Evaluation of *Rodhradi Gana(Sushrutokta)* in *Yoni Roga* w.s.r. to PCOS (Poly Cystic Ovarian Syndrome)

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ABSTRACT:

Polycystic ovarian syndrome (PCOS) is a common endocrinopathy in women of reproductive age group and an incompletely understood enigmatic disorder of heterogenous nature. It starts appearing at 15 to 25 years of age and it may take years for its clinical presentation to appear. The incidence of polycystic ovarian syndrome is 4% to 22% of women overall and 50% of women seen at infertility clinics.

Objective: - Therefore, the objective of this study was to evaluate and efficacy of Ayurvedic treatment *(Rodhradi gana ghana* and mixture of *varun-kanchnar ghana)* for PCOS patients.

Material & Method: Total of 48 patients were screened at Rajvaidhya Prem shankar sharma govt. Ayurved chikitsalaya, Ambamata, Udaipur. 40 patients satisfied inclusion criteria, and signed informed consent and detailed medical history was recorded. Group-A (20 patient) *Rodhradi gana ghana* (3gm, 2TDS) for 90 days and Group- B (20 patient) Varun- *Kanchnar ghana* (3gm, 2TDS) for 90 days were prescribed to the patients.

Result: The study was completed by total 40 female patients. There was a 76.74% result of group- A and 49.02% result of group-B, which is statically highly significant.

Keywords: Poly cystic ovarian syndrome, *Yoni rog, Rodhradi gana ghana, Varun-kanchnar ghan.*

INTRODUCTION

Polycystic ovarian syndrome (PCOS) is a hormonal condition that affects women's reproductive systems. It is a disorder in which a woman's hormones are out of balance. It may make it more difficult to become pregnant and cause problems with one's periods. If left untreated, it can lead to serious health problems such as diabetes, heart disease, and cancer. Polycystic ovarian syndrome is caused by a hormonal imbalance.

PCOS affects roughly 6% of females, with 50% of cases occurring between the ages of 20 and 30. Anovulation affects 60% of them, obesity affects 80% of them, and infertility affects 30% of them[1].

"Every knowledge of medicine available elsewhere is contained in Ayurveda, and everything that is not in Ayurveda cannot be discovered elsewhere,"[2] according to the *Charka Samhita's* description. This verse implies that

Ayurveda comprehends sickness based on the doses and elixir related with the ailment's presentation. However, like with other present medications, exact nomenclature for such emergent disorders is not easily available. This suggests that *Ayurveda* has a description of common illnesses that may be interpreted in a variety of ways and should be analysed depending on symptoms. To obtain the correct connection of PCOS condition in Ayurvedic language and make appropriate conclusions, the *Vaidya's yukti* is required.

The conditions which are mentioned in various contexts in ayurvedic classics under various headings as *Anartava, Nashtartava, Artava Kshaya, Vandhya Yonivyapat, Pushpaghni, Jataharini, Granthibhoota Artavadushti, Srotodushti and Santarpanottha Nidana*[3] can be to some extent compared with the symptoms of polycystic ovarian syndrome which needs to be analysed as per *Ayurvedic* parlance.

Considering the *doshas* and *dushyas* involved and also with due consideration to the *Artavavaha srotas* the drugs *Rodhradi Gana Ghana* and *Varun-Kanchnar Ghana* were selected for the study. Majority of the drugs from the above two formulations are Known to possess anti-inflammatory, hypoglycaemic, hypo-cholesterolaemic and antioxidant properties along with their classical indication in symptoms resembling PCOS, which suggests their probable mode of action and therapeutic application in combating such similar health problems like polycystic ovarian syndrome in a combined form.

Rodhradi Gana is the 6th *Gana* among the 37th *gana* described in 38th chapter- *dravyasangrahniya of sutrasthan in Sushrut Samhita* and includes *Lodhra, Saber lodhra, Palash, Shyonak, Ashok, Bharangii, Katphal, Alvaluk, Shallaki, Jhingani, Kadamba, Shal, Kadli* thirteen ingredients, which act on *yoni roga, kaphaj disorder and Medodushti*[4].

Aims And Objectives: **-**To evaluate the *Rodhradi Gana* in *yoniroga* (w.s.r. to poly cystic ovarian syndrome) and Comparative Pharmacotherapeutic study of *Rodhradi gana* and mixture of *Varun* and *Kanchanar Ghana* in PCOS patients.

MATERIALS AND METHOD

- The *drugs Lodhra bark, Saberlodhra bark, Palash bark, Shyonak bark, Ashok bark, Bharangii bark, Katphal bark, Elavaluka seed, Shallaki bark, Jhhingnii bark, Kadamba bark, Shal Niryas, Kadli Kand, Varun Bark, Kanchnar bark* were procured and pharmacognostical authenticated. The powder of dried samples of *Varun Ghan and Kanchnar Ghan* were used for the present study.
- The Physio-chemical & Phyto-chemical analysis of the samples were carried out in the pharmaceutical chemistry laboratory of S. R. Labs, Jaipur. The study was carried out according to the following manner.

  The drug samples were:
  1.SampleA-*Rodhradi Gana Ghana*
  2.SampleB-*Varun-Kanchnar Ghana*

The patients of reproductive age group 18-45 years were selected by organizing the camp for PCOS by Dravyaguna vijnana department of Madan Mohan Malviya Govt. *Ayurved* College Udaipur, total of 40 Patients were selected for the clinical study based on the diagnostic criteria. The treatment protocol comprised of the patients were administered with Group A – *Rodhro*-G Cap. 1000mg thrice/day with lukewarm water and Group B – *VK*-G Cap 1000mg thrice/day with lukewarm water.

In this study 25 patients were registered in groupA and 23 patients were registered in group B. 40 patients were completed the course of treatment & 8 patients could not completed (5from group A, 3 from group B) and 4 patients were conceived (2 from group A & 2 from group B). The data generated is for 40 patients for demographic data and for 40 patients (20 patients in each Group) for effect of therapy.

Selection Of Cases-

20 patients each group will be select, who are fulfilling the criteria attending the OPD/IPD of MMM Govt. Ayurveda College Hospital Udaipur, Rajasthan will be select for the present study. This study was interventional, Random clinical trial.

CTRI registration number: - REF/2021/07/045375AU

Inclusion Criteria-

- Patients will be select from the age group between menarche to menopause.
- Vegetarian and nonvegetarian patients.
- Patients will be select randomly for present study.
- Diagnosed and confirmed cases of PCOS on the basis of the clinical signs and symptoms mentioned in Ayurvedic and Allopathic texts.

 Exclusion Criteria -

- Patient before menarche and after menopause.

- Pregnant and lactating women.
- Suffering from major systemic illness.
- Primary amenorrhea.

Criteria For Diagnosis:

The presence of at least 3 of the following criteria:

- Polycystic Ovaries on USG
- Oligomenorrhea or anovulation
- Clinical or bio-chemical evidence of Hyperandrogenism
- Elevated LH
- LH: FSH ratio >3

Statistical Analysis: -
- The information gathered from the above observations was subjected to statistical analysis.
- For Nonparametric Data Wilcoxon matched-pairs signed ranks test is used while for Parametric Data Paired 't' Test is used and results Calculated in each group.

RESULT

Effect Of Medicine: –
Total 40 patients were registered for treatment, 20 patients in Group A, 20 Patients in Group B. Effect of Medicine was assessed in total 40 patients.

Effect of therapy on Chief complaints:

Table 1 – Showing effect of Rodhro-G according to **Subjective** Parameters in 20 patients of PCOS (Group A) Unpaired 't' Test Graph 1: Showing the incidence of Showing effect of Rodhro-G according to Subjective Parameters; Group -A The above table reveals effect of medicine as below: -

Menstrual Disturbance: The mean score of menstrual disturbance was 2.55 before treatment which reduced up to 1.3 after treatment with 49.02% relief, which statistically highly significant(P<0.001).

Hirsutism: Initially the mean score of hirsutisms was 1.55 before treatment which reduced up to 0.85 after treatment with 45.16% relief, which statistically highly significant(P<0.001).

Acne: The mean score of Acne was 0.6 before treatment which reduced up to 0.25 after treatment with 58.33% relief, which statistically highly significant(P=0.008).

Mood Swings: The mean score of Acne was 1.80 before treatment which reduced up to 0.65 after

treatment with 63.89% relief, which statistically highly significant(P<0.001).

Table 2- Showing the effect of Rodhro-G according to **Objective** Parameters in 20 patients of PCOS **(Group A) (Wilcoxon matched paired single ranked test)** Graph 2: Showing the incidence of effect of Rodhro-G according to Objective Parameters; Group -A (Wilcoxon matched paired single ranked test)

The patients in Group – A, who were treated with Rodhro-G cap. showed: -

Weight Gain: The mean score of weight gain was 0.35 before treatment which reduced up to 0.15 after treatment with 57.14% relief, which statistically highly significant(P=0.05).

Cyst Size: Initially the mean score of cyst size was 2.5 before treatment which reduced up to 1.1 after treatment with 56.0% relief, which statistically highly significant(P<0.001).

Blood sugar: Initially the mean score of Blood sugar was 0.10 before treatment which reduced up to 0.00 after treatment with 100% relief, which statistically highly significant(P=0.081).

Hormonal assay: The mean score of weight gain was 0.50 before treatment which reduced up to 0.25 after treatment with 50.00% relief, which statistically highly significant(P=0.048).

Table 3: - Showing the effect of VK-G Cap. according to **S**ubjective Parameters in 20 patients of PCOS (**Group B) Unpaired 't' Test** Graph 3: Showing the incidence of effect of VK-G cap. according to subjective Parameters; (Group B) Unpaired 't' Test The above table reveals effect of medicine as below: -

Menstrual Disturbance: The mean score of menstrual disturbance was 2.15 before treatment which reduced up to 0.5 after treatment with 76.74% relief, which statistically highly significant(P<0.001).

Hirsutism: Initially the mean score of hirsutisms was 1.35 before treatment which reduced up to 0.35 after treatment with 74.07% relief, which statistically highly significant(P<0.001).

Acne: The mean score of Acne was 0.2 before treatment which reduced up to 0.15 after treatment with 25% relief, which statistically highly significant(P=0.165).

Mood Swings: The mean score of Acne was 1.65 before treatment which reduced up to 0.4 after

treatment with 75.76% relief, which statistically highly significant(P<0.001). **Table 4**- Showing the effect of VK-G according to **Objective** Parameters in 20 patients of PCOS **(Group B) (Wilcoxon matched paired single ranked test)** Graph 4: Showing the incidence of effect of VK-G cap. according to **Objective** Parameters in 20 patients of PCOS **(Group B) (Wilcoxon matched paired single ranked test)**
The patients in Group – B, who were treated with VK-G cap. showed: -

Weight Gain: The mean score of weight gain was 1.00 before treatment which reduced up to 0.40 after treatment with 60.00% relief, which statistically highly significant(P<0.001).

Cyst Size: Initially the mean score of cyst size was 2.15 before treatment which reduced up to 0.45 after treatment with 79.07% relief, which statistically highly significant(P<0.001).

Blood sugar: Initially the mean score of Blood sugar was 0.05 before treatment which reduced up to 0.00 after treatment with 100% relief, which statistically highly significant(P=0.165)

Hormonal assay: The mean score of weight gain was 1.05 before treatment which reduced up to 0.25 after treatment with 76.19% relief, which statistically highly significant(P=0.001).

DISCUSSION

Probable Mode Of Action Of The Drugs [5-27]:

The probable mode of action of the drugs is also shown in flow chart in fig number 5

The conducted study would not be complete without knowing the pharmacodynamics and pharmacokinetics of the constituent drugs of the formulations that were selected.

As per the classics, the therapeutic efficacy of the drugs depends upon its properties namely *Rasa, Guna, Virya, Vipaka and its Prabhava*. The activity of the drug may be produced by either one of these or in combination.

With a clear understanding of the *nidana* and *samprapti* in *Ayurvedic* parlance, *Rodhradi gana ghana* and Mixture of *varun- Kanchnar ghana* were carefully selected to meet the demand in PCOS.

Rodhradi gana is considered to have *agni-vardhana* property which is the first and the foremost aspect of treatment as the disease takes its origin here. *Madhura, Tikta, Kashaya rasa, Ruksha, laghu guna, Ushna Virya, Katu vipak* and *Kapha-Vataghna* properties of the drug

favors *srotoshodhana* and there by reliving *Avarana*. *Rodhradi gana* have *kapha- Medohara* property there by breaking the *samprapti ghataka*. It is also having the property of *yoni roga hara, kapha roga har, Medodushti roga nivaraka* which can be understood as shedding the hyperplastic endometrium, Also, *ritupravartini* property is attributed to the drug.

There are thirteen plants in *Rodhradi gana* and these thirteen plants are work together and give enhanced effect. They are also effective individually *Shyonak* have *Bastiroghar, Vednasthapana* And *shothahar* Property. *Ashoka* has mention *Kapha-Pittashamaka, Garbhashaya uttejaka, Kashtaartavahara, raktapradar nashak* properties. *Bharangii* has *Raktotkleshaka, shothahara, vatanulomana* property. *Katphal* have mention *shukrashodhana*, *garbhashaya-sankochaka* and *vednasthapan Karma. Alavaluka* has *Yonidosha har* and *kapha shamak. Jinghanii* have mention as *yonishodhin*i. *Kadamba* has *Saraka* and *shukrashodhana* properties. *Shal Niryas* have *Yoni roga har* and *kaphaj roghar.*

Discussion on observation seen in patients:

Age: Maximum 65% patients belonged to age group of 18-28 years. The remaining 25% belonged to age group 29 – 38 years and 10% of patients belonged to age group 39-44 years of age group were noted. 65% of patients belonged to the age group of 18-28 yrs which shows may be adolescent phase of life brings multiple physiological, anatomical, and physiological changes in the life of girls. Due to familial, cultural, and social restrictions most of the adolescent girls are not able to share and get right advice for menstrual related problem. 10 % of population from the age group of 29-38 yrs had infertility issues which may be due to the delayed marriages as seen in today's scenario.

Habitat: According to habitat wise distribution of patients Group A shows that maximum numbers of patients 60% were from the *Aanupa desh*, 10% were *Jangala Pradesh* and 30% were *Sadharan desh* same as Group B shows that maximum numbers of patients 70% were from the *Aanupa desh,* 15% were *Jangala Pradesh* and 15% were *Sadharan desh*. Because the study conduct area is *Aanupa desh* and in *anupa desh Kapha dosha* is more prominante.

Education: In the present study, 37.50% Postgraduates, 53,50% graduates, 5% from the higher secondary education, 5.0% each from the secondary education and illiterate groups suffered from PCOS. This kind of distribution may be due to stress seen among the educated

group, may be work related or performance related.

Occupation: On considering the nature of occupation, it was found that Group A 60% patients were housewives and 30% patients were Student. In a Group B 30% patients were housewives and 70% patients were Student. Overall patients from the study had a sedentary working atmosphere and stressful life. This shows the relation of the disease with the sedentary life style which gives rise to metabolic imbalance and obesity which are the main causes of PCOS.

Socio-economic status: 75% of patients from the middle class, 5% of patients from the lower middle class, 20% from the upper middle class, and no patients from the poor socioeconomic status was seen in the study. This distribution may show the life style as well as the improper indulgence in food habits which may cause the disease.

Marital status: It is evident from above table that Group A maximum numbers of patients 60% were married and 40% was Unmarried and In a Group B maximum numbers of patients 55% were Unmarried and 45% was married. This shows the marriage age in the locality and maximum women bother her menstrual cycle after marriage.

Sexually Active: It is evident from above table that maximum numbers of patients In Group A 60% patients were sexually active and 40% patients were sexually not active same in Group B maximum numbers of patients 55% were sexually not active and 45% patients were sexually active.

Diet: Among 40 patients maximum i.e., 70% were Vegetarians while 30% were having mixed diet.

Agni: The present clinical study in Group A shows that maximum number of patients 60% were having *Vishamagni*, 20% were having *Samagni* and 15% patients were having *Mandagni* Same in a Group B shows that maximum number of patients 60% were having *Vishamagni*, 40% were having *Samagni* in distribution of *agni* in revealed data. This shows the relation of the disease with the *Agni* which gives rise to metabolic imbalance and obesity which are the main causes of PCOS.

Appetite: present clinical study shows that maximum number of patients 55% were having good appetite, 30% were having Moderate appetite, and 15% patients were having excessive appetite.

*Koshtha***:** In the present study, maximum numbers of patients having *Madhyam kostha* which 60% while 25% were having *Kroora kostha* and 15% having *Mradu kostha*.

Dominant *Rasa*: The above data reveals that maximum patients 42.5 % were having *Madhura Rasa* dominancy in their diet and 20% were having *Madhura-Katu rasa*, 15% were having *Katu, Tikta*. *Katu Rasa* dominancy was seen in 10%, *Amla-Katu rasa* dominancy in 7.5% and *Madhur-Amla rasa* dominancy in 2.5% patients in their daily diet.

Daily Physical activity: The study of Daily physical activity wise distribution of 40 patients shows, maximum number of patients 72.5% were doing Walking in their daily routinewhile 15% were nothing doing vigorous physical activity and 7.5% were Running and 5% were doing yoga in daily routine.

Stress: It is evident from above table that maximum numbers of patients 55 % patients were anxious 27.5% were Depressed and 20% were normal. Stress may be due to either performance related to occupation or due to the presenting symptoms of hirsutism, acne and menstrual irregularities.

Prakriti: Study suggests maximum patients showed predominance of *Vata-Kaphaj* 37.5%, 22.5% showed *Pitta-Kaphaj prakriti* and 30% recorded as predominance of *Vata-Pittaj prakriti*,7.5% patients show *Kapha-pittaj prakriti* and 2.5% shows *vata prakriti*. Increasing number of *Vata-Kaphaj prakruti* is seen in the study may be because of the close proximity of these *doshas* with the disease entity.

*Saara***:** Maximum numbers of patients (52.5%) were of *Mansa Sara,* 30% patients were of *Medosaar*, 17.5% were of *Asthisaar*.

Abhyavaran shakti: The 75% of patients had *Madhyama Abhyavaran shakti* followed by *Pravara* in 17.5% patients and 7.5% patients had *Avara abhyahvaran shakti*. *Madhyam Jaran shakti* was found in 56.66% cases, and *Avar* in 43.33% cases.

Jaran shakti: Madhyam Jaran shakti was found in 60% cases, *Avar* in 22.5% cases and *pravara* in 17.5% patients.

Discussion on effect of treatment:

Effect of treatment on interval of cycle: There is a drastic improvement in the interval of cycles where, a majority of the patients 76.74% were in the interval between 46-60 days before treatment but after treatment majority of them i.e., 68.6% have changed their interval between 28- 35 days and P value being <0.001.

In the study patients with irregular cycles almost reverted to a regular interval which shows the statistical significance. The result might be due to the effect of *Ushna, Tikta, Teekshna dravyas* which relieves the *avarana* and there by facilitating the *Artava Pravrutti.*

Duration of bleeding:

There is a drastic improvement in the duration of bleeding where in, majority of the patients 34.3% were in the duration of 3 days flow before treatment but after treatment majority of them 51.4% have changed their duration to >4 days flow and P value being .010. The result might be due to the effect of *artavajanaka karma* of the *dravyas*.

Effect of treatment on amount on bleeding:

65.7% patients had scanty flow before treatment but after treatment majority of them i.e., 97.1% patients have changed to moderate flow and P value being .000. In the study the patients with scanty bleeding had a desired effect of normal flow during menstruation, and the Four with excessive bleeding too experienced normal flow. These results obtained may be due to the action of the drugs acting on the avarana caused by the doshas which brings about the normal menstruation.

Effect of treatment on Dysmenorrhea:

Statistically the study shows significance of treatment on Dysmenorrhea. Majority of the patients i.e., 60.0% patients had dysmenorrhea before treatment and after treatment it reduced to 31.4% patients having dysmenorrhea. The P value being .016. It may be due to the drugs acting on *avarana* and also possess *Shool prashman* properties.

Effect of treatment on Acne:

25% Relief with grade 4 acne before treatment have reduced to grade 1 and grade 2 after treatment. The P value being 0.165 This result might be due to an effect of the drugs possessing *Agnivardhaka* property which prevents the avarana and dosha dushti and thereby reduce the manifestation of acne. And it also acts on the patho physiological aspect and thereby correcting the hormonal imbalance.

Effect of treatment on conception:

Out of 21infertility patients, 4 of them conceived at the 3 and 4 months of treatment which shows that 19.04% improvement in the fertility rate after treatment was observed. It may be due to induction of ovulation.

Effect of treatment on USG:

In group A 56 % relief of patients with presence of multiple small cysts in bilateral ovaries mean value 2.50 before treatment have reduced to 1.10 after treatment. The P value being <0.001. and in group B 79.07 % relief of patients with presence of multiple small cysts in bilateral ovaries mean value 2.15 before treatment have reduced to 0.45 after treatment. The P value being <0.001. It may be due to the *ushna guna-Katu vipaka* of the *dravyas*, *shothahara, medohara and granthi vilayana action.*

Group-A (*Rodhro*-G) is Highly significant in Menstrual disturbance with 49.03%relief, Hirsutism with 45.16%relief, mood swings with 63.89%relief, Cyst size with 57.14%relief and significant in Acne 58.33, weight gain with 56%relief, Hormonal assay with 50%relief and non-significant in blood sugar with 57.14%relief. In this Group two patient were conceived.

Group B (VK-G) is Highly significant in Menstrual disturbance with 76.74%relief, Hirsutism with 74.07%relief and mood swings with 75.76%relief, weight gain with 60%relief, Hormonal assay with 76.19%relief, Cyst size with 79.07%relief and non-significant in blood sugar with 100%relief and Acne with 25%relief. In this Group two patient were conceived.

Comparison Of Treatment:

Group A: In patients treated with *Rodhro-G* Capsule; highly significant relief was observed in symptoms Menstrual disturbance, Hirsutism, Acne, Mood swings. There is a drastic improvement was found in symptoms Acne, Mood swings, anorexia, loss of appetite, recurrent infection, white discharge, PID, burning sensation during sexual intercourse, Dysmenorrhea, menorrhagia, endometriosis, abnormal bleeding. Regarding Weight, BMI and ovary Volume there was significant results. Non-significant improvement was found in symptoms Amenorrhea, oligomenorrhoea. In This Group two patient conceived out of 12 married patient of infertility and 5 patient was found normal ovaries in USG after treatment.

patients were reported to irregular menses while After Treatment 14 patients were reported regular menses on the basis of regularity while 3 pt. were irregular Menses, and 3 pt. for moderate blood flow.

Group B: In patients treated with VK-G Capsule;

highly significant relief was observed in symptoms Menstrual disturbance, Hirsutism, Acne, Mood swings. Significant improvement was found in symptoms irregular menses, oligomenorrhea, and decrease cyst size, Weight, BMI and ovary Volume. Non-significant improvement was found in symptoms Fatigue, Acne and Anorexia. In This Group two patient was conceived out of 9 patients of infertility and 16 patients were found normal ovaries in USG after treatment and one intramural fibroid out of two patients having intra mural fibroid. 12 patients were reported to irregular Menstrual cycle while After treatment 4 patients were reported regular Menstrual cycle on the basis of regularity while and 4 were reported to scanty Menses.

In **Inter group analysis** we are found that Group – A and Group- B both show that weight gain, Cyst size, Blood sugar and Hormonal assay are non-significant result. But group -A highly significant in blood sugar and Acne, Group – B highly significant in menstrual irregularity, Cyst size and Hormonal assay. It means both drugs are Effective on PCOS. But Group- B (VK- G cap.) are More Potent than Group -A.

CONCLUSION

Rodhradi gana ghana which subjected to Organoleptic and microscopically. Qualitative test for various functional groups revealed the presence of Carbohydrate, Alkaloids, Amino acids, Proteins, Phenolic compound, Glycosides, Steroids, Tannin are present in Sample.

Group-A (*Rodhro*-G) is Highly significant in Menstrual disturbance, Hirsutism and mood swings, Cyst size and significant in Acne, weight gain, Hormonal assay and non-significant in blood sugar. In this Group two patient were conceived.

Group B (VK-G) is Highly significant in Menstrual disturbance, Hirsutism and mood swings, weight gain, Hormonal assay, Cyst size (percentage of relief) and non-significant in blood sugar and Acne. In this Group two patient were conceived.

So, I conclude in these two groups we see that the effect of *Desh, Kaal, Prakrati, Ahhar, Vihaar* and the sample size is also small and the duration of Clinical Trial was also short.

The study is overall concluded that although there are a large number of studies investigating different treatments for polycystic ovarian disease, there remains plenty of room for continued research, the trial drug *Rodhradi gana ghana* and mixture of *varun-Kanchnar ghana* on PCOS (Poly Cystic Ovarian Syndrome). This study suggests that trial drugs and lifestyle modifications are safer to avoid the polycystic ovary disease.

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Table 1 – Showing effect of Rodhro-G according to Subjective Parameters in 20 patients of PCOS (Group A) Unpaired 't' Test

Variable	Mean		Diff. in mean	% Relief	S.D.	P value	Re.
	B. T.	A. T.					
Menstrual Disturbance	2.55	1.30	1.25	49.02%	0.91	<0.001	HS
Hirsutism	1.55	0.85	0.70	45.16%	0.66	<0.001	HS
Acne	0.60	0.25	0.35	58.33%	0.59	0.008	S
Mood Swing	1.80	0.65	1.15	63.89%	0.81	<0.001	HS

Graph 1: Showing the incidence of Showing effect of Rodhro-G according to Subjective Parameters; Group -A
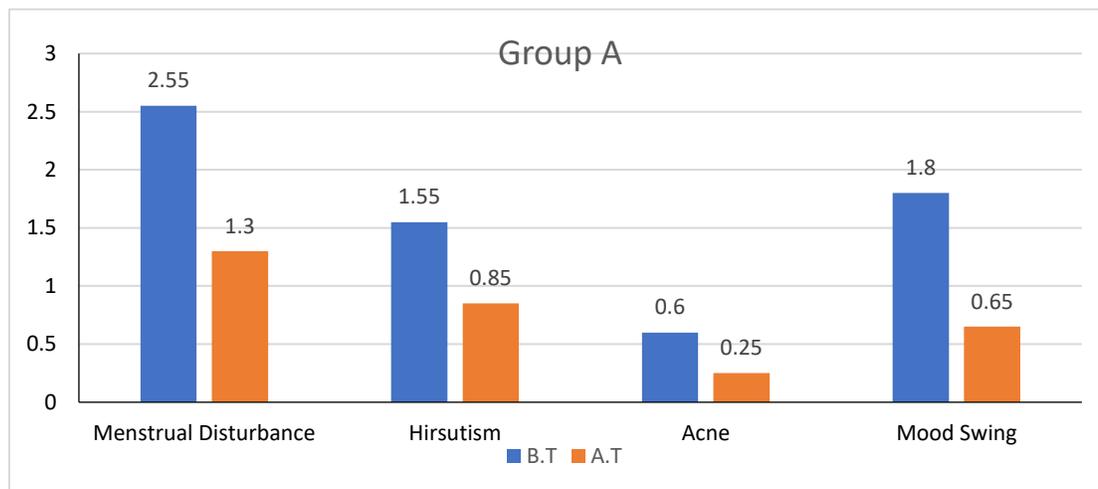

Table 2- Showing the effect of Rodhro-G according to Objective Parameters in 20 patients of PCOS (Group A) (Wilcoxon matched paired single ranked test)

Variable	Mean		Diff. in mean	% Relief	S.D.	P value	Re.
	B. T.	A. T.					
Weight Gain	0.35	0.15	0.20	57.14%	0.52	0.05	S
Cyst size	2.50	1.10	1.40	56.00%	0.68	<0.001	HS
Blood Sugar	0.10	0.00	0.10	100.00%	0.31	0.081	NS
Hormonal assay	0.50	0.25	0.25	50.00%	0.64	0.048	S

Graph 2: Showing the incidence of effect of Rodhro-G according to Objective Parameters; Group -A (Wilcoxon matched paired single ranked test)
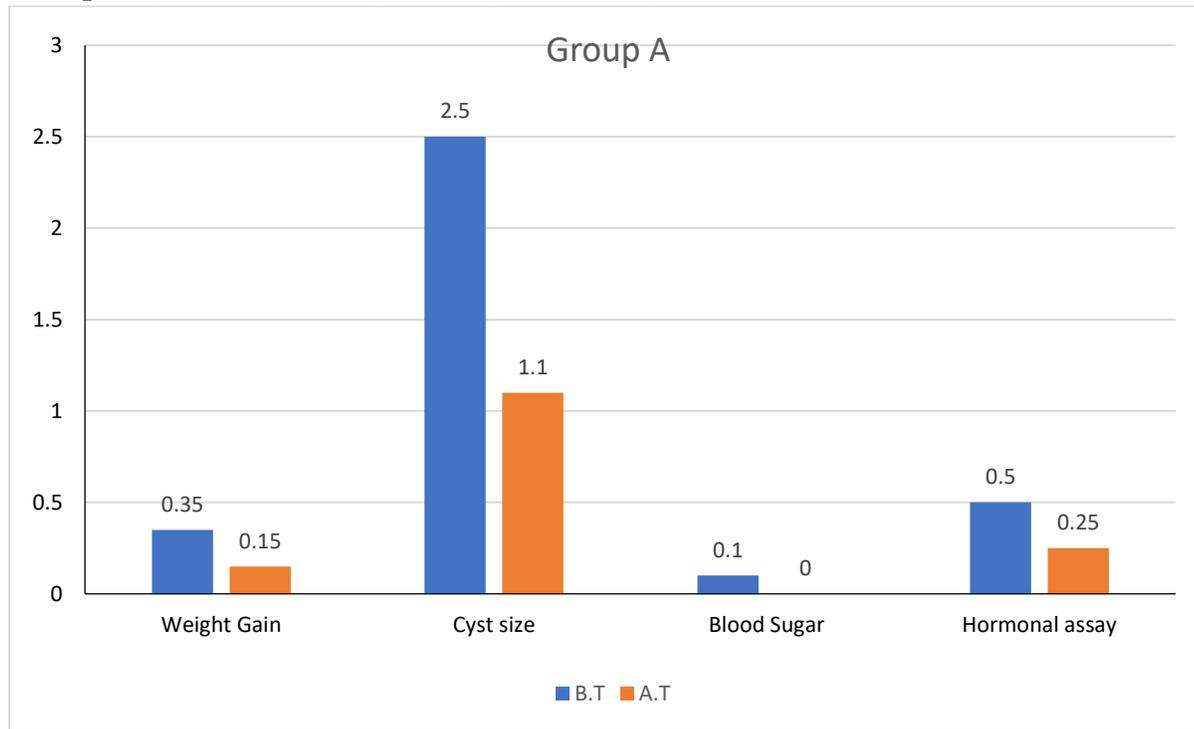

Table 3: - Showing the effect of VK-G Cap. according to Subjective Parameters in 20 patients of PCOS (Group B) Unpaired 't' Test

Variable	Mean		Diff. in mean	% Relief	S.D.	P value	Re.
	B.T.	A.T.					
Menstrual Disturbance	2.15	0.50	1.65	76.74%	0.99	<0.001	HS
Hirsutism	1.35	0.35	1.00	74.07%	0.73	<0.001	HS
Acne	0.20	0.15	0.05	25.00%	0.22	0.165	NS
Mood Swing	1.65	0.40	1.25	75.76%	0.91	<0.001	HS

Graph 3: Showing the incidence of effect of VK-G cap. according to subjective Parameters; (Group B) Unpaired 't' Test
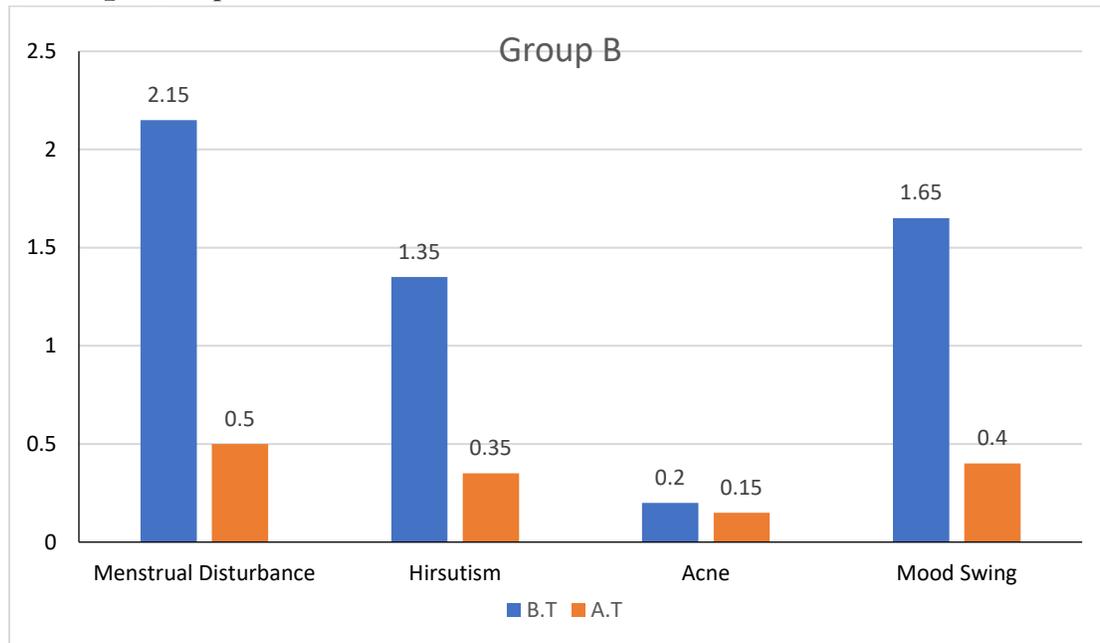

Table 4- Showing the effect of VK-G according to Objective Parameters in 20 patients of PCOS (Group B) (Wilcoxon matched paired single ranked test)

Variable	Mean		Diff. in mean	% Relief	S.D.	P value	Re.
	B.T.	A.T.					
Weight Gain				60.00%	0.68	<0.001	HS
	1.00	0.40	0.60				
Cyst size				79.07%	0.73	<0.001	HS
	2.15	0.45	1.70				
Blood Sugar	0.05	0.00	0.05	100.0%	0.22	0.165	NS
	1.05	0.25	0.80	76.19%	1.01	0.001	HS
Hormonal assay							

Graph 4: Showing the incidence of effect of VK-G cap. according to **Objective** Parameters in 20 patients of PCOS **(Group B) (Wilcoxon matched paired single ranked test)**
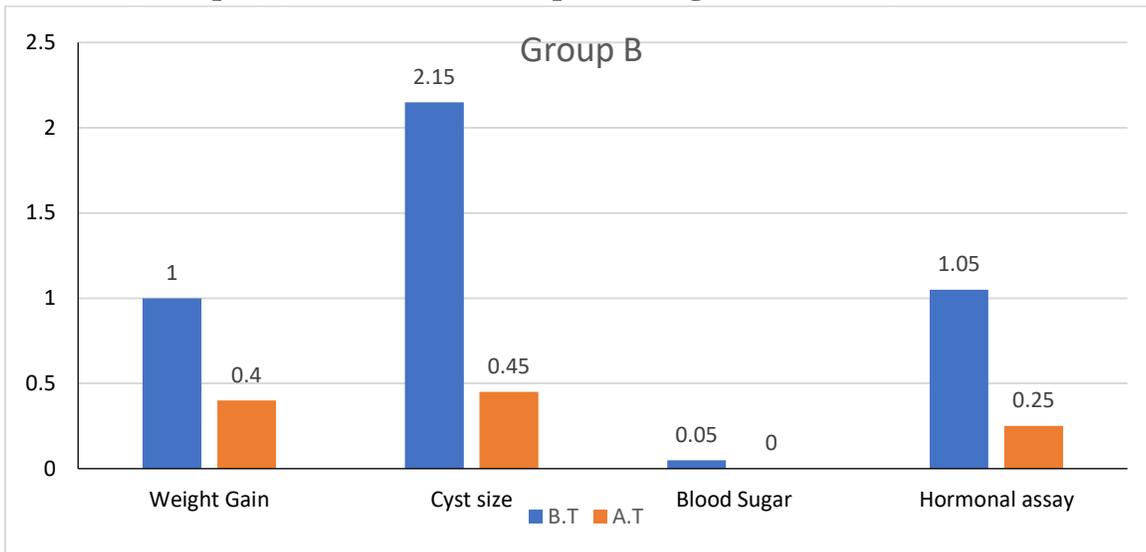

Fig 5 :- Flow chart shows Probable Mode Of Action Of The Drugs

Katu rasa, Ushna dravyas
↓

Agni deepana   *Avaranhara*   *Amapachan*

↓   ↓   ↓

Vata Anulomana   *Strotoshodhana*   *Kapha Medohara*

↓

Rectification of Artavavah Strotodushti

↓

Regularization of menstruation

↓

Ovulation
↓
Restoration of fertility