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Why smoking is a major risk factor in fertility and pregnancy treatment

In general, smoking has a significant impact on fertility and reproductive health of both men and women. Adding to this, in today's fast paced with increased stress levels many couples find themselves lured into consuming tobacco products without realising the deleterious consequences. These consequences get exacerbated especially in IVF (In Vitro Fertilization) treatments.

While cigarettes are the most commonly used tobacco product in pregnancy, alternative forms of tobacco use are e-cigarettes or vaping products, hookahs, and cigars, snus, lozenges, patches and gums.

TYPES OF IMPACT

In men, tobacco consumption causes erectile dysfunction and lowers the sperm DNA and quality. In women it impairs ovarian reserve, steroid hormone production, ovulation, menstrual regularity, fallopian tube function, uterine receptivity and embryo implantation. It also leads to a range of complications in pregnancy for both the baby and mother.

MATERNAL COMPLICATIONS

- placenta previa
- abruptio placentae
- preterm prelabour rupture of membranes
- ectopic pregnancy and
- decreased maternal thyroid function

FOETAL COMPLICATIONS

- preterm birth
- low birth weight
- intrauterine growth restriction
- neonatal respiratory and gastrointestinal diseases
- transfer to the neonatal intensive care unit with admission for more than seven days
- Intrauterine death and neonatal infection

PASSIVE SMOKING

Harmful effects of smoking isn't just limited to active smokers. Second-hand smoke, a mix of smoke from burning tobacco and exhaled smoke can be just as dangerous. In fact, side stream smoke (from the burning end of a cigarette) contains more harmful substances like tar, carbon monoxide and nicotine than the smoke inhaled by the smoker. There is no safe level of exposure whether active or passive.

EFFECTS OF SMOKING ON IVF

Smoking is hazardous in any pregnancy may it be spontaneous conception or IVF pregnancy. It can

- decrease endometrial thickness,
- make embryo implantation more difficult and
- have only 50% success rate.

A Dutch study on IVF and smoking found that just one cigarette a day for 12 months reduces the chance of a live birth by 28 per cent

The American College of Obstetrics and Gynaecology (ACOG) recommends screening and intervention of Nicotine and coexisting alcohol or drug Abuse as important part of prenatal care. The NHS in the UK now offers a breathalyser service to all pregnant women.

BENEFITS OF SMOKING CESSATION

Pregnancy influences many women to stop smoking, and approximately 54% of women who smoke before pregnancy quit smoking directly before or during pregnancy.

Smoking cessation at any point in gestation benefits the pregnant woman and her fetus. The greatest benefit is observed with cessation before 15 weeks of gestation

SUPPORT AND INTERVENTIONS

Healthcare professionals should individualise care by offering psychosocial, behavioural and pharmacotherapy interventions. Available cessation-aid services and resources, including digital resources, should be discussed and documented regularly at prenatal and postpartum follow-up visits.

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