

# INFERTILITY IN WOMEN AND MEN

**definition, CAUSES , MEDICO LEGAL IMPORTANCE**

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## DEFINITION OF INFERTILITY

Infertility is inability to be get children  
or  
inability to procreate progeny.

# DEFINITION OF INFERTILITY

## Clinical definition by WHO

Infertility is “a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after **12 months** or more of regular unprotected sexual intercourse.”... (WHO-ICMART glossary1).

## WHO definition.....

- Infertility is the inability of a sexually active, non-contracepting couple to achieve pregnancy in **one year**.
- The male partner can be evaluated for infertility or subfertility using a variety of clinical interventions, and also from a laboratory evaluation of semen."

## EPIDEMIOLOGICAL DEFINITION OF INFERTILITY

Women of reproductive age (15-49 years) at chance of becoming pregnant ( sexually active, not using contraception and not lactating) who report trying **unsuccessfully for a pregnancy for two years or more**. (Reproductive Health Indicators for monitoring and surveillance) )

**Infertility is the inability to conceive and/or bear children by natural means.**

Infertility is a disease of the reproductive system that impairs one of the body's most basic functions:

the conception of children. Conception is a complicated process that depends upon many factors: on the production of **healthy sperm** by the man and **healthy ovum** by the woman; **unblocked fallopian tubes** that allow the sperm to reach the ovum; the sperm's ability to fertilize the ovum when they meet; the ability of the fertilized egg (embryo) to become implanted in the woman's uterus; and sufficient embryo quality. Finally, for the pregnancy to continue to full term, the embryo must be healthy and the **woman's hormonal environment** adequate for its development. When just one of these factors is impaired, **infertility can result.**

## CAUSES OF INFERTILITY IN FEMALE

1. sexual problem – frigidity, vaginismus.
2. anovulation
3. tubal disorders
4. cervical problem (scarring after surgery, mucus dysfunction)
5. endometrial problem – (fibroids, adhesions or polyps) defective implantation.

# Common Causes Female Infertility

## Ovulation Disorders Causes:

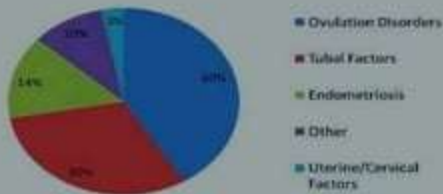
- Aging
- Diminished ovarian reserve
- Premature ovarian failure
- Endocrine disorders (as PCOS)

## Tubal Causes:

- Pelvic inflammatory disease
- Tubal Surgery
- Previous ectopic pregnancy
- Salpingectomy

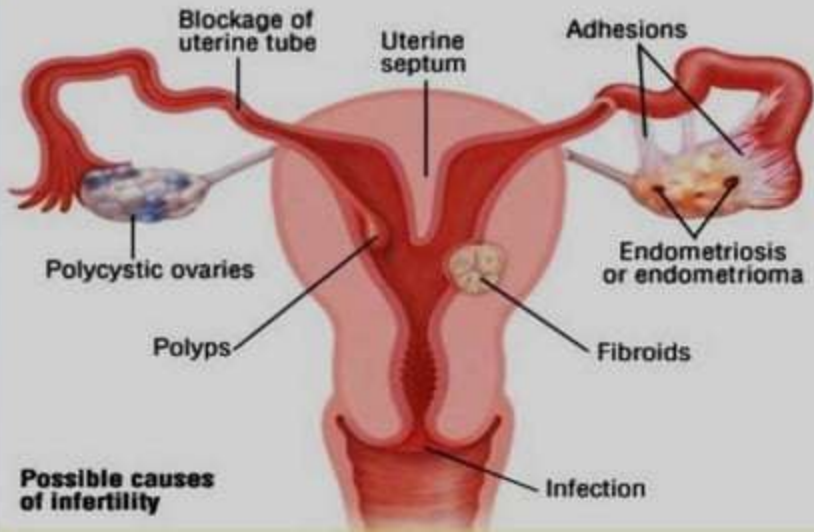
## Uterine/Cervical Causes:

- Congenital uterine anomaly
- Fibroids
- Endometriosis
- Poor cervical mucus quantity/quality
- Infection





# Possible causes of infertility



causes of **subfertility remain unexplained.**

increased BMI,  
use of recreational drugs  
and heavy smoking.

For women, **Polycystic ovary syndrome** (PCOS) is by far the commonest cause.

Other causes of **anovulation** include

1. hypothalamic hypogonadism,
2. Hyper prolactinaemia,
3. premature ovarian failure
4. thyroid disease (both hyper- or hypothyroidism can cause subfertility)

## Causes of female infertility can be divided into:

1. Problems of ovulation
2. Problems of the tubes, uterus or cervix (anatomical disorders)
3. Other
  - a). Hyper prolactinaemia
  - b). Premature Ovarian Failure
  - c). Chromosomal disorders

## Disorders of ovulation

There are 3 types:

**Group I – Hypothalamic Pituitary failure**

Hypogonadotrophic hypogonadism – There is a failure of the **hypothalamic-pituitary axis** to produce the required amounts of **FSH and LH**. The end result is that there is **no ovulation**.

**Group II** Sometimes referred to in this context as hypothalamic-pituitary-ovarian dysfunction. The result of **PCOS**

This is the most common cause of ovulation disorders

The **excess androgens** that are associated with PCOS inhibit ovulation

### Group III – Ovarian failure

**Hyper gonadotrophic hypogonadism** – there is normal function of the hypothalamus and pituitary gland, however, there are **insufficient follicles in the ovary.**

**low oestrogen is produced.**

As a result – ovulation does not occur.

## Premature ovarian failure

Defined as cessation of menses before the age of 40 (many gynaecologists use age <45).

Typically as a result of **exhaustion of the supply of oocytes**. Affects about 1% of women.

Can be caused by:

- a). Genetic factors
- b). Autoimmune disease
- c). Damage to ovaries by radiotherapy, chemotherapy, surgery or other cause

## Hyper prolactinaemia

A very **common cause** of female infertility

Prolactin is another hormone usually **produced by the pituitary gland**, and as such, it can affect the **hypothalamic pituitary axis**

**High levels of prolactin inhibit the release of GnRH** from the hypothalamus as part of a feedback loop.

As a result, in hyper prolactinaemia of **FSH and LH levels are reduced**, This can result in **anovulatory cycles**.

Common causes include:

- a). Hypothyroidism
- b). Pituitary tumour
- c). Other tumours can also cause anovulation

## Chromosomal disorders

### Turner Syndrome (X-)

Loss or abnormality of the second X chromosome  
Ovaries typically do not develop, or are very underdeveloped

### Klinefelter's Syndrome - XXY

XXX karyotype

The most common female chromosomal abnormality  
1 in 1000 females  
Typically normal fertility, but an increased risk of premature ovarian failure



## Problems of tubes, uterus and cervix

Fallopian tubes are the most commonly damaged part of the anatomy.

There are delicate structures with cilia that helps to 'waft' the egg from the ovary towards the uterus.

Problems can be congenital (about 2%) or acquired (98%).


### Causes of acquired problems include:

a). Pelvic inflammatory disease/ complicated S T D /infections. Chlamydia and gonorrhoea are the most common causes

Previous termination

## ACQUIRED CAUSES.....

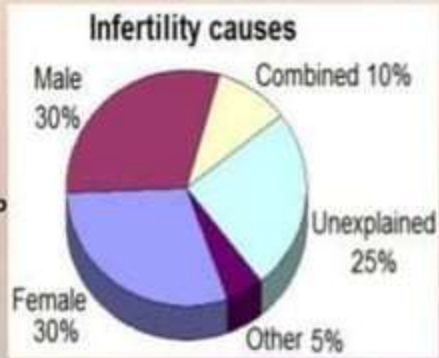
- "criminal abortions" may cause fallopian damage
- Postpartum infections in previous pregnancies
- Abdominal infections (typically as a result of adhesions) – e.g. previous appendicitis
- b). Endometriosis – again, due to adhesions,
- c). Cone biopsy may alter the anatomy of there uterus and reduce fertility
- d). Cervical mucus issues
- e). Fibroids



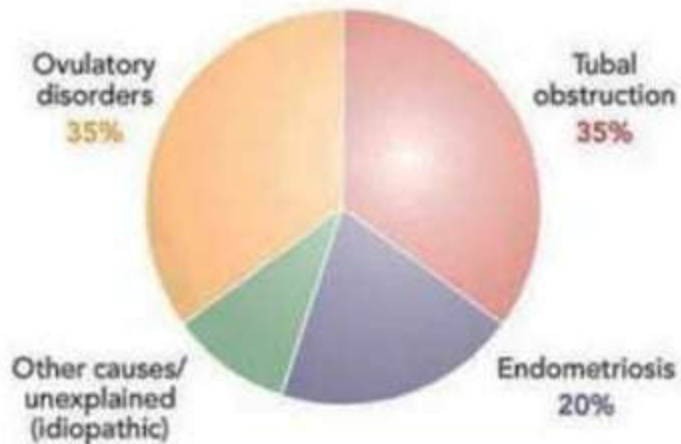
**Causes and their percentages of infertility**  
assessed in various research studies in different  
groups of people----- in upcoming slides

## Factors Involve In Female Infertility:

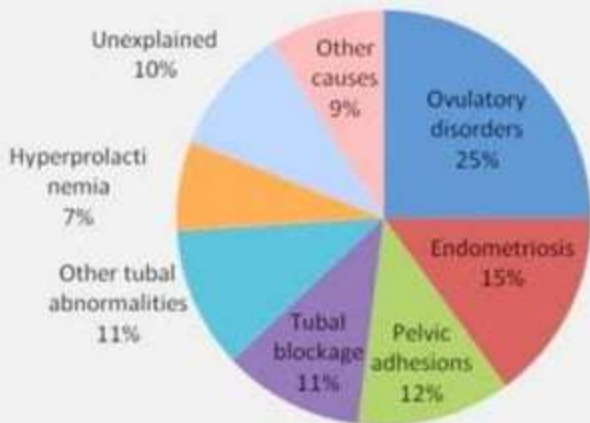
- Hormonal Problems
- Scarred Ovaries
- Premature Menopause
- Follicle Problems
- Endometriosis
- 10% of infertility cases in female is due to abnormal uterus.
- 3% of couples face infertility due to females cervical mucus.
- Other Factors Are:
  - Diet an exercise,smoking,alcohols,drugs,Age



## Causes of female infertility



## Causes of female infertility





# CAUSES OF INFERTILITY IN MALE

## Male causes

Can be roughly divided into:

- a). Disorders of the testes (spermatogenesis)
- b). Disorders of the genital tract
- c). Other causes



1. **Disorder of spermatogenesis : Azoospermia** is the absence of motile sperm in the semen, the lower the sperm count, the worse the prognosis

causes: 1. **Genetic disorders**

a). **Klinefelter's syndrome** – XXY – associated with hypogonadism and disorders of spermatogenesis. It is the most common chromosomal disorder associated with infertility

b). **Kallman syndrome**

c). **Androgen insensitivity syndrome** – XY karyotype, but appears as female due to insensitivity to androgens

2. **Cryptorchidism**

Failure of the testes to descend early orchidopexy (age 6-12 months) improves spermatogenesis and fertility in adulthood

### 3). Varicocele

Associated with reduced fertility  
Repair may improve sperm counts .

### 4). Testicular tumours

### 5). Trauma - anti sperm antibodies.

### 6). Pituitary causes

a). Pituitary tumours

b). Hyperprolactinaemia

May cause reduction of GnRH secretion, which in turn leads to reduction in FSH and LH, and reduced testosterone. Rare in men. Usually the result of a pituitary tumour. Symptoms may include reduced libido and erectile dysfunction

### 7). Cushing's disease

### 8). Pan hypopituitarism

## 2. Disorders of the genital tract

a). **Congenital**

b). Acquired – Previous **vasectomy**, even if the procedure is reversed,

**sperm antibodies** have been developed, making proper spermatogenesis difficult.

c). **Obstruction** of epididymis, ejaculatory ducts or seminal ducts

can be acquired following trauma, surgery or infection.

sometimes **obstruction may be congenital**

## Other Causes

1. *Retrograde ejaculation,*
2. *anejaculation*
3. *Erectile dysfunction ( impotence)*
4. *Idiopathic ( cause not known )*

unknown cause **in about 45% of men**

## Genetic syndromes that manifest male or female infertility

fragile X syndrome,  
Kartagener's syndrome,  
myotonic dystrophy,  
Noonan syndrome,  
Fanconi's anaemia,  
sickle cell anaemia,  
 $\beta$ -thalassemia, etc.

## Other notable conditions include disorders of sex development

Hypo gonado trophic hypogonadism  
Kallmann syndrome  
Ambiguous genitalia and androgen insensitivity ,  
Congenital bilateral absence of vas deferens

## Management – Female and male Infertility

There are three types of infertility treatment.

1. Medical,
2. surgical, and
3. assisted reproduction techniques

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# LEGAL ASPECT OF INFERTILITY

The image features a dark blue background with white, stylized circuit board traces in the corners. The traces consist of lines and small circles, resembling electronic components or connections. The text is centered on the page.

**A POTENT PERSON MAY BE STERILE,**

AT THE SAME TIME

**A FERTILE PERSON MAY SUFFER FROM  
IMPOTENCY.**



## Infertility can't be grounds for divorce: High Court

Impotency and infertility are completely distinct terms.

Unlike impotency, infertility cannot be grounds for divorce,

the Bombay high court (HC) ruled on , Jul 24, 2012 .



THANKING YOU