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A randomized single blind controlled clinical study of *Tilashelukarvi Kwath* in the management of *Lohitkshaya Yonivyapad* w.s.r. Hypomenorrhoea

Research Article

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Abstract

Yonivyapad is a collection of diverse genital tract illnesses, from the vulva through the uterus. *Lohitkshaya yonivyapad* corelated with hypomenorrhoea. Hypomenorrhoea is a condition in which uterine bleeding may be slight in volume, short in duration (<2days) or both. The primary symptom of *lohitkshaya* is *artavkshaya.* Aim: To study the efficacy of *Tilashelukarvi Kwath* in the management of *Lohitkshaya Yonivyapad* w.s.r. to Hypomenorrhoea. Materials and Method: A total 80 patients of the age group 18-40 years presenting with signs and symptoms of *Lohitkshaya Yonivyapad* w.s.r to hypomenorrhoea were selected randomly from OPD of the department of *streerog Prasutitantra*. The 40 patients of trial group were treated with *Tilashelukarvi kwath* and 40 patients of control group were subjected to *Shatapushpa churna*. Results: Both treatments were equally successful in boosting blood flow during menstruation. Therefore, we draw the conclusion that the effects seen in both groups are noteworthy.

Key Words: *Lohitkshaya Yonivyapad*, Hypomenorrhoea, *Tilashelukarvi kwath, Shatapushpa churna.*

Introduction

A healthy woman is a promise of healthy family. The idea of a healthy *Yoni* has been promoted during several stages of a woman's life, including puberty, marriage, childbirth, and beyond. She is unable to adhere to the principles of *Dincharya, Rutucharya, Rajswala, Rutumati, Garbhini paricharya,* and *Sutikaparicharya*, which are explained by *acharyas* for women's healthy progeny, because of changes in modern living and her junk food habit. Thus, she is prone to various *yonivyapad. Yonivyapad* is a collection of diverse genital tract illnesses, from the vulva through the uterus. Additionally, the *Beeja (Shukra & Artava)* possesses chromosomes with genes that indicate the upcoming organs. Congenital defects in foetuses can result from any abnormality in the *Beeja* (Chromosomes), *Beejabhaga* (Genes), or *Beejabhagavayava* (fraction of a Chromosome). (1)

A woman undergoes various physical and physiological changes during her reproductive period i.e., from menarche (onset of menstruation) to menopause (Cessation of menstruation). Menstrual cycle is such a unique phenomenon in the body which includes dramatical monthly change in the hormones which ends finally with the shedding of endometrium (2).

If there is any alteration in this will give rise to the pathological conditions. Geographical conditions, racial factors, nutritional standards environmental influences and indulgence in strenuous physical activity can affect hormonal status and menstrual cycle of women.

In contextual references of *Ayurveda,* the word *Artava* has two meaning i.e., *Antapushpa* (ovum) and *Bahirpushpa (artava)*. These two meaning are interrelated as far as present work is concerned. The word *Artava* has been restricted to *Bahirpushpa i.e.,* menstrual bleeding only.

Lohitkshaya yonivyapad corelated with hypomenorrhoea. Hypomenorrhoea is a condition in which uterine bleeding may be slight in volume, short in duration (<2days). It is the term for abnormally low bleeding, substantially less than 30 ml per menstrual cycle. In some women it may be normal to have less bleeding during menstrual periods. Less blood flow may be genetic and, if enquiries are made, it may be found that woman's mother and/or sister also have decreased blood flow during their periods. Pregnancy can normally occur with this type of decreased flow during the period. Scanty menses or periods can occur normally at the extremes of the reproductive life that is, just after puberty and just before menopause. This is because ovulation is irregular at this time, and the endometrial lining fails to develop normally. But normal problems at other times can also cause scanty blood flow. Anovulation due to a low thyroid hormone level, high prolactin level, high insulin level, high

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androgen level and problems with other hormone can also cause scanty periods.

The main symptom of *lohitkshaya is artavkshaya* (3). The term *"Vandhya"* refers to women who are childless, and *Sushrutacharya* mentions that *Nashtartava* or *Artavkshaya,* or *Kshinartava,* is one of the causes of *Vandhyatva* (4). The female who is experiencing *Vandhyatva* as a result of *Artavkshaya* must therefore be given attention.

According to *Vagbhata* in *Lohitkshaya,* Due to vitiation of *Vata* & *Pitta* the *Raja* is decreased i.e., menstrual flow decreased, the lady suffers from burning sensation, emaciation, and discoloration along with the *rajakshaya*. (5)

The drug selected under the study *Tilashelukarvi Kwath* is described in *Yogaratnakar* which contain *Krushna Tila, Shleshmantak, Krushna Jirak, Guda* (6). The drug selected as a control *Shatapushpa Churna* has been described in *Kashyapa Samhita.* (7)

Selection of Drug

So many preparations have been mentioned in our text for treatment of *lohitkshaya yonivyapad – Artavakshaya Samprаptivighatan* & effective control & cure are the main aims with which the drugs are selected. Keeping all above ideas in mind, selected *Tilashelukarvi Kwath* in present study based on reference available in *yogaratnakar.*

For menstrual disorders, current medical science uses hormonal therapy that is effective therapeutically. But doing so will not stop adverse effects.

Therefore, in the modern era, it is crucial to provide a specific etiopathology and treatment for *Artavakshaya, a Lohitkshaya Yonivyapada* sign. There are many processes and methods available in *ayurvedic* classics to alleviate *artavkshaya.* But it is ongoing research to find out the method of treatment on the symptom without any side effects. It must be easier for administration and warmly acceptable by all class patients.

Aim

To study the efficacy of *Tilashelukarvi Kwath* in the management of *Lohitkshaya Yonivyapad* w.s.r. to Hypomenorrhoea.

Primary Objectives

To study the efficacy of *Tilashelukarvi Kwath* in the dose of 20 ml orally with *koshna jal* once a day in the morning empty stomach in the management of *Lohitkshaya Yonivyapad* for 3 cycles of menstruation w.s.r. to Hypomenorrhoea.

Secondary Objectives

- To study the literature regarding *Tilashelukarvi Kwath* in the management of *Lohitkshaya Yonivyapad* w.s.r. to Hypomenorrhoea.
- To compare the effect of *Tilashelukarvi Kwath* and *Shatapushpa Churna in Lohitkshaya Yonivyapad.*

Material and methods

A total 80 patients of the age group 18-40 years presenting with signs and symptoms of *Lohitkshaya Yonivyapad* w.s.r to Hypomenorrhoea were selected randomly from OPD of the department of *Streerog Prasutitantra* within inclusion criteria and were treated in two groups. The 40 patients of trial group were treated with *Tilashelukarvi Kwath* and patients of control group in similar number were subjected to *Shatapushpa Churna*.

Criteria for selection of patients

Diagnostic Criteria: Patients were diagnosed which were having signs and symptoms of *Lohitkshaya Yonivyapad* given in *Ayurveda* and Hypomenorrhoea in modern literature.

Inclusion criteria

- Female patients within age group of 18-40 yrs.
- Patients willing for treatment.
- Patient having Hb more than 10g/dl.
- Patients having sign symptoms of *Lohitkshaya Yonivyapad* like-
- Scanty menstrual flow less than 2 days with minimum menstrual bleeding. (<2pads/day).
- The patients who are having normal intermenstrual phase or more than 35 days.
- Backache or lower abdominal pain during menses.

Exclusion criteria

- *Garbhini*
- *Sutika*
- H/O-Diabetes Mellitus, Hypertension, Asthma, malignancy, infectious disease, Tuberculosis.
- K/c/o – Cancer of cervix, Sexually Transmitted Diseases, Severe genetic and endocrine disease.
- Morbidly emaciated patients and morbidly obese patients.

Assessment criteria

Table 1: Subjective Parameters

Parameters	Symptoms	Grade
Quantity of menstrual flow	2 pads used	0
	1 pad used	1
	Only spotting of blood with pads	2
Duration of menstrual flow	3-4 days	0
	2-3 days	1
	1-2 days	2
	0-1 day	3
Interval between two cycles	22-28 days	0
	29-35 days	1
	More than 35 days	2
Back or lower abdominal pain during menses	No pain	0
	Mild to moderate pain	1
	Severe pain	2

Regular size of pad was used having length 180mm to 220mm and width excluding wings shall be 60mm–100mm.

Follow ups: On 5th day of 1st, 2nd, 3rd cycle of menses
Treatment of Duration: 3 cycles of menstruation.

The graded values were later totally and individually scored and assessed statistically to find out the rate of effect of treatment. The age, occupation, habitat wise distribution of patients with socioeconomic status was also recorded and assessed statistically. The effect of treatment in each group was assessed separately by analysing the pre-treatment and post treatment data, scores, and values. The comparison of the effect of therapy of two groups done by statistical analysis.

Ingredients of drug and preparation of *Tilashelukarvi kwath* (8)

Procedure of *Kwath*

Procedure of *kwath* explained in *Sharangdhar Samhita. Kwath* is one of the forms of *ayurvedic* medicine. Collection of *Krishna Tila, Shleshmantak* fruit, *Krishna Jirak, Guda* is done. These are pounded into the form of coarse powder. Addition of 16 times of water to it. Start boiling this mixture in a wide mouth container in mild fire. Boil the *kwath* till it reduces to 1/8 quantity. Filter the *kwath*. Add *Guda* in this mixture as a *Prakshep Dravya.*

Formulation: -

- *Krishna Tila, Shleshmantak, Krishna Jirak* in dry coarse powder.
- 1 part of coarse powder drugs + 16 part of water.
- Boil in mild fire.
- Evaporate water by boiling till 1/8th reduction.
- Filter the mixture.
- Add *Guda* in mixture as *Prakshep Dravya*
- Use it for treatment.

Drug Chart

Table 2: Group A Drug details

Sr. No	Drug	Latin Name	Family	*Guna*	*Rasa*	*Virya*	*Vipak*	*Karma*
1)	*Tila (9)*	*Sesamum Indicum Linn.*	*Pedaliaceae*	*Guru snigdh*	*Madhur*	*Ushna*	*Madhur*	*Vata shamak*
2)	*Shelu (10)*	*Cordia wallichii Linn.*	*Boraginaceae*	*Snigdh guru pichil*	*Tikta*	-	*Katu*	*Vata pitta shamak*
3)	*Karvi (11)*	*Carum carvi Linn.*	*Umbelliferae*	*Laghu ruksha*	*Katu*	*Ushna*	*Katu*	*Kapha vata shamak*
4)	*Guda*	-	-	*Laghu*	*Madhur*	*Ushna*	*Madhur*	*Vata shamak pathya*

Table 3: Group B Drug details

No	Drug	Latin Name	Family	*Guna*	*Rasa*	*Virya*	Vipak	*Karma*
1)	*Shatapushpa (12)*	Anethum Sowa Linn.	*Umbeliferae*	*Laghu Tikshna*	*Katu*	*Ushna*	Katu	*Vata Shamak*
2)	*Ghrita*	-	-	-	*Madhur*	*Sheet*	Madhur	*Vata Pitta Shamak*

Table 4: Drug Regimen

Group	Group A - Trial Group	Group B - Control Group
No. of Patients	40	40
Treatment	*Tilashelukarvi kwath*	*Shatapushpa churna*
Anupan	*Koshna jal* (Luke warm water)	*Ghrita* (Clarified butter)
Dose	20 ml	5 gm
Route	Oral	Oral
Kal	Once a day in the morning empty stomach (*Pratah kali)*	Once a day in the morning empty stomach (*Pratah kali)*
Treatment Duration	3 cycles of menstruation	3 cycles of menstruation
Follow up	On 5th day of 1st, 2nd, 3rd cycle of menses	On 5th day of 1st, 2nd, 3rd cycle of menses

Data thus collected during the study, summarized, and statistically analyzed as per protocol.

Statistical analysis of different parameters

As grading used for analysis of various assessment criteria which are ordinal in nature, "Wilcoxon Signed Ranks test" is used for within the group assessment (i.e., before and after treatment of a group).

For between the group analysis of various assessment criteria, Mann Whitney – U test is applied.

We have tested hypothesis for each parameter and result is interpreted accordingly. The level of significance is kept at 5% (P=0.05). Proper summary statistics like mean, mean difference, median difference is provided.

Quantity of menstrual flow

For within the group assessment of change in Quantity of Menstrual Flow, to test the hypothesis, Wilcoxon signed ranks test has been applied at 5% level of significance.

Null Hypothesis- Median change in Quantity of Menstrual Flow after treatment is zero.

Table 5: Wilcoxon Signed rank test for Quantity of menstrual flow

		GROUP A	GROUP B
Mean score	Before treatment	1.675	1.6
	After treatment	0.3	0.375
	Difference	1.375	1.225
Median difference		1	1
Sample size		40	40
Wilcoxon signed ranks test	T+	780	703
	T-	0	0
P - value		<0.0001	<0.0001
Inference		Extremely Significant	Extremely Significant

Alternate Hypothesis- Median change in Quantity of Menstrual Flow after treatment is greater than zero.

For Group A, the median change in Quantity of Menstrual Flow after treatment is extremely significant ($p<0.0001$), at 5% level of significance. i.e., we can say that there is significant change in Quantity of Menstrual Flow for Group A.

For Group B, the median change in Quantity of Menstrual Flow after treatment is extremely significant ($p<0.0001$), at 5% level of significance, we can say that there is significant change in Quantity of Menstrual Flow for Group B.

Comparative Analysis of Groups

Table 6: Between the group analyses, Mann Whitney-U Test has been applied at 5% level of significance

		GROUP A	GROUP B
Median difference		1	1
Mean difference		1.375	1.225
S.D. of difference		0.5401	0.5768
Mann Whitney-U test	U=	698	
	U'=	902	
P - value		0.2566 (p>0.05)	
Inference		Not Significant	

Null hypothesis- Change in Quantity of Menstrual Flow scores for Group A and Group B are equal.

Alternate hypothesis- Change in Quantity of Menstrual Flow scores for Group A and Group B are not equal.

Distribution of "change in Quantity of Menstrual Flow for Group A and Group B is not significantly different. (p- Value=0.2566).

Thus, Group A and Group B treatments can be considered as equally effective for change in Quantity of Menstrual Flow at 5% level of significance.

Duration of menstrual flow

Assessment of change in Duration of Menstrual Flow, to test the hypothesis, Wilcoxon signed ranks test has been applied at 5% level of significance.

Null Hypothesis- Median change in Duration of Menstrual Flow after treatment is zero.

Alternate Hypothesis- Median change in Duration of Menstrual Flow after treatment is greater than zero.

Table 7: Wilcoxon Signed rank test for duration of menstrual flow

		GROUP A	GROUP B
Mean score	Before treatment	1.65	1.45
	After treatment	0.15	0.15
	Difference	1.5	1.3
Median difference		1.5	1
Sample size		40	40
Wilcoxon signed ranks test	T+	820	820
	T-	0	0
P - value		<0.0001	<0.0001
Inference		Extremely Significant	Extremely Significant

For Group A, the median change in Duration of Menstrual Flow after treatment is extremely significant ($p<0.0001$), at 5% level of significance.

i.e., we can say that there is significant change in Duration of Menstrual Flow for Group A.

For Group B, the median change in Duration of Menstrual Flow after treatment is extremely significant ($p<0.0001$), at 5% level of significance.

i.e., we can say that there is significant change in Duration of Menstrual Flow for Group B.

Comparative Analysis of Groups

Table 8: Between the group analyses, Mann Whitney-U Test has been applied at 5% level of significance

		GROUP A	GROUP B
Median difference		1.5	1
Mean difference		1.5	1.3
S.D. of difference		0.5064	0.4641
Mann Whitney U test	U=	640	
	U'=	960	
P - value		0.0706 (p>0.05)	
Inference		Not significant	

Null hypothesis-change in Duration of Menstrual Flow scores for Group A and Group B are equal.

Alternate hypothesis-change in Duration of Menstrual Flow scores for Group A and Group B are not equal. Distribution of "change in Duration of Menstrual Flow for Group A and Group B is not significantly different. (p- Value=0.0706).

Thus, Group A and Group B treatments can be considered as equally effective for change in Duration of Menstrual Flow at 5% level of significance.

Interval between two cycles

Table No.9. Wilcoxon Signed rank test for interval between two cycles

		GROUP A	GROUP B
Mean score	Before treatment	1.85	1.7
	After treatment	0.45	0.35
	Difference	1.4	1.35
Median difference		2	2
Sample size		40	40
Wilcoxon signed ranks test	T+	595	528
	T-	0	0
P - value		<0.0001	<0.0001
Inference		Extremely Significant	Extremely Significant

Assessment of change in Interval Between two Cycles, to test the hypothesis, Wilcoxon signed ranks test has been applied at 5% level of significance.

Null Hypothesis- Median change in Interval Between two Cycles after treatment is zero.

Alternate Hypothesis- Median change in Interval Between two Cycles after treatment is greater than zero.

For Group A, the median change in Interval Between two Cycles after treatment is extremely significant ($p<0.0001$), at 5% level of significance.

i.e., we can say that there is significant change in Interval Between two Cycles for Group A.

For Group B, the median change in Interval Between two Cycles after treatment is extremely significant ($p<0.0001$), at 5% level of significance.

i.e., we can say that there is significant change in Interval Between two Cycles for Group B.

Comparative Analysis of Groups

Table No.10. Mann-Whitney U test for Interval between two cycles.

For between the group analyses, Mann Whitney-U Test has been applied at 5% level of significance.

		GROUP A	GROUP B
Median difference		2	2
Mean difference		1.4	1.35
S.d. of difference		0.7442	0.8022
Mann whitney-u test	U=	782	
	U'=	818	
P - value		0.8514 ($p>0.05$)	
Inference		Not significant	

Null hypothesis- change in Interval Between two Cycles scores for Group A and Group B are equal.

Alternate hypothesis- change in Interval Between two Cycles scores for Group A and Group B are not equal.

Distribution of "change in Interval Between two Cycles for Group A and Group B is not significantly different. (p- Value=0.8514).

Thus Group A and Group B treatments can be considered as equally effective for change in Interval Between two Cycles at 5% level of significance.

4. Back or lower abdominal Pain during menstruation

Table No.11. Wilcoxon Signed rank test for Back or lower abdominal Pain during menstruation

		GROUP A	GROUP B
Mean score	Before treatment	1.55	1.625
	After treatment	0.225	0.5
	Difference	1.325	1.125
Median difference		1	1
Sample size		40	40
Wilcoxon signed ranks test	T+	780	496
	T-	0	0
P - value		<0.0001	<0.0005
Inference		Extremely significant	Extremely significant

For within the group assessment of change in Back or lower abdominal pain during Menstruation, to test the hypothesis, Wilcoxon signed ranks test has been applied at 5% level of significance.

Null Hypothesis- Median change in Pain During Menstruation after treatment is zero.

Alternate Hypothesis- Median change in Pain During Menstruation after treatment is greater than zero.

For Group A, the median change in Pain During Menstruation after treatment is extremely significant ($p<0.0001$), at 5% level of significance.

i.e., we can say that there is significant change in Pain During Menstruation for Group A.

For Group B, the median change in Pain During Menstruation after treatment is extremely significant ($p<0.0001$), at 5% level of significance.

i.e., we can say that there is significant change in Pain During Menstruation for Group B.

Comparative Analysis of Groups:

Table No.12. Mann-Whitney U test for Back or lower abdominal pain during menstruation:

For between the group analyses, Mann Whitney-U Test has been applied at 5% level of significance.

		GROUP A	GROUP B
Median difference		1	1
Mean difference		1.325	1.125
S.d. of difference		0.5256	0.7574
Mann whitney-u test	U=	696	
	U'=	904	
P - value		0.2687 ($p>0.05$)	
Inference		Not significant	

Null hypothesis- Change in Pain During Menstruation scores for Group A and Group B are equal.

Alternate hypothesis- Change in Pain During Menstruation scores for Group A and Group B are not equal.

Distribution of "change in Pain During Menstruation for Group A and Group B is not significantly different. (p- Value=0.2687).

Thus, Group A and Group B treatments can be considered as equally effective for change in Pain During Menstruation at 5% level of significance.

Overall effect of treatment

Table No.16. The criteria for assessment are as below

Overall Effect (Patient wise)	Criteria
Cured	75% or more relief in signs and symptoms
Marked improvement	50% - <75% relief in signs and symptoms
Moderate improvement	25% - <50% relief in signs and symptoms
Not improved (unchanged)	< 25% relief in signs and symptoms

Table No.17. Distribution of patients according to relief in parameters

Overall effect	Trial group		Control group	
	Number of Patients	%	Number of Patients	%
Cured	30	75.00	25	62.50
Marked improvement	9	22.50	12	30.00
Moderate improvement	1	2.50	3	7.50
Not improved (unchanged)	0	0.00	0	0.00
Total	40	100	40	100

In Group A, out of 40 patients, 30 (75.00%) were totally cured, 09(22.50%) patients were markedly improved while remaining 01(02.50%) showed Moderate improvement.

In Group B, out of 40 patients, 25 (62.50%) were totally cured, 12(30%) patients were markedly improved while remaining 03(07.50%) showed Moderate improvement.

Observations and Results

Age

In group A, out of 40 patients, 16 (40%) were from 18 to 23 years age group, 19 (47.50%) patients were from age group 24 to 29 years, while 05 (12.50%) were from age group 30 to 35 years.

In group B, out of 40 patients, 09 (22.50%) were from 18 to 23 years age group, 16 (40%) patients were from age group 24 to 29 years, while 15 (37.50%) were from age group 30 to 35 years.

Occupation

In group A, out of 40, 06(15%) patients were Students, 31(77.50%) patients were Housewives while 03 (07.50%) patients were doing Services.

In group B, out of 40, 03(07.50%) patients were Students, 33(82.50%) patients were Housewives while 04 (10%) patients were doing Services.

Religion

In Trial group, out of 40 patients, 33 (82.50%) were Hindu while only 07(17.50%) patient belong to Muslim religion.

In Control Group, out of 40 patients, 37 (92.50%) were Hindu while only 03(07.50%) patient belong to Muslim religion.

Diet

In group A, out of 40 patients, 16 (40%) patients were pure vegetarian, while 24 (60%) patients belong to mixed diet category. In group B, out of 40 patients, 18 (45%) patients were pure vegetarian, while 22 (55%) patients belong to mixed diet category.

Deh-prakriti

In group A, out of 40 patients, 17(42.50%) patients were having *Vata pradhan Pitta prakruti,* 21 (52.50%) patients were having *Pitta pradhan Vata prakruti,* while 02(05%) patients were having *Pitta pradhan Kapha prakruti.*

In group B, out of 40 patients, 21(52.50%) patients were having *Vata pradhan Pitta prakruti*, 18(45%) patients were having *Pitta pradhan Vata prakruti,* while 01(02.50%) patient was having *Pitta pradhan Kapha prakruti*.

Discussion

We have discussed the *Hetu, Samprapti,* and *Chikitsa* of *Lohitkshaya yonivyapada*.

In the present study, *Shatapushpa Choorna* & *tilashelukarvi kwath* are trial drugs. These drugs indicated in the treatment of *lohitkshaya yonivyapada.*

The drug review highlights the individual drugs with the classical reference of the selected trial drugs in brief. It also includes botanical (Latin) name, family, part used, *Rasapanchaka*, *karma* and *rogaghnata* with chemical constituents and pharmacological activities etc. Authentications of raw drugs were carried out in authorized institute. Standardizations of the formulated drugs were carried out in the pharmaceutical laboratory. The method used for the preparation of *choorna* and *kwatha* is described.

Related fundamentals were considered and probable mode of action of the drug is studied, to understand it scientifically.

To understand this drug – *Rasa, Guna, Virya, Vipak, Doshaghnata* etc. of all ingredients were studied in detail. Related fundamentals were considered and probable mode of action of the drug is studied, to understand its science.

Properties of *krishnatila*

The drug *Krishna Tila* is mainly *Kashaya Rasatmak, Katu Anurasa, Madhur Vipaki, Ushna Veeryatmak, Guna- Guru, Snigdha.* It has *Dipana, Snehana, Vedanasthapana, Balya, Rasayana, Artavajana, grahi* Properties.

Artavajanana Karma of *Krushna Tila* helps in increasing the *pitta,* which results in production of *artava* (haemopoitic function) & digestion of *Ama.*

Katu rasa, Ushna veerya of *Krishna Tila* relieves the *avarana* of *kapha.* Thus, enhances the flow of *Artava.*

Madhura rasa, Madhura Vipaka of *Krushna Tila* nourishes & gives strength to *Rasa Dhatu* & its *Upadhatus.* So, it increases secretions & helps in regeneration of endometrium. (13)

Mode of action of the Drug

Krishna Tila known as *sesamum* is an important source of Thiamine & niacin, riboflavin, nicotinic acid, pantothenic acid, folic acid pyridoxine, ascorbic acid, nourishing Lactagogue, diuretic, sugars such as glucose, sucrose, galactose.

They have a high magnesium content to help steady nerves and are used in laxatives as an emollient, hence regulate the bowel & relieves from constipation. Some studies show that sesamin, a lignan found only in sesame seeds, has remarkable antioxidant effect which can inhibit the absorption of cholesterol and the production of cholesterol in the liver.

The seeds are also rich in Vitamin A, E and protein. An old folk remedy recommends thoroughly chewing and swallowing one tablespoon of sesame seeds per day to regulate the menses. Lignan are plant phenolics converted in the intestines to a type of phytoestrogen with antioxidant properties. Lignans are a type of phytoestrogen that can influence hormonal metabolism and are also anticarcinogenic. Lignans are found in outer part, when a food containing a plant lignan is eaten, the friendly flora in the bowel converts this to a mammalian Lignan that has a therapeutic action in the body. The phytoestrogens contained in Lignans have relatively weak hormonal activity in comparison to the body ‘s own hormone levels. Lignan phytoestrogens do not stimulate. (14)

Probable mode of action of *Guda*

Enhances the quality of *Krishna Tila Kwatha.* It has *madhur rasa, madhura vipak, guru guna & sheet veerya* as per *Nighantu Ratnakar.* Despite these properties, it is *pittavardhak thus, raktavardhak* (Haemopoitic function) . It is *ruchikara, raktakara, rasayana, vrushya* & thus helps in *Dhatu Vruddhi*. It makes the *Kwath* palatable.

Effect of therapy on cardinal symptoms of *Lohitkshaya Yonivyapada*

***Alpata* (Duration of Menstruation)**

Both drugs had similar effects on the length of the menstrual cycle. These findings demonstrate that both treatments were successful in lengthening the menstrual cycle. Therefore, we draw the conclusion that the effects seen in both groups are noteworthy.

***Yathochitkale adarshanam* (Interval between two cycles)**

These findings demonstrate that the interval between two cycles was decreased by both therapies. Therefore, we draw the conclusion that the effects seen in both groups are noteworthy.

***Alpata* (Amount of Menstrual blood)**

Results indicate that both treatments were equally successful in boosting blood flow during menstruation. Therefore, we draw the conclusion that the effects seen in both groups are noteworthy.

Overall effect

Tilakelusharvi kwath & Shatapushpa Churna were found to have the greatest overall therapeutic impact on *Artavakshaya's* primary complaints (Orally) were successful in reducing the time between menstrual cycles while lengthening menstrual periods and the amount of blood shed during them. But in overall effect, out of 40 patients, 30 (75.00%) were totally cured, 09(22.50%) patients were markedly improved while remaining 01(02.50%) showed Moderate improvement. In Control Group, out of 40 patients, 25 (62.50%) were totally cured, 12(30%) patients were markedly improved while remaining 03(07.50%) showed Moderate improvement. Hence, *Tilakelusharvi kwath* is found to be slightly more effective than *Shatapushpa Churna*.

Scope of further study

This attempt to manage with such combination Yoga and the study has shown interesting results, it is recommended that the study should carry out in large number of patients to evaluate and analyses the results. This drug can be given along with Panchakarma, so that the results will more effective. Same study can be done by increasing the duration of medication. Follow up should be kept for longer duration. The same study can be carried out with larger sample size at different centers.

Conclusion

Considering all observations and discussion of this study, the following inference can be drawn: - In this clinical study significant changes were observed before and after treatment on the assessment criteria of *Lohitkshaya yonivyapad* i.e., Duration of menstruation, Amount of blood loss, Intermenstrual period and Severity of pain during menstruation.

1. In Group A, out of 40 patients, 30 (75.00%) were totally cured, 09(22.50%) patients were markedly improved while remaining 01(02.50%) showed Moderate improvement.
2. In Group B, out of 40 patients, 25 (62.50%) were totally cured, 12(30%) patients were markedly improved while remaining 03(07.50%) showed Moderate improvement.

This shows equal improvement in symptoms of *Lohitkshaya using tilashelukarvi kwath* and *shatapushpa churna* by all parameters. There was no any side effect observed during and after study.

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