ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 10| Issue: 9| September 2024|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2024: 8.402 || ISI Value: 1.188

RASAYANA's IN FEMALE INFERTILITY DUE TO METABOLIC DISORDERS

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ABSTRACT

Female infertility is defined as failure to conceive after frequent unprotected sexual intercourse for one or two years in couple who are in their reproductive age group. Metabolic Disorders reported in the reproductive age fall under a cluster of endocrine disturbances including PCOS, obesity, dyslipidaemia, and insulin resistance (Diabetes). Women with metabolic disorders are more common for infertility affecting 6% to 12% (as many as 5 million) women of reproductive age. Female infertility is raised to the alarming extent due to diet and lifestyle modifications. Over few past times, fertility treatment has expanded to Hormonal therapy, In vitro Fertilization i.e., IVF, Embryo Transfer i.e., ET, Gamete Intrafallopian Transfer i.e. GIFT etc are very expensive but they give unsatisfactory results along with lots of side effects like ovarian hyperstimulation, frequent abortion and major possibility of long-term ovarian cancer.

As Ayurveda emphasizes specific role of Ritu (time of conception), Kshetra (reproductive organs), Ambu (nourishment) and Beeja (seeds i.e.; ovum and sperm) towards the healthy progeny and any vitiation in these factors leads to infertility. Based on the dosha involved, the treatment is aimed at pacifying the Kapha Dosha, by making Vata Anulomana and increasing the Pitta Guna. Shodhana and Rasayana chikitsa helps to focus on reproductive system along with psychological aspect of reproductive health which results in holistic solution of the problem through regulation of menstruation, stimulates ovulation and it also helps to overcome hyperandrogenism, insulin resistance and obesity associated with infertility

INTRODUCTION

Female infertility can be by various metabolic disorders. Polycystic Ovary Syndrome (PCOS) is one of the most common metabolic disorders affecting female fertility, characterized by irregular menstrual cycles, anovulation (lack of ovulation), and hyperandrogenism (high levels of male hormones). PCOS often have insulin resistance, which can lead to obesity and type 2 diabetes, further contributing fertility issues. Thyroid disorders can affect menstrual cycles and ovulation, as thyroid hormones regulate metabolism, and imbalances can disrupt the reproductive system. Poorly controlled diabetes can lead to menstrual irregularities and an increased risk of miscarriage, while insulin resistance, often associated with type 2 diabetes, can affect ovarian function and fertility. Elevated levels of prolactin (a hormone produced by the pituitary gland), known as hyperprolactinemia, can interfere with ovulation and may be caused by metabolic disorders such as hypothyroidism. Adrenal disorders, such as Cushing's syndrome (excess cortisol production) and adrenal insufficiency, can disrupt the balance of reproductive hormones and impair fertility due to their effect on the body's metabolism.[1-3]

As Ayurveda emphasizes specific role of Ritu (time of conception), Kshetra (reproductive organs), Ambu (nourishment) and Beeja(seeds i.e; ovum and sperm) towards the healthy progeny [4] and any vitiation in these factors leads to infertility, female infertility and metabolic disorders are often Kapha-Vata disorder due to the accumulation of toxins (Ama) and imbalance in rasa , raktha mamsa and meda .

Over few past times, fertility treatment has expanded to Hormonal therapy, In vitro Fertilization i.e., IVF, Embryo Transfer i.e., ET, Gamete Intrafallopian Transfer i.e. GIFT etc are very expensive but they give unsatisfactory results along with lots of side effects like ovarian hyperstimulation, frequent abortion and major possibility of long-term ovarian cancer.[5-8]

Based on the dosha involved, the treatment is aimed at pacifying the Kapha Dosha, making Vata Anulomana and increasing the Pitta Guna. Shodhana and Rasayana chikitsa helps to focus on reproductive system along with psychological aspect of reproductive health which results in holistic solution of the problem through regulation of menstruation, stimulates ovulation and it also helps to overcome hyperandrogenism, insulin resistance and obesity associated with infertility.

AIMS AND OBJECTIVES

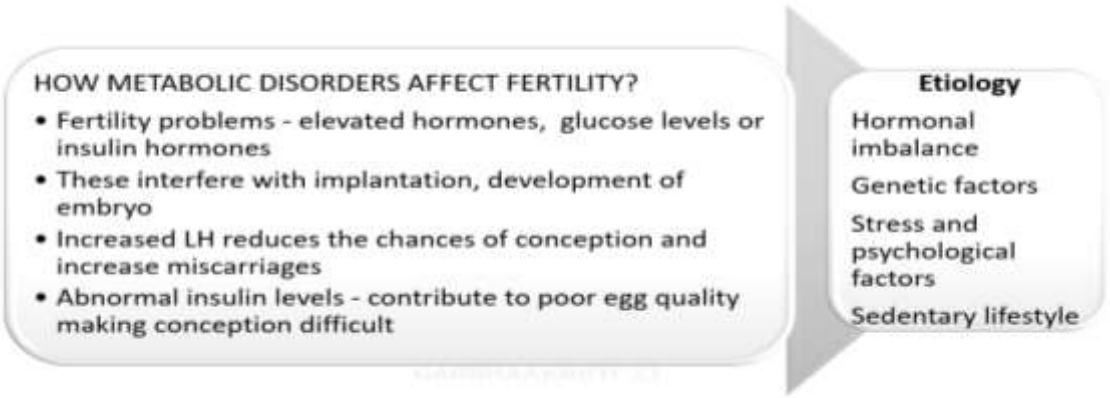
To review the efficacy of shodhana and rasayana in management of infertility due to metabolic disorder.

MATERIAL AND METHODS

A detailed review of concept of infertility along with the Rasayana indicated in its management. Context will be

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compiled from available classical literature as well as research papers and journals.

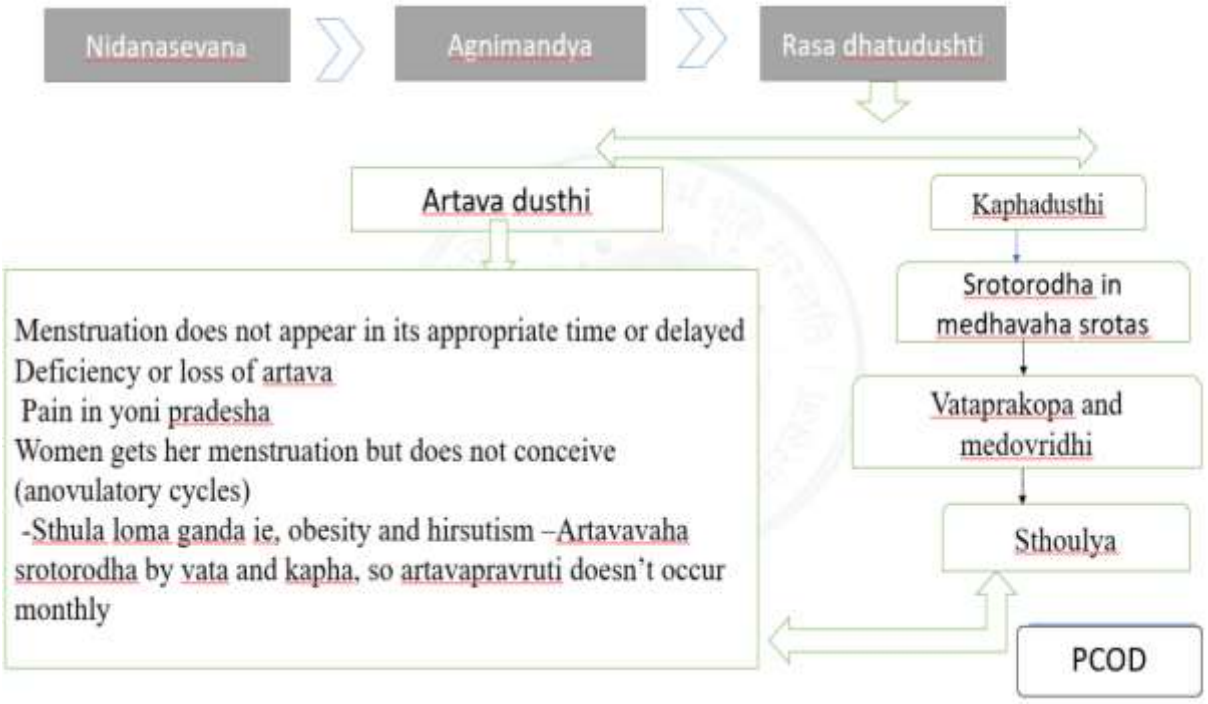


Ayurveda View of Metabolic Disorders

This syndrome cannot be included under any particular condition in specific and can be correlated with Artavakshaya [9], Anartava [10], Pushpaghni jataharini [11], based on its lakshanas, which are Vata-kapha pradhana rasa pradoshaja vyadhi Here, avarana samprapti of rasa, meda, vata and artava with beejopaghata are the major causative factors involved.

- Pushpaghni-jataharini refers to the destruction of ovum. It jataharini can be defined as a condition where in even though the women menstruates regularly but that is associated with anovulation, along with other features of Obesity and Hirsutism
- Artavakshaya, the lakshanas are
  - Yathochitakalamadarshanam - the menstruation does not appear in its appropriate time or is delayed or intermenstrual period is prolonged.
  - Alpata - the quantity of the menstrual flow is reduced or scanty
  - Yoni vedana - it is associated with pain
- Anartava- The aggravated Vata and Kapha doshas obstruct the passage or channels carrying Artava or Artavavaha srotasa, and thus Artava is not discharged

Pathogenesis



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DISCUSSION

Artava is the essence formed from Rasa which flows out of the body every month through the Yoni Mukha for 3 days[12]. The produced Artava is Agneya by nature which has the properties of Rakta and is the prime cause for the formation of Garbha [13-14]. The Moola of Artava Vaha Strotas are Garbashaya and Artava Vahini Dhamani, normalcy of this Strotas leads to normal functioning of reproductive system[15]. Agni plays an important role in maintaining this physiology. When Agni dusti happens due to the aggravation of Kapha Dosha by Kapha Prokopakara Nidana, dushita Rasadhatu is also formed and circulates throughout the body and takes Stana Samshrya in Garbhashaya causing Avarana of Apana vata in the Artava Vaha Srotas. Due to Kaphavruta Apana Vata,Artava is not expelled leading to the condition called Anartava [16]. Here Artava is not completely destroyed but it is not expelled or discharged periodically The artavakshaya or anartava should be treated by the use of purifying measures and agneya dravyas.
Dalhana says that for purification, vamana should be used not the virechana, because virechana reduces pitta which in turn decreases artava while vamana removes saumya bhavas, resulting into relative increase in agneya constituents of the body, consequently artava also increases. chakrapani says that by use of purifying measures srotas are cleared.[17]

Shodhana Chikitsa

Table 1: **SHODHANA IN FEMALE INFERLITY DUE TO METABOLIC DISORDERS**

Vamana	In case of avarana samprapti and artava vyapat due to srothorodha and kapha dushti (menstrual irregularities, obesity, insulin resistance)
Virechana	In rasa, rakta, artava and pitta dushti lakshanas (hyper androgenism)
Anuvasana & niruha basti	In vata dushti, beejadosha sambandhi vandhyatwa (oligo ovulation, anovulation and inefficient ovulation)
Uttara basti	Garbhashaya shodhana and tarpana
Nasya	To correct the HPO axis

Rasayana Chikitsa

- After Shodhana, rasayana chikitsa is beneficial not only in enhancing the longevity, intellect, physical and mental strength, along with the reproductive wellbeing.[18]
- Rasayana exhibits antioxidant activity, reducing oxidative stress and inflammation in the reproductive system, regulate hormonal imbalances, improving ovulation and promotes uterine health

Ashwagandha rasayana- Ashwagandha is an adaptogen that helps manage stress, which is a significant factor in female infertility. It supports the endocrine system, balances hormones, and enhances reproductive function by improving the quality of the ova. Ashwagandha also enhances ovarian function and promotes healthy menstruation.[19]

Shatavari Rasayana : Shatavari is known as a female reproductive tonic. It supports the female reproductive system by regulating menstrual cycles, enhancing ovulation, and promoting the health of the uterine lining. Shatavari also has phytoestrogenic properties, which help in balancing estrogen levels and improving fertility.[20]

Amalaki Rasayana- It helps in detoxifying the body, reducing oxidative stress, and enhancing the quality of the ova, thus supporting fertility. It also nourishes the reproductive tissues and promotes a healthy pregnancy.[21]

Shatapushpa Rasayana- is known for its emmenagogue properties, meaning it can help stimulate and regulate menstrual flow, useful in treating conditions like oligomenorrhea (infrequent menstruation) or amenorrhea (absence of menstruation), which can be underlying causes of infertility. It also helps in the maturation and release of the ovum, thereby increasing the chances of conception.[22]

Lodhra rasayana -It is beneficial in treating menstrual irregularities, leucorrhea, and other conditions that may affect fertility. Lodhra also supports the healthy functioning of the uterus and ovaries, promoting fertility.[23]

Guduchi rasayana- Guduchi acts as an immunomodulator and adaptogen, which helps in managing stress and immune-related fertility issues.[24]

Medhya Rasayana- reduce stress and anxiety, which are significant factors that impair fertility by disrupting hormonal balance and ovulation. By influencing the hypothalamic-pituitary-adrenal (HPA) axis, Medhya Rasayana herbs help regulate the endocrine system, ensuring the proper secretion of reproductive hormones like oestrogen, progesterone, and follicle-stimulating hormone (FSH).[25-26]

Phalasarpi - nourishes and strengthens the reproductive tissues, improving the quality and quantity of ovum. It acts as a tonic to the reproductive organs, enhancing their function and promoting fertility. Also helps regulate menstrual cycles, enhance ovulation, and maintain a healthy hormonal environment conducive to conception[27]

Kalyanaka Ghrita- helps in strengthening the uterine muscles, improving the endometrial lining, and creating a favourable environment for implantation and pregnancy. The combination of herbs aids in detoxifying the body, particularly the reproductive system. Detoxification helps in clearing any blockages in the reproductive channels, which can be a cause of infertility. The rejuvenating properties of the herbs enhance overall vitality and reproductive function.[28]

Sukumara Ghrita- the formulation contains herbs with anti-inflammatory and antioxidant properties, which help in reducing inflammation in the reproductive organs, thereby

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improving overall reproductive health and fertility. Sukumara Ghrita strengthens the uterine muscles and improves the endometrial lining, creating a favorable environment for implantation and pregnancy. It is particularly useful in conditions like uterine fibroids, endometriosis, and other uterine disorders that can lead to infertility.[24,29]

Chandraprabha Vati- aids in detoxifying the body by removing toxins (Ama) and balancing the doshas, particularly Vata and Pitta, which can influence menstrual cycles and it improves the quality and vitality of reproductive organs, thereby enhancing fertility andreproductive health[30]

Shilajatu rasayana – Shilajatu contains fulvic acid and various minerals that help regulate hormone levels. By supporting the endocrine system, it helps balance reproductive hormones such as estrogen and testosterone, which are crucial for regular menstrual cycles and healthy ovulation.it also enhances mitochondrial function, which improves energy metabolism and helps in managing obesity and type 2 diabetes by reducing blood sugar levels and improving lipid profiles.[31-32]

Dashamoola Rasayana- Dashamoola is effective in balancing Vata Dosha, which is crucial for regulating menstrual cycles. It has anti-inflammatory and analgesic properties that help alleviate menstrual discomfort and promote regular cycles**.**

Benefits of Rasayana
• Rasayanas helps in normalisation of endocrine secretions and leads to hormonal balance, checks mood swings and psychological symptoms.
• Helps in folliculogenesis, hypoglycemia, hyperlipidemia.
• Removal of cysts and corrects ovulatory function
• Reduces androgens and an adjuvant therapy for hirsutism

CONCLUSION

- Shodhana followed by rasayana chikitsa helps in the regulation of menstruation, also stimulates ovulation, over comes hyperandrogenism and obesity associated with infertility.
- The mentioned rasayana are multi potential and are beneficial in treating menstruation related problems which leads to infertility.

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