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FEMALE INFERTILITY: AN OVERVIEW

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ABSTRACT

Female infertility is the major disorder which has altered the man kind foe lack of conception and reproducibility, stressful world, excess radiation, lack of biological food, genetically disorder ,changing life style, increased electronic discharge have resulted the female infertility. Infertility/ childlessness cause great personal suffering & distress. Most of this agony & misery is hidden from the public gaze. That is the reason this topic is not discussed about openly. The dismal ignorance & neglect about the causes of childlessness and its treatment are main reason for the lack of public support for childless couple. Female fertility can be limited or diminished or destroyed in a number of ways. Women have a finite number of germs cells and follicles that are available for a limited period, from menarche to menopause, during their lifetimes. The process of ovulation is mediated by the interactions of hypothalamic, pituitary and ovarian hormones. Interference with ovulation can occur at any one or combinations of these sites. The oviducts can be distorted or blocked by the consequences of endometriosis or infection. The quality of the ova and spontaneous pregnancy decreases steadily with age. Drugs are available that stimulate ovulation and donor eggs can be used. The cryopreservation of ova or ovarian tissue is technique now receiving research attention. Diagnosis is straightforward when causes are severe and laparoscopy is still the preferred method for assessing for tubal factor infertility and endometriosis. IVF remains the dominant treatment, although traditional measures still have a major role. Internationally, IVF opportunities are limited in view of cost. About 10-15% of couples experience some difficulty with fertility. Remedies range from a visit to a primary physician, education and adjustments in timing attempts to conceive, to placing the entire reproductive process in the hands of specialist.

Keywords:

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INTRODUCTION: Now a day's more and more couples are showing up at fertility clinics around the world, searching for answers, hope and eventual parenthood. However being born a human is blessing and reproduce is double dressing. In this society to a woman unable to bear a child is an unbearable suffering and suffering knows no barrier, no caste, no creed, no religion or region. In orthodox mindset barren is considered a curse and looked down with hate. Without children loss of fertility, is the loss of women's hope for future. Infertility/childlessness cause great personal suffering & distress. Most of this agony & misery is hidden from the public gaze. That is the reason this topic is not discussed about openly. The dismal ignorance & neglect about the causes of childlessness and its treatment are main reason for the lack of public support for childless couple. In many parts of the world childless couples are socially isolated and thus emotionally very vulnerable.

In some societies the pressure to conceive is directed towards the woman, and it is often she who has to bear the brunt of its impact. Childlessness is a medical problem that involves both the couples and both of them remain involved even if only one-person need medical treatment. Childlessness is like a chronic illness that uses up a large amount of a couple's resources emotional and financial and involves the expenditure of a considerable amount of time, money and physical & emotional energy. Childlessness may bring our feelings of resentment, of guilt, and of despair. Almost all the couples expect to have their own babies, once they get married. But getting pregnant is like a game of odds, or game of luck. It is impossible to predict when an individual couple will succeed in achieving pregnancy. In the offset of new millennium people, to began believed that modern medicine is losing its relevance in many fields including in the treatment of infertility.

Now a day's fertility control finds a great significance because of rapid population growth and needs a check on it. Plant products have attracted the attention of many scientists as a primary source of naturally occurring fertility regulating agents because of their little or no side effect various plant extract are reported as antifertility agents. Although on antifertility screening program.

Infertility: Infertility is usually defined as no pregnancy after one year of unprotected intercourse. This is a relative measurement. Over time, many couples may achieve pregnancy. In five years, nearly one half of "infertile" couples will conceive. Infertility also called sterility means not being able to become pregnant after a year of trying. If a woman keeps having miscarriages, it is called infertility. Lots of couples have infertility problems. About a third of the time, infertility can be traced to the woman. In another third of cases, it is because of the man. The rest of time, it is because of both partners or no cause is found.

Infertility is not always a woman's problem. In only about one-third of cases is infertility due to the woman (female factors). In another one third of cases, infertility is due to the man (male factors). The remaining cases are caused by a mixture of male and female factors or by unknown factors ².

Approximately 15% of couples are infertile. Of this 15%, male infertility counts for approximately 20% of the cases. Female infertility accounts for up to 70% of these cases, largely due to the very complex processes involved in the female reproductive system.

Female infertility: Female infertility is a common contributor to difficulties in producing children. At least half of all couples consulting for infertility will involve a female partner with a "problem". In the old days, the female partner used to bear the brunt of blame and only about 5% of couples seeking help

with having a baby were thought to be due to a male infertility.

Female infertility may be due to:

- Problems with a fertilized egg or embryo being able to survive once it is attached to the lining of the uterus
- Problems with the eggs being able to attach to the lining of the uterus
- Problems with the eggs being able to move from the ovary to the uterus
- Problems with the ovaries producing eggs

More and more women are waiting until their 30s and 40s to have children. Actually, about 20 percent of women in the United States now have their first child after age 35. So age is an increasingly common cause of fertility problems. About one third of couples in which the woman is over 35 have fertility problems³.

Aging decreases a woman's chances of having a baby in the following ways:

- The ability of a woman's ovaries to release eggs ready for fertilization declines with age.
- The health of a woman's eggs declines with age.
- As a woman ages she is more likely to have health problems that can interfere with fertility.
- As a woman ages, her risk of having a miscarriage increases.

Description of Female Infertility: Female infertility is a common contributor to difficulties in producing children. At least half of all couples consulting for infertility will involve a female partner with a "problem". In the old days, the female partner used to bear the brunt of blame and only about 5% of couples seeking help with having a baby were thought to be due to a male infertility.

• **Female Cycle:** The normal female cycle as most ladies know, their cycles are about 28 days long. Every 28 days, a bleed lasting about 5 days will occur. Four hormones control this cycle and they are controlled mainly by the hypothalamus, which is an area in the brain. It acts on the pituitary gland to release FSH and LH, the sex hormone that stimulate the ovary and produce ovulation. Under the influence of FSH and LH, the ovary makes estrogen. The estrogen has a strong effect on the uterus, causing the lining of the womb to grow during the first 14 days of the cycle. After ovulation progesterone becomes the important hormone. Its main action is to maintain the endometrium so that the fertilized egg may implant. If it does, pregnancy results, if not the bleed will occur⁴.

• **An ovulation:** No cycle, no bleeds, no ovulation, no baby, a common cause of infertility in women. It is sometimes caused by low levels of LH and FSH (sex hormone) which result in low estrogen and progesterone levels. In some women, anovulation is manifested by high FSH levels indicating primary ovarian failure. Often the women may be turners (XO) syndromes. An ovulation may;

- Also be caused by hyperprolactinaemia (excessive production of prolactin how contraception is achieved in nursing mothers).
- This hormone normally induces the breasts to produce milk. Prolactin is also able to suppress ovulation.
- Ovulation can sometimes be variable-oligomenorrhoea. This may sometimes be due to the above-mentioned reasons, but more commonly is caused by PCO (Polycystic ovaries). This is a condition revealed by abnormal LH levels in the blood. Another feature is high androgen levels (male hormones). In serious cases of PCO

anovulation/amenorrhea may also happen. A common test of ovulation is day 21 progesterone⁵.

Types of Female Infertility: There are two main types of infertility seen in women:

1. Primary Infertility: Refers to the condition in which a couple has never been able to conceive.

- **Endometriosis:** Mainly affects women in their 30s to 40s and about 40% of women with endometriosis. This is when lining from your uterus is found outside of your uterus. Endometriosis will have some problem conceiving. The main cause of infertility from endometriosis seems to be scarring and adhesions that result in a blockage⁶.
- **Polycystic Ovarian Syndrome (PCOS):** The bad news about PCOS is that it is one of the main causes of infertility among women yet is severely under diagnosed (less than 25% of women who suffer from the syndrome have actually been diagnosed). One of the main reasons that it is not diagnosed is because symptoms of the syndrome generally do not appear to have any connection with each other. Usually it's not until a woman has troubles getting pregnant and she get professional help that she learns she has PCOS. Some symptoms of PCOS include weight gain, acne, and irregular or absent periods, infertility, and failure to ovulate. PCOS can be diagnosed through a series of blood tests. It can easily be managed through the use of hormones that will trigger ovulation and will also help you get pregnant.
- **Ovulatory Disorders:** About 40% of female fertility problems are caused by ovulation problems such as irregular periods or failing to ovulate at all. These disorders can be caused

by a variety of things such as excessive weight loss, stress, thyroid problems or hormone imbalances.

- **Premature Ovarian Failure (POF):** This can be a very upsetting diagnosis as it means that you are no longer menstruating even though you are under the age of 40. Causes of POF can range from defects from before birth (like a chromosomal abnormality that results in defective ovaries) to your ovaries becoming resistant to your body's natural hormones when you are in your 20s and 30s. Pelvic surgery, chemotherapy, and radiation have also been known to result in POF. In very few cases, POF is present in a woman's family history.
- **Uterine Factors:** This category encompasses problem you may have with your uterus. If you have gone for fertility testing, you will probably receive a specific diagnosis as to just what the problem is. Some possible factors that can affect your uterine and your ability to conceive include uterine fibroids, uterine didelphys (this when you are born with a uterus that is made up of two parts with a wall dividing them), a complete lack of a uterus, scar tissue in the uterus or exposure to DES in the womb (DES was a drug given to pregnant women up until the late 1960s. Children born to women who took this drug often had defects, one of which is irregularly shaped uterus).
- **Multiple Miscarriages:** Suffering from a miscarriage is always difficult, but suffering from one when you have been trying for months to get pregnant can be truly upsetting. While the main cause of miscarriage is genetic defects with the fetus, miscarriage can also be caused by problems

with the uterus or cervix, unusual hormone levels, or infections or toxins in the environment.

- **Luteal Phase Defect (LPD):** This can be caused by two things both involving your body's progesterone development. The first cause of LPD is attributed to your ovaries not secreting enough progesterone. The second reason could be that your endometrium is not responding is not properly prepared for pregnancy, thereby causing either fertility problems or an early miscarriage.

2. Secondary Infertility: Refers to those cases where a couple has been successful in conceiving at least once, but has been unsuccessful after that. It is important to keep communication open between you and your partner so that you both know what each other wants, hopes for and is willing to do (or not do) to become parents again.

3. Unexplained Infertility: This may be one of the most aggravating things to hear if you are having troubles conceiving. Yes, even after going through all sorts of tests to figure out what is wrong, one in five couples will be told that their infertility is unexplainable. This doesn't mean that there isn't a reason for your fertility problems. Rather, the tests available today are not able to identify just what the problem is. But what does this mean for you? That's hard to say. You can explore the different fertility treatment options or just keep trying and hope for the best. If your fertility problems can't be identified, talk with your health care provider as well as you partner as to what the best course of action may be for you.

- **Poor Responder:** Women who have been going through fertility treatments that involve medication to stimulate ovulation and have had no luck may fall into this category. If you find yourself in this situation, then it indicates

that you require a higher dosage of stimulation medication yet you may still have a negative outcome. If you have been considering IVF, try having an ovarian reserve test done beforehand. Women who do not respond well to fertility drugs are often not very successful at conceiving through IVF.

Having an ovarian reserve test performed may help you save time, money and stress by letting you know if you are a suitable candidate for IVF. If you are a suitable candidate, then you and your health care provider may want to try different kinds of stimulants medications to see which one you respond best to. If you are a 'poor responder,' then make sure you are receiving treatment from a facility that has experience with other women who have been diagnosed as poor responders. This will help ensure that you get the best care designed just for you.

Causes of Female Infertility: The most common causes of infertility seen in women are:

1. Ovulation Disorders: A very fine balance of various hormones such as estrogen, progesterone, luteinizing hormone, follicle-stimulating hormone is required to timely ovulate (release of egg from the ovary). The main cause of ovulation disorders is hormone imbalance. Low levels of progesterone can cause interference in the adhesion of the embryo to the uterine lining. It also increases the risk of a miscarriage. High levels of estrogen are also associated with infertility in women.

2. Ovarian Failure: This may be caused due to natural disorders (Turner's syndrome) or medical treatments (for ovarian tumors). It may also occur due to chemotherapy and radiotherapy for cancers and tumors in other areas of the body.

3. Endometriosis: It refers to a condition where the uterine lining doesn't form normally. It grows outside the reproductive tract causing fallopian tubes to become blocked. These blockages cause infertility in almost 10% of infertile women. In advance cases of endometriosis, the forward movement of sperm are blocked due to adhesion between fallopian tubes, ovaries and uterus. This results in infertility. Studies have indicated that the eggs of women with endometriosis are more likely to have genetic abnormalities than those who do not have the disease ⁶.

4. Uterine and Cervical Disorders: Benign growths such as fibroids on the uterine wall can interfere with the attachment of embryo to the wall of the uterus and thereby cause problems in conception.

5. Abnormalities in cervix shape: or change in the texture of cervical mucus can make the movement of sperm from vagina to uterus extremely difficult.

6. Age: Age is an important factor that affects a woman's fertility. As the age of a woman advances, her chances of pregnancy go down. This is because a woman is born with a finite number of eggs. As she ages, the number of eggs in the ovaries goes down. Moreover, the quality of eggs also declines with age. They become more prone to chromosomal abnormalities. Also, the risk of miscarriage increases with age as increasing age affects other reproductive functions such as ovulation and hormone levels.

7. Polycystic Ovaries: Such ovaries are abnormally large in size because they contain multiple cysts. Women who have PCOS (Polycystic Ovaries Syndrome) may not ovulate.

8. Immunological Disorders: Sometimes, the cervical mucus may contain antibodies, which treat the sperm as a toxic foreign invader and destroy it. Autoimmune diseases, in which the immune cells of

a woman attack normal cells of her own body, are also responsible for ovarian problems.

9. Age-related factors: Age is the single most important factor affecting a women's fertility. As she matures, the chance for pregnancy decreases and the odds for miscarriage increase. At 25, a woman has a 25% of becoming pregnant during unprotected sexual intercourse. This percentage begins to decrease between the ages of 32 and 34. After that, the decline is steady so that the chance of pregnancy is only 5 to 10% per menstrual cycle after a woman reaches age 40.

10. Tubal causes: Infections caused by both bacteria and viruses and usually transmitted sexually, these infections commonly cause inflammations resulting in scarring and damage. A specific example is Hydrosalpinx; a condition in which the fallopian tube is occluding at both ends and fluids collect in the tube ^{7,9}.

11. Inflammation of Fallopian tube

12. Ovulation disorders

13. Early Menopause

14. Clotting disorders

15. Sperm causes unexplained infertility, autoimmune disorders, such as antiphospholipid syndrome (APS)

16. Plants that have antifertility effects:

- *Amaranthus retroflexus* (Amaranthaceae),
- *Semecarpus anacardium* (Anacardiaceae),
- *Artabotrys odoratissimus* (Annonaceae),
- *Apocynum androsaemifolium* (Araliaceae),
- *Barberis vulgaris*, *Podophyllum peltatum* (Berberidaceae),

- *Anchusa officinalis*, *Lithospermum ruderales* (Boraginaceae),
- *Ananas comosus* (Bromeliaceae),
- *Lonicera ciliosa* (Caprifoliaceae),
- *Carica papaya* (Caricaceae),
- *Chenopodium album* (Chenopodiaceae),
- *Terminalla catappa* (Combretaceae),
- *Ambrosia artemisiifolia* (Compositae),
- *Thuja occidentalis* (Cupressaceae),
- *Arctostaphylos Uva-ursi* (Ericaceae),
- *Combretoden africanum* (Lecythidaceae),
- *Magnolia virginiana* (Lillaceae),
- *Hibiscus rosasinesis* (Malvaceae),
- *Dhondodendraone tomentosum* (Menispermaceae),
- *Ficus Pumilla* (Moraceae),
- *Moringa Pterygosperma* (Moringaceae),
- *Ensete superbum* (Musaceae),
- *Embelia ribes* (Myrsinaceae),
- *Metrosideros collina* (Myrtaceae),
- *Areca catechu* (Palmaceae),
- *Argemone glauca*, *Pinus Ponderosa* (Papaveraceae),
- *Evodia rutacapra* (Rutaceae),
- *Nicotiana tabacum*, *Solanum Dulcamara* (Solanaceae),
- *Ferula asafetida*, *verbena hastate*, *verbena Officinalis* (Umbelliferace).

Symptoms of Female Infertility: The primary symptom of infertility is difficulty getting pregnant. Various causes of infertility may result in additional symptoms.

Symptoms of female infertility are:-

1. Infrequent ovulation: Infrequent ovulation (egg release from the ovary) accounts for 20% of female infertility problems. If ovulation is infrequent, periods will be spaced apart by longer than a month, or they will be absent.

2. Scarring in the fallopian tubes: Scarring in the fallopian tubes can prevent pregnancy because it stops the egg from traveling into the uterus. Fallopian-tube problems are the cause in approximately 30% of female infertility problems.

3. Abnormalities in the shape or lining of the uterus: Abnormalities in the shape or linings of the uterus accounts for almost 20% of female infertility problems.

Diagnosis: Diagnosis of infertility begins with a medical history and physical exam. The healthcare provider may order tests, including the following:

Easy Preliminary Steps: Before embarking on an expensive fertility work-up, the followings steps are free or low-cost and can be helpful. Monitor basal body temperature. This is accurate in determining whether ovulation is actually taking place. Take an over-the-counter urine test for detecting LH surges. This helps determine the day of ovulation¹⁰.

Lab tests:

- hormone testing, to measure levels of female hormones at certain times during a menstrual cycle
- day 2 or 3 measure of FSH and estrogen, to assess ovarian reserve
- measurements of thyroid function (a thyroid stimulating hormone (TSH) level of between 1 and 2 is considered optimal for conception)
- measurement of progesterone in the second half of the cycle to help confirm ovulation

Examination and imaging:

- an endometrial biopsy, to verify ovulation and inspect the lining of the uterus
- laparoscopy, which allows the provider to inspect the pelvic organs

- fertiloscopy, a relatively new surgical technique used for early diagnosis (and immediate treatment)
- Pap smear, to check for signs of infection
- pelvic exam, to look for abnormalities or infection
- a postcoital test, which is done soon after intercourse to check for problems with sperm surviving in cervical mucous (not commonly used now because of test unreliability)
- special X-ray tests

Investigative Tests to determine remaining Eggs:

As woman age, the number of follicles (and therefore their egg supply) declines. Researchers are developing tests that may prove helpful in determining how many are left. Such tests include the following:

- **Calculating the volumes of the ovaries:** In general, the smaller the ovary, the fewer the remaining egg.
- **Counting antral follicles:** Antral follicles are those that develop but do not become dominant follicles. Instead, they form a fluid-filled space called an antrum. Women who have fewer than three to five antral follicles appear to have a poor chance of fertility.
- **Measuring Inhibin B:** Inhibin B is a growth factor produced in the ovaries. Low levels suggest fewer eggs. Eventually these markers may be useful for determining which women need more aggressive treatments¹⁰⁻¹¹.

Treatments of Female Infertility: Treatment based upon three categories:

1. Allopathic treatment
2. Natural treatment
3. Home remedies

1. Allopathic Treatment: Various fertility medicines are often used to treat women with ovulation problems. It is important to talk with your doctor about the pros and cons of these medicines. You should understand the risks, benefits, and side effects. Doctors also use surgery to treat some causes of infertility. Problems with a woman's ovaries, fallopian tubes, or uterus can sometimes be corrected with surgery.

1.1 Intrauterine insemination (IUI): This is another type of treatment for infertility. IUI is known by most people as artificial insemination. In this procedure, the woman is injected with specially prepared sperm. Sometimes the woman is also treated with medicines that stimulate ovulation before IUI¹¹.

1.2 Assisted reproductive technology (ART): This is a term that describes several different methods used to help infertile couples. ART involves removing eggs from a woman's body, mixing them with sperm in the laboratory and putting the embryos back into a woman's body.

Some methods includes in ART are following:

a) In vitro fertilization (IVF): Means fertilization outside of the body. IVF is the most effective ART. It is often used when a woman's fallopian tubes are blocked or when a man produces too few sperm. Doctors treat the woman with a drug that causes the ovaries to produce multiple eggs. Once mature, the eggs are removed from the woman. They are put in a dish in the lab along with the man's sperm for fertilization. After 3 to 5 days, healthy embryos are implanted in the woman's uterus.

b) Zygote intrafallopian transfer (ZIFT): or Tubal Embryo Transfer is similar to IVF. Fertilization occurs in the laboratory. Then the very young embryo is transferred to the fallopian tube instead of the uterus.

c) Gamete intrafallopian transfer (GIFT): involves transferring eggs and sperm into the woman's fallopian tube. So fertilization occurs in the woman's body. Few practices offer GIFT as an option.

d) Intracytoplasmic sperm injection (ICSI): is often used for couples in which there are serious problems with the sperm. Sometimes it is also used for older couples or for those with failed IVF attempts. In ICSI, a single sperm is injected into a mature egg. Then the embryo is transferred to the uterus or fallopian tube¹².

1.3 Others: Some common medicines used to treat infertility in women include:

- **Clomiphene citrate (Clomid):** This medicine causes ovulation by acting on the pituitary gland. It is often used in women who have Polycystic Ovarian Syndrome (PCOS) or other problems with ovulation. This medicine is taken by mouth.
- **Human menopausal gonadotropin or hMG (Repronex, Pergonal):** This medicine is often used for women who don't ovulate due to problems with their pituitary gland. hMG acts directly on the ovaries to stimulate ovulation. It is an injected medicine.
- **Follicle-stimulating hormone or FSH (Gonal-F, Follistim):** FSH works much like hMG. It causes the ovaries to begin the process of ovulation. These medicines are usually injected.
- **Gonadotropin-releasing hormone (Gn-RH) analog:** These medicines are often used for women who don't ovulate regularly each month. Women who ovulate before the egg is ready can also use these medicines. Gn-RH analogs act on the pituitary gland to change

when the body ovulates. These medicines are usually injected or given with a nasal spray.

- **Metformin (Glucophage):** Doctors use this medicine for women who have insulin resistance and/or Polycystic Ovarian Syndrome (PCOS). This drug helps lower the high levels of male hormones in women with these conditions. This helps the body to ovulate. Sometimes clomiphene citrate or FSH is combined with metformin. This medicine is usually taken by mouth.
 - **Bromocriptine (Parlodel):** This medicine is used for women with ovulation problems due to high levels of prolactin. Prolactin is a hormone that causes milk production. Many fertility drugs increase a woman's chance of having twins, triplets or other multiples. Women who are pregnant with multiple fetuses have more problems during pregnancy. Multiple fetuses have a high risk of being born too early (prematurely). Premature babies are at a higher risk of health and developmental problems.
- 2. Natural Treatment:** In the past several years, fertility specialists have made great strides in diagnosing and treating infertility. Surgery and hormone therapy can correct some infertility problems, they are following:
- **Exercise:** Exercise is a great way for women to increase fertility and promote overall health. Regular exercise regulates hormone production, reduces stress and will even increase blood flow to a woman's reproductive organs. Reducing stress is also important for conception.
 - **Stop Smoking:** Research clearly shows that smoking has a negative impact on conception in

both men and women. In fact, studies reveal that women who smoke increase both the time to conception and the risk of spontaneous abortion¹³⁻¹⁴.

- **Drink Plenty of Water:** Keeping your body hydrated at all times is important for every aspect of fertility including aiding in vitamin absorption, cleansing the body from fertility-inhibiting toxins, and warding off dehydration. It's also necessary for optimizing your cervical mucus which is what protects and nourishes sperm until it reaches the egg.

- **Chaste Berry:** Natural herbs have also helped women get pregnant. One of the most common herbs used for fertility is the chaste berry. The herb comes from the fruit of a chaste tree and can be found in central Asia. For thousands of years this herb has been used by women to stimulate the production of breast milk and ease menstrual pain.

- **Have Sex Frequently:** Working to get pregnant and timing it each month can become extraordinarily stressful and rote. Try to have sex regularly, at least once every few days, and have fun with it. You may very much enjoy the light-heartedness of having sex when you least think you can get pregnant.

- **Eat in Hormonal Balance:** Many infertility issues can be attributed to abnormal hormonal fluctuations. Eating a balanced diet is one of the most effective methods to balance hormonal secretion of insulin and regulate proper glucose control. Along with improving your nutrient intake, this includes removing all processed flours and sugars such as white bread, pasta, pop, candy, and sugary juice from the diet.

3. Home remedies:

- **Jamun Leaves (*Eugenia jambolana* or *Syzygium cumini* L):** To deal with the female infertility problem, you can eat jamun leaves. Add some honey in case you don't like the taste of jamun leaves.
- **Root of Banyan Tree:** Roots of banyan tree are highly effective in curing the female infertility problem. Collect these roots and dry them in sun for few days. Then grind them and make fine powder from them. When your menstrual cycles are over after that on the first night have this powder with milk. Make sure that you don't eat anything immediately after having this. Follow this remedy for about one year. There will be surely some good news waiting for you and all thanks to this simple and easy remedy.
- **Winter Cherry:** This herb is also useful in the treatment of female infertility. Dry this herb and store it in powder form. After your menstrual cycle gets over start drinking 6 gram of this powder by putting it in one cup of milk. Do this for about one week and then again stop. Next month again follow the same procedure¹⁵.
- **Curd and Cheese:** Include cheese and curd in your daily meal, as these two are effective in increasing the chances of fertility in women.
- **Egg Plant:** Egg plant is effective in the treatment of female infertility. Cook this egg plant and have it with buttermilk. Try this remedy for about two months, as it will definitely help to cure female infertility problems¹⁹.

- **Yoga:** Joining some yoga classes, as some of the postures of Yoga really help in curing female infertility. It is better to do these postures under the guidance of experienced teacher.
- **Vitamin C and Vitamin E:** Both these vitamins are very effective in increasing the chances of fertility in women. Apart from this zinc is also effective in cure of female infertility. 1000mg of vitamin C and 30 mg of zinc should be consumed on a daily basis¹⁷.
- **Diet:** You must eat lots of green vegetables, fresh fruits, nuts, seeds, grains, milk, honey, curd, cheese, sprouts, beans, etc. All these things are needed for having a healthy body.
- **Avoid:** You should not drink coffee¹⁸, tea, spicy and fatty food, white flour, fried foods and soft drinks. Also stay away from smoking and drinking alcohol. You should not consume any drugs like heroin and marijuana etc¹⁶.
- **Stay happy:** Female infertility is also caused due to stress, tension, fear and anxiety. So try to remain happy. If you have free time, then do something that gives you immense pleasure. Be nice to your partner and try to do what your partner likes²⁰.

CONCLUSION: Female infertility is the major cause of lack of reproducibility and conception. 25% of the couples are tracing this problem. Many reasons are sorted out for female infertility but through proper diagnosis and counseling for treatment of female infertility can be only ray of hope. Review reveals extensively all the major reasons and causes for infertility. All these problems can surely be sorted out to come out this problem. Female infertility can surely be treated with medicines, minor surgical operations, laparoscopic procedures, hormonal

therapy and prevention of preconception failure. The review is helpful to all the scientific, medical researchers who can put efforts to put end to female infertility.

REFERENCES:

1. Gerhard I, Patek A, Monga b, et al. Mastodynon bei weiblicher Sterilitat Forsch Komplementar med,1998. 5:272-278.
2. Domar AD, Seibel MM, Benson H, The mind/body program for infertility:a new behavioral treatment approach for women with infertility, Fertile Sterile. 1990 ; 53:246-249.
3. J. H. P. Rang, M. M. Dale, J.m.Ritter and P.K.moore, pharmacology 2003; 5th edition.
4. Newton CR, Sherrard W, Glavac I. The Fertility Problem Inventory: measuring perceived infertility-related stress. Fertile Steril. 1999; 72:54-62.
5. Bakos, O., Lundkvist, O., Bergh, T. Transvaginal sonographic evaluation of endometrial growth and texture in spontaneous Ovulatory cycles: a descriptive study. Human Reproduction, 8, 1993; 799-806.
6. Check, J. H., Maze, C., Davies, E., Wilson, and C. Evaluation of the effect of endometriosis on oocyte quality and endometrial environment by comparison of donor and recipient outcomes following embryo transfer in a shared oocyte program. Fertility and Sterility, 2002; 78(1001), 201-202.
7. Czeizal AE, Metneki J, Dudas I. The effect of preconceptional multivitamin supplementation on fertility. Int J Vitam Res.; 1996; 66:55-58.
8. Domar AD, Zuttermeister PC, Friedman R "The psychological impact of infertility: a comparison with patients with other medical conditions". J Psychosom Obstet Gynaecol 1993; 14 , 45-52.
9. Propping D, Katzorke T, Belkien L. Diagnosis and therapy of corpus luteum deficiency in general practice translated from German. Therapiewoche. 1988; 38:2992-3001.
10. Harrison RF, O'Moore AM. Stress and Fertility: some modalities of investigation and treatment in couples with unexplained infertility in Dublin. Int J Fertil. 1986; 31:153-159
11. O'Moore AM, O'Moore RR, Harrison RF. Psychosomatic aspects in idiopathic infertility: effects of treatment with autogenic training. J Psychosom Res. 1983; 27:145-151.
12. Gravitz MA. Hypnosis in the treatment of functional infertility. Am J Clin Hypn. 1995; 38:22-26.
13. Thys-Jacobs S, Donovan D, Papadopulus A, et al. Vitamin D and calcium dysregulation in the polycystic ovarian syndrome. Steroids. 1999; 64:430-435.
14. Caan B, Quesenbery CP Jr, Coates AO. Differences in fertility associated 1984;28:104-108.

15. Hatch EE, Bracken MB. Association Of delayed conception with caffeine consumption. *Am J Epidemiol* 1993;138:1082-92
16. Stanton CK, Gray RH. Effects of caffeine consumption on delayed conception. *Am J Epidemiol* 1995; 142:1322-9?
17. Williams MA, Monson RR, Goldman MG, et al. Coffee and Delayed conception. *Lancet* 1990; 335:1603.
18. Grodstein F, Goldman MB, Ryan L, Cramer DW. Relation of female infertility to consumption of caffeinated beverages. *Am J Epidemiol* 1993; 137:1353-60?
19. Wilcox A, Weinberg C, Baird D. Caffeinated beverages and decreased fertility. *Lancet* 1988; 2:1453-6.
20. Joesoef MR, Beral V, Rolfs RT, et al. Are caffeinated beverages risk factors for delayed conception? *Lancet* 1990; 335:136-7.
