

1. Introduction

In all known societies where alcohol is consumed, men are more likely than women to drink at all and to drink more when they do. Because of this, men have been much more likely than women to experience alcohol problems. However, in recent decades, the gap between men and women has narrowed in relation to both consumption and problems and there is an expectation that women's drinking will move closer to that of men's in future.

The increase in female drinking has been particularly evident in young adults and adolescents.

Market research agencies have already noted that *"the growing independence of women, as well as the trend towards starting a family later in life, makes women a key demographic for alcoholic drinks"* (Euromonitor and justdrinks.com 2005:17).

Many adverse effects of alcohol are common to men and women. However, in some cases, women may be at greater risk. There are also some problems specific to women.

2. Alcohol and women's physical health

In the area of physical health, the evidence suggests that women suffer harm at lower levels of consumption than menⁱ.

The Royal Medical College recently reported that studies conducted on alcohol related harm in women were consistent in suggesting that the consumption level at which relative risk of mortality starts to rise is around 16 grammes of alcohol per day. This is approximately two units, which is the equivalent of a standard glass of wine (175ml), or one pint of beer.

Even allowing for differences in body weight, a woman will attain a higher concentration of alcohol in their blood than men after drinking the same amounts of alcohol. This is because women have a proportionally higher ratio of fat to water than men and are therefore less able to dilute alcohol within the body and because women have lower levels of Alcohol Dehydrogenase (ADH), an enzyme involved in the metabolism of alcohol.

The Liver - Women appear to be more prone to liver damage from alcohol as they develop alcohol related liver disease such as cirrhosis and hepatitis after a comparatively shorter period of heavy drinking at a lower level of daily drinking than men.

Breast Cancer and / or Breast Carcinoma - Alcohol is a carcinogen and long term exposure increases the risk of female breast cancer (one of the most frequent cause of death among younger women) in a dose dependent manner at all agesⁱⁱ with no evidence of a threshold effectⁱⁱⁱ.

The cumulative risk by age 80 years increases from 88 per 1000 non-drinking women to 133 per 1000 women who, at baseline, drank 6 drinks (60g) a day. It is possible that alcohol increases the risk of breast cancer by increasing sex hormone levels that are known to be a risk factor for breast cancer.

Each year alcohol is responsible for 11,000 female breast cancer deaths in the EU.

Fertility - Alcohol consumption during early adolescence may suppress the secretion of specific female reproductive hormones, thereby delaying puberty and adversely affecting the maturation of the reproductive system^{iv}.

Beyond puberty, alcohol has been found to disrupt the normal menstrual cycle, impair fertility^v. A recent Danish study found that even small amounts of alcohol can affect fertility^{vi}.

3. Alcohol during pregnancy

When a pregnant woman drinks alcohol, it passes through her blood and directly reaches the foetus through the placenta. Within a short period of half an hour to one hour, the blood alcohol concentration level is the same in the foetus as it is in the mother. The elimination of alcohol from its system takes between 2 and 3 times longer than for the mother's system.

Alcohol is a teratogen, which means it interrupts or alters the normal development of a foetus.

Its harmful effects can be seen in virtually every part of the foetus, including physical malformations of the face and head and defects in several organ systems, such as the heart, liver, kidney, bones, vision, hearing, the brain and the central nervous system.

Since the foetus' brain and central nervous system continue to develop throughout the entire pregnancy, the foetus' brain is always vulnerable to damage from alcohol exposure. This damage can occur in various regions of the brain, depending on which areas are developing at the time.

Prenatal exposure to alcohol can be associated with a distinctive pattern of intellectual deficits that become apparent later in childhood, including reductions in general intellectual functioning and academic skills; deficits in verbal language, spatial memory and reasoning, reaction time, comprehension skills, balance, and other cognitive and motor skills^{vii}.

Damage to the brain from alcohol exposure can have an adverse effect on behaviour. Some deficits, like problems with social functioning, appear to worsen as these individuals reach adolescence and adulthood, possibly leading to an increased rate of mental health disorders^{viii}: it is estimated that 60% of these individuals end up in an institution (mental health facility or prison).

Although these deficits are most severe and have been documented most extensively in children with Foetal Alcohol Syndrome (FAS)¹, children pre-natally exposed to lower levels of alcohol can exhibit similar problems^{ix} in a dose dependent manner^x, exacerbated by episodic heavy drinking^{xi}.

¹ **FAS** (Foetal Alcohol Syndrome) and **FASD** (Foetal Alcohol Spectrum Disorders):

Foetal Alcohol Syndrome (FAS) is the most severe condition caused by prenatal alcohol exposure. It is characterised by a particular pattern of facial anomalies, pre- and post natal growth retardation, and developmental abnormalities in the central nervous system that often include, but are not limited to, microcephaly, hyperactivity, tremors, agenesis of the corpus callosum, learning disabilities and cognitive impairments.

However, FAS is only the tip of the iceberg and it is in fact the rarest condition, constituting only one tenth of the entire range of conditions which come under the umbrella term FASD (Fetal Alcohol Spectrum Disorders).

Characteristic Findings in Children Exposed to Alcohol in Utero

<p>Characteristic facial anomalies</p> <ul style="list-style-type: none"> —Short palpebral fissures —Ptosis —Flat midface —Upturned nose —Smooth philtrum —Thin upper lip <p>Growth retardation</p> <ul style="list-style-type: none"> —Low relative birthweight —Growth retardation despite adequate nutrition —Low weight relative to height <p>CNS* neurodevelopmental defects</p> <ul style="list-style-type: none"> —Microcephaly —Structural brain abnormalities, including agenesis of the corpus callosum and cerebellar hypoplasia —Other neurologic signs, such as fine motor difficulties, sensorineural hearing loss, poor gait coordination, and poor eye-hand coordination 	<p>Unexplained behavioral abnormalities</p> <ul style="list-style-type: none"> —Learning disabilities —Poor school performance —Poor impulse control —Problems with social perception —Poor language abilities —Poor abstract reasoning —Poor math skills —Impaired memory and judgment <p>Birth defects</p> <p>Including but not limited to:</p> <ul style="list-style-type: none"> —Congenital heart defects —Skeletal and limb deformities —Anatomic renal abnormalities —Ophthalmologic abnormalities —Hearing loss —Cleft lip or palate
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*Central Nervous System

The damage caused by prenatal exposure is permanent. The health effects cannot be reversed, but many of them can be treated with the appropriate combination of interventions and support.

Even at low average volumes of consumption, and particularly during the first trimester of pregnancy alcohol consumption can increase the risk of spontaneous abortion, low birth weight, prematurity and intra-uterine growth retardation^{xii}.

There is also some evidence that alcohol may reduce milk production in breastfeeding mothers^{xiii}.

Although many women give up alcohol when pregnant, there are a substantial number of women in all the EU Member States who continue to drink – ranging from 25% in Spain to 35%-50% in the Netherlands and even higher rates in the UK. Furthermore, a smaller but still not insignificant proportion continue to drink at high levels when pregnant^{xiv}

3. Alcohol as a contributing cause of domestic violence

There is research indicating specific biological mechanisms that link alcohol to aggressive behaviour^{xv}: The pharmacological effects of alcohol include increased emotional liability, focus on

Although the term FASD is not a clinical term, it is an umbrella term used to describe a range of effects that can occur in an individual whose mother drank alcohol during pregnancy. FASD encompasses conditions such as FAS, Partial Foetal alcohol syndrome, alcohol-related neurodevelopmental disorder and alcohol related birth defects. Because the symptoms of the other conditions are less physically obvious than those of FAS, they are harder to diagnose and as a result affected persons are less likely to receive early intervention.

Fetal Alcohol Spectrum Disorders (FASD) is the most common and damaging birth defect in the world, affecting about 1% of people in the EU27 (i.e. nearly 5 Million people are affected by this condition)

the present, less self-awareness, decreased ability to consider consequences or to solve problems, and impaired self-regulation and self-control. These biological pathways are mediated by people's expectations about how people act after drinking. Alcohol also appears to interact with personality characteristics and other factors related to a personal propensity for violence, such as impulsivity ^{xvi}.

Research shows that there is a relationship between greater alcohol use and domestic violence^{xvii}. Although the relationship is attenuated when other characteristics, such as culture, gender, age, social class, criminal status, childhood abuse, and use of other drugs in addition to alcohol are taken into account.

Generally, the higher the level of alcohol consumption, the more serious the violence^{xviii}.

Studies from the United Kingdom^{xix} and Ireland^{xx} indicate that one third of intimate partner violence occurs when the perpetrator is under the influence of alcohol.

A large number of cross-sectional studies^{xxi} and a few longitudinal studies on alcohol consumption and marital aggression have shown that husbands' heavy drinking increases the risk of marital violence^{xxii}, in a dose dependent manner^{xxiii}.

Testa et al. (2003)^{xxiv} reported that episodes of violence in which the husband was drinking involved more acts of violence and were more likely to involve severe violence compared to sober violence episodes. It also seems that treatment for alcohol dependence reduces intimate partner violence^{xxv}.

Domestic violence has been the subject of a large number of studies. The results of the investigation works show that between 16%-71% of domestic or intimate partner violence across Europe is linked to alcohol.

On the other hand, women who are alcohol-dependent often have marital problems^{xxvi} and report high rates of aggression in their spouses^{xxvii}. In addition, women who are in receipt of alcohol related violence tend to drink more^{xxviii}.

4. Alcohol and Sexual violence

There is an overall relationship between greater alcohol use and sexual violence^{xxix}, particularly violence against strangers.

Alcohol-related sexual assaults by strangers seem to be more likely to occur the greater the alcohol consumption of the recipient whereas the risk of alcohol-related sexual assaults by partners or spouses seems to be independent of the alcohol consumption of the recipient^{xxx}. Many recipients develop drinking problems as a response to sexual violence^{xxxi}.

ⁱ Alcohol Policy and the Public Good, Griffith Edwards et al. Oxford University Press 1994

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