



EFFECTS OF ALCOHOL IN FEMALE FERTILITY

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ABSTRACT:

Alcohol consumption has become health hazard in females .Effects of alcohol are high in women when compared to men due to decreased metabolism. Estrogen involves hypothalamus, pituitary, gonads, thyroid and adrenal glands gear up problems in reproduction and liver such as weight complications ,body fat composition irregular menstrual cycle, infertility, PMS and rarely breast cancer . as estrogen plays significant role in pre and early pregnancy and helps foetus to grow until placenta is formed and on the other hand increased consumption of alcohol shows fluctuations in estrogen which is main concern that needs attention for female fertility.Moreover, alcohol alters brain communication pathway leading to dementia ,brain damage and mental health illness. alcoholic dependent females have decreased female characteristics and maximum testosterone .Alcoholics tends to loose female characteristics as it increase in testosterone levels in premenopausal women and decrease in androstenedione this combination means androgen levels are imbalanced and sexual female characteristics decline. As most of women are concerned about infertility in recent times, incidence of infertility can be minimally controlled by limitation of alcohol usage or avoid intake of alcohol in states of pre pregnancy and pregnancy .Public is aware of advantages of folic acid in pre pregnancy in the same way it is significant to know alcohol is one of the reason for infertility in healthy women and limit the usage

Key words: *Alcohol, Estrogen, infertility, pregnancy*

INTRODUCTION:

Alcoholism is significant threat to public health where 5-6% of females are dependent on alcohol and include it in their daily diet . As metabolism of alcohol is minimal in female blood test are elevated compared to male even after same amount of consumption ⁽⁴⁸⁾female are reported with liver damage and other complications Even with intake small quantities. Average intake of alcohol is 1.5 ounces of hard liquor ⁽⁴⁸⁾where increased intake is directly proportional to hormonal changes in their lives. Estrogen level plays pivotal role in women as it causes irregular menstrual cycles, worsen PMS symptoms and lead to infertility ⁽⁴⁷⁾. Estrogen is responsible to stimulate or inhibit hypothalamus, pituitary, gonads, thyroid and adrenal glands becomes origin for reproductive and liver problems along with weight and body fat composition ⁽⁴⁷⁾. Additionally moderate drinkers have dense bone mass because alcohol increases estrogen, where adult women is lack of estrogen i.e.,needed for bone growth and prone to breast cancer. Alcoholics tends to loose female characteristics as it

increase in testosterone levels in premenopausal women and decrease in androstenedione this combination means androgen levels are imbalanced and sexual female characteristics decline. Furthermore, alcohol involves in brain's communication pathways that leads to dementia, brain damage and mental health issues. Some issues are taken into consideration and analysed that requires attention

Infertility:

In western nations, 10% of all marriages have unwanted fertility (2,3). The most frequent form of infertility, known as Tubal factor infertility or TFI, is of unknown origin and is followed by decreased ovulation and poor fallopian tube function. To examine the connection between alcohol consumption and fertility, numerous investigations were carried out. According to the data, excessive alcohol use lowers fertility (9,13). When compared to moderate drinkers, women who consumed more alcohol had a noticeably higher likelihood of being referred to infertility tests. Low alcohol consumers had a decreased risk. Alcohol consumption and infertility risk are correlated in a dose-response manner, suggesting that alcohol has a detrimental effect on fertility

Fecundity:

Fecundity was drastically decreased in women with high consumption where it does effect with limited usage⁽⁴⁹⁾

Conception:

heavy consumers are found to delayed conception⁽⁴⁹⁾

MISCARRIAGE:

High consumers are far more likely to have their first legal abortions registered, although low consumers had a somewhat higher risk of endometriosis, which can also cause miscarriage. According to recent research, heavy drinking was linked to a higher risk of infertility and a lower number of first pregnancies. Alcohol can have a negative impact on both high and low consumers since both groups consumed less than anticipated. For heavy drinkers, alcohol's negative effects may help to explain why there are so many legal abortions, which is a contributing cause to the high number of first pregnancies. Alcohol may cause hormonal imbalances by increasing one's own estrogen levels (28, 29). This can decrease FSH secretion, inhibit folliculogenesis, and interfere with ovulation.

OVULATION:

Alcohol consumption may impair ovum maturation, ovulation, early blastocyst development, and implantation (30, 31). Impaired ovulation has affected women more frequently who consume more. Women in partnerships with subfertile traits may be more vulnerable to higher levels of alcohol consumption. Women in infertile marriages may want to consider limiting their alcohol use or abstaining altogether.

EFFECT OF ALCOHOL IN GESTATIONAL DEVELOPMENT:

The amount of alcohol consumed during pregnancy, or prenatal exposure to ethanol, can be generally divided into three types. Fetal alcohol syndrome is caused by heavy drinking (over 48–60 grams of ethanol per day), moderate high drinking (between 24–48 grams per day), and binge drinking, which is defined as four or more drinks of ethanol (more than 90 grams per day) (38, 39). The amount of alcohol consumed before or during pregnancy has an impact on the fetus' development. Abortions can occur even with moderate or binge alcohol consumption, especially in the first trimester of pregnancy (38). High levels of alcohol intake during pregnancy are said to have negative effects on the developing fetus, with the main consequence being fetal alcohol syndrome. Less severe effects include low birth weight, intrauterine growth retardation (IUGR), lower IQ, and an increase in congenital malformations. Alcohol impacts a developing embryo's CNS and its

TERATOGENICITY:

Alcohol metabolism raises alcohol dehydrogenase (ADH) and acetaldehyde dehydrogenase (ALDH2), intermediate metabolic products that are toxic to the body (35), increasing the early use of alcohol in children who are alcohol-dependent.

When compared to monozygotic twins, dizygotic twins were more likely to have fetal alcohol syndrome (36). Children (18-45) whose moms are dependent on alcohol, drugs, or nicotine are at risk for this condition. Individuals under the age of 14 whose mothers reported drinking alcohol prior to, during, and after pregnancy show increased alcohol consumption. The prevalence of alcohol dependence in kids at age 21 is increased threefold by prenatal exposure (37).

Conclusion

Alcohol have detrimental effects in every individual where female are prone to infertility along with other health issues such as liver problems, breast cancer, dementia etc. it is advised to prevent or avoid alcohol consumption atleast before planning pregnancy for well being of future mother and child. In order to avoid above effects, health care professionals should focus on conducting awareness programs on women health to avoid dependence or limit its usage on daily basis.

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