

Effectiveness of Lakshadi Guggulu, Shatawari Churna & Abhyanga with Lakshadi tail on Menopausal Syndrome - R.C.T.

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Abstract

With the improvement of health facilities, the elderly population is increasing. Consequently, the number of women experiencing menopausal syndrome is also increasing. Early menopause significantly contributes to this group. Symptoms of menopause may vary from somato-vegetative, psychological to uro-genital. But we do not have a specific protocol to efficiently manage all these symptoms. Hormone replacement therapy (HRT) is an option, but the outcomes are not satisfactory.

According to a community-based cross-sectional study in 400 middle-aged women (40–60 years) in Haryana, India, in the year 2020, the prevalence of menopausal symptoms was found to be 87.7%. The majority of the study subjects experienced anxiety (80%), followed by physical and mental exhaustion (71.5%), sleep problems (61.2%), irritability (60.7%), joint and muscular discomfort (56%), and heart problems (54%). The most classical symptom of menopause, i.e., hot flushes, was reported in 36.7% of the participants. The quality of life was impaired in 70.2% of the study subjects. The psychological symptoms are attributed to 70.8% of the poor quality of life.

As per the need of the hour, this study was carried out to assess the effectiveness of the Indian system of medicine in managing menopausal syndrome.

In this study, the Menopausal Rating Scale (MRS) was used as an assessment tool. The study was conducted on 100 patients aged 40 to 65 attending the Ayurveda Institute OPD.

The clinical comparative study was carried out with Lakshadi Guggulu, Shatawari Churna, and Lakshadi Tail for 2 months.

After the study, it can be concluded that in women with mild to moderate symptoms of menopausal syndrome, a combined treatment (Lakshadi Guggulu + Shatawari Churna + Lakshadi Tail) yields better results in both somatic and psychological complaints compared to individual interventions.

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INTRODUCTION

Menopause can be an important transition from both a social and biological perspective. Socially, a woman's experience of menopause may be influenced by gender norms,



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familial and socio-cultural factors, including how female aging and the menopausal transition are viewed in her culture.

Around the time of menopause, many women experience physical symptoms such as hot flashes, night sweats, vaginal dryness, and a decreased sex drive. It can also lead to anxiety and changes in mood. These symptoms may start before menstruation ends, and they can last for several years.

Menopause typically occurs naturally in most women between the ages of 45 and 52. It is characterized by changes in hormonal levels and the cessation of the menstrual cycle.^{1,2}

The global population of postmenopausal women is growing. In 2021, women aged 50 and over accounted for 26% of all women and girls globally. This was an increase from 22% a decade earlier.³ Additionally, women are living longer. Globally, a woman aged 60 years in 2019 could expect to live, on average, another 21 years.⁴

In a study in Haryana, the prevalence of menopausal symptoms in the Somato-vegetative, Psychological, and Uro-genital domains was 79%, 88.2%, and 32.7%, respectively.⁵

Approximately 1.2 billion women worldwide will be menopausal or postmenopausal by the year 2030, with 47 million new entrants each year.⁶ More than 85% of these women will experience problematic symptoms, including hot flashes, night sweats, sleep disturbances, sexual dysfunction, mood disorders, weight gain, and cognitive declines.^{1,7}

Menopause can provide a significant opportunity to reevaluate one's health, lifestyle, and goals.

As per modern science, there is no conventional treatment known for menopausal syndrome except hormone replacement therapy.

Hormone therapy has been the primary treatment for menopausal symptoms. However, due to the health risks linked to hormone therapy, many women cannot or choose not to undergo hormone therapy.^{8,9} Approximately 51% of women use CAM (Complementary and Alternative Medicine), with over 60% perceiving it as effective for menopausal symptoms.⁸ Nevertheless, most women utilizing CAM do not communicate this with their healthcare providers.⁸ Women frequently express confusion about their choices and tend to depend on peers or the internet as their main sources of information.^{9,10}

Several Ayurveda research papers have proven the effectiveness of Shatawari churna and Lakshadi

Guggulu individually in treating menopausal symptoms. Therefore, this study aimed to explore alternative treatments and establish a standard treatment protocol based on Ayurveda. The study titled "Effectiveness of Lakshadi Guggulu¹¹, Shatawari churna¹², and Abhyanga with Lakshadi tail¹³ on Menopausal Syndrome: A Randomized Controlled Trial" was conducted.

REVIEW OF LITERATURE

Previous work done

Clinical evaluation of Ashokarishta, Ashwagandha Churna and Praval Pishti in the management of menopausal syndrome.¹⁴

Conclusion: In women with mild to moderate symptoms of menopausal syndrome, a combined treatment (ASK + ASW + PP) gives better result in both somatic as well as psychological complaints. No any adverse effect was noted during the study.

An assessment of Manasika Bhavas in menopausal syndrome and its management.¹⁵

Conclusion: This study shows that menopausal syndrome can be managed by Rasayana drugs like Saraswatarishta and procedures like Shirodhara.

Case study on management of Menopausal Syndrome with Ayurvedic formulations and Pranayama.¹⁶

Conclusion: The results show that the postmenopausal syndrome can be better managed with ayurvedic drugs and can avoid HRT and their side effects.

Ayurvedic management of menopausal syndrome with Vayasthapana gana: A case report.¹⁷

Conclusion: The case study concluded that Menopausal syndrome can be successfully managed with Vayasthapana Gana Churna Ksheerapaka Vasti and orally with Vayasthapana gana churna with no adverse reactions noted.

Peri - Menopausal Syndrome - Ayurvedic Management - A Case Report.¹⁸

Conclusion: Praval Panchamrut and Arvindasava together care positively in peri menopausal syndrome.

Ayurveda management of Menopause: A Case Study.¹⁹

Conclusion: It is concluded that in Rajonivruti (post-Menopausal Symptoms) Sarvanga Abhyanga along with the Tablet Ashwagandha Ghana works effectively.

AIM AND OBJECTIVE OF THE STUDY

1. To evaluate the efficacy of Lakshadi Guggulu per orally in the management of post menopausal syndrome.
2. To evaluate the efficacy of Shatawari Churna per orally in the management of Post menopausal syndrome.
3. To evaluate the efficacy of Abhyang with Lakshadi tail in the management of Post menopausal syndrome.
4. To evaluate the combined effect of Lakshadi Guggulu, Shatawari Churna and Abhyang with Lakshadi tail in the management of Post Menopausal Syndrome.

MATERIALS & METHODS

Source of Data: Patients suffering from menopausal syndrome were selected randomly with lottery method from the Kayachikitsa Department OPD.

Literary source:

Literary source was collected from Ayurvedic classical text books, modern texts, and relevant research literatures.

Pharmaceutical source

Basic raw material was collected from the market looking at the grahya-agrahya lakshana as explained in the classical texts and was prepared in the pharmacy attached to GS Ayurveda Medical College and Hospital.

Analytical source:

- Basic analytical studies as per "Ayurvedic Pharmacopoeia of India" and "The Parameters for Qzality.
- Assessment of Ayurveda and Siddha Drugs by CCRAS" was carried out in an approved laboratory.

MATERIALS REQUIRED FOR THE STUDY

i. Methods of Collection of Data:

Inclusion Criteria:

- ✓ Female of Age between 40–65 years who have attained menopause.
- ✓ Women not having menses since at least 6 months.
- ✓ Patients having psychological manifestations during menopause.
- ✓ Patients having serum calcium level less than 8.5 mg/dl on examination.

Exclusion Criteria:

- ✓ Patients with evidence of malignancy.
- ✓ Patients with serum calcium level more than 8.5 mg/dl. Patients suffering from other severe systemic diseases.
- ✓ Patients with surgical menopause.
- ✓ Patients suffering from any major illnesses, e.g., tuberculosis, cancer, diabetes mellitus, etc.

Sample: 100 patients fulfilling the inclusion criteria were selected using lottery method for the study.

Investigations

All selected patients were subjected to routine investigations, which included the following:

Blood: Hb, TC, DC, ESR, PCV, etc.

Urine: Routine and microscopic examination

Biochemical examination: Fasting blood glucose, total serum proteins, lipid profile, alkaline phosphatase.

All patients were followed up for 1 month.

PROCEDURE AND DESIGN OF THE STUDY

Materials and Methods

Distribution of patients

Hundred were randomly selected from among the outpatients and in patients of Kayachikitsa Department, GS Ayurveda Medical College & Hospital, Pilkhuwa, Hapur, Uttar Pradesh.

Table 1: They were divided into three groups as shown in the Table.

S. No.	Features	Group A	Group B	Group C	Group D
1.	Number of patients	25	25	25	25
2.	Drug	Lakshadi Guggulu	Shatawari Churna	Abhyang with lakshadi Tail	Combined Effect
3.	Dose	Tab of 250 mg.	3 gm	30 minutes	-
4.	Timing	Twice daily after food.	Twice daily after food.	Once in the morning	-

Table contt....

5.	Duration	2 months	2 months	2 months	-
6.	ROA	Oral	Oral	Whole body (ext.)	-
7.	Anupana	Dugdha	Dugdha	-	-
8.	Follow up interval.	15 days	15 days	15 days	-

Method of Assessment

Detailed history was taken and a thorough physical and mental examination was done, with the data being recorded in a special proforma that was specifically designed for this study.

Relief in the subjective signs and symptoms of menopause was assessed by Menopause Rating Scale.²⁰

Overall effect of therapy: Overall effect of the therapy was graded as complete remission, marked improvement, moderate improvement, improvement, and unchanged; the following criteria were used for grading:

Complete Remission: 100% relief in Manasa Bhavas and clinical features.

Marked improvement: More than 75% reduction in the score of Manasa Bhavas and clinical feature.

Moderate improvement: 50%-75% improvement in the score of Manasa Bhavas and clinical features.

Improvement: 25%-50% improvement in the score of Manasa Bhavas and clinical features.

Unchanged: Less than 25% reduction in the score of Manasa Bhavas and clinical features.

Assessment Criteria

It is a questionnaire based study which made use of the menopausal rating scale (MRS) questionnaire as a basis for assessing menopausal symptoms. MRS is a self administered instrument which is a validated scale and has been used in many clinical and epidemiological studies, and in research on the etiology of menopausal symptoms to assess the severity of menopausal symptoms.⁴

The MRS is composed of 11 items and is divided into three sub scales:

- Somatic - hot flushes, heart discomfort/palpitation, sleeping problems and muscle and joint problems.
- Psychological - depressive mood, irritability, anxiety and physical and mental exhaustion.
- Urogenital - sexual problems, bladder problems and dryness of the vagina.

Each of the 11 symptoms contain a scoring scale from "0" (no complaints) to "4" (very severe symptoms).

Socio demographic data which included age, religion, marital status, educational level, occupation and average household income was also collected.

The questionnaire was in English language and women were interviewed face to face. They were given this questionnaire and were asked whether or not they had experienced the 11 menopausal symptoms and depending upon the severity of these symptoms they were marked from "0" to "4". All the women were interviewed in Hindi language. They were explained the various menopausal symptoms and face to face communication with the women was done by trained health professional so as to make sure that right responses were received and also a proper explanation can be given to women if they had any doubts. This modification done in the menopausal rating scale was pretested on 25 women to check for its validity. All the women who fulfilled the criteria were invited to participate in the study. A written informed consent was taken from them.

Statistical analysis. The statistical analysis was done using the Chi square test. P-value

Assessment was carried out through subjective and objective parameters, where each of the parameters were scored by following a standard scoring pattern.

After taking written consent from the patients, individual patient data was collected through general history taking and physical examination. Score details of each parameter was also recorded after 30 days, and 60 days and 90 days of the treatment in a specially prepared proforma.

Statistical Methods

Statistical methods was carried out by paired t test.

OBSERVATIONS & RESULTS

One hundred women completed the study.

Table 1: Age at menopause (n=100).

Age at Menopause	No. of Patients	%
40-44	21	21
45-49	24	24
50-54	34	33.3
55-59	11	11.6
60-65	10	10

Out of the 100 women with menopausal symptoms, maximum patients were seen between age 50-54. Out of 100 patients, 81% were married (Table 2) and 66% were illiterate (Table 3).

Table 2: Marital Status (n=100)

Marital Status	No. of Patients	%
Married	81	81
Widow	17	17
Divorced	2	02

Table 3: Distribution of cases according to Education Level

Education level	No. of Patients	%
Uneducated	66	66
Primary	18	18
Middle	11	11
Higher secondary	02	02
Graduate	03	03
PG	00	00

On the basis of the socioeconomic status majority of the women ranging almost 82% belongs to the lower socioeconomic status (Table 4). The women belonging to lower socioeconomic status were found to have more menopausal symptoms.

Table 4: Distribution of cases according to socioeconomic status (n=100).

Socioeconomic Status	No. of Patients	%
Lower	82	82
Middle	17	17.3
Upper	01	0.66

Table 5: Frequency of menopausal symptoms assessed by MRS.

Menopausal symptoms	No. of patients	Mild	Moderate	Severe	Very severe
Hot flushes	65 (65%)	20	20	25	0
Heart discomfort	50 (50%)	28	10	10	2
Sleep problems	52 (52%)	12	28	08	4
Depressive mood	75 (75%)	38	26	09	2
Irritability	69 (69%)	31	34	03	1
Anxiety	61 (61%)	20	32	09	0
Physical and mental exhaustion	79 (79%)	41	26	07	5
Sexual problems	35 (35%)	10	17	08	0
Bladder problems	42 (42%)	13	24	02	3
Dryness of vagina	41 (41%)	18	10	12	1
Joint and muscular pain	83 (83%)	19	40	15	9

Table 5 shows the frequency and severity of menopausal symptoms as assessed by the menopausal rating scale. The most prevalent menopausal symptom in present study was joint and muscular pain 83%, followed by physical and mental exhaustion 79%. The patients with depressive mood were 75%. This was followed by 'irritability', 69% hot flushes 65%, anxiety 61%, sleep problems 52%, heart discomfort 50%, bladder

problems 42%, dryness of vagina 41% and sexual problems 35%.

When we look at the severity, it was seen that joint and muscular pain symptoms were of severe quality. Majority of the hot flushes, heart discomfort, sleep problems, irritability, sexual problems, bladder problems, dryness of vagina were of mild severity. Depressive symptoms were moderate.

Results

Table 6: Effect of Lakshadi Guggulu

Group A		MAS Score	
Patients	BT	AT	Difference
1	35	28	7
2	30	23	7
3	26	21	5
4	35	29	6
5	27	20	7
6	25	18	7
7	19	13	6
8	23	18	5
9	31	24	7
10	28	22	6
11	28	19	9
12	32	23	9
13	29	25	4
14	32	22	10
15	37	26	11
16	18	15	3
17	15	13	2
18	25	17	8
19	27	22	5
20	28	21	7
21	17	15	2
22	31	32	-1
23	28	28	0
24	31	25	6
25	21	18	3

Difference Scores Calculations (A)

Mean: -5.64

$\mu = 0$

$S^2 = SS/df = 207.76/(25-1) = 8.66$

$S^2M = S^2/N = 8.66/25 = 0.35$

$SM = \sqrt{S^2M} = \sqrt{0.35} = 0.59$

T-value Calculation

$t = (M - \mu)/SM = (-5.64 - 0)/0.59 = -9.58$

In this study effect of Lakshadi guguulu was found significant at 95% confidence level

Table 7: Effect of Shatawari Churna

Group B		MAS Score	
Patients	BT	AT	Difference
1	18	9	9
2	25	15	10
3	21	11	10

4	19	10	9
5	27	13	14
6	31	24	7
7	24	17	7
8	33	24	9
9	28	20	8
10	22	13	9
11	18	18	0
12	26	14	12
13	22	17	5
14	28	15	13
15	25	17	8
16	29	21	8
17	21	14	7
18	19	13	6
19	20	12	8
20	30	22	8
21	21	14	7
22	28	21	7
23	26	19	7
24	24	18	6
25	27	21	6

Difference Scores Calculations (B)

Mean:-8

$\mu = 0$

$S^2 = SS/df = 180/(25-1) = 7.5$

$S^2M = S^2/N = 7.5/25 = 0.3$

$SM = \sqrt{S^2M} = \sqrt{0.3} = 0.55$

T-value Calculation

$t = (M - \mu)/SM = (-8 - 0)/0.55 = -14.61$

In this study effect of Aswagandha churna was found significant at 95% confidence level.

Table 8: Effect of Massage with Lakshadi Oil

Group C		MAS Score	
Patients	BT	AT	Diff.
1	24	19	5
2	26	22	4
3	31	28	3
4	19	15	4
5	15	11	4
6	24	20	4
7	28	23	5
8	33	29	4
9	21	18	3

10	18	14	4	16	25	20	5
11	19	13	6	17	18	10	8
12	24	18	6	18	29	16	13
13	28	22	6	19	24	15	9
14	22	18	4	20	22	11	11
15	28	24	4	21	14	3	11
16	33	28	5	22	17	10	7
17	12	7	5	23	29	24	5
18	20	17	3	24	30	21	9
19	15	11	4	25	21	9	12
20	29	21	8				
21	23	24	-1				
22	30	23	7				
23	24	17	7				
24	21	20	1				
25	25	16	9				

Difference Scores Calculations (C)

Mean: -4.56

$\mu = 0$

$S^2 = SS/df = 104.16/(25-1) = 4.34$

$S^2M = S^2/N = 4.34/25 = 0.17$

$SM = \sqrt{S^2M} = \sqrt{0.17} = 0.42$

T-value Calculation

$t = (M - \mu)/SM = (-4.56 - 0)/0.42 = -10.94$

In this study effect of Abhyang with tail was found significant at 95% confidence level.

Table 9: Combined Effect

Group D	MAS SCORE		
	Patients	BT	AT
1	32	21	11
2	28	15	13
3	22	11	11
4	28	10	18
5	13	5	8
6	23	22	1
7	25	14	11
8	15	6	9
9	30	21	9
10	22	10	12
11	18	9	9
12	29	13	16
13	20	8	12
14	17	7	10
15	23	15	8

Difference Scores Calculations (D)

Mean: -9.92

$\mu = 0$

$S^2 = SS/df = 291.84/(25-1) = 12.16$

$S^2M = S^2/N = 12.16/25 = 0.49$

$SM = \sqrt{S^2M} = \sqrt{0.49} = 0.7$

T-value Calculation

$t = (M - \mu)/SM = (-9.92 - 0)/0.7 = -14.22$

In this study, combined effect of Lakshadi Guggulu + Shatawari Churna+ Abhyang with Lakshadi tail was found significant at 95% confidence level.

DISCUSSION

Ageing is an inevitable phenomenon and with it are associated certain conditions which affects quality of life. Menopause is one such reality of life.

Menopause is characterized by an estrogen deficient state and as many organs of the body are sensitive to estrogen, a decrease in estrogen level gives rise to a number of physical, psychological and sexual changes. The frequency of symptoms varies over time. Some happen frequently in the peri-menopause and decrease over time, while others increase progressively from peri-menopause to post-menopause and become more severe towards the end of life.²¹

Discussion regarding Assessment Tool

The assessment tool which we used in present study was based on Menopause Rating scale (MRS) questionnaire. There are various tools available to assess the menopausal symptoms but we used MRS questionnaire as this tool has been widely used in many epidemiological studies. These questionnaires have been validated and used in many languages after translation. It is originally a self administered questionnaire and it assesses

the frequency as well as the grades of severity of various symptoms. In our study we did a slight deviation by administering the questionnaire to the respondents and instead of the respondents filling up the questionnaire alone, we did a face to face interaction with the respondents. A health-personnel explained the questionnaire to the respondents and based on their response filled up the questionnaire. The MRS questionnaire could not be self administered because of many difficulties like few respondents could not understand the English language while some where there who had no formal education or only studied primary level. The aim of involving a health personal and a face to face interaction was to minimize the reporting error.

Secondly the MRS questionnaire could not be self administered as many women did not know English and some had no formal education, so the questionnaire was explained to them in their language (Hindi) by a health personnel in a one to one interview and filled accordingly. Before embarking on the study, this method was pretested on 25 respondents to ensure that they understood the questionnaire.

Discussion on Observations

In present study, out of the 100 respondents with either one or multiple menopausal symptoms, 58 had no formal education. This difference in proportion of education levels is highly significant. Thus, we can conclude that females who are uneducated were having more subjective perception of menopausal symptoms. In various previous studies also it was shown that menopausal symptoms were inversely related with educational level.²²⁻²⁴

In a study by Lee *et al*, it was shown that subject's income was related to their educational level and low income could be one of the risk factors for more severe menopausal symptoms.²⁵ Similarly, the respondents belonging to lower socio-economic strata were found to have more menopausal symptoms and this difference in proportion we found to be statically significant. It was shown by Lee *et al* in his study that subject's income was related to their educational level and low income could be one of the risk factors for more severe menopausal symptoms.²⁵

The most common symptom which we encountered in our study was joint and muscular pain (87%). This finding was consistent with many other studies where the same problem was found to be prevalent.

The classical symptom of menopause i.e. hot flushes, sweating and night sweats were found in 53% of respondents.

Differences in norms and traditions, culture, sources of food and others styles of life play an important role in the prevalence of menopause symptom.²⁶ Other symptoms which added to the decrease in quality of life in our study were depressive mood (70%), physical and mental exhaustion (60%) Heart discomfort (60.3%) and sleep problem (56%).

The urogenital problems like sexual problems (20%) and dryness of vagina were found to be less prevalent and if present then the symptoms were mild.

Thus, the variation in the prevalence of different menopausal symptoms at different places is highly dependent on the tradition, culture, sources of food and other styles of life.²⁶ Thus, we have to understand that menopause is a stage of reproductive life cycle of woman. Menopause is a bio psychological phenomenon and is a natural aging process which signals a decline in body function.^{27,28} The body undergoes various physiological changes due to the estrogen deficiency. This needs the combined medical and psychosocial support. Hence, the women can have the strength to overcome the severity of changes which affects the well being of women.²⁷ There were several limitations in our study. Although attempts were made to ensure that the data collection was appropriate, however when women were asked to provide some retrospective information such as menopausal symptoms experienced in the preceding one month, last menstruation, Recall bias was unavoidable, especially for some elderly women.

Discussion

The slogan 'Healthy Women, Healthy World' embodies the fact that as custodians of family health, women play a critical role in maintaining the health and well-being of their communities. Although anatomically there is no difference in the structure of the brain between males and females, the emotional makeup of a female is different; certain Manobhavas are peculiarly more common in females, e.g., Sukumarta, Lajja, Ekanistha, Bhavukta, Vishvasniyata, Sahansheelta, Udarata, Tyaga, Ardrachitta, Bhakti, Dhairya, Moha, etc.²⁹

Due to this and other factors, females are likely to be affected to a greater extent by any change occurring in their physical or psychological

Disturbance in given physiology of Vata	Disturbances observed in Rajonivritti Phase
Niyanta Praneta Cha Manas Sarvendriyarthanam Abhivodhac Sarvendriyanam Udhyojaka Harsha Utsaha Yoni	Psychological disturbances like anxiety, irritability, depression, mood swings, etc.
Sameerane Agni	Digestive troubles like Aruchi, Hrillasa, Ajeerna, etc.
Sarvasharira Dhatu Vyuhkar	Circulatory disturbances resulting in cardiovascular problems like palpitations, and vasomotor complaints like hot flushes.
Sandhankar Sharirasya Kshepta Bahirmalanam	Menopausal arthropathies, Disturbances related to waste products like stool, urine, sweat, menses, etc, For example constipation, dysuria, sweat, menses, etc. For example, constipation, dysuria, excessive sweating, etc.
Prakriti Shabda sparshayoh Pravartak Cheshtanam	Sensory motor problems, Difficulty in initiating activities, fatigue, weakness, etc.
Ucchaavachanam pravartako vacha	Swarabhanga

milieu. Hence, she is to be handled with great care and should be helped to sail through any emotional turmoil. During the perimenopause and menopause, emotions can bubble to the surface in a way similar to that seen in the premenstrual syndrome or during the postpartum period. Hence it is very important for a physician to appreciate the psychological state of the female before undertaking the task of managing her menopausal condition.

Rajo-nivritti is a consequence of Jara awastha, and Vata is the dominant Dosha during this stage; it is therefore very important to understand the interrelationship between Vata and Manas. It can be clearly seen that all the disturbances during Rajonivritti are directly proportional to the vitiation of Vata during this phase. The Table below clarifies this interrelationship:

Saptadhatukshay during Menopause In old age³⁰, Saptadhatukshay is interpreted as degenerative changes in tissue that causes various effects on the female body.¹⁰

Rasa kshay In Rasakshay various symptoms can be seen like Shabda Asahtva, Hridravata, Shool, Shrama, Shosha, and Trusha. (Irritability, generalized weakness can be seen).

Raktakshay in old age due to Dhatukshay, Updhutu Aartav formation also gets suppressed which results in Rajonivritti, Twakrukshata, and Sirashaithilyata. (Dryness of skin, cessation of menses).

Mansakshay Sphilig and adishushkata, Toda, Rukshata, Glani, Sandhi Sphutan, Sandhi Vedana, and Dhamani Shaithilya is seen. (Loss of tone and elasticity of the skin can be seen in that condition). Medokshay Angarukshata, Shrama, Shosha, Krushta is seen (dryness of skin, weakness, cachexia can be seen).

Asthikshay Asthikshay and Sandhi Shaithilya

occur in Asthidhatu kshay. (Arthritis and osteoporosis occur in this condition).

Majjakshay Asthi Ushirya, Asthi Toda, Dourbalya, Bhrama, Tamah Darshan, Sandhi Shunyatva. (Mood swings and depression occur sometimes).

Shukrashay Yonivedana, Shrama, Dourbalya, Panduta. (Dyspareunia, loss of libido).

PROBABLE MODE OF ACTION OF LAKSHADI GUGGULU

Discussion on probable mode of Action of Laksha Guggulu:

Guggulu: Guggulu has Shothahara (anti-inflammatory) as well as Bhagna Sandhanakara (fracture healing) properties due to its anti-inflammatory³¹⁻³⁴ effect. Experimental studies with Freundum resin extract of the oleo-gum resin reduced xylene induced ear inflammation in mice by 50%. Laksha: Laksha has properties like Bhagna sandhana (Bone healing), Vranaropaka (Wound healing), Rakta Stambhaka (Hemostasis). Experimental and histological study also showed that Laksha enhance the bone healing.³⁵ Ashwagandha: Ashwagandha constitutes the properties of Balya, Rasayana, Vedanasthapana anti-inflammatory, antioxidant, rejuvenating & immune modulator.³⁶ Nagabala: Nagabala is having Madhura, Kashaya Rasa, Guru, Snigdha and Pichchhila Guna, Shheta Veerya and Madhura Vipaka and Rasayana³⁷ properties. Arjuna: Arjuna having Raktastambhaka, Sandhaniya, Vranaropaka, Raktaprasadana properties. It is useful in fractures, ulcers, cardiac disorders, fatigue, intrinsic hemorrhages, tumor, inflammations, cirrhosis of liver and hypertension.³⁸ Asthishrinkhala: Asthishrinkhala has Sandhaniya,

Dipana, Pachana, krimighna, Rakta Stambhaka, Rakta Shodhaka karma so it is very useful in Asthibhanga, Abhighataja sotha and Raktasrava. Experimental and clinical studies reveal that *Cissus quadrangularis* Linn. is antioxidant³⁹ analgesic⁴⁰ anti-inflammatory⁴¹ antipyretic, anti-microbial⁴² activities. It contains natural steroids and vitamin⁴³ so it is very useful for early bone healing.^{44,45} So it can be said that Laksha Guggulu⁴⁶ has combined effects on bone healing without any multivitamins and calcium.

Lakshadi taila helps to reduce the inflammation of gum, bleeding, pain and discolouration of gums. *Kashaya* and *thiktha* rasa of lakshadi taila help to pacify Pitta and Kapha Dosha. It is anti-inflammatory, Antibacterial and Haemostatic. Also have Vrana Shodhaka, Vrana Ropaka and Krimighna properties. Laksha is one of Asthisandhaneeyadravya, so it is helpful in Sandhana of Periodontal bone and ligaments.

Probable mode of action of Shatawari Churna

Immunomodulatory Activities:⁴⁷

Shatawari dried root powder has a positive effect on the immune system. As a result, the inflammatory reaction is reduced. It stimulates the immune system to combat infections, tumors, and immunological weaknesses.

Antidiabetic Activity:⁴⁸

The antihyperglycemic activity of Shatawari is thought to be mediated in part by carbohydrate digestion and absorption inhibition, as well as an increase in insulin secretion and action in peripheral tissue.

Antidepressant Activity:⁴⁹

The tail suspension test (TST) and the forced swim test were used to examine antidepressant activity in mice (FST). The methanolic extract considerably reduced immobility times in TST and FST, indicating considerable antidepressant action and highlighting the fact that the extract's efficacy was equivalent to that of study's reference medications, fluoxetine and imipramine. Methanolic extract reduced brain MAO-A and MAO-B, as well as interactions with the adrenergic, dopaminergic, serotonergic and GABAergic systems.

Antihepatotoxic Activity:⁵⁰ According to one research, Shatawari possesses antihepatotoxic potential and thus helps in proper glucose

metabolism and digestion.

Antioxidant Activity:⁴⁹

The antioxidant effect of Shatawari crude extract and purified aqueous fraction has been proven. The extract protected against oxidative damage by preventing lipid peroxidation, protein oxidation, and depletion protein of thiols and the antioxidant enzyme superoxide dismutase. When compared to the crude extract, the purified aqueous fraction containing polysaccharides proved to be a powerful antioxidant. The antioxidant activity of the crude extract was more efficient in suppressing protein oxidation than the purified fraction against lipid peroxidation. Radiation-induced loss of protein thiols and inactivation of superoxide dismutase were both protected by the crude and purified extracts.

Anticancer activity:⁴⁹ The apoptotic activity of steroidal components of Shatawari was researched, and it was concluded that they had the ability to kill tumour cells.

Antibacterial Activity:⁵¹

According to another research the Shatawari root extracts extract was shown to be toxic to both gram-positive and gram-negative bacteria.

Antiprotozoal Activity:⁴⁷ According to one research *Entamoeba histolytica* growth is inhibited by Shatawari crude alcoholic extract in vivo.

Anti-fungal activity:⁵²

The root extract of Shatawari provide significant protection against fungal infections such as candida, *Malassezia furfur* and *M. Globosa*.

According to ayurveda 'Shatawari' with its Madhura-Tikta rasa, Guru-Snigdha guna, Madhura Vipaka, Sheeta Veerya and Rasyana effect proves to be beneficial to women in all stages of life. Charaka has categorized it as Balya (promoting strength or a tonic), Vayasthapana (promotes longevity) & Shukrajanana (spermatogenic), Also, he has cited it as a rejuvenative to Rasa and Mamsa dhatus and Mamsavaha srotasa. Sushruta has mentioned it as Shukrashodhana purifies the sperms or semen. Whereas, it is quoted as Vajikara augments the sexual vigour and quantity of semen (Sharangadhara Samhita). It is also classified as Samshamana neither it aggravates nor it eliminates the doshas from the body, but simply pacifies the aggravated doshas especially,

Pitta. While describing the indications and use of Shatavari in Shatpushpa – Shatavari kalpadhyaya' in Kalpasthana he mentions that Shatavari acts as nector in women with amenorrhoea, infertile, meno-metorrhagia, hypomenorrhoea, menopause, delayed puberty, irregular menstruation, women with history of still birth or whose children are weak, with dry vagina, frigidity and women with other complaints like diarrhoea, polyuria and loss of normal colour.⁵³

CONCLUSION

It can be concluded that in women with mild to moderate symptoms of menopausal syndrome, a combined treatment (Lakshadi Guggulu + Shatavari Churna + Lakshadi Tail) gives better result in both somatic as well as psychological complaints. No any adverse effect was noted during the study. Therefore it could be a safe alternative to the modern drugs. It is found to be an effective therapy in psychological and somatic problems related with menopausal syndrome.

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