A Clinical Round up of the Female Infertility Therapy Amongst Indians

ABSTRACT

Background: Infertility varies across the regions of the world and it has been estimated to affect 8 to 12% couples worldwide. It tends to be the highest in countries with high fertility rates. The WHO has estimated the overall prevalence of primary infertility in India to be between 3.9 and 16.8%. Moreover, the prevalence of primary infertility has also been shown to vary across the tribes and castes within the same region in India.

Area focussed: Some common medicines which are used to treat infertility in women include—Clomiphene citrate, Human Menopausal Gonadotropin or hMG, FSH, the Gn-RH analog, Metformin, Bromocriptine, etc. Some modern technologies which assist conception include-assisted reproductive technology (ART), In vitro fertilization (IVF), Zygote intrafallopian transfer (ZIFT), Gamete intrafallopian transfer (GIFT), Intracytoplasmic sperm injection (ICSI) and intrauterine insemination (IUI). Other options like surrogacy and gestational carriers are also there.

Conclusion: Female infertility is a challenging issue despite the high fertility rates. ART gives reprieve in 41% of the cases, but the most commonly tried methods are pharmacotherapy, ayurvedic preparations and faith healing.

INTRODUCTION

The recent census shows a steady rise in the population, which is the direct evidence of the increased fertility in the population, yet there are cases of infertility that need to be addressed too. This review plans to compile the causes and the therapy which is afforded in such cases. This review focuses particularly on female infertility.

The fertility rate of the human race is impressive but infertility is yet, a cause for concern. Infertility is the state of being unable to get pregnant or to remain pregnant upto the full term. To deliver a healthy baby, after trying for approximately 1 year.

A lack of uniform definitions has compromised the research on infertility. It has been accepted that the terms infertility, childlessness or sterility, all refer to the incapacity of couples in conceiving or in bearing children when it is desired. The WHO definition which was drawn up by the Scientific Group on the Epidemiology of Infertility has used a two-year reference period:

Primary infertility: In the present study, the infertility was labelled as primary if the couple had never conceived despite cohabitation and exposure to the risk of pregnancy (absence of contraception) for a period of 2 years.

Secondary infertility: In the present study, the infertility was labelled as secondary if the couple had failed to conceive following a previous pregnancy, despite cohabitation and exposure to the risk of pregnancy (in the absence of contraception, breastfeeding or postpartum amenorrhoea) for a period of 2 years [1].

Due to the small study population, the primary and secondary infertility cases were analyzed together. This review was aimed at determining the medications and the interventions for female infertility and at analyzing the causes and the factors which led to it.

METHODOLOGY

A compilation on the treatment and the causes for female infertility was looked for in various Indian journals and in Indian reports in international journals over the past 5 years. Comparisons were made with the earlier study practices. The Indian scenario patients had a strong belief in Ayurveda and hence, noting the prescribing pattern of the Ayurvedic drugs that were often used along with the drugs from the modern system of medicine was required. Our methodology did not analyze statistically as is the usual practice in Evidence Based Medicine, but it only put forth relevant data on the promising treatment options.

DISCUSSION

A. The burden of female infertility: A report states that in India, 13% of the ever-married women who were aged 15-49 years were childless in 1981 (rural 13.4% and urban 11.3%), which had increased to 16% in 2001 (rural 15.6% and urban 16.1%). Over half of the married women who were aged 15-19 years were childless in 1981, which had increased to 70% in 2001 [2].

Infertility affects females in a one third proportion as males, but unknown and combined factors comprise the final third of this proportion. The infertility statistics quote 10% of women in the U.S. ie 6.1 million.

B. The aetiology of female infertility: In India, the primary infertility cases are 3.9% (age-standardized to 25-49 years) and 16.8% (age-standardized to 15-49 years), which were found by using the “age but no birth”, which was put forth
by the WHO. In Mysore, India, the prevalence of primary infertility in one study on young women was found to be 12.6%, which was within the range which was reported by the WHO. Their analysis revealed that the HSV-2 seropositivity was significantly associated with primary infertility in that group of young, reproductive-age women. The prevalence of the HSV-2 infection was 11.5%, and many of these women had the concurrent T. vaginalis infection and BV, as was also reported in other studies. Primary infertility was not associated with the Candida infection, the T. vaginalis infection, and BV24 [3].

According to the National Family Health Survey (NFHS) 2007, some states in India show low fertility rates, i.e., Tamil Nadu -1.8, Himachal Pradesh -1.9, Punjab -2 and Karnataka -2.1, while some other states show high fertility rates i.e., Madhya Pradesh -3.1, Jharkhand -3.3, Uttar Pradesh -3.8 and Bihar -4 [4].

Studies which were conducted in Kanyakumari and Thiruvananthapuram showed the maximum infertility between 25-30 years of age, i.e. 43.80% and 36.26% respectively. The 8% age of the infertile females was more in the urban than in the rural areas in both the districts. Infertility in females has been reported in all the religious groups like Hinduism, Islam, Christianity, etc. In Kanyakumari, 76.64% of the infertile females were unemployed and 23.36% were employed, while in Thiruvananthapuram, the infertility rate was 70.18% in unemployed women. This infertility was significantly correlated with a family history of infertility as well as with menstrual irregularities (40%, 44.11%) [5].

In the U.S., the pregnancy rates by the age of the woman were the highest in 1990 and 2005 for women in their twenties, they were intermediate at the ages of 18–19 and 30–34 years, and they were lowest at the ages of under 18 years and 35 years and older [6]. The infertility in the UK (2010) can equally be attributed to males and females, with both being responsible in 30% of the cases. Combined issues account for 10% and unexplained problems account for as much as 25% of the fertility cases [7].

The female infertility is difficult to diagnose, but it abounds in therapeutic options. Usually, a history of ectopic pregnancy, irregular periods, pelvic inflammatory disease and thyroid disease reflect infertility. The increased risk factors for the female infertility are advancing age, sexually transmitted diseases, weight problems, endocannabinoid discrepancy, radiation and chemotherapy insults and substance abuse, especially smoking and alcohol use. The ultimate cause of the female infertility translates to the anovulatory cycles, blocked fallopian tubes and uterine and ova malformations.

Acquired and genetic factors have an equal share in the aetiology of infertility. Mutations, spontaneous and environmental, indeed are also responsible- BMP15, CBX2, FEF8, EMRF, KISIR, etc. The prevalence of obesity is low in India as compared to that in the western countries like England and the US. It affects the fertility and the fertility treatments. A high BMI reduces the chances of conception in ovulatory women and it also affects the outcome of the ovulation induction treatment. Obesity is associated with a lower fertilization rate, poor quality embryos and higher miscarriage rates. The obese also need higher doses of gonadotropins if they are using the IVF technology. These women also respond poorly to the ovarian stimulation and have fewer oocytes harvested [8].

The diagnosis may be done both by examination and imaging and it can be confirmed by laboratory tests. The prevention is effected by maintaining a healthy lifestyle, treatment and by preventing diseases and an undelayed parenthood.

C. The therapeutic modalities for female infertility: The therapeutic options vary between pharmacotherapy and intervention. Pharmacotherapy is first tried, with the drug of choice being Clomiphen citrate- an ovulation inducer.

Clomiphen citrate is a drug of considerable pharmacologic potency. It has been demonstrated to be a useful therapy for anovulatory patients who desire pregnancy. The available data have suggested that both the oestrogenic and the antioestrogenic properties of Clomiphen may participate in the initiation of ovulation. The two Clomiphen isomers have been found to have mixed oestrogenic and antioestrogenic effects which may vary from one species to another. Some data have suggested that zuClomiphen has a greater oestrogenic activity than enClomiphen. Clomiphen citrate has no apparent progesterational, androgenic, or antiandrogenic effects and it does not appear to interfere with the pituitary-adrenal or the pituitary-thyroid functions. Clomiphen citrate increases the spermatogenesis by the maturation of the spermatogonia in males.

Clomiphen citrate alone can be used as the first-line therapy for the treatment of infertility in women with the polycystic ovary syndrome. There is no significant benefit of combination therapy with clomiphen and metformin over clomiphen alone with respect to the live-birth rate [9].

The Follicle Stimulating Hormone (FSH), the human menopausal gonadotropin, the gonadotropin releasing hormone, Metformin and Bromocriptine are also used in combination or alone.

The FSH test is usually done to diagnose the problems with the sexual development, menstruation, and fertility. This test is used to diagnose or to evaluate menopause, polycystic ovary syndrome, ovarian cysts, irregular vaginal bleeding, or infertility. It is also done in children who start sexual development at a very young age and in men who have infertility, who do not have testicles or whose testicles are underdeveloped.

The normal FSH levels will differ, depending on a person’s age and gender. In males, a normal FSH level of 0–5.0 mIU/ml

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Different Therapies for Female Infertility
is seen before puberty, during puberty, it is 0.3–10.0 mIU/ml and in adults, it is 1.5–12.4 mIU/ml, while in females, before puberty, it is 0–4.0 mIU/ml, during puberty, it is 0.3–10.0 mIU/ml, in menstruating women, it is 4.7–21.5 mIU/ml and in postmenopausal women, it is 25.8 - 134.8 mIU/ml (mIU/ml = milli international units per millilitre).

Sometimes, abnormal FSH results can be seen in some clinical conditions like hypopituitarism, Klinefelter’s syndrome, polycystic ovary disease, Turner’s syndrome, ovarian failure (ovarian hypofunction), ovarian or adrenal cancers, precocious puberty in girls and boys, anorexia, etc. [10-12].

In India, generally we give an FSH and an LH recombinant rather than FSH and LH alone (LH alone is not used in India).

The Gonadotropin-releasing hormone analogue (GnRH-a) therapy has been approved for the treatment of endometriosis and uterine fibroids. The GnRH-a therapy may be used for dysfunctional uterine bleeding or ovarian cysts and endometriosis and when an ultrasound has confirmed that uterine fibroids are present and that they cause significant symptoms.

The GnRH-a therapy decreases the production of the hormone, oestrogen, to the levels that women have after menopause. This decreases

- ovulation and stops menstrual periods (but it does not provide a dependable pregnancy prevention).
- the growth and the size of the endometriosis sites (implants).
- the uterine size.
- uterine fibroid growth and it promotes fibroid shrinkage [13,14].

The side effects of this GnRH therapy includes hot flashes, mood swings, vaginal dryness, a decreased sexual interest, increased LDL (low-density lipoprotein) cholesterol levels, decreased HDL (high-density lipoprotein) cholesterol levels, insomnia and headache.

The GnRH analogues are goserelin acetate, leuprolide acetate, nafarelin acetate. These GnRH analogues are given by the parenteral route. Nasal sprays are not used in India.

The human Menopausal Gonadotropin (hMG) and the recombinant human Follicle-Stimulating Hormone (rFSH) are gonadotropin fertility drugs.

- MG contains natural FSH and LH which are purified and obtained from the urine of postmenopausal women. (After menopause, women produce high levels of gonadotropins which are excreted in their urine.)
- FSH is genetically synthesized in the laboratory.

The combination human menopausal gonadotropin (hMG)/human chorionic gonadotropin (hCG) or recombinant human follicle-stimulating hormone (rFSH)/hCG treatment can consistently stimulate the ovulation. It results in pregnancies in 60% of the women who fail to ovulate. But among such pregnancies, up to 35% end in miscarriages [15].

Metformin is an antihyperglycaemic agent which improves the glucose tolerance in the patients with type 2 diabetes, lowering both the basal and the postprandial plasma glucose levels. The use of metformin, an insulin-sensitizing agent, in PCOS patients who undergo IVF or ovulation induction has been extensively researched, but with divergent results. Now,
If the pitta is located in the female reproductive system, it is caused by the intake of pungent, hot, and sharp foods, which can irritate and inflame the tissues. In the Indian system of Ayurveda, the approach to the management of female infertility is entirely different. The modern system of medicine, as we have seen, is only successful in 17% of all female infertility cases. Assisted reproductive technology and medicine, as we have seen, is only successful in 17% of all female infertility cases. ART, which includes in vitro fertilization, gamete in vitro fertilization, zygote intrafallopian tube and intratubal insemination, has been tried although they are expensive ventures with substantial success. Surrogacy uses the ovum from a donor and the fertilized embryo is allowed to grow. It is handed over to the concerned parent at the birth of the offspring. Gestational carriers are used in cases of uterine malformations in the women who thus require the services of a surrogacy or Carrier program. In addition, most of the side effects had a significantly lower incidence among the patients who received surrogacy than those who were administered bromocriptine. Multiple pregnancy is the main downside of this option. Mostly, anovulatory cycles and infertility, despite the normal reports, are amenable to the drug therapy and they achieve a success rate of 50%.

An interventional approach in the form of Assisted Reproductive Technology (ART) is commonly tried in those who are without financial problems. ART, which includes in vitro fertilization, gamete in vitro fertilization, zygote intra fallopian tube and intrauterine insemination, has been tried although they are expensive ventures with substantial success. Surrogacy uses the ovum of the surrogate and the fertilized embryo is allowed to grow. It is handed over to the concerned parent at the birth of the offspring. Gestational carriers are used in cases of uterine malformations in the women who thus require the services of a surrogacy or Carrier program. In addition, most of the side effects had a significantly lower incidence among the patients who received surrogacy than those who were administered bromocriptine. Multiple pregnancy is the main downside of this option. Mostly, anovulatory cycles and infertility, despite the normal reports, are amenable to the drug therapy and they achieve a success rate of 50%.

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Assisted Reproductive Technology (ART): According to the 2009 CDC fertility clinic success rates (U.S.), the average%age of the ART cycles that led to a live birth were:

1. 41% in women who were younger than 35 years of age
2. 32% in women who were aged 35–37 years
3. 22% in women who were aged 38–40 years
4. 12% in women who were aged 41–42 years and
5. 5% in women who were aged 43–44 years

In the Indian system of Ayurveda, the approach to the female infertility is entirely different. The modern system of medicine, as we have seen, is only successful in 17% of all the infertility cases. Assisted reproductive technology and pharmacotherapy have been the most fruitful methods. The inadvertent loose of medication in infertility has not very successful due to ambigues aetiology. The patients in India who have exposure to an array of alternative systems of medicine, impatiently resort to one of these systems; folklore medicine, Ayurveda, Pranayama, Siddha and Unani.

The Ayurvedic Preventions which are Commonly Used

In ayurveda, we compare the human body to the miniature universe. There is a sun–pitta, moon–kapha and vayu-vata in our body, which is the same as compared to the universe. As a sprout comes out as a result of the combination of the season, soil, water and seed, conception takes place positively if these 4 factors are combined properly. In the human body, the fertility factor depends on the Rutu-ovation period, the kshetra-uterus, the ambu-pervading rasa dhatu which is formed by the digested food, the bija-ovum and the sperm. (Su Sharira ch.2: 33).

If there is any impairment in the above 4 factors, conception will not take place. In Ayurveda, 20 types of pathologies which are related to the genital organs have been discussed as yoni vyapath. These are caused by the wrong regimen, menstrual morbidity, genetic defects and as a result of evil actions which were done in the previous life (Daiva ). (Charak, chikitsa sthana chapter 30)

When the reproductive system is afflicted by any of this yoni rogas, a woman becomes incapable of retaining or receiving the semen, as a result of which she does not conceive.

Yoni Vyapath

1. Vatika yoni Roga: If a woman has a vata constitution (Prakriti) and if she resorts to food and regimens which aggravate the vayu, then the aggravated vayu gets located in the reproductive organs and produces pain, ache, stiffness, a tingling sensation, dryness, numbness, fatigue, and often gets an untimely menstrual discharge which is frothy, thin and dry, which is associated with sound and pain.

2. Pittika yoni roga: It is caused by the intake of pungent, sour, salty, and similar other types of food. The woman suffers from a burning sensation, suppression, and fever. The menstrual discharge becomes heavy, blue, yellow or black in colour and it has an offensive smell.

3. Kaphaja yoni roga: With the intake of abhishyandi (which obstructs the channels) food, the aggravated kapha vitiates the reproductive system and causes itching, sliminess, mild pain and pallor of the genital organs. Her menstrual discharge will be pale and slimy.

4. Sannipatika Yoni roga: If the woman indulges in samashana (intake of good and bad food which has all tastes together), then all the 3 doshas which are located in the genital tract and the uterus get vitiated and they cause the signs and symptoms of all the 3 doshas.

5. Rakta yoni, Asradghara (D.U.B): If the woman resorts to food and regimens which increase the rakta and pitta, then her blood gets vitiated by the excess flow of the pitta through the genital tract. The blood flow does not stop even when he woman becomes pregnant. The pregnancy does not continue because of the excess blood flow.

5. Arajaka (Amenorrhea): If the pitta is located in the vagina and the uterus, this vitiates the blood and there will be no menstruation. There will be extreme emaciation and discolouration of the skin. In Astanga samgraha, Vagbhata explains this as Lohita kshaya, which is manifested by the aggravation of vata and pitta, which causes a decrease or...
loss of the menstrual fluid, which is accompanied by a burning sensation, emaciation and discolouration of the vagina (A.S. uttara. 38) [20]

7. Achrana: If hygiene is not maintained, micro organisms grow in the genital tract and cause itching.

8. Aticharan: Because of excessive sexual acts, the aggravated vayu causes swelling, numbness and severe pain.

9. Udavartini (dysmenorrhea): If a woman controls her bowel movements, flatus and the urge for urination, the vayu gets aggravated and causes severe pain. The pain stops immediately after the menstrual flow starts.

10. Putragni: The aggravated vata pollutes the ovum and the formed embryo gets destroyed. Vaghbata describes Jaataghni (astanga sangraha uttarasthana ch. 38) which is of similar symptoms.

11. Mahayoni: The openings of the uterus and the vagina remain dilated after intercourse. There will be pain and the discharge of frothy blood. There will be protuberance of the muscles and prickling pain in the joints and the groins.

Then, there is Prak chrana in puberty, Upapluta in pregnancy and Pariputa (due to the suppression of natural urges like sneeze, etc, the vata gets aggravated, causing oedema, tenderness and pain in the genital tract.) , Karnini (polyp), Antamukhi yoni roga (distortion of the cervix), Suchimukhi yoniroga (Pin hole os), Shushka yoni (dryness of the vagina), Vamini (Semen is thrown out after 6-7 nights) and Shandi (female impotency).

Rtkalaka
After the pathology of the uterus, one should consider about the season of the conception. As per Sushrutha, it is 12 days after the commencement of the menstruation. (Su Sharira 3: 6) On even days (6, 8, 10 and so on), the arthaha (ovum) will be less and on odd days (5, 7 and 9) it will be more. So, the copulation on these days will lead to male and female babies respectively. (A.S. sharira.1) [21].

Pumsavana Karma: Once the lady has conceived, before the signs of the pregnancy manifest clearly, pumsavana (a rite which is done to beget a male child) should be done on the Pushya stellar constellation. Milk which is prepared by using herbs like Lakshmana (Solanum surattensis) and the sprouts of Vata (Ficus bengalensis Linn), is put into the right nostril of the woman if she desires a male child and into her left nostril if she desires a female child. The milk should be swallowed. (A.S sharira 2)

Line of Treatment
For the diseases which are caused by vata, the patient should give oleation, fomentation, enema, and such other therapies which alleviate the vayu. Her body should be massaged with oil which is mixed with rock salt and she should be then givenfomentation. After the fomentation, her body should be sprinkled with warm water and she should drink meat soup which is prepared by using vayu alleviating drugs. The affusion (decotion of Triphala [Terminalia chebulica, Terminalia belerica, Phyllanthus emblica] or Guduchi (Tinospora cordifolia), massage and Pichu kriya (insertion of tampons’ soaked in medicated oils in the genital tract). Oils like Guduchyadi taila, Saindhavadi taila and Sukumara taila are used. The paste of Himsra (Capparis sepiaria pessary) is kept in the vagina.

In case of the ailments which are caused by Pitta, cooling therapies which are curative of rakta and pitta are administered. The paste of Panchavalka (the bark of Nyagrodha (Ficus bengalensis, Udumbara (Ficus glomera), Ashvatha (Ficus religiosa), Parisha (Thespesiap populanea Soland ex corea) Plaksha (Ficus lacor)) is applied inside the vagina. Affusion, massage and pichu kriya (insertion of tampons which are soaked in ghee or oil in the genitalia) with the pitta pacifying drugs are also effective. For eg, Shatavari (Asperagus recemosus).

In case of Kapha aggravation, pessaries which are prepared by using barley flour, rock salt and the latex of Arka (Calatrops gigantea) should be kept in the vagina for a short period. Then the genital tract is cleansed with a douche of luke warm water. If there is stenosis, the dilation is done after the administration of oleation and fomentation. A pessary (varti) which is of the shape and size of the index finger should be prepared out of Pippali (Piper longum), Maricha (Piper nigram), etc and it should be inserted in the genital tract. It cleanses the genitalia.

Douching the female genital organs with a decoction of Nimba (Azadirachta indica), Jambu (Eugenia jumbolanaa), Vasa (Adathoda vasica) Triphala, Amra(Mangifera idica), Arjuna (Terminalia arjuna), Palasa (Butea monosperm) and Karanja (Pongamia pinnata) cures the morbid vaginal discharges.

Enemas which are given according to the dosha predominance is useful. For eg, in vatika type oil, pittika type medicated milk, in kaphaja decoction of pungent drugs.

Rakta yoni, Asrgdara ( Menorrhagia )
The intake of yogurt which is mixed with sugar, honey, Yasstimadhu (glycyrrhiza glabra) and Nagara (zincebeer officinalis) is useful. The paste of the root of Thanduliyaka (Amaranthus spinosus Linn) which is mixed with honey should be taken along with rice water. Ghee which is cooked with a decoction of Kashmaya (Gmelia arboria) and Kutaja (Holherhena antidisentrica) should be used as a douche. Vasa ghirta and maha tiktaka ghirta are given internally.

In Udavarthi yoni roga, anuvasan enema and a douche which is made with ghee, oil or enema with milk which is boiled with Dasa mula ( roots of Bilva (Aegle marmelos), Agnimanthu (Premna mucronata), Shyonaka (Oroxylum indicum), Gambhari (Gmelina arborea), Patala (Sterospermum suaveolens), Goikshura (Trebulus terrestris), shalapani (Desmodium suaveolens), Prashnaparni (Uraria picta), Birhati (Solanum indicum) and Kantakari (Solanum xanthocarpum) are useful.

The Treatment for Leucorrhoea
The paste of Amalaki (Phyllanthus embellica) which is mixed with sugar and honey with water. Vaginal pessaries which are made of Plaksha (Ficus lacor), Lodra (Symlocos recemosus) or Triphala and Eugenia jumbolana, samanga ( Mimosa pudica) are inserted to dry the exudation. Also, the decoction of the same can be used as a douche. A tampon which is soaked in Udumbara tail (the oil which is prepared from Ficus glomera) is inserted in the genital tract. Thereafter, a douche which is prepared with the cold decoction of the same drugs is given. When the genital organs get cleaned by the aforesaid measures, the woman becomes capable of conception, provided the sperm and the ovum (beej) are unpolluted.

The medicines for ovulation are as follows: the powdered roots of Solanum surattensis which are taken with milk or ghee in the fertile period with Kumari (Aloe vera) juice. Milk which is processed with a decoction of Asvagandha (Withania somnifera), to which
It improves the blood flow to the decidual
by using Aloe vera, Manjista (Rubia cardifolia), etc, Rajapravrtini
is made by using Aloe vera and other herbs) should be given. I
the menstrual cycle, improve the endometrium and to stimulate
Saraca asoca and other herbs) is most commonly used to regulate
Ashokarista (fermented medicine which is prepared by using
or miscarriage. Along with this, Laptaden (a tablet which is made by using
and gives strength to the muscles and the rakta dhatu which is
becomes weak due to mamsa (muscle), meda (fat) – kapha vitiation
Brahmi (Bacopa monnieri), Katuki (picrorhiza kurroa), Doorra (Cynodon dactylon),
Patala(Stereospermum suaveolens) and Haritaki (Terminalia chebula), by their katu (pungent)– tiktha (bitter) – kashaya (astringent) taste, laghu (light) and rooksha (dry) qualities dry the
exudation, stimulate the circulation and nourish the foetus.

For a better progeny, drugs like Brahmi (Bacopa monnieri),
Lakshmana (Solanum surrensete), Amalki (Phyllanthus emblica),
Haritaki (Terminalia chebula), Shatavari (Asperagus recemusos),
Kumari (Aloe vera ): It improves the blood flow to the decidual
membrane and it stimulates the uterine musculature to contract.
It thus improves the menstrual flow. It should not be given
during pregnancy as may cause abortion. It is useful in inducing
ovulation.

Shatavari (Asperagus recemusos): It nourishes the uterus
and gives strength to the muscles and the rakta dhatu which is
associated with it. It induces ovulation and it also prevents abortion
or miscarriage.

Ashokarista (fermented medicine which is prepared by using
Saraca asoca and other herbs) is most commonly used to regulate
the menstrual cycle, improve the endometrium and to stimulate
ovulation. From the 4th day of the menstruation, Ashokarista,
in combination with Kumaryasava (fermented medicine which is
made by using Aloe vera and other herbs) should be given. I
usually combine this with Aloeos compound [a tablet which is
made by using Aloe vera, Manijsta (Rubia cardifolia), etc], Rajapravrtini
vati (asafoetida, etc) to induce ovulation. From the 14th day,
Ashokarista with Ashvagandharista ( Withania somnifera, etc )
or Punarnavasava ( fermented medicine which is made by using
Boerhavia diffusa and other herbs) should be given to maintain
the embryo. Along with this, Laptaden (a tablet which is made by using
Jeevanti [Leptadinia reticulate, etc) and Garbhapala rasa which
helps in sustaining the pregnancy should be given. It normalizes
the environment which is required for the conception.

In case of the women with high prolactin levels, Chandraprabha
vati (shilajit etc.) is given.

When there is heavy menstruation, shatavari (Asperagus recem-usos) is the drug of choice to control the bleeding and to strengthen
the uterus.

When there is too much of hormonal imbalance or amenorrhea for a
long duration and in spite of consuming all types of emmenagogue
herbs, when there is no menstruation, we have to opt for
Panchakarma treatments like Virechana (removing the toxins by
purification) and Basti chikitsa (introducing the medicine through the
anus to remove the toxins in the pelvic region, to strengthen
the genital organs and also to pacify the vata ).

When there is leucorrhoea, the vaginal media becomes acidic,
which is not favourable for sperms. Giving a vaginal douche of
Udumbara (Ficus glomerata) is very beneficial in such cases. Phala
sarpi (Ghee which is prepared with Manjista (Rubia cardifolia), Bala
(Sida cardifolia), etc) is another drug of choice for infertility. It is highly
effective for all diseases of the reproductary system and also the
best for Pumsavana. It is especially useful in cases of threatened
abortion and for pregnant women. (A. S. Uttara 39).

The traditional medicine which is being used over the centuries
is Ayurveda, which is being held in high esteem and trust. In the
event of infertility, couples turn to ayurveda and modern medicine
for succour. Indians are known to visit religious places and to
take vows and penance for success. Faith healing is integral to
the Indians, as their religious fervour runs deep. The ayurvedic
concepts are precisely outlined in this review [24].

CONCLUSION

The incidence of infertility in females is definitely an issue of concern,
although it affects only a small%age of the total population. The
options which are available, range from ART, despite it being an
expensive alternative. Pharmacotherapy is the initial approach for
most of the women. The patients look forward to the alternative
systems of medicine and faith healing for a quick and successful
outcome. Ayurvedic preparations have been reported to be
effective in correcting the female infertility.

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