. The most recent Scottish data estimates that 63% of men and 64% of women are drinking above the recommended daily limits (3-4 units for men, 2-3 units for women) [8]. The number of women, in particular, drinking at harmful levels has significantly increased [3], so much so that alcohol related-mortality among Scottish women is now higher than that of English men [7].

In Scotland, alcohol consumption during pregnancy is common with recent national surveys reporting between 25% [9] and 50% [10] of women drinking whilst pregnant (compared to 54% UK-wide [10]). The absence of evidence of a definitive level at which harm can occur may have contributed to this and fostered a culture that small amounts of alcohol

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1 A fuller review of the evidence base for the delivery of alcohol brief interventions within the antenatal setting is outlined in appendix 1.
whilst pregnant are acceptable. Despite this, the levels of consumption appear to be low with only 8% of mothers reporting drinking more than two units per week on average [10].

However, the data on proportions of women who drink whilst pregnant are likely to be an underestimate. This is because alcohol consumption during pregnancy is often derived from self reporting, which is adversely affected by poor recollection and estimation [3]. Taking this into account alongside the social stigma ([2] [3]) associated with drinking whilst pregnant means that surveys are likely to under report the scale of the problem.

Evidence shows that alcohol problem detection and treatment is benefited by use of appropriate screening tools [11]. Despite this, information from Health Board visits revealed that few antenatal units in Scotland are systematically using a validated alcohol screening tool. The TWEAK and T-ACE (or shortened version of AUDIT) screening tools for alcohol misuse were recommended for use in the antenatal setting in SIGN 74 [5]. As current national guidelines now recommend that pregnant women should avoid alcohol altogether [4], a formal screening tool is therefore not necessary in antenatal settings. It is sufficient simply to ask pregnant women the following initial screening question: ‘Are you drinking alcohol at all at the moment?’ If a pregnant woman is drinking alcohol, the next step would be to obtain a clear picture of how much and how often she is drinking, and to consider whether more in-depth support (e.g. ABI) is required to help her to cut down [12].

The evidence base for the effectiveness of alcohol brief interventions (ABIs) is substantial, with a WHO review of 32 alcohol strategies and interventions finding them to be among the most effective alcohol
policies [13]. However, the majority of this evidence base has been derived from studies conducted in the primary care setting.

Evidence supporting ABIs in the antenatal setting is currently limited in comparison to primary care and, indeed, A&E settings with recent reviews highlighting the need for further research in this area ([2] [11] [14]). Despite this there is significant plausible theory as to why ABIs should be delivered in this setting. With reference to ethical principles [15], ABIs can do good not only for the mother but also for the unborn foetus; they are equitable in that every pregnant women can be screened and offered an ABI and they are sustainable because of their quick delivery and low implementation costs after initial training is completed.

**4.0 Progress / Implementation to date**

A Delivery Support Team (DST) was set up in 2008/09 to provide national leadership and support to Health Boards in their delivery of the H4 target. This has included a series of visits to all Boards to hear first hand about their progress. Initial roll-out of this programme has been encouraging, particularly in primary care. However, only a limited number of Health Boards have developed a model for delivering ABIs within antenatal settings thus far, with the others committed to developing similar systems in future.

Already Health Board areas are acknowledging the challenges in delivering in this setting and are developing innovative ways to tackle this operational barrier. For example, NHS Lanarkshire has a pilot underway to use community-midwives as a first point of contact for pregnant women in advance of their 12-14 week booking appointment whereby the ABI can take place at a time where it has potential to make a more of a difference. NHS Tayside has also recognized the problems of waiting until
the booking appointment to conduct the ABI and are attempting to integrate the screening and ABI process into their antenatal pre-booking service. In addition, NHS Greater Glasgow and Clyde has expanded their target groups for screening in primary care to include pregnant women or those trying to conceive whilst NHS Ayrshire & Arran are developing delivery within acute antenatal settings linking alcohol and tobacco issues.

5.0 How can the Maternity Services Action Group support the Alcohol Brief Interventions Delivery Support Team?

Despite the encouraging progress in some Health Boards, some issues relating to the delivery of ABIs in the antenatal setting have become apparent during discussions with the Health Boards.

The Alcohol Brief Interventions Delivery Support Team seeks the support of the Maternity Services Action Group to develop guidance and support materials for Health Boards, which will assist them in their planning and delivery of alcohol brief interventions within the antenatal setting.

In order to support the Maternity Services Action Group in its considerations, NHS Health Scotland, on behalf of the Delivery Support Team, has recently established an antenatal sub-group. Reporting to the Delivery Support Team, this group wishes to work closely with the Maternity Services Action Group to develop the required guidance and support materials for Health Boards. In particular, it is envisaged that the antenatal sub-group will ask the Maternity Services Action Group to consider and approve:-

• Preferred model(s) for screening and ABI delivery within the antenatal setting including the most appropriate screening tools,
who is best placed to screen and deliver an ABI and when, in order to achieve the best outcome for the patient.

- Examples of good practice.
- Guidance on follow-up, for example who by and when.
- Appropriate outcomes should follow-up be monitored (increase in rates of abstinence vs. reduction in consumption).
- Development needs of the antenatal workforce in relation to alcohol brief interventions.
- Guidance on data collection, reporting and I.T. Infrastructure.
- Research and evaluation.

6.0 Conclusions

From the available evidence a significant proportion of women continue to drink alcohol whilst pregnant. New national guidance from CMOs advises women to avoid alcohol altogether, however no recent data is available since the issue of the recent guidance to determine what impact it has had. The ABI programme being rolled out across Scotland for delivery of the HEAT4 target will not only help identify women that might be drinking at levels hazardous to both themselves and their baby, it also offers the opportunity to reinforce and standardise the delivery of national advice.

Careful monitoring of the ABI roll-out in the antenatal setting should be maintained in 2009/10 recognising the potential for innovative practice as and when required. Consistency of approach in relation to the delivery of ABIs within the antenatal setting can be supported by the Maternity Services Action Group and Alcohol Brief Interventions Delivery Support Team, working closely together in the development of guidance and support materials for Health Boards.
APPENDIX 1: The Evidence Base

Epidemiology

Statistics on alcohol consumption during pregnancy in Scotland are drawn from two national surveys; the Infant Feeding Survey (IFS) and the Growing Up in Scotland study (GUS). The IFS is conducted every five years with the most recent data published from 2005 [10] and involves a target sample size of 9,416 women from across the UK (1,666 from Scotland). GUS is a large scale longitudinal and cross sectional study which interviews children’s parents/carers on a range of issues relating to childhood experiences of early years through to adolescence with 8,000 children initially enrolled. A recent analysis of the GUS study alcohol consumption modules from 2005/06 was undertaken [9]. Below is a brief summary of the latest IFS findings and comparison with GUS where possible.

The most recent available evidence shows that a significant number of women in the UK still drink alcohol during pregnancy. The latest IFS conducted in 2005 found that half (54%) of mothers surveyed reported drinking alcohol during pregnancy, significantly higher than the 11.8% figure reported from the USA [1] or the 20% estimated worldwide [16].

In the IFS Scottish sample, 50% of women reported drinking during pregnancy, down from 59% in the previous survey in 2000 but significantly higher than the 25% figure reported in the GUS. The Scottish IFS prevalence is lower than England (55%) and Wales (55%) but higher than in Northern Ireland (46%). Among mothers who drank alcohol before pregnancy, about a third (34%) gave up drinking completely during pregnancy, while 61% cut down the amount they drank. Mothers who drank before pregnancy in Northern Ireland (43%) and Scotland (41%)
were the most likely to give up drinking. Most women (83%) gave up drinking for fear of harming their unborn child.

The IFS also found that mothers from managerial and professional occupation groups (63%) were the most likely to drink during pregnancy, with those who had never worked the least likely (26%). Furthermore, mothers from managerial and professional occupations were more than twice as likely to cut down on drinking rather than give up completely (67% and 29% respectively). The GUS also indicates that women from higher social classes and with higher incomes were more likely to drink during pregnancy. These findings challenge literature linking higher incidence of FASD with social deprivation and poverty ([3] [9]) but mirror similar findings from the Scottish Health Survey [8] which found levels of alcohol consumption were highest among women in managerial and professional households and in the highest income quintile, and that consumption decreased along with household income.

Encouragingly, levels of consumption reported in the IFS are extremely low. In the whole sample, 85% of mothers either did not drink at all during pregnancy or drank less than one unit per week on average\(^2\). A further 7% of mothers drank one to two units per week on average, and only 8% of all mothers who drank reported drinking more than this. The IFS also found no differences in the levels of alcohol consumption by mothers from different sociodemographic groups although this is likely to be an underestimate with the Scottish Health Survey’s revised estimates linking patterns of increased consumption and binge-drinking with women in professional, managerial and intermediate households [8].

\(^2\) Alcohol unit conversion factors for IFS and GUS not known at this stage. If older factors still being used in these surveys then consumption may be underestimated by half.
Almost three-quarters of mothers (73%) who drank during pregnancy received advice about drinking, with midwives (89%) being the most common source. The main type of advice given (75%) was general information about drinking whilst pregnant, almost half (46%) were told to cut down and around a quarter (24%) advised to stop completely. Advice on drinking appeared to have mixed effect on behaviour change though. Those given advice were more likely to drink less (62%) than those with no advice (57%) but less likely to have given up drinking (33% compared with 37%). Some mothers reported receiving advice from more than one source and being given different advice from different practitioners reflecting the uncertainty that has existed in practice until recently.

**Models**

Despite a recommendation in the SIGN guideline and subsequent recommendations in evidence reviews, the evidence base on delivering ABIs in antenatal settings remains limited. Few controlled studies delivering ABIs in antenatal settings have been conducted. Three have taken place in antenatal care within the primary care setting using clinical staff ([17] [18] [19]) and one in a community setting using nutritionists [20]; all were conducted in the USA. Only one of the four studies found significant differences in antenatal alcohol consumption between control and intervention groups although other significant outcomes were achieved. Below is a brief summary of the four studies.

Chang et al’s original study in 1999 [17] on women receiving antenatal care compared an alcohol consumption assessment group (control) with an ABI group and found reductions in drinking for the remainder of the pregnancy but no significant differences between groups. The only
significant difference between groups was in abstinence rates during the remainder of pregnancy, which stayed higher for the intervention group. The Manwell et al [18] study in 2000 identified women of childbearing age who screened as ‘at-risk drinkers’, some were randomised to be given a booklet only (control) and the others received two 15-minute physician consultations incorporating advice and education. The trial found a significant treatment effect in reducing both seven day alcohol use and binge drinking episodes over the 48 month follow-up period. Women in the experimental group who became pregnant during the follow-up period had the most dramatic decrease in alcohol use. The Chang et al study in 2005 [19] conducted an RCT delivering a diagnostic interview (control) or diagnostic interview & ABI to pregnant women and their partners. Whilst antenatal alcohol use declined in both intervention and control groups with no significant differences, the study did find that ABIs are significantly more effective in reducing consumption for women who are drinking more heavily when the intervention is initially administered, and also when a partner takes part in the intervention. The study by O’Connor and Whaley in 2007 [20] randomized low-income minority pregnant women to assessment only (control) or ABI and found those in the intervention group to be 5-times more likely to be abstinent at follow-up than those in the control group.

**Summary**

Two surveys from data collected in 2005 show that a relatively high, but not clearly defined, proportion of women drink alcohol whilst pregnant. However the survey findings described were based on data collected before new zero-consumption guidelines were issued by CMOs in 2007 and the impact of this new unified national message has yet to be reported.
The link between drinking during pregnancy and income/professional group challenges traditional theories in this area for pregnancy related alcohol related harm and also merits future consideration, particularly with its links to general trends in alcohol consumption at a population level.

One of the most concerning findings from the IFS is the lack of impact professional advice had on behaviour change in pregnant women. This may have been exacerbated by conflicting messages in recent years by different governing bodies which could have cascaded down to practitioner level. The new guidelines issued by all CMOs advising pregnant women to avoid alcohol altogether should hopefully address this confusion.

The national ABI programme provides some scope to contribute to the limited evidence base in this area through national evaluation, whilst acknowledging that there will be difficulties in identifying a suitable control group as a result of ABIs being a national policy rolled out at population level. The limited evidence to date highlights the potential for ABIs in antenatal care in reducing alcohol consumption and maintaining abstinence rates in pregnant women.

Nevertheless, significant challenges will lie ahead in rolling out the ABI programme in antenatal care. Proposing to carry out initial screening and then an ABI at the booking appointment (12-14 weeks) is potentially too late if excessive drinking has been part of the pregnancy up until that point. With this in mind, midwives have expressed a reluctance to discuss such a sensitive subject at a stage where the damage to the unborn baby may already have been done.
Further research and evaluation considering alternative settings to engage pregnant women and those trying to conceive with screening and ABIs, such as family planning and GUM clinics, should also be explored.
## APPENDIX 2: Studies and outcomes

<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Target Group</th>
<th>BI delivered by</th>
<th>Follow-Up period</th>
<th>Sig. outcomes for ABI group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chang et al (1999)</td>
<td>USA</td>
<td>women receiving antenatal care</td>
<td>Physicians</td>
<td>postpartum</td>
<td>↑ abstinence rates</td>
</tr>
<tr>
<td>Manwell et al (2000)</td>
<td>USA</td>
<td>women of childbearing age</td>
<td>Physicians</td>
<td>2-year</td>
<td>↓ alcohol use (for those who became pregnant)</td>
</tr>
<tr>
<td>Chang et al (2005)</td>
<td>USA</td>
<td>pregnant women and their partners</td>
<td>Doctor / Nurses</td>
<td>postpartum</td>
<td>No significant differences between groups</td>
</tr>
<tr>
<td>O’Connor &amp; Whaley (2007)</td>
<td>USA</td>
<td>low-income minority pregnant women</td>
<td>Community Nutritionists</td>
<td>3rd trimester</td>
<td>↑ abstinence rates ↑ birth weight ↑ birth length ↓ foetal mortality</td>
</tr>
</tbody>
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References


