

EFFECTS OF PUSHPADHANWA RASA ON PSYCHOLOGICAL IMBALANCES IN POLYCYSTIC OVARIAN DISEASE PATIENTS AND ITS MANAGEMENT

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Abstract

Psychological imbalances like stress, anxiety and depression have a significant role in the prognosis, quality of life of ovarian cyst patients. In the present study Pushpadhanwa rasa, a herbo-mineral compound formulation containing Rasasindoora, Abhraka bhasma, Lauha bhasma, Vanga bhasma, Naga bhasma, Dhatura, Bhanga, Yastimadhu, Shalmali, Nagavalli was trialed to check its role in the psychological symptoms of PCOD. Pushpadhanwa rasa, a herbo-mineral compound formulation was tried in two variants, one prepared by incorporation of herbal drugs using traditional levigation method (Group A) while in other, herbal drugs were added in form of dried extract (Group B). The study was an open prospective randomized clinical trial divided into two equal groups which were similar with regard to demographic data, baseline parameters. A total 12 patients, six in each group, were administered with the drug at the dose of 250 mg twice a day with Honey, Clarified butter, Cow's milk and Sugar (all equal in volume) after meal for the duration of 60 days. Quantitative assessment of the signs symptoms was carried out by adopting a special scoring pattern. Both the trial groups significantly relieved the psychological symptoms like Headache, Irritability, Mood swing, Depression, Sleep disturbances, Loss of confidence, Forgetfulness, Loss of libido. Furthermore, results in Group B (71.19%) using herbal extracts were even more pronounced than Group A (66.96%) on psychological parameters. Recommendations along with conventional treatment like surgery, irradiation this aspect has to be seriously taken into consideration by the gynecologists.

Key words: Pushpadhanwa rasa; Ovarian cyst; Levigation; Extract; Psychological.

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INTRODUCTION

The universality of PCOD and the mystery of its precise origin have inspired numerous gynecologists to search for the role of different psychological factors, like anxiety, stress, depression etc., in ovarian cyst patients. The non-pharmacological approaches to anxiety and depression include a close doctor-patient relationship, insight oriented and cognitive approaches, relaxation techniques and physical exercise.^[1] Exogenous anxiety is the real and legitimate response to the threat of incapacitation or death derived from chronic underlying disease.^[2] Many psychologists and physiologists have also linked the relationship of stress, depression with diminished body resistance. Stress causes neuroendocrine and immunological modifications through the hypothalamus, hypophysis and the suprarenal glands. Studies are still underway in various immunological laboratories, to prove the relationship of emotions and immunity modifications, which end in chronic affections. Majority of ovarian cyst patients have symptoms more or less marked by anxiety and depression linked also to fear of pain, agony of physical disfigurement of the loss of autonomy and of socio-familial relations.

In traditional practice Pushpadhanwa Rasa is the drug of choice for ovarian disorders used by renowned Vaidyas all over the country. So in the present study, an attempt was made to check the role of the trial drug in psychological symptoms of the disease. Pushpadhanwa Rasa is a herbo-mineral preparation where metallic Bhasmas are incorporated with juices of some herbal drugs. Here the study is further planned into two folds to study the role of the drug prepared traditionally as mentioned above, with other variant where dried herbal extract was used in place liquid media. The idea behind the use of solid extract is to know the rationality of its usage, popular among pharmaceutical industry for the purpose of ease as well as for quality aspects.

MATERIAL AND METHODS

Patients A total of 12 females in the age group from 20 to 30 participated in the study. The study was undertaken as per the ethical guidelines of Helsinki 2000. Each group comprise of six patients treated as under-

- Group-A Pushpadhanwa Rasa prepared by traditional method of levigation (PDR-A)
- Group-B Pushpadhanwa Rasa prepared by using herbal extract (PDR-B)

Inclusion criteria

- Female patients in the age from 20 to 30 years.
- Infertility ranged from 3 to 10 years & averaged 5-6 years.
- U.S.G. finding suggestive of small cyst, bulky cyst unilateral or bilateral

Exclusion criteria

- Patients with some endocrine disorders
- Patients with metabolic disorders
- Patients with genetic disorders

Management of the Patients

After the proper diagnosis, patients were randomly divided into two groups irrespective of their age, socio-economic status, religion etc. All the patients were given 'Haritaki churana 3 g" at night with Luke warm water for Kosthashuddhi (evacuation of bowel) along with trialed drug.

Drug

Pushpadhanwa Rasa was prepared by two methods

- Pushpadhanwa Rasa - A prepared by traditional method of levigation (PDR-A)

- Pushpadhanwa Rasa - B prepared by using herbal extract (PDR-B)

Preparation of Pushpadhanwa Rasa - A

The constituent's ingredients of Pushpadhanwa Rasa - A are mentioned in Table 1. All the pharmaceutical preparations were carried out at the department of Rasashastra and Bhaishajya kalpana, National institute of Ayurveda, Jaipur, Rajasthan in accordance to the method depicted in Ayurvedic Formulary of India.^[3]

Collection of raw drugs

All the ingredients of the compound formulation Pushpadhana Rasa were collected from the Pharmacy of National Institute of Ayurveda Jaipur. Identification of Raw herbal drugs was done in Dravya Guna Dept. (Pharmacognosy division) National Institute of Ayurveda where they were proven authenticated as per the standards of Ayurvedic Pharmacopeia of India.

Method of preparation

After the identification minerals and metals were subjected for Purification (Shodhana) and calcination (marana) Process. The Rasa sindoor^[4] was prepared in glass bottle (kachakupi) using muffle furnace. For preparation of Abhraka Bhasma,^[5] firstly Purification of Abhraka (Mica) was done by heating it to red hot and quenching in the decoction of Triphala for 7 times. Dhanyabhraka was made by conventional method using water as the liquid media. After Dhanyabhrakikarana 10 Puti Abhraka Bhasma was prepared using fresh latex of Calotropis procera (Arka ksheera) as a Triturating media up to puta 7 and for last three Puta decoction of Ficus glomerulata (Vata jata kwatha) was used as levigation (Bhavana) media. It is further processed with fresh juice of stem of Musa fera (Kadali kanda swarasa) up to puta 17th and with the Vata jata kwatha from puta 18th

to 20th as mentioned in A.F.I. In the manufacturing operation for lauha,^[6] first of all Raw Iron was subjected to two folds of Purification (Shodhana) viz, general purification (samanya Shodhana) followed by specific purification (vishesha Shodhana). Thereafter intermediary processes in form of Bhanupaka, and Sthalipaka, were undergone to sublize the Lauha. For Bhanupaka iron was treated with decoction of Triphala under intense sunrays and on direct heat respectively. Thereafter the same iron was subjected to 60 times incineration process (Putana) in decoction of Triphala. Lastly the Lauha bhasma procured after "Putana" was subjected to the process of Amritikarana^[7] to remove the blemishes present if any. Similarly Naga^[8] was incinerated in association with Manahashila and Vanga^[9] was reduced in association with Haritala. Naga was subjected to 60 Putas. Vanga was subjected to 10 Putas. Purification (Shodhana) of schedule E herbal drugs i.e. Dhatura^[10] and Bhanga^[11] was done following the guidelines mentioned in AFI. Each herbal drug was made into decoction as per the method depicted in A.F.I.^[12] These decoctions were used for levigation/maceration of the drug.

Preparation of Pushpadhanwa Rasa B (PDR-B)

Pushpadhanwa Rasa - B was prepared in the same way as per the method for Pushpadhanwa Rasa - A. To augment the potency aqueous extracts of herbs was added in place of decoction. Decoction of each herbal drug was evaporated to dryness separately in water bath to obtain the aqueous extract. 20 gm extracts of each herb was used in the manufacturing of Pushpadhanwa Rasa – B (PDR-B). (Table 1)

Posology

The drug Pushpadhanwa Rasa - A administered in 1 capsule twice a day orally with Honey (Madhu), Clarified butter (Ghrita),

Cow's milk (Dugdha), Sugar (Sarkara) all equally and duration of treatment was for 60 days. Similarly the drug Pushpadhanwa Rasa - B administered in 1 capsule twice a day orally with Honey (Madhu), Clarified butter (Ghrita), Cow' milk (Dugdha), Sugar (Sarkara) equally and duration of treatment was for 60 days.

Subjective Criteria

Results of the treatment were assessed on the basis of relief in the signs and symptoms of the ovarian cyst and psychological symptoms. Quantitative assessment of the signs symptoms was carried out by adopting a special scoring pattern. For this purpose, suitable scores were given according to severity of the each psychological symptom.

Follow up study

All the patients were advised to attend the OPD once in a week after completion of the treatment to note the recurrence further improvement in the signs and symptoms.

RESULTS & OBSERVATIONS

Group-A (oral administration of Pushpadhanwa Rasa -A) has shown highly significant result in chief psychological complaints of Headache (78.57 % relief), Irritability (57.14 % relief), Sleep disturbance (87.50 % relief) and decreased libido (80 % relief) with level of significance at $P < 0.001$.

Statistically significant result at the level of $P < 0.05$ was seen in complaints like loss of confidence (71.43%) and mood swings (44.44%). Significant result ($P < 0.01$) was found in the symptom of forgetfulness (83.33% relief). (Table 2)

Highly significant result at the level of $P < 0.001$ on chief Psychological complaints viz. Irritability (66.67% relief), Sleep disturbance (87.50 % relief), Decreased libido

(84.62 % relief) was seen in Group-B. While significant result at $P < 0.01$ level was seen in Headache (72.73% relief), Mood swings (75% relief), and forgetfulness (78.57 % relief). Significant result ($P < 0.05$) was obtained in loss of confidence (71.43% relief). Statistically, none of the therapy was found to be effective in the treatment of depression with $P > 0.05$ (33.33% relief in both the groups). (Table 2) Overall result of the study showed better efficacy of Pushpadhanwa Rasa -B with 71.19% relief in comparison to Pushpadhanwa Rasa -A with 66.96% relief. (Table 3)

DISCUSSION

It is evident from the present study that psychological symptoms of the patients is much with higher incidence of headache, irritability, forgetfulness followed by sleep disturbance, mood swings & low confidence. Whatever the cause, may it be the inability to get conceived is experienced at the emotional level by most of them as a reflection in woman. The therapy of such patients with Pushpadhanwa Rasa showed encouraging results. The drug contains five mineral as well as five herbal drugs and it was administered along with honey (Madhu), clarified butter (Ghrita), sugar (Sharkara) and milk (Dugdha) equally. On surveying literature almost all ingredients of Pushpadhanwa Rasa were found to have role in strengthening the reproductive system as mentioned in Table 4.

Clinical evaluation of statistical data as depicted in Table 2, obtained on psychological symptoms in both groups showed highly significant result in Sleep disturbance, Decreased libido and Irritability. Highly significant result in the symptom of Headache was found in group - A which was statistically significant in group - B. Other features like Mood swing, Loss of confidence and Forgetfulness, were found to be improved to a significant level at varying degree ($P < 0.05$), ($P < 0.01$) in both the groups.

Table 1: Ingredients of Pushpadhanwa Rasa A and B

| Sl. No. | Name of the ingredient | Pushpadhanwa Rasa- A (PDR-A) | Pushpadhanwa Rasa- B (PDR-B) |
|---------|--|---------------------------------|---------------------------------|
| 1 | Rasa sindoor (Red sulphide of Mercury) | 20 g | 20 g |
| 2 | Abhraka Bhasma (Calcined Mica) | 20 g | 20 g |
| 3 | Lauha Bhasma (Calcined Iron) | 20 g | 20 g |
| 4 | Naga Bhasma (Calcined Lead) | 20 g | 20 g |
| 5 | Vanga Bhasma (Calcined Tin) | 20 g | 20 g |
| 6 | Dhatura Beeja (seeds of <i>Dhatura metal</i>) | 300 ml | 20 g (Extract) |
| 7 | Bhanga patra (leaves of <i>Cannabis sativa</i>) | 300 ml | 20 g (Extract) |
| 8 | Yastimadhu Mula (root of <i>Glicorrihza glabera</i>) | 300 ml | 20 g (Extract) |
| 9 | Salmali niryasa (<i>Salmalia malbarica</i>) | 300 ml | 20 g (Extract) |
| 10 | Naga valli patra (leaves of <i>Piper betel</i>) | 300 ml | 20 g (Extract) |

Table 2: Effect of therapy on Chief Psychological complaints in group - A & B

| Psychological symptoms | Group- A | | | Group-B | | |
|------------------------|------------|-------|--------|------------|-------|--------|
| | No. of Pt. | % | P | No. of Pt. | % | P |
| Headache | 5 | 78.57 | <0.001 | 5 | 72.73 | <0.01 |
| Irritability | 5 | 57.14 | <0.001 | 5 | 66.67 | <0.001 |
| Mood Swing | 3 | 44.44 | <0.05 | 4 | 75.00 | <0.01 |
| Depression | 2 | 33.33 | >0.05 | 2 | 33.33 | >0.05 |
| Sleep disturbance | 4 | 87.50 | <0.001 | 4 | 87.50 | <0.001 |
| Loss of confidence | 3 | 71.43 | <0.05 | 3 | 71.43 | <0.05 |
| Forgetfulness | 4 | 83.33 | <0.01 | 6 | 78.57 | <0.01 |
| Decreased libido | 5 | 80.00 | <0.001 | 6 | 84.62 | <0.001 |

Table 3: Total Effect of Therapy in 12 Patients on Psychological symptom

| Symptom | Total relief in percentage | |
|--|----------------------------|-----------|
| | Group - A | Group – B |
| Overall relief in Psychological symptoms | 66.96 | 71.19 |

Table 4: Properties of Drugs

| Drugs | Properties |
|--------------------------------|--|
| Naga bhasma ^[13] | Lekhana, Dipana, Pachana, Prameha, Kapha-vataghna, Kamodipaka, Balya |
| Abhraka Bhasma ^[14] | Vrishya, Ayushya, Putraprad, Pragyabodhi |
| Rasa Sindur ^[15] | Vrishya, Rasayana, Balya |
| Vanga Bhasma ^[16] | Balya, Varnya, Dipana, Vrishya, Madohara, Panduhara, Lekhana, Medhaya, Rasayana, Prajnanakar |
| Lauha Bhasma ^[17] | Lekhana, Vrishya, Rasayana, Pandu, Medohara, Kapha roga nashaka |
| Dhatura ^[18] | Vajikarana, Garbhadhana |
| Yastmadhui ^[19] | Shodhhan, Vrishya, Rasayana, Putraprad, Vajikara, Khinaretas, Vandhyatva, Alpretas |
| Nagavli ^[20] | Vajikarana, Kamodipana, Vata dosa shamaka, Shodhan |
| Bhanga ^[21] | Vajikar, Shukra Sthambhaka, Vedana Shamaka, Kamodeepaka, Medhya. |
| Shalmali ^[22] | Veeryavardhak, Garbha sthapak, Kamodipaka |

Improvement in these psychological features attributes to the effect of all the constituents of trial drug as a whole, being most of the ingredient drugs are claimed to be “Rasayana”

or rejuvenator and indirectly causing their effect on psychological symptoms. Furthermore specifically the trial drug is peculiar combination of some herbs like

Dhatura,^[23] Bhanga,^[24] possessing both aphrodisiac as well as nervine tonic qualities in optimum therapeutic doses. Dhatura has been reported to stabilize the local blood flow to brain, thereby relieving the symptom of forgetfulness to much extent. Similarly, sleep disturbances, depression, loss of confidence are chiefly relieved by Bhanga and to lesser extent with Dhatura as well as other ingredients of the herbo mineral preparation. Bhanga is a well known anti-depressant^[25] and specifically found to prevent psychotic breakdown^[26] relieves insomnia and improves health. It has also been reported that, seed extract of Dhatura on chronic administration in rats, increased brain lipid peroxidase and catalase activities and decreased fructose diphosphate aldose and glucose -6-phosphate dehydrogenase activities and thereby relieves the symptom of insomnia.^[27] The alcoholic extract and the resin of *Cannabis sativa* (Bhanga) has been reported to increase hexobarbital sleeping time, enhanced the action of reserpine and antagonized the action of 5-HT in rats^[28] and thus the trial drug is found to be effective in sleep disorders. Psychotomimetic effect of one of the constituent of the trial drug is well known. Cannabinol found in *Cannabis sativa* has been found to interfere with the peripheral responses to acetylcholine, adrenaline and non adrenaline. Cannabinol induced sleep in mice which was unaffected by treatment with chloramphenicol succinate.^[29]

Furthermore, *Cannabis sativa* produces selective inhibition of flexor and ingulo-mandibular reflex without impairment of neuronal transmission of monosynaptic patellar reflex resulting in hypotensive action^[30] thus relieves anxiety. Other symptoms like forgetfulness, depression etc were relieved due to the presence of *Glycyrrhiza glabra*^[31] and *Piper betel*^[32] respectively. Further, the drug also found to enhance the power of libido owing to its role on psychological behavior as well as its Aphrodisiac (Vrishya, Vajikara) action attributable to all of its ingredients,

specifically Vanga, Naga, Rasa Sindoor as well as Shalmali, Nagavalli, Dhatura, Bhanga as per the Table 4.

From the present study it was also evident that both the trial drugs are good enough in treating the disorder along with counselling, even than on statistical parameters group- B with extract of herbal drug was found to be more efficacious with 71.19% relief as compared to group A (66.96%). (Table 3) This strongly suggests and recommends the use of concentrated solid extract of the herbs then traditional tedious levigation method for the purpose of ease, quality maintenance as well as for better efficacy.

The present trial was undergone for a period of two months and during this period none of the patient complained any side effect or toxic features, in spite of presence of five metallic Bhasma as well as toxic herbs viz. Dhatura & Bhanga, having toxic potential (if taken impure). Thus, the trial drug was found to be absolutely safe at therapeutic dose level. This has already been evaluated under experimental trial by the author.^{[33][34]} But as the study was conducted for a limited period of time with limited facilities and with a very small sample size, mandatory recommendation is to conduct further studies with more scientific criteria's along with some control group which is been lacking in the present trial.

CONCLUSION

Drug dependency is common with modern anxiolytics, sedatives, and antidepressants medicines given to the patients of Polycystic ovarian disease to overcome psychological upsets. On contrary to it, with Pushpadhanwa Rasa, the patients were able to understand the cause of their mental stress, anxiety and depression distinctly, as a result of which it became quite rational to cope up with their psychological imbalances, without the fear of any drug dependence.

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