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Prevalence survey of alcohol consumption at antenatal booking in pregnancy; comparing blood biomarker analysis to self-report.

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Background: Providing antenatal and postnatal care for women who drink alcohol in pregnancy is only possible if those at risk can be identified. We aimed to detect the prevalence of actual and self-reported alcohol consumption in pregnant women in the first trimester of pregnancy. We also compared the utility of self-report to blood biomarker analysis.

Methods: Routine blood testing is offered at the antenatal booking appointment (uptake 95%). 600 random blood samples were analysed by Helena Biosciences from each month of 2014 to illustrate any seasonal variation. We tested an aliquot (0.5 mL serum/plasma) of anonymised blood for Carbohydrate Deficient Transferrin (CDT), a validated marker of chronic alcohol consumption (normalising 2-4 weeks from the start of abstinence). Frequency of alcohol consumption during pregnancy is currently based on self-report. We collected data from medical records on women's reported alcohol consumption. We analysed and compared the self-reported alcohol consumption documented in the booking notes using the Audit-C alcohol screening tool of 600 randomly selected medical records. **Results:** The percentage of women who reported drinking alcohol in pregnancy was 1%. This compared to 61% who reported consuming alcohol before pregnancy. The CDT results revealed an alcohol prevalence rate of 1.3% which corresponds with the self-reported alcohol in pregnancy results and current literature estimating a 1% prevalence rate of FASD births.

Conclusions: Most women screened antenatally at their booking visit using the audit C reported similar levels of alcohol consumption than were indicated by their blood biomarkers obtained at the same visit. However, CDT may not detect the low level drinkers. Therefore, further studies using additional blood biomarkers may be beneficial in detecting a more detailed drinking history.

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