

FEMALE INFERTILITY AND ABORTION RISK ASSESSMENT IN YOUNG FEMALES

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ABSTRACT

Introduction: Infertility in couples has been rising at an alarming rate. Various studies worldwide have been done to determine female infertility & risk factors for abortion in young females. The current review summarizes such studies to get an insight into the risk factors of infertility as well as for abortion. **Method:** Extensive electronic search was done of PubMed, EMBASE and Cochrane database to look for relevant studies done to evaluate infertility in females and their causes and risk factors. **Result:** Infertility is a multifactorial problem and is rising day by day as shown by various studies summarized here.

KEYWORDS: Abortion, female infertility, risk factors, multifactorial.

INTRODUCTION

Infertility is the inability of the couples to bear a child even after 12 months of regular sexual unprotected sexual intercourse (Ashraf *et al.*, 2014). Infertility is not just an issue about quality of life but also could be a disease of the reproductive system that may be a risk factor for other diseases over the life course, such as CVD, cancer & metabolic dysfunction. Because of importance of women's health many studies have been done to improve women's health. Trying to improve reproductive health is the most logical approach for reducing the infertility.

Around 10% of world's population suffers from infertility. Due to the magnitude and impact of infertility, its estimation is essential worldwide. Female infertility can be primary or secondary. According to WHO, primary infertility is when a woman has never conceived & secondary infertility is defined as when the couple had at least one successful conception in the past & after that were unable to conceive. Infertility is a multidimensional problem

associated with social, economic & cultural implications (**Roupa *et al.*, 2009**). The factors responsible for infertility includes-

1. Problem in the fallopian tubes & uterus
2. Disorders of menstruation
3. Sexual disorders
4. Ovarian failure
5. Hormonal disturbance.

Other risk factors for female infertility are age factor, drinking alcohol, tobacco eating habits. There are different methods of diagnosis of female infertility. These are hysterosalpingography, ultrasonography, ovulation testing, ovarian reserve testing, imaging tests, laparoscopy, genetic testing. Ultrasonography is a useful & first line investigation tool available to gynaecologists to assess the causes of female infertility.

Hormones (AMH & FSH) play important role in determination of female infertility. Lowering of AMH levels in serum is the first indicator to reduce ovarian follicular reserves, which can be determined in the blood at any time of the menstrual cycle due to its stability. If the level of FSH is less it indicates that ovaries are not making enough eggs. This indicates infertility. FSH should be measured only during follicular phase, while AMH compared to FSH can be tested every day of the menstrual cycle.

Some researchers have reported that by consumption of some micronutrients female infertility can be improved. Studies showed that higher intake of iron, folic acid & vitD and vit E may play a beneficial role in female infertility (**Banafshe Hosseini *et al.*, 2015**).

Infertility in females

Several studies worldwide have been done to explore the causes of infertility. A study was done to determine the hormonal role of female infertility over a period from January 2013 to June 2017 in the Dukagjini region in the republic of Kosovo in which total 189 samples were taken for the study & hormone analysis was done. Results revealed that women over the age of 35 have an increase in FSH (>20), while having an AMH (<0.5) decreases (**Afrim *et al.*, 2017**). Another study on female infertility was conducted in Department of Obstetrics & Gynaecology from January 2013 to May 2016. In these studies patients of primary and secondary infertility both were taken into the study & diagnosis was done by Hystero-laparoscopy. Results showed that among 100 patients 64% had primary infertility & rest 36%

had secondary infertility. Abnormalities detected by laparoscopy were more common than those by hysteroscopy. In both the groups, ovarian pathology in the form of PCOS & endometriosis were the most common abnormalities detected (**Sunita mishra *et al.*, 2016**).

Another study was done over a period of time from January 2014 until June 2017 in which total of 189 samples were analyzed of women (ages 25 to 55 years old). Hormone analysis was performed in the lab. All the necessary informations have been taken from the patients. For FSH hormone analysis, the collection of blood samples was made from the day 2-3 of the menstrual cycle, while for analysis of AMH hormone, blood samples were collected on each day of the month. Measurement of hormone parameters was done with Roche Elecsys's 411 Automatic Analyzer (**Zafer Gashi *et al.*, 2017**).

Abortion in females

Abortion is defined as termination of pregnancy so that it does not result in the birth of a child. Abortion can be induced or spontaneous abortion. Spontaneous abortion is also called as miscarriage. It is unintentional expulsion of an embryo or foetus before the 24th week of gestation. Chromosomal abnormalities of the embryo or foetus are the most common causes of spontaneous abortion. On the other hand, induced abortion is the intentional termination of pregnancy. It can be elective or therapeutic. Elective abortion is the voluntary termination of pregnancy and is performed surgically and medically. Therapeutic abortion is performed when the pregnancy endangers the mother's health or when the foetus has a condition incompatible with normal life.

A safe abortion is performed with medical standards & with all necessary hygienic care required by women. WHO defines unsafe abortion as a procedure performed to terminate an unwanted. Usually performed by individuals without the necessary issues. In 2003, it is estimated that 42 million abortions were performed on women between the ages of 15 & 44 years. Risk factors that increase the risk of miscarriage includes age, previous miscarriage, chronic conditions, uterine or cervical problems, smoking, alcohol & illicit drugs, weight & invasive prenatal test.

Study on abortion was done to identify risk factors associated with repeat abortion. In this a questionnaire was answered by 798 abortion seeking rural women & regression model was used to assess risk factors for repeat abortion & results concluded that specific factors like

parity, lack of emotional support & unemployment are responsible for repeat abortion (Mariene *et al.*, 2011).

A study was conducted to investigate spontaneous abortion occurring due to life status. The study was done among 40 young rural pregnant women of age between 12 to 20 yrs old by implementing a questionnaire during 2012 to 2013 in villages. These women were exposed to high risk factors such as shortage or lack of drinking water, high pressure electric power sources & chemicals released from burning gas both from cooking & cars as a fuel. Data was collected from the pregnant women coming into clinics (Syed Abbas *et al.*, 2014).

CONCLUSION

The various studies done to evaluate the causes and risk factors of female infertility and abortion demonstrated various causes and risk factors ranging from genetic, environmental and anatomical. Chromosomal aberration assays of fetus should be a mandatory part of prenatal care to throw light on risk of abortion. It was also concluded from certain studies that combined hystero-laparoscopy can be employed for evaluation of infertility to diagnose for effective diagnosis.

After the study on spontaneous abortion it was concluded that a surveillance program should be undertaken in case of environmental shortages for pregnant rural women and some specific factors were found to be responsible for repeat abortion but overall it was considered that there is a need for prevention of unintentional pregnancies.

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