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A RANDOMISED COMPARATIVE CLINICAL STUDY TO EVALUATE THE EFFECT OF KASHMARYADI GHRITA ORALLY AND AS MATRABASTI ALONG WITH PUSHPADHANWA RASA IN VANDYATWA W.S.R TO FEMALE INFERTILITY

Kavya B. N.[1]*, Mamatha K. V.[2], Sandesh Shetty[3] and Rakesh G. H.[4]

[1]PG Scholar, Department of Prasuthi Tantra and Streeroga SDM College of Ayurvedakuthpadyudupi.

[2]Principal Professor, SDM College of Ayurvedaudupi.

[3]Associated Professor, Department of Swasthavrutha SDM College of Ayurveda Udupi.

[4]Assistant Professor, Department of Kriya Shareera Sharada Ayurveda Medical College and Hospital Devinagara Talapady Mangalore.

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***Corresponding Author**
Dr. Kavya B. N.
PG Scholar, Department of Prasuthi Tantra and Streeroga SDM College of Ayurvedakuthpadyudupi.

ABSTRACT

Infertility is the failure to achieve conception by a couple of mature age, having normal coitus, during appropriate period of menstrual cycle, regularly at least for one year. A rough estimate suggests that more than 20 million couples in India suffer from infertility. *Vandhyatwa* as such is not mentioned in our classics except in *Haritha Samhitha*. *Vandhyatwa* rather is a complication of all the *yonirogas* and *arthava dushtis.* Normalization of *vatadosha* is the primary management in *vandhyatwa*. This study was conducted to compare the effect of kashmaryadi ghritha orally and as matrabasti with pushpadhanwa rasa in vandyatwa. 40 patients being diagnosed as infertility according to inclusion and exclusion criteria were selected for the study. These patients were assessed thoroughly by filling the case Performa and divided into two groups randomly were group A was administered with *kashmaryadi ghritha*orally for 2 months along with *pushpadhanwa rasa* and group B was given with *kashmaryadi ghritha matrabasti* for 7 consecutive days from the 5th day of menstrual cycle for 2 cycles and *pushpadhanwa rasa* orally. A follow up period of 1 month was also included to observe the changes. Final results showed that 2 patients in group A and 1 patient in group B had conceived.15 patients in

group A and 16 patients in group B showed symptomatic relief in dysmenorrhea and dyspareunia. There was significant improvement found is attaining *shudharthava,* also increase in libido, follicle size and endometrial thickness was seen. 3 patients from both the groups showed no reliefby the end of study.

KEYWORDS: *Vandhyatwa*, Infertility, *Kashmaryadi Ghritha, Pushpadhanwarasa, Matrabasti, Vatadosha.*

INTRODUCTION

The desire for parenthood is a universal longing shared by all living beings, encompassing both creatures and humans. It is undeniable that adult females possess an inherent yearning to have children. Inability to conceive is often perceived as a personal failure and a global tragedy. Infertility knows no boundaries; it transcends cultural and social class divisions, affecting individuals and couples worldwide. The experience of infertility has profound effects on biological, psychological, and social aspects of a person's life. Traditionally, the act of getting married has been associated with the expectation of starting a family and raising children. Infertility refers to the reduced or absent ability to produce offspring, either in males or females.

According to Indian philosophy, reproduction is not merely a physiological function, rather social obligation to be fulfilled by the couple. Unlike sterility, infertility is not necessarily irreversible. It is defined as "the outcome of a disease that hinders the conception of a child or the ability to carry a pregnancy to term, resulting in an interruption, cessation, or disorder of reproductive functions, systems, or organs. Infertility is the failure to achieve conception by couple of mature age, having normal coitus, during appropriate period of menstrual cycle, regularly at least for one year.[1] Infertility is common and effects 10-15% of reproductive aged couples.[2]

Globally, approximately 8% to 10% of couples grapple with infertility, with an estimated 60-80 million couples affected each year. In India alone, it is believed that between 15-20 million (25%) couples face infertility challenges. This surge in infertility cases has been accompanied by significant shifts in the age of childbearing, delayed marriages, and increased utilization of contraception, among other factors.

The accessibility of information regarding infertility treatment and recent advancements in this field have resulted in earlier presentation of patients seeking treatment. This can create a misleading perception of a growing infertility issue.[3] However, developed countries have actually experienced a slight decrease in birth rates, primarily due to various factors such as changes in the age of childbearing, delayed marriages, increased use of contraception, greater reproductive choices, evolving gender roles, and women's aspirations. Infertility has a detrimental impact on the social and psychological well-being, particularly of women. The ability to conceive relies on the fertility potential or fecundity of both partners, with males contributing to approximately 30-40% of cases, females contributing to about 40-55%, and both partners being responsible in roughly 10% of cases. Despite comprehensive investigations utilizing the latest technologies, the remaining percentage of infertility cases remains unexplained.

The cause of infertility in females might be any of the various causes like ovulatory dysfunction, tubal and pelvic factor, systemic condition, cervical and immunological factor and endometriosis. Some general factors also which might lead to infertility like failure of couple to consummate their marriage, stress has the potential to play a major etiology and also advanced age due to accelerated follicular loss after 35 years.

Despite significant advancements in the evaluation and treatment of infertility within modern science, there are notable challenges. One of the primary setbacks is the increased failure rate associated with these techniques. Many of these treatment modalities involve invasive procedures or carry the risk of side effects such as ovarian hyperstimulation syndrome. Furthermore, a considerable drawback is the high cost of these investigations and treatments, imposing a financial burden on the affected couples.

Vandhyatwa as a disease and its classification is described in *Haritha Samhitha* but further details like etiology, prognosis or treatment are not explained.[4] It is rather a complication of any abnormality like *yoniroga, arthava dushti*, etc and is also one among the 80 *vataj nananatmaja vikaras*.[5] The achievement of a successful pregnancy relies on several crucial factors, including *rutu, kshetra, ambu, beeja, hrudi, shatbhavas*, and *vayu*. Any abnormalities affecting these factors can lead to difficulties in conceiving. Additionally, the mental and emotional state, referred to as *saumanasya,* is equally important for achieving a normal pregnancy. Any abnormalities in the coital act, such as engaging in sexual intercourse at a

young or advanced age or adopting abnormal positions, can also hinder successful conception.

Shodhana karma, a purification procedure, is mentioned as a significant treatment approach for managing infertility. Vandhyatwa, the condition of infertility, is considered as a *virechana sadhya vyadhi*. Treatment protocols may involve *Niruhabasti and matrabasti*. *Pumsavana karma*, a procedure to enhance the chances of conceiving a male child, is also advised when appropriate. Various yoga practices are also mentioned in different texts as additional measures for promoting fertility and supporting reproductive health.

*Kashmaryadi Ghrita*mentioned in *YonivyapatChikitsa* of *Charaka Samhita* has the efficacy of *Garbhada and Yoni Vatahara* properties.[5] *Pushpadhanwa rasa* as mentioned in *vajikarana Adhyaya of Bhaishajya Ratnavali*[6] and *Rasatarangini Parishishta*[7] is found beneficial in Vandyatwa and also the drugs used in the *Pushpadhanwa rasa* has *vatahara*, *deepanapachana* properties and it is *Balya* and gives *DhirgaAyu* and it has *vajikarana* properties. *Anuvasana Basti* is *Shrestha Chikitsa* for women those who are infertile.[8]

AIMS AND OBJECTIVES

1. To evaluate the effect of *KashmaryadiGhrita* orally and *Pushpadhanwa rasa* orally in *Vandyatwa* w.s.r to female infertility.
2. To evaluate the effect of *Kashmaryadi Ghrita matrabasti* and *Pushpadhanwa rasa* orally in *Vandyatwa* w.s.r to female infertility
3. To compare the effect of *Kashmaryadi Ghrita* orally and as matrabasti along with *Pushpadhanwa rasa*.

MATERIALS AND METHODS

Sample source: A minimum of 40 subject who have been unable to conceive and fulfilling the diagnostic criteria was selected for study from OPD and IPD of Sri Dharmasthala Manjunatheswara Ayurveda Hospital Kuthpady, Udupi.

Drug source: Kashmaryadi ghrita was prepared from SDM pharmacy and Pushpadhanwa rasa was prepared from the certified pharmacy.

40 subjects who are unable to conceive was categorised into two groups of 20 subjects each by simple randomization method. A special case proforma was prepared and filled with proper history taking, personal history, physical examination and investigations.

Intervention

Group A- *Pushpadhanwa rasa* 125mg orally 1 bd mixed with *Madhu and taken along with Ghrita, Kshira* after food and *Kashmaryadi Ghrita* orally 10ml bd before food for 60 days

Group B - *Pushpadhanwa rasa 125mg* orally 1 bd for 60 days mixed with *madhu and taken with ghrita and kshira after food. Kashmaryadi ghrita basti* in the dosage of 60ml continuously for 7 days from cessation of menstruation. This procedure will be repeated for 2 consecutive menstrual cycle.

- Duration of treatment - 2 consecutive cycles -60 days
- Follow up- 30 days (Next cycle after intervention)
- Total duration of study- 90 days

OBSERVATION

In this present study, patients with age group of 19- 40 years married women, in which 42.5% were from 30-35 years. 75% of patients were degree holders, 80% were from rural area, 72.5% were from middle class, 40% patients had 2-4 years of infertility. 82.7% patients had primary infertility. 70% patients had mixed diet, 52.5% patients had a habbit of vegadharana. 42.5% patient has normal BMI. 45% patients had disturbed sleep. 30% patients didn't indulge in any exercise. 45% patients had madyamakoshta .45% patients had mandagni.

47.5% patients liked katu rasa pradhana ahara. 27.5% had irregular menstrual cycles. 25% of patients had severe dysmenorrhea. 70% patients had blackish red colour of menstrual blood. 57.5% patients had presence of clots in the menstrual blood. 40% had vataja arthava dushti and 40% had vatakaphaja arthava dushti.

RESULTS

Subjective parameters

1) **Regularity of cycles** - There was a significant improvement both statistically and clinically observed in the patients. In group A 7 patients had the complaint of irregular cycles and by the end of the study, only 2 patient still complained of irregular cycles and in group B, 4 patients had the complaints of irregular cycles and all had improvement statistically there is significant result after follow up than after treatment but clinically the improvement was evident even after the treatment. Increased duration of menstrual cycle might be due to anovulation. This condition may mislead the window period of fertilization thus planned intercourse might end up in failure. Thus, irregular menstruation, almost all the time can be a predictor of infertility.

2) **Duration of bleeding -** By the end of the treatment in group A 5 out of 5 patients who had scanty bleeding had improved in the condition both in days and quantity of menstrual bleeding and in group B, 2 patients had scanty bleeding out of 2, 1 patient had improved in condition. Even though statistics did not show any significant changes from after treatment to follow-up period, there was clinical significance observed and the condition did not reappear. The improvement was gradual in the 2 months of treatment and the significant improvement was seen only by the end of the study. This result can be inferred through an improvement in endometrium, that is the triple layered endometrium which is ideal for implantation and an increased vascularity to the decidua by this treatment protocol. Basti can also improve the uterine contractibility leading to normal menstrual bleeding.

3) **Colour of the bleeding -** Majority of patients in group A i.e 14 patients out of 20 and in group B, 14 patients were exhibiting abnormal colour of menstrual blood that is 75% patients had blackish red discoloration whereas 5 patients from group A and 2 patients from group B had brownish red discoloration. Only 1 patient from group A and 4 patients from group B exhibited normal menstrual colour. This also is a relevant indicator of reproductive health showing endocrine dysfunction and uterine abnormality. The observation on this parameter showed a statistically significant result of p value of 0.020 in group A after follow up period and in group B, p value of 0.046 after follow up period. Even though, during the study there was significant result seen within the group there was no statistical significance between the group. This result can be inferred as drug acting on both hormonal level by correcting the imbalance in addition to improving the condition of uterine endometrium.

Table no. 1: Showing the effect on colour of bleeding within the groups.

Parameter	Negative ranks			Positive Ranks			Ties	Total	Z value	Pvalue	Inference
	N	MR	SR	N	MR	SR					
Groupa											
BT-AT	17	9.00	153	0	.00	.00	2	19	-2.44	**0.014**	**S**
BT-AF	19	10.0	190	0	.00	.00	0	19	-2.33	**0.020**	**S**
Groupb											
BT-AT	15	8.00	120	0	.00	.00	3	18	-2.00	**0.046**	**S**
BT-AF	17	9.00	153	0	.00	.00	1	18	-2.00	**0.046**	**S**

4) **Presence of clots in menstrual blood -** Highly significant result was observed in both the groups with p value in group A after treatment was 0.005 and after follow up was 0.001 and in group B highly significant result was noted with the p value 0.001 after treatment and 0.001 after follow up. There was statistically significant result between the groups after treatment with p value 0.019 and after follow up there was no statistically significant result but clinically there was improvement which can be derived from the mean values which showed a positive change. This also might be due to the improved endometrial and uterine environment and correction of hormonal dysfunction. As endometrial health or receptivity is recognized as a critical feature for female infertility and presence of these clots is the direct indicator of the state of endometrium.

Table No. 2: Showingtheeffect on clots within the groups.

Parameter	Negative Ranks			Positive Ranks			Ties	Total	Z Value	Pvalue	Inference
	N	MR	SR	N	MR	SR					
Groupa											
BT-AT	8	4.50	36	0	.00	.00	5	13	-2.828	**0.005**	**S**
BT-AF	12	6.50	78	0	.00	.00	1	13	-3.464	**0.001**	**HS**
Groupb											
BT-AT	12	6.50	78.0	0	.00	.00	0	12	-3.464	**0.001**	**HS**
BT-AF	11	6.00	66.0	0	.00	.00	1	12	-3.317	**0.001**	**HS**

5) **Dysmenorrhea -** Considering both the groups together 25% patients had severe dysmenorrhea, I.e. in group A 4 patients out of 20 and in group B 6 patients out of 20 and 45% and 12.5% patients suffered from moderate to mild dysmenorrhea were in group A 10 patients had moderate and 1 patient had mild dysmenorrhea and in group B 8 patients had moderate and 4 patients had mild dysmenorrhea. 17.5% patients did not have the complaint of dysmenorrhea at all i.e. in group A 5 patients didn't have dysmenorrhea and in group b 2 patients didn't have dysmenorrhea. As the statistical observation suggests, A remarkable change in dysmenorrhea was noticed among both the groups. In group A highly, significant result was seen with p value of 0.000 after treatment and p value of 0.001 after follow up and in group B highly significant result were seen after treatment with p value 0.000 and after follow up p value 0.000. There was non-significant result between the group in improvement in dysmenorrhea. This statistical observation was coinciding with the clinical observations too. This observation is clearly a sign of *udavartha lakshana* which was successfully brought under control by the action of the drugs by its *vatanulomana* and *bruhmana* action. The treatment protocol might have

resulted in a polarized uterine contraction by its action on uterine musculature as its irregularity causes dysmenorrhea.

Table No. 3: Showing the effect on dysmenorrhea within the groups.

Parameter	Negative Ranks			Positive Ranks			Ties	Total	Z value	Pvalue	Inference
	N	MR	SR	N	MR	SR					
Groupa											
BT-AT	13	7.00	105	0	.00	.00	2	15	-3.500	**0.000**	**HS**
BT-AF	14	7.50	1.00	0	.00	.00	1	15	-3-397	**0.001**	**HS**
Groupb											
BT-AT	16	8.50	136	0	.00	.00	3	19	-3.755	**0.000**	**HS**
BT-AF	17	9.00	153	0	.00	.00	2	19	-3.695	**0.000**	**HS**

6) **Libido -** The treatment demonstrated a highly significant result on libido of the patient in both the groups with p value of 0.001 in group A and in group B with highly significant result with p value 0.000 from before treatment and after follow-up period. There is no statistical significance between the groups after treatment and after follow-up period but clinical significance was noted. In group A among the 20 patients 13 patients had loss of libido, which was regained by the end of treatment. In group B among 20 patients 14 patients had loss of libido which was regained by the end of treatment. The drugs in *pushpadhanwa rasa* has *vrsya, vajikara* properties which helped in increasing the libido.

7) **Attainment of shudharthava lakshana -** .In in this study17 patients of group A and 16 patients of group B found to have absence of *shudha arthava lakshanas*. By the end of the study correction of this dushti was seen and all these patients showed improvement by attaining the normal menstrual colour, regular cycles and normal flow hence attained *shudhaartva lakshana*.

Table No. 4: Showing the effect on attainment of shudarthava lashana within the groups.

Parameter	Negative Ranks			Positive Ranks			Ties	Total	Z Value	Pvalue	Inference
	N	MR	SR	N	MR	SR					
Groupa											
BT-AT	17	9.00	153	0	.00	.00	0	17	-4.123	**0.000**	**HS**
Groupb											
BT-AT	17	9.00	153	0	.00	.00	0	17	-4.123	**0.000**	**HS**

Objective parameters

1) **Follicular size -** 8 patients of group A and 9 patients of group B had anovulatory cycles after treatment 3 patients from each group attained ovulation and rest of the patients had improvement in the size of the follicle. In group A 6 patients and in group B 7 patients had <12mm follicle size before treatment. After treatment there was an improvement in follicle size to >12-20mm. Out of 40 patients 3 patients attained a follicle size >20mm but failed to ovulate.

Table No. 5: Showing the effect on improvement in follicular size within the groups.

Parameter	Negative ranks			Positive Ranks			Ties	Total	Z value	Pvalue	Inference
	N	MR	SR	N	MR	SR					
Groupa											
BT-AT	8	4.50	36.0	0	.00	.00	12	20	-2.565	**0.010**	**S**
Groupb											
BT-AT	9	5.00	45.0	0	.00	.00	11	20	-2.724	**0.006**	**S**

2) **Endometrial thickness -** In group A out of 20 patients, 5 had thin endometrium and in group B, 8 patients had thin endometrium, after treatment significant improvement was noted in endometrial thickness where 3 patients conceptions was denied because of thin endometrium could achieve an improved endometrial thickness from 4-5 mm to 10-11mm.

Table No. 6: Showing the effect on improvement of endometrial thickness within the groups.

Parameter	Negative ranks			Positive Ranks			Ties	Total	Z value	Pvalue	Inference
	N	MR	SR	N	MR	SR					
Groupa											
BT-AT	13	7.00	91.0	0	.00	.00	5	18	-3.314	**0.001**	**HS**
Groupb											
BT-AT	12	6.50	78.0	0	.00	.00	7	19	-3.153	**0.002**	**S**

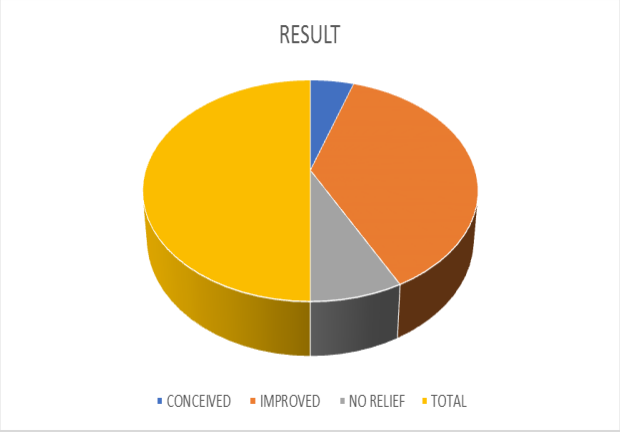
Final result

2 patients in group A and 1 patient in group B had conceived .15 patients in group A and 16 patients in group B showed symptomatic relief in dysmenorrhea and dyspareunia. There was significant improvement found is attaining *shudharthava*, also increase in libido, follicle size and endometrial thickness was seen. 3 patients from both the groups showed no relief. Considering conception, group A showed better results than group B. *Kashmaryadi ghritha*

and *pushpadhanwa rasa* was given internally for 2 months the drug might have acted on the *dosha* level and helped in *samprapthi vigatana* and in conception. In group A, one patient who conceived had earlier anovulatory cycles and had *vatakaphaja arthava dushti* and was a case of lean PCOD. Other patient had ovulatory cycles before treatment but who couldn't conceive was conceived after the treatment. In group B 1 patient who conceived too had anovulatory cycles and was a case of lean PCOD and conceived after intervention of *matrabasti*. On analyzing the overall results of the study considering both the groups very significant results were observed in attainment of *shudhaarthava lakshana* in 82.5% of patients, improvement in endometrial thickness seen in 32.5% of patients and ovulation in 15% of patients out of which 3 patients had conceived.

Table no. 7: Final result.

Group	Conceived	Improved	No Relief	Total
Group A	2	15	3	20
Group B	1	16	3	20



DISCUSSION

The journey towards a successful pregnancy is a delicate and intricate process that involves multiple sequential steps. Each step and condition must align appropriately within a specific timeframe for pregnancy to occur and progress to birth. Consequently, the treatment protocol for addressing infertility should encompass a comprehensive approach that targets various aspects of *shareera*at different levels. Despite infertility being a long-standing issue, there has been a growing number of couples seeking treatment for it across different medical systems.

In this study *kashmarayadigritha*[9] is given orally and also as *matrabasti* along with *pushpadhanwa rasa*[10] *orally*.

Rationality behind selecting these two drugs were that *kashmaryadi ghritha* which is mentioned in *vataja yonivyapath* is having properties of *vatanulomana, bhrimhana, balya, garbhada and Pushpadhanwa rasa* which is having *ushna, tikshna guna* would help in directly acting on the ovaries and help in ovulation, as *vata* will be aggravated due to the ushna tikshna guna of the pushpadhanwa rasa this *kashmaryadi ghritha* will help to counteract the *vata* which is being vitiated, and also both the drugs have the quality to improve the endometrium and help in conception.

Aushada Sevana Kala is an important concept in *Ayurveda* that refers to the timing and administration of medicines or therapeutic substances. *Ayurveda* explains that the timing of medication plays a significant role in optimizing its effectiveness and promoting overall well-being. *Aushada Sevana Kala* considers various factors such as the nature of the medicine, the *dosha* imbalances, the individual's prakriti, and the specific condition being treated.

The *doshas* follow a specific daily cycle of dominance within the body. These *doshas* have different qualities and characteristics, and their dominance or imbalance can affect an individual's health. *Aushada Sevana Kala* aims to administer medicines during specific times of the day when the body is most receptive to their therapeutic effects.

As *vandyatwa* is mainly due to *vatavyadhi* and mainly *apanavayu* is affected so the ghritha used in the study was administered in empty stomach i.e also known as abhaktha- *niranna*.

Absorption of medicines is the most important factor to provide maximum productiveness. Eventually, on an empty stomach absorption takes place easily. Hence, maximum therapeutic efficacy can be expected. In chronic diseases to achieve the maximum potential of the drug, empty stomach is preferred. Gastro intestinal absorption of the drug is influenced not only by the gastro intestinal motility, intraluminal ph, blood flow to stomach or enzymatic action, but also depends on the circadian rhythms. All the above-mentioned factors are also influenced by the time of the day.

Ayurveda, as an ancient system of medicine, indeed offers various therapies for the management of *vandhyatwa*. One of the main treatments recommended in Ayurveda for infertility is Panchakarma, which aims to remove impurities from the body and restore balance to the *doshas - Vata, Pitta, and Kapha*. Among the Panchakarma therapies, Basti is considered a significant procedure with a wide range of therapeutic benefits.

Basti is advantageous because it can act as a *shodhana, shamana*, and *sangrahaniya* therapy. It provides additional benefits such as vayasthapana, sukravardhana, *shareeropachaya*, and *balakara*. Since the *pakvashaya* is the primary seat of *Vatadosha, Basti* is primarily recommended for *Vata*-predominant conditions.

Basti is classified into two types: *niruha basti* and anuvasana *basti*. *Anuvasana basti* is highly beneficial for women who are infertile. *Matra basti*, a type of *sneha basti*, can be administered in any age group without significant restrictions. The reproductive organs are located in the *katisthana*, which is governed by *apana vayu.* Basti primarily acts on *Vata Dosha* and the colon, providing therapeutic effects.

Basti is indicated in conditions of *alparaja* (oligomenorrhea) and *anarthava*. It promotes the nourishment of dhatus by eliminating vitiated *apana vayu* and thereby creating a favorable environment for conception. The herbal preparations used in *pakwashaya basti* are absorbed by the body, and their properties spread throughout the system, helping to pacify aggravated *doshas* and normalize the formation of *rasa* and *rakta.*

Matra Basti, after absorption, reaches the Enteric Nervous System (ENS). It stimulates the release of endogenous opioids, particularly endorphins (β-endorphin), in the ENS. This stimulation helps in the release of GnRH (gonadotropin-releasing hormone) and regulates the function of the hypothalamic-pituitary-ovarian (HPO) axis, which plays a crucial role in reproductive health.

The ingredients present in *Kashmaryadi Ghrita* include *Gambhari, Triphala, Draksha, Kasmard, Parushak, Punarnava, Haridra-dvaya, Kaknaasa, Sahachar, Shatavari, Guduchi,* and *Goghrita.* These drugs primarily possess the *rasa madhura, tikta, kashaya,* with qualities such as *ushnavirya, madhurvipaka* and *laghu* and *ruksha guna* being prominent.

Gambhari, known for its *Garbhasthapak* properties, aids in conception. *Amalaki, Haritaki, Guduchi,* and *Kaknasa*are classified as *Rasayana* drugs, promoting nourishment of *dhatus* and *upadhatus*. By strengthening the essential components, including the *rasa*, proper nourishment enhances the quality of *beeja.*

Certain ingredients like *Gambhari, Triphala, Haridra-dvaya, Kasmarda, Guduchi, and Punarnava*possess*deepana* and *pachana*properties, regulating the *jatharagni, dhatvagni*, and

bhutagni. This correction at the cellular level leads to the proper formation of dhatus and *upadhatus*, as well as *srotoshodhana* by eliminating *ama.*

Vata vitiation may arise due to the obstruction of *avrita apana vayu* by *kapha dosha. Triphala*, as mentioned by *Acharya Charaka*, is recommended for *virechana in*conditions where the *doshas* have reached the *pakvashaya*, which is the primary site of *vata dosha*. Thus, the *samshodhana karma* clears the *srotas* and regulates the functioning of the three *doshas*, especially *avrita apana vayu.*

Triphala, Haridra, and *Daruharidra* possess *yonidoshahara* actions, which help alleviate local inflammation and infections. According to traditional texts, conception occurs only in a *shuddha yoni.*

Gambhari, Kasmard, Punarnava, Kaknasa, Sahachar, and Haridra possess *shothahara* properties, effectively treating inflammations.

Gambhari, Draksha, Parushak, Kasmard, Sahachar, Shatavari, and other ingredients, along with ghrita itself, have a predominance of *madhura rasa*, *prithvi and jalamahabutha*, and *brimhana* properties, which contribute to growth and development. The Upachaya property of these ingredients improves the thickness of the endometrium. The madhura rasa increases secretion and prevents degeneration of cervical epithelial cells. It nourishes the *rasa*, *rakta*, and *mamsa dhatu*, providing strength to these components.

Shatavari is particularly effective in nourishing the female reproductive organs, preparing them for conception, preventing miscarriages, and enhancing fertility. It contains phytoestrogens, which are precursors to estrogen. This effect increases cervical mucus production, sperm motility, and sperm density within the cervical mucus.

Vata vitiation is often the underlying cause of infertility. *Acharya Charaka* states that gynecological disorders are predominantly associated with *vata* vitiation, and many drugs in *Kashmaryadi Ghrita* possess *vata*-pacifying and *vata*-regulating actions. By normalizing the doshas, proper functioning of the dhatus is ensured.

Ghrita has the property of absorbing the properties of its ingredients without losing its own inherent qualities. It acts as a *yogavahi*, enhancing the potency of the combined drug.

Goghrita possesses properties such as *agnivardhak, rochaka, rasayana*, and *vrishya* effects. In general, the blood, cerebrospinal fluid, and blood-brain barrier have high permeability to substances such as water, carbon dioxide, oxygen, and lipid-soluble compounds, while electrolytes like sodium chloride and potassium have limited permeability. Lipophilic drugs have a greater likelihood of crossing the blood-brain barrier and acting on the central nervous system, particularly the hypothalamus and pituitary gland, to correct hormonal imbalances.

Kashmaryadi Ghritha which has *Laghu, Rukshaguna, Katu, Tikta Rasa UshnaVeerya KatuVipaka Sukshmaguna Ghrita* helps in *Kaphahara Deepana, Pachana, Srotoshodhana, Kaphahara, Vata Kapha shamana, Amapachana and Srotoshodhana* Remove *Sanga and Avarana.* Proper function of *tridoshas mainly* proper function of *Vayu (Apana Vayu)* helps in regulation of *Artava pravritti*, where arthava can be inferred as ovum, hormone and also menstrual blood.

Uttara basti with *kashmaryadi ghritha* is effective in increasing the AMH, it also helped in management of *streevandyathwa* by increasing the quality and quantity of follicles or ovum (Dr Ashwini a balbatti et.al) Considering all these *points kashmaryadi ghritha* was taken for the study.

Pushpadhanva rasa gets it unique name from the god Kamadeva who is god of love and desire, also *pushpadanva* is another name of lord *Kamadeva*. Thus, implicates its action as *vajikara* in both males and females. There are few studies which showed that *pushpadhanwa rasa* has acted upon anovulation and has given a positive result. Also by the name *pushpadhanwa rasa* gives a picture that a medicine which acts on the *pushpa. Pushpa*is a term which is also used in context where it can be considered as arthava or ovum. Here we can consider it as ovum and in short, we can infer that it is a *rasa aushadi* which helps in treating the diseases of *pushpa* i.e, any problem related to ovum and by this we can say that it will help in anovulation. The sexual desire for a lady is evident mostly during the ovulation time this is seen in the explaination of *rutumathilakshana* where *narakama* word is mentioned and for a person to have the libido presence of estrogen is necessary which is peak during the ovulation phase. If there is no proper production of estrogen there won't be proper ovulation and there will be decreased libido. So indirectly we can infer that *pushpadhawa rasa* will help in ovulation also it acts on increasing the libido.

The *bhasmas* in *pushpadhanwa rasa* consists of nano particles, which increases their surface area and enhances their potency. *Ayurveda* has long recognized the concept of nano particles through the use of *bhasma*, which contains medicines with nano-sized particles. In *Pushpadhanwa Rasa*, all the *bhasmas* possess properties such as *tridoshashamaka, deepana and pachana*. These properties relieve the initial step of *agnimandy*a in the *samprapti* by correcting *dhatvagni*, Proper formation of *rasa dhatu* is achieved. This results in the formation of *upadhatus and artava* (hormones, menstrual blood, and ovum). The *vata shamaka* property is found in all the*bhasmas,* while *rasasindoora* exclusively has the *pancha vata niyamana* property. By acting on *vatadosha*, which is the pivotal cause of the imbalance in the *artavavaha srotas*, the *vatashamaka* property of *bhasmas* restores the natural functions of *vata.* This includes *vyuhana, sanghatkara, vibhajana, rasa-raktasamvahana*, and *utsarjana karma*. This restoration facilitates proper beeja development and *beejotsarga*.

Naga bhasma and *Abhraka bhasma*, with their*madhura rasa* and *snigdha guna*, contribute to *dhatu poshana* and *balavardhana*. *Naga, Vanga*, and *Abhraka bhasmas* have the unique property of acting directly on the *prajanana sansthana* and *akosha*, exerting specific effects on the growth, maturation, and rupture of follicles due to their *prabhava*.

The bhavana process, plays a role in enhancing the potency of *rasaushadhi. Bhavana* is a *Sanskar*a that involves the transformation of the drug's *gunantaradhana*. The liquid medium used in bhavana facilitates easy and fine processing, reduces particle size, homogenizes the mixture, and modifies the properties of the drug. Bhavana also contributes to *shodhana* and *marana* of specific drugs.

Dhatura, Bhanga, possessing both aphrodisiac as well as nervine tonic qualities in optimum therapeutic doses. *Yashtimadhu* and *nagavalli* helps to relieve the symptoms such as depression and mood swings. *Pushpandhanwa* rasa also found to be effective in increasing libido as it is *aphrodiasic* due to the action of specifically *vanga, naga, rasa sindoora* as well as *shalmali, nagavalli, dhatura, bhang*.

There are few studies which showed that *pushpadhanva rasa* has acted upon anovulation and has given a positive result.

Pushpadhanwa rasa along with *phala ghritha* was given to a patient with low AMH, and these medication helped in *dhatu poshana* and stimulate ovaries for folliculogenesis and producing healthy oocyte.(Maheshwari danappogoudar et.al)

Hence, we can conclude that all of these properties of both *kashmaryadi ghritha* and *pushpadhanva rasa*collectively act in *arthava dushti*, helps in improving endometrium also helps in ovulation and thus help in *vandyathwa.*

CONCLUSION

The present study was aimed to evaluate the effect of *kashmaryadi ghritha* orally and as *matrabasti* along with *pushpadhanwa rasa* in *vandyatwa* w.s.r to female infertility. 40 subjects were selected based on inclusion and exclusion criteria and divided randomly into two groups of 20 each. After observation and statistical evaluation of assessment criteria following conclusions are drawn.

- *Vandhyatwa should not be regarded as a stand alone disease but rather it is a consequence of all the yoni vyapath and arthava dushti. Therefore, the causes of vandhyatwa encompass a range of possibilities, necessitating thorough investigations to uncover them. The study unequivocally established the presence of predominance of vata dusti in the examined patients.*
- *Vata plays an important role in garbha dharana. The primary management of infertility is to normalize the vata dosha.*
- *Kashmaryadi ghritha is mentioned in yoni vyapathadhyaya of charakasamhitha, as a drug of choice for vataja yonivyapath. Considering this in mind the drug was selected and it was given orally and as matrabasti.*
- *Matrabasti is highly beneficial for women who are infertile.*
- *Pushpadhanwa rasa has tridosha shamaka, deepana, pachana, balya and vajikarana properties. As the etymology suggest pushpadhanwa is another name for lord Kamadeva who is a god of love and desire. As the year passes futile attempt of coitus makes the patients have aversion for the coital act or makes it more mechanical. Hence administration of pushpa dhanwa rasa improves libido in patients.*
- Patients complaining of infertility with varying causes were selected and the treatment protocol was followed for 2 months and 1-month follow-up period was observed for changes in the diagnostic criteria.

- 2 patients in group A and 1 patient in group B had conceived. 15 patients in group A and 16 patients in group B showed symptomatic relief in dysmenorrhea and dyspareunia. There was significant improvement in attaining *shudharthava*, also increase in libido, follicle size and endometrial thickness was seen in these patients. 3 patients from both the groups showed no relief.
- The combination of *kashmaryadi ghritha* and *pushpadhanwa rasa* is helpful in increasing the follicular size from <12 mm size to >12-20mm size in 30% of patients in group A and 35 % of patients in group B. Ovulation was seen in 15% of patients in both the groups.
- The drug combination is helpful in improving the endometrial thickness in 40% of patients in group A and 30 % of patients in group B, where in 15% of patient's ET improved from 4 – 5mm to 10-11 mm.
- 85% of patients from group A and 80% of patients from group B showed improvement in *shudharthava lakshana* with this combination of drugs.
- When compared to matrabasti, oral administration of the drug *kashmaryadi ghritha* along with *pushpadhanwa rasa* for 2 months showed better results.
- By the end of the study we can conclude that group A showed better results compared to group B in terms of conception.

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