

# Alcohol and Pregnancy



Alcohol Fact  
Sheets for  
Health  
Professionals

## Key points:

In Australia, the National Health and Medical Research Council recommends that responsible drinking during pregnancy must still be considered to be abstinence.

Heavy drinking in pregnancy has the potential to cause harm to the fetus, increasing the risk of Fetal Alcohol Syndrome or Fetal Alcohol Effects.

Alcohol is recognised as a teratogenic substance; that is, it is capable of producing birth defects to the developing embryo or fetus.<sup>1,2</sup>

Low-risk drinking by pregnant women has not been proven to harm the fetus.<sup>3,4,5,6</sup> Researchers are unable to agree on what amount constitutes a low-risk level of alcohol consumption during pregnancy.<sup>4,6</sup>

For non-pregnant women, the National Health and Medical Research Council (NHMRC) recommends low-risk alcohol consumption (i.e. no more than 12 standard drinks per day) on between four to six days a week.<sup>6,7</sup>

For pregnant women, the NHMRC recommends that with the current level of knowledge, responsible drinking during pregnancy must still be considered to be abstinence.<sup>7,8</sup> However, in the light of the uncertainty over low-risk levels of consumption of alcohol during pregnancy, many researchers say these recommendations are in need of review.<sup>3,4,6</sup> Experts consider that further research is needed to support the claims of the abstinence model. Research is needed to:

- Identify the relationship between dose, time and duration of exposure of alcohol on the fetus during pregnancy<sup>3,5,6</sup>
- Address the confounding factors in research such as the interaction of other lifestyle factors: smoking and other drug use, nutritional status, ante-natal care, and other environmental and social factors<sup>4,6</sup>
- Identify universal research methodologies for consumption of alcohol during pregnancy, so that valid and reliable comparisons can be made in all future research in this area.<sup>4,6</sup>

## Alcohol-caused effects in pregnancy

The consequences of alcohol use in pregnancy range from subtle neurological disturbances, reduced birthweight, prematurity, and stillbirth to severe abnormalities such as Fetal Alcohol Syndrome.<sup>1,7</sup> A comprehensive report found that drinking alcohol during pregnancy at hazardous or harmful levels (more than two standard drinks per day) was associated with an increased risk of spontaneous abortion and an increased prevalence of low-birthweight and premature infants, and intrauterine growth retardation.<sup>9</sup>

At the level of alcohol intake defined by the NHMRC as responsible for non-pregnant women (up to two standard drinks per day) risk of spontaneous abortion in pregnant women was elevated by 20%, but the prevalence of low birthweight and prematurity was less than in abstainers by some 7-11%.<sup>9</sup>



An extensive literature review has led to the suggestion that efforts at intervention should be directed more towards the 1.6% of pregnant Australian women who drink at harmful and hazardous levels than the 19.6% who drink at levels classified by the NHMRC as responsible.<sup>6,9</sup>

### Paternal Drinking

There is now growing evidence that the detrimental effects of alcohol on the fetus may also be transmitted by paternal alcohol consumption through the sperm. Researchers are unable to say definitively whether paternal exposure to alcohol results in Fetal Alcohol Syndrome.<sup>10</sup>

### Fetal Alcohol Syndrome

Fetal Alcohol Syndrome (FAS) is classified as an alcohol-related birth defect.<sup>11</sup>

Women who drink heavily during pregnancy may be at risk of producing babies with FAS.<sup>2,12</sup>

Although an association with maternal alcoholism and abnormal development of the offspring was alluded to in early Roman and Greek mythology, it was not until the 1970s that FAS was named as a condition following necroscopic studies of newborns and infants.<sup>13</sup>

The main features of FAS are considered to be:

- Pre- and postnatal growth retardation
- Adverse effects on the central nervous system (CNS): intellectual impairment, developmental delay, neurological abnormalities and behavioural problems
- Characteristic facial features: flattened midface, a small jaw and a thin upper lip<sup>2,14</sup>

Other common features are microcephaly and congenital heart disease (approximately one-third of cases in Western Australia).

FAS can sometimes be diagnosed in the neonate. However, the syndrome may not be recognised until postnatal growth retardation and developmental delay become apparent at one or two years of age.<sup>15</sup>

FAS is now argued to be the leading cause of mental retardation in developed countries, outranking Down syndrome and spina bifida.<sup>1,3,12</sup> However, it is not known if this is the case for Australia. The prevalence of FAS in the western world has been estimated at 0.33 to 1.9 cases per thousand births.<sup>10</sup> Over the period 1980-1993, 26 cases have been notified to the Western Australian Birth Defects Registry, a birth prevalence of 0.078 per 1000 births. Low prevalence may be due to under-diagnosis, under-notification, or both.<sup>16</sup>

Once a woman bears a child with FAS, the probability that subsequent children will have FAS is high (as much as 405 times higher than the population prevalence).<sup>1,14</sup>

### Fetal Alcohol Effects

There are a wide range of effects and features now termed Fetal Alcohol Effects (FAE) where the infant or child has some features of FAS but does not meet the minimal criteria for FAS.<sup>1,19</sup>

Health professionals claim that FAS and FAE are under-reported and under-diagnosed, resulting in an underestimate of the prevalence of these conditions.<sup>14,16,18</sup> The prevalence of FAE is more difficult to estimate because firm diagnostic criteria have not yet been generally agreed on. Most studies however, report much higher rates for FAE than for FAS.<sup>19,20</sup>

## Summary

The use of alcohol in pregnancy raises serious debate in the health and research fields. FAS and FAE are regarded as preventable birth-related defects, and are therefore an important public health issue.<sup>11,19,21</sup> The NHMRC recommends that with the current level of knowledge, responsible drinking during pregnancy must be considered to be abstinence.<sup>7,8</sup>



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