DOI: 10.56511/JIPBS.2016.v3.i03.pp57-68

Journal of Innovations in Pharmaceuticals and Biological Sciences
www.jipbs.com

JIPBS

e-ISSN: 2349-2759 p-ISSN: 2395- 1095

Review article

Infertility a physiological and psychological disease: A Review

Zebunnesa Ahmed*

Department of Pharmacy, Southeast University, Banani, Dhaka, Bangladesh.

Abstract

Infertility now a common problem for human, Infertility may be caused by infection in the man or woman, but often there is no obvious underlying cause. Infertility is not a physically debilitating disease. However, the desire to have a child is the strongest that people experience and no wonder that infertility is ranked among life's greatest stresses, similar in intensity of having a life threatening illness. It also affects the psychological harmony of sexual life and social function, even in those countries where the family planning and birth control is their special policy and social vogue. Unfortunately, because infertility involves the loss of something that has never been, it goes unnoticed. Perhaps that is why infertile couples have been called the most neglected silent minority. There has not been any major increase in the prevalence of infertility in recent years, but there is a greater awareness of the problem and also availability of more effective treatments like in vitro fertilization even in countries like Bangladesh. In my work, I try to find out the main causes, symptom, and treatment of infertility. For infertility problem, some factor helps to develop this problem. It is a disease, which related to the reproductive system. To overcome this problem or difficulties management of different care level is important.

Key words: Infertility, Prevalence, Reasons, Pathophysiology, Management.

***Corresponding Author: Zebunnesa Ahmed,** Department of Pharmacy, Southeast University, Banani, Dhaka, Bangladesh.

1. Introduction

Incidence according to data provided by the United Nations Population Division, the world population in1991 was about 5.3 billion and half of the world's residents are women. About 20% of females are in the reproductive age and the mean incidence of infertility throughout the globe would be approximately 90 million. In a rural population of Bangladesh, 3.2 percent of married women of reproductive age have primary infertility and 3.0 percent has secondary infertility. Majority of infertile women that is more than 40 percent believed this to be their fate and about 33 percent accused themselves for infertility. Infertility is rather nonscientific, including an inability of a man or a woman to contribute to the conception of a child and not being able to get pregnant despite having frequent, unprotected sex for at least one year with the same male partner.

©JIPBS, All rights reserved

Because it involves an inability to achieve a desired social role, infertility is often associated with psychological distress [1]. The presence of infertility is signaled, not by the presence of pathological symptoms, but by the absence of a desired state [2]. Several studies demonstrate that infertile women who experience rejection or pressure from husbands and family experience higher levels of distress [3-5]. Husbands, too, find treatment stressful [6], but men who perceive healthcare professionals as supportive report lower levels of stress and anxiety [7]. Another study find that patients reported feeling that they have little control over treatment and that they are not being treated like people [8].

2. Infertility

Infertility is usually defined as the inability to conceive after one year of regular unprotected coitus, Infertility is said to be primary when that couple has not previously initiated a pregnancy and secondary when they have been successful on at least one previous occasion. Normal fertility means the achievement of pregnancy by a couple within two years of regular coital exposure. Those couples who do not achieve a pregnancy within two years include sterile members of the population, for whom there is no possibility of natural pregnancy and the remainder are those who are sub fertile. Together they comprise the infertile population. The term sterile may refer to either the male or female, whereas the term sub-fertile refers to the couple. Infertility is a condition that causes considerable psychological distress to the couples. Even though the exact prevalence of infertility in Bangladesh is difficult to ascertain, it affects 10 to 15% couples in the western world. There has not been any major increase in the prevalence of infertility in recent years, but there is a greater awareness of the problem and also availability of more effective treatments like in vitro fertilization even in countries like Bangladesh. Some estimates suggest that worldwide "between three and seven per cent of all couples or women have an unresolved problem of infertility. Many more couples, however, experience involuntary childlessness for at least one year: estimates range from 12% to 28%." Fertility problems affect one in seven couples in the UK. Most couples (about 84 out of every 100) who have regular sexual intercourse (that is, every two to three days) and who do not use contraception get pregnant within a year. About 92 out of 100 couples who are trying to get pregnant do so within two years. Women become less fertile as they get older. For women aged 35, about 94 out of every 100 who have regular unprotected sexual intercourse get pregnant after three years of trying. The effect of age upon men's fertility is less clear.

In people going forward for IVF in the UK, roughly half of fertility problems with a diagnosed cause are due to problems with the man, and about half due to problems with the woman. However, about one in five cases of infertility has no clear diagnosed cause. On the other hand, it has been stated that, in cases with a good prognosis, couple should be encouraged to wait because they have a similar chance of achieving pregnancy without treatment [9-10]. In Britain, male factor infertility accounts for 25% of infertile couples, while 25% remain unexplained. 50% are female causes with 25% being due to an ovulation and 25% tubal problems/other. In Sweden, approximately 10% of couples wanting children are infertile. In approximately one third of these cases the man is the factor, in one third the woman is the factor, and in the remaining third the infertility is a product of factors on both parts. The potential causes of unexplained infertility have been

described as disturbances in endocrinological balance, immunology and genetic and reproductive physiology [11].

Reproductive system

Female reproductive system or genital system is a system of organs within an organism, which work together for the purpose of reproduction. Many non-living substances such as fluids, hormones, and pheromones are also important accessories to the reproductive system. Unlike most organ systems, the sexes of differentiated species often have significant differences. These differences allow for a combination of genetic material between two individuals, which allows for the possibility of greater genetic fitness of the offspring. In mammals, the major organs of the reproductive system include the external genitalia (penis and vulva) as well as a number of internal organs including the gamete producing gonads (testicles and ovaries). Diseases of the human reproductive system are very common and widespread, particularly communicable sexually transmitted diseases.

Reasons of Female Infertility

1. Ovulate: Ovulatory disorders are one of the most common reasons why women are unable to conceive, and account for 30% of women's infertility. Fortunately, approximately 70% of these cases can be successfully treated by the use of drugs such as Clomiphene and Menogan/Repronex.

2. Hormonal Problems: These are the most common causes of an ovulation. The process of ovulation depends upon a complex balance of hormones and their interactions to be successful, and any disruption in this process can hinder ovulation. Hormonal problems may further cause-

Failure to produce mature eggs

In approximately 50% of the cases of an ovulation, the ovaries do not produce normal follicles in which the eggs can mature. Ovulation is rare if the eggs are immature and the chance of fertilization becomes almost nonexistent. Polycystic ovary syndrome, the most common disorder responsible for this problem, includes symptoms such as amenorrhoea, hirsutism, an ovulation and infertility. This syndrome is characterized by a reduced production of FSH, and normal or increased levels of LH, oestrogen and testosterone.

Malfunction of the hypothalamus

The hypothalamus is the portion of the brain responsible for sending signals to the pituitary gland, which, in turn, sends hormonal stimuli to the ovaries in the form of FSH and LH to initiate egg maturation.

Malfunction of the pituitary gland

The pituitary's responsibility lies in producing and secreting FSH and LH. The ovaries will be unable to ovulate properly if either too much or too little of these substances is produced. This can occur due to physical injury, a tumor or if there is a chemical imbalance in the pituitary.

3. Scarred Ovaries

Physical damage to the ovaries may result in failed ovulation. For example, extensive, invasive, or multiple surgeries, for repeated ovarian cysts may cause the capsule of the ovary to become damaged or scarred, such that follicles cannot mature properly and ovulation does not occur. Infection may also have this impact.

4. Premature Menopause

This presents a rare and as of yet unexplainable cause of an ovulation. Some women cease menstruation and begin menopause before normal age. It is hypothesized that their natural supply of eggs has been depleted or that the majority

of cases occur in extremely athletic women with a long history of low body weight and extensive exercise.

5. Follicle Problems

Although currently unexplained, "unruptured follicle syndrome" occurs in women who produce a normal follicle, with an egg inside of it, every month yet the follicle fails to rupture. The egg, therefore, remains inside the ovary and proper ovulation does not occur.

6. Causes of Poorly Functioning Fallopian Tubes

About 25% (approximately) of infertile couples are affected by tubular disorder. This may vary from mild adhesions to complete tubal blockage. Tubal diseases are treated in many ways, most commonly surgery and, like advances in microsurgery and lasers, And about 30% of female patients become pregnant after 1 year of surgery & some advanced procedure may increase this rate up to 65%. The main causes of tubal damage include:

Infection

Caused by both bacteria and viruses and usually transmitted sexually, these infections commonly cause inflammation resulting in scarring and damage. A specific example is Hydrosalpinx, a condition in which the fallopian tube is occluded at both ends and fluid collects in the tube.

Abdominal Diseases

The most common of these are appendicitis and colitis, causing inflammation of the abdominal cavity, which can affect the fallopian tubes and lead to scarring and blockage.

Previous Surgeries

This is an important cause of tubal disease and damage. Pelvic or abdominal surgery can result in adhesions that alter the tubes in such a way that eggs cannot travel through them.

Ectopic Pregnancy

This is a pregnancy that occurs in the tube itself and, even if carefully and successfully overcome, may cause tubal damage and is a potentially life-threatening condition.

Congenital Defects

In rare cases, women may be born with tubal abnormalities, usually associated with uterus irregularities.

Male Infertility

Male infertility has many causes from hormonal imbalances, to physical problems, to psychological and/or behavioral problems. Moreover, fertility reflects a man's "overall" health. Men who have a healthy lifestyle are more likely to produce healthy sperm. The following list highlights some lifestyle choices that negatively impact male fertility. It is not all-inclusive: Smoking--significantly decreases both sperm count and sperm cell motility. Prolonged use of marijuana and other recreational drugs, Chronic alcohol abuse, Anabolic steroid use causes testicular shrinkage and infertility. Overly intense exercise-produces high levels of adrenal steroid hormones, which cause a testosterone deficiency resulting in infertility. Inadequate vitamin C and Zinc in the diet. Tight underwear increases scrotal temperature which results in decreased sperm production. Exposure to environmental hazards and toxins such as pesticides, lead, paint, radiation, radioactive substances, mercury, benzene, boron, and heavy metals Malnutrition and anemia. Excessive stress modifying these behaviors can improve a man's fertility and should be considered when a couple is trying to achieve pregnancy.

1) Hormonal Problems

A small percentage of male infertility is caused by hormonal problems. The hypothalamus-pituitary endocrine system regulates the chain of hormonal events that enables testes to produce and effectively disseminate sperm. Several things can go wrong with the hypothalamus-pituitary endocrine system: The brain can fail to release gonadotrophic releasing hormone (GnRH) properly. GnRH stimulates the hormonal pathway that causes testosterone synthesis and sperm production. A disruption in GnRH release leads to a lack of testosterone and a cessation in sperm production. The pituitary can fail to produce enough lutenizing hormone (LH) and follicle stimulating hormone(FSH) to stimulate the testes and testosterone/sperm production. LH and FSH are intermediates in the hormonal pathway responsible for testosterone and sperm production. The testes' Leydig cells may not produce testosterone in response to LH stimulation. A male may produce other hormones and chemical compounds which interfere with the sex-hormone balance. Here is a list of hormonal disorders which can disrupt male infertility.

Hyperprolactinemia
Elevated prolactin a hormone associated with nursing mothers, is found in 10 to 40 percent of infertile males. Mild elevation of prolactin levels produces no symptoms, but greater elevations of the hormone reduce sperm production, reduces libido and may cause impotence. This condition responds well to the drug Parlodel (bromocriptine).

Hypothyroidism
Low thyroid hormone levels--can cause poor semen quality, poor testicular function and may disturb libido. May be caused by a diet high in iodine. Reducing iodine intake or beginning thyroid hormone replacement therapy can elevate sperm count. This condition is found in only 1 percent of infertile men.

Congenital Adrenal Hyperplasia:
It occurs when the pituitary is suppressed by increased levels of adrenal androgens. Symptoms include low sperm count, an increased number of immature sperm cells, and low sperm cell motility is treated with cortisone replacement therapy. This condition is found in only 1 percent of infertile men.

Hypogonadotropic Hypopituitarism
Low pituitary gland output of LH and FSH. This condition arrests sperm development and causes the progressive loss of germ cells from the testes and causes the seminiferous tubules and Leydig (testosterone producing) cells to deteriorate. May be treated with the drug Serophene. However, if all germ cells are destroyed before treatment commences, the male may be permanently infertile.

Panhypopituitarism
Complete pituitary gland failure--lowers growth hormone, thyroid-stimulating hormone, and LH and FSH levels. Symptoms include: lethargy, impotence, decreased libido, loss of secondary sex characteristics, and normal or undersized testicles. Supplementing the missing pituitary hormones may restore vigor and a hormone called hCG may stimulate testosterone and sperm production.

2) Physical Problems
A variety of physical problems can cause male infertility. These problems either interfere with the sperm production process or disrupt the pathway down which sperm travel from the testes to the tip of the penis. These problems are usually characterized by a low sperm count and/or abnormal sperm morphology. The following is a list of the most common

physical problems that cause male infertility:

Variocoele

Varicocele is an enlargement of the internal spermatic veins that drain blood from the testicle to the abdomen (back to the heart) and are present in 15% of the general male population and 40% of infertile men. These images show what a variocoele looks like externally and internally.

A varicocele develops when the one way valves in these spermatic veins are damaged causing an abnormal back flow of blood from the abdomen into the scrotum creating a hostile environment for sperm development. Varicocoeles may cause reduced sperm count and abnormal sperm morphology which cause infertility. Variococles can usually be diagnosed by a physical examination of the scrotum which can be aided by the Doppler stethoscope and scrotal ultrasound. Varicocoele can be treated in many ways (see treatment section), but the most successful treatments involve corrective surgery.

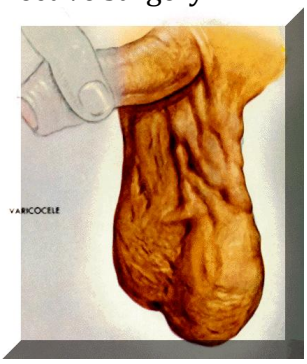


Figure 1. Normal spermatic veins

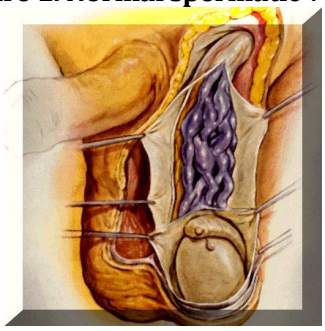


Figure 2. Varicocele in spermatic veins

Damaged Sperm Ducts

Seven percent of infertile men cannot transport sperm from their testicles to out of their penis. This pathway may be blocked by a number of conditions: A genetic or developmental mistake may block or cause the absence of one or both tubes(which transport the sperm from the testes to the penis). Scarring from tuberculosis or some STDs may block the epididymis or tubes. An elective or accidental vasectomy may interrupt tube continuity.

Torsion

It is a common problem affecting fertility that is caused by a supportive tissue abnormality, which allows the testes to twist inside the scrotum which is characterized by extreme swelling. Torsion pinches the blood vessels that feed the testes shut which causes testicular damage. If emergency surgery is not performed to untwist the testes, torsion can seriously impair fertility and cause permanent infertility if both testes twist.

Infection and Disease

Mumps, tuberculosis, brucellosis, gonorrhea, typhoid, influenza, smallpox, and syphilis can cause testicular atrophy. A low sperm count and low sperm motility are indicators of this condition. Also, elevated FSH levels and other hormonal problems are indicative of testicular damage. Some STDs like gonorrhea and chlamydia can cause infertility by blocking the epididymis or tubes. These conditions are usually treated by hormonal replacement therapy and surgery in the case of tubular blockage.

3. Treatment

There are different types of treatment likes that: Surgery & Drug treatment

Surgery

Disorders related to the cervix, which may have a structural or hormonal basis, account for about 15% of couples with fertility problems. Cervical problems may be treated with surgery to amend structural problems, or hormonal therapy that would correct problems with cervical mucus. Problems with the cervix can be bypassed with intrauterine insemination (IUI), injecting sperm with a catheter directly through the cervix into the uterus. Abnormalities in the uterus or fallopian tubes present another category of female infertility problems. Some of these abnormalities can be corrected through surgery, or through selective IUI to direct sperm to the patient's fallopian tube. Approximately 15% of couples with fertility problems have disorders related to tubal or uterine problems. Pelvic problems, primarily endometriosis and adhesions, may also be treated with surgery. Problems relating to the pelvic environment account for about 15% of fertility problems. Many of the problems mentioned above may be treated with assisted reproductive technologies (ARTs). The major ART procedures include in vitro fertilization (IVF), embryo cryopreservation, and micro-manipulation techniques. In IVF, after the ovulatory stimulation, oocytes are surgically retrieved from the woman, combined with the partner's (or donor's) sperm in the laboratory, incubated for one to three days, and then transferred into the woman's uterus, where implantation and development of a healthy baby will hopefully occur.



Figure 3. Catheter woman's fallopian tube

Less commonly used ARTs include gamete intrafallopian transfer (GIFT) and zygote intrafallopian transfer (ZIFT). GIFT requires the woman to have a functional fallopian tube and is performed in a single procedure. The woman's eggs and the sperm are combined in a catheter and immediately inserted into the woman's fallopian tube, rather than mixing oocytes and sperm in the laboratory. ZIFT has a very poor success rate and is rarely used today. Embryo cryopreservation is a procedure in which multiple oocytes are removed from a woman, fertilized, and then frozen for future use. This technique allows multiple transfers to occur with only one cycle of stimulation and retrieval. Often times, older women may require donor oocytes in order to become pregnant. If none of these procedures prove successful, gestational surrogacy may be considered in the case of women with healthy eggs who cannot carry a pregnancy to term.

Drugs that reduce infertility

Many drugs, both prescribed and those used recreationally, can reduce fertility. Some examples are shown in table 1 and table2.

Table 1. Recreational drugs that may affect fertility.

Recreational drug	Effect
Alcohol	Reduces sperm count and quality
Tobacco	May reduce sperm motility
Marijuana	May affect hormone production
Opiates (heroin, morphine)	Affect hormone production
Anabolic steroids	Affect hormone production

Table 2. Prescribed drugs that may affect fertility.

Prescribed drug	Effect	Main use
Amiodarone	Inflammation of the testicles and epididymis (epididymo-orchitis) leading to problems with sperm production	Abnormal heart rhythm
Cancer chemotherapies	May severely reduce sperm count, quality and motility. Effects may be permanent	Cancer
Cimetidine	Affects hormone production and reduces sperm count	Peptic ulcer and acid reflux disease, indigestion
Colchicine	May severely reduce sperm count	Gout
Digoxin	Affects hormone production	Heart failure; abnormal heart rhythm
Erythromycin	May reduce sperm count	Chest infections
Gentamicin	Reduces sperm count	Bacterial infections
Hormonal therapies	May disrupt other hormone production	Various
Ketoconazole	Reduces sperm count	Fungal infections
Methotrexate	Reduces sperm count	Some cancers; arthritis
Nitrofurantoin	Reduces sperm count	Urinary tract infection
Phenytoin	Reduces sperm quality and motility	Epilepsy
Spironolactone	Affects hormone production	Fluid retention
Sulphasalazine	Reduces sperm count and quality	Ulcerative colitis

Environmental toxins and radiation
Several media reports have highlighted research studies showing that sperm counts are falling and that male fertility is declining, possibly because of environmental pollution. Any fertility concerns related to prescribed drugs should be discussed with your GP – do not just stop taking them yourself. A similar number of studies have shown no change whatsoever, but these do not make such good headlines and often fail to be reported in the media. One thing is certain, and that is many more environmental toxins that might affect fertility exist now than 50 years ago.

Table 3: Environmental toxins that may affect fertility

Potential toxin	Origin	Effect
Alkylphenols	Industrial and domestic detergents	Hormonal disrupter
Organochlorine pesticides (Lindane, DDT etc)	Lindane used on cereals, soft fruits, cabbage	Hormonal disrupter
Phthalates	Some soya products	Hormonal disrupter, testicular toxin
Phyto-oestrogens (found in certain types of plant products)	Some soya products	Hormonal disrupter
Vinclozolin	Hormonal disrupter, testicular toxin	Hormonal disrupter

Management of infertility at primary care

Male Factor (Incidence)

1) Male factor is important cause in approximately 40% of infertile couples.
2) In 15%-30% of cases both partners have detectable abnormalities.
3) Thus male factor plays significant role in about 50% of infertile couples.

Asses the opportunities for conception

History of (H/O) Duration of fertility and past fertility.

H/O Smoking and alcohol consumption.

H/O Mumps, orchitis or other infection.

H/O Sexual function- frequency/adequacy of erection and use of lubricants.

Medical history of significance

Previous history with diseases may also affect the infertility of a person. The common diseases which may cause these types of problems are: Bronchitis, Diabetes Mellitus, Recent pyrexial illness, Thyroid disorder and Surgery of various diseases such as Herniorraphy, Vasectomy, Hydrocele repair, Varicocele, Prostatectomy.

Drug history of significance

Drug history of significance is important factor for any kind of diseases such as sulphasalazine reduces concentration and motility of sperms. Nitrofurantoin can cause spermatogenic arrest. Tetracycline interferes with sperm motility. Cemetidine seminal abnormalities, gynecomastia and impotence. Ketoconazole causes impotence, loss of libido and gynecomastia. Colchicine and allopurinol causes defects of fertilization. Adrenergic blockers /MAG inhibitors/ Trycyclic antidepressant drugs cause ejaculatory defect. Chemotherapeutic agents induce chromosomal abnormalities. Cannabis/ Anabolic steroid affects sperm morphology and motility that is more abnormal forms of sperm.

Female (Investigations at Primary care level)

History and examination: Following points should be remembered female rubella status plasmafolic acid level If BMI >30, advice weight loss drug history occupational history cervical smear history consider early

1. Female age > 35 yrs
2. Amenorrhoea/Oligomenorrhoea
3. Previous abdominal/pelvic surgery
4. Previous PID/ STD
5. Abnormal findings in pelvic examination.

Mid luteal progesterone level should be done to confirm ovulation. Serum progesterone should be measured 7 days before expected period in all women. Interpret after next period starts-If correctly timed and found to be < 16 nmol/L-Repeat in another cycle. If consistently low refer to specialist. If> 16 nmol/L but < 30 nmol/L -repeat in another cycle. If the same or lower, may be indication for controlled ovarian stimulation. So needs referral to specialist. If serum progesterone > 30 nmol/L-consider as proof of adequate ovulation.

Management at primary care level

High spontaneous pregnancy rates have been observed in couples with unexplained in fertility [12-14]. If husband's semen analysis is normal and wife's menstrual cycle is regular and there is no positive factor in the history, coital function and physical findings are normal: Consider waiting before doing any invasive procedure. Many patients will conceive spontaneously if sufficie':1t time is given, provided they are not waiting for too long period and are not in the advanced age group. Reassure the couple regarding their normality and give advice regarding

1. Timing and Frequency of coitus,
2. Reduction of body weight if obese,
3. Avoiding smoking by the husband.

Unnecessary investigations or procedures are not advisable at this stage

- Do not do a Dilation and Curettage without anaesthesia. This does not enhance the possibility of conception, rather can reduce the chances of subsequent successful pregnancy.
- Not recommended to do VDRL or prostatic smear at this stage.
- Ovulation inducing drugs can be prescribed if there is knowledge and experience regarding the use of these drugs.
- If semen analysis is abnormal, repeat the analysis at an interval of 3-4 weeks, two times.
- Many male partners complain of imaginary sexual problems. Assess these problems correctly by taking a detailed history and reassure if they are of not much consequence regarding fertility. Administration of androgens for sexual problems may lead to deterioration in the quality of semen.
- Duration of sexual intercourse and orgasm has no relationship with fertility.
- It is natural for a part of the seminal plasma to come out of the vagina after intercourse. Patients are often worried. It is of no consequence. Reassurance should be given.
- If the patient has been examined and found to have extroverted uterus. Do not tell the patient that retroversion is the cause of infertility, because it has not been shown to be so.
- A good ultrasonography can give information's which can be elicited from a vaginal examination. Consider advising an ultrasonic scan where vaginal examination is not possible or refused.
- If abnormality is found in any partner or if the couple do not contrived within a reasonable time, refer to secondary care level.

Management of male infertility at secondary level

Men with persistent poor semen quality should have-

- Hormone assays, particularly FSH, LH, Prolactin, TSH, Testosterone, blood sugar should be done and the results should be properly interpreted.
- Semen and prostatic smear for bacteriology should be done and treatment should be given accordingly.
- In case of Azoospermia or severe Oligo /Asthenozoospermia refer the patient to specialized clinic.
- Empirical therapy with hormone, vitamins etc. has no proven value.
- Change in life style may have some beneficial effects. Couple should be informed about the poor result of male infertility.
- Option for ICSI (Intracytoplasmic sperm injection) and IVF (In-vitro fertilization) and their success rate should be discussed with patient.

Management of female infertility at secondary level

A. For ovulation disorders

1. An ovulation should be established, if ovulation induction is given -as or repeated.
2. Clomiphene is a safe drug for use, but should not be used for more than 12 cycles. Ovarian ultrasound facilities will be an added advantage in such circumstances.
3. FSH and LH can be used but only if the consultant has expertise and facilities for monitoring is available. Risk should be explained to the patient.
4. Bromocriptine is an effective treatment for hyperprolactinemia, but the diagnosis must be established

accurately. The level should be three times normal or should be sustained on at least more than one occasion to initiate treatment. Skull x- ray and C- T scan is essential in proven cases~ Treatment should be continued for 6 months to one year with standard dose.

5. Laparoscopic ovarian drilling can be done in genuine polycystic ovary cases if the consultant is experienced in this technique.
6. Blood sugar, Thyroid function test, post coital test can be done if facilities are available.

B. Tubo- peritoneal factors

1. Hystero- salpigography can be an effective investigation for finding tubo-peritoneal factors, but should be done by the consultant himself under proper aseptic condition.
2. Diagnostic laparoscopy can be very useful investigation at this level.
3. Tubal surgery should be performed only by micro-surgical technique, otherwise it may cause more harm than doing good.
4. Endometriosis should not be diagnosed only on the basis of clinical feature and/or ultrasonography; laparoscopic assessment is essential, as treatment is prolonged, expensive and complicated.
5. Medical treatment of mild, moderate or severe endometriosis does not significantly improve fertility.
6. Surgical management of endometriosis by laparoscopy or laparotomy often improves fertility provided it is done with proper care by a trained person.
7. All attempts should be made to do salpingostomy rather than a salpingectomyin the management of tubal pregnancy.
8. Pelvic inflammatory disease should be treated aggressively to prevent future infertility. Other consideration

1. Empirical D&C is not the proper treatment of infertility. It does not improve fertility.
2. It's main role is in endometrial sampling.
3. Tubal insufflation is unreliable as diagnostic procedure and carries considerable risk of air embolism.
4. Hydrotubation may have some beneficial effect in selected cases, but must be done under full aseptic condition.
5. Myomectomy is not the first line of treatment of infertility in women with uterine fibroids until all other causes of infertility has been excluded. Done necessarily or improperly, it may make infertility permanent and irreversible.
6. Ovarian cysts found incidentally during surgery for other reasons should be dealt with caution. They are often functional cysts and attempt at their removal may cause more harm than good.
7. Correct handling of tissues without trauma, prevention of dehydration and proper haemostasis should be the standard practice during surgery in and around the genital tract preservation of future fertility is important.

Conclusion

From the present study it can be concluded that try to preserve the integrity of family as far as possible and do not put the blame solely on person if the other partner also have same problem &treatment of infertility is demanding and requires time and patience. It can also be very rewarding. Always maintain an optimistic attitude pregnancy can sometime occur under most usual circumstance.

References

1. Greil AL, McQuillan J. Help-seeking patterns among subfecund women. Journal of Reproductive and Infant Psychology 2004; 22(4):305–19.
2. Koropatnick S, Daniluk J, Pattinson HA. Infertility: a non-event transition. Fertility and Sterility 1993; 59(1):163–71.
3. Gulseren L, Cetinay P, Tokatlioglu B, Sarikaya et al. Depression and anxiety levels in infertile Turkish women. Journal of Reproductive Medicine 2006; 51(5): 421–6.
4. Guz H, Ozkan A, Sarisov G, Yanik F, et al. Psychiatric symptoms of Turkish infertile women. Journal of Psychosomatic Obstetrics and Gynecology 2003; 24(4): 267–271.
5. Gerrits T. Social and cultural aspects of infertility in Mozambique. Patient Education and Counseling 1997; 31(1):39–48.
6. Schneider MG, Forthofer MS. Associations of psychosocial factors with the stress of infertility treatment. Health & Social Work 2005; 30(3):183–91.
7. Brucker PS, McKenry PC. Support from healthcare providers and the psychological adjustment of individuals experiencing infertility. Journal of Obstetric, Gynecological, and Neonatal Nursing 2004; 33(5):597–603.
8. Redshaw M, Hockley C, Davidson LL. A qualitative study of the experience of treatment for infertility among women who successfully became pregnant. Human Reproduction 2007;22(1):295–304.
9. Stolwijk, AM., Zielhuis, G.A., Hamilton, C.J., Straatman, H., Hollanders, J.M., Goverde, H.J., Van Dop, P.A., Verbeek, A.L. Prognostic models for the probability of achieving an ongoing pregnancy after in-vitro fertilization and the importance of testing their predictive value. Hum. Reprod. 1996; 11:2298–2303.
10. Stolwijk, A.M., Wetzels, A.M., Braat, D.D. Cumulative probability of achieving an ongoing pregnancy after in-vitro fertilisation and intra cytoplasmic sperm injection according to women's age, sub fertility diagnosis and primary or secondary sub fertility. Hum. Reprod. 2000; 15:203-209.
11. Pellicer, A., Albert, C., Mercader, A., Bonilla-Musoles, F., Remohi, J., Simon, C. The follicular and endocrine environment in women with endometriosis; local and systematic cytokine production. Fertil. Steril. 1998; 70:425–431.
12. Collins, J.A., Crosignani, P.G. Unexplained infertility: a review of diagnosis, prognosis, treatment efficacy and management. Int. J. Obstet. Gynaecol. 1992; 39(4):267–275.
13. Eimers JM, teVelde ER, Gerritse R, Vogelzang ET, Looman CW, Habbema JD. The prediction of the chance to conceive in subfertile couples. Fertility and sterility 1994; 61(1):44-52.
14. Snick, H.K.A., Snick, T.S., Evers, J.L.H., Collins, J.A. The spontaneous pregnancy prognosis in untreated sub fertile couples: the Walcheren primary care study. Hum. Reprod. 1997; 12:1582–1588.