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"EFFECT OF VIRECHANA KARMA, BRIMHANA-SNEHA AND AMRITADI GHANAVATI IN THE MANAGEMENT OF POST-MENOPAUSAL SYNDROME (RAJONIVRATIJANYA LAKSHANA)"

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ABSTRACT

The menopause is a consequence of estrogen deficiency due to the depletion, or relative absence of primordial follicles responsive to the rising levels of gonadotropins. It is estimated that as many as 85 % of postmenopausal women have experienced a menopause-related symptom in their lifetime. Long term use of modern medication are associated with many adverse effects like- HRT increase the risk of deep vein thrombosis and pulmonary embolism, gas, constipation and bloating from use of calcium, weakness, fatigue, sleepiness, headache, loss of appetite, dry mouth, metallic taste, nausea, vomiting from use of vitamin D, gastric irritation. In *Ayurveda* directly no reference is found about post-menopausal syndrome but similar condition is described like - *Rajonivritijanya Lakshana*. *Panchakarma* treatment, especially *Virechana Karma* improves the *Agni* and eliminates the vitiated *Pitta*. *Taila* is first line of treatment for *Vata Vyadhi* [10] further *Brimhana Sneha* is best for *Vraddhavastha* and *Mandagni* hence in this study *Brimhana-Snehapana* with *Ketaki-Rasonadi Taila* was done. *Rasayana*, *Balya* and *Agnideepana* drugs like *Amrita*, *Asthishrinkhala*, *Shatavari*, *Shunthi* etc are used as a *Amritadi Ghanavati* (*Kalpita Yoga*). The result have been analyzed statistically, *Virechana Karma* with *Brimhana-Sneha* and *Amritadi Ghanavati* are highly effective in Post-menopausal syndrome which was statistically significant (P <0.01).

KEYWORDS: Post-Menopausal syndrome, Rajonivritijanya Lakshana, Virechana karma, Brimhana-Sneha, Ketaki-Rasonadi Taila and Amritadi Ghanavati.

INTRODUCTION

Menopause, also known as the climacteric, is the time in most women's lives when menstrual periods stop permanently, and they are no longer able to have children.[1, 2] The menopause is a consequence of estrogen deficiency due to the depletion, or relative absence of primordial follicles responsive to the rising levels of gonadotropins. Menopause typically occurs between 45 and 55 years of age.[1] During this time, women often experience hot flashes; these typically last from 30 seconds to ten minutes, and may be associated with shivering, sweating and reddening of the skin.[3]

It is estimated that as many as 85% of postmenopausal women have experienced a menopause-related symptom in their lifetime.[4] Majority of menopausal women experienced joint and muscular discomfort (86%) and physical and mental exhaustion (81%). More than half of the respondents experienced heart discomfort (68%), irritability (66%), depressive mood (61%) and hot flushes and profuse sweating (58%). (43%) menopausal women experienced sleep problems, (35%) had dryness of vagina and (31%) sexual problems. Only (25%) respondents had bladder problems and (18%) had anxiety.

In *Ayurveda* directly no reference is found about post-menopausal syndrome but similar condition is described like- *Rajonivritijanya Lakshana*. The ancient *Acharyas* termed it as a normal physiology. Thus, the whole term *Rajonivritti* means end of *Artava Pravritti* or cessation of menstruation. This condition is characterized by generalized *Vatavriddhi,* the *Vataja Lakshanas* are more dominantly observed than *Pittaja* and *Kaphaja Lakshanas*. *Vata Vriddhi Lakshanas* are *Shira Shoola, Hasta-Pada Suptata, Anindra/Alpanindra, Bhrama, Kati Shoola, Sandhi Shoola, Sandhi Sthambha, Pitta Vriddhi Lakshanas are Ushnabhitapa, Ratri Sweda* and *Kapha Kshaya Lakshanas* are *Hrit Dravatva, Bhrama* and *Raukshaya.* According to *Ayurveda Madhayavastha and jaravastha* associated with *Jatharagnimandhaya* is general and *Dhatwagnimandhaya* is particular.

Modern medicine provided two types of treatment for post-menopausal syndrome, hormonal and non-hormonal. Hormonal treatments (HRT) are oral estrogen+progestron or only estrogen and parateral hormonal treatment are vaginal gel, vaginal tablets and vaginal rings. Non hormonal treatments are vitamin D, calcium supplement, flourids, SERMs,hypnotics,

and thiazide. Long term use of these medication are associated with many adverse effects like- HRT increase the risk of deep vein thrombosis and pulmonary embolism,[5] gas, constipation and bloating from use of calcium, weakness, fatigue, sleepiness, headache, loss of appetite, dry mouth, metallic taste, nausea, vomiting from use of vitamin D, gastric irritation [6] and pain in lower extremity and selective estrogen receptor modulators and other estrogen analogous increase the risk of endometrial cancer.[7]

According to Ayurveda *Rajonivritti* is a naturally occurring condition in every woman as that of *Jaravastha* etc. *Swabhavika Vyadhies*. Vitiated stage of *Vayu* may be the the case of *Rajonivritti*. Factors like *Vriddhavastha*, generalized *Dhatukshaya*, generalized *Rookshata* and *Shosha* will lead to *Vata Vriddhi*. *Panchakarma* treatment, especially *Virechana Karma* improves the *Agni* [8] and eliminates the vitiated *Pitta*.[9] *Taila* is first line of treatment for Vata Vyadhi[10] further *Brimhana Sneha* is best for *Vraddhavastha* and *Mandagni*.[11] *Rasayana*, *Balya* and *Agnideepana* drugs like *Amrita*, *Asthishrinkhala*, *Shatavari*, *Shunthi* etc are used as a *Amritadi Ghanavati* (*Kalpita Yoga*).

MATERIALS AND METHODS

Aim of the study

To evaluate the therapeutic effect of *Virechana Karma*, *Brimhana Sneha and Amritadi Ghanavati* in post-menopausal syndrome (*Rajonivritijanya Lakshana*).

Source of the data

15 female patients were selected randomly from OPD & IPD of Panchakarma, National Institute of Ayurveda, Jaipur which were diagnosed of post-menopausal syndrome. The present study has been done with Registration no. RAU/Aca/736/13-14 Dr. Sarvapalli Radhakrishnan, Rajasthan Ayurveda University, Jodhapur.

Inclusion criteria

15 patients taken in this clinical trial were according to the following inclusion criteria-

1. Female patient between the age group of 40 to 70 years.
2. Females who had attained natural menopause.
3. Females who had their last menstrual bleeding at least one year prior to the data collection.
4. Having clinical features of post-menopausal syndrome, *Rajonivriti* and fit for *Virechana Karma* and *Brimhana Snehapana*.

Exclusion criteria

1. Age below 40 and above 70 years
2. Female who were in the transitional period of attaining menopause.
3. Female who had undergone hysterectomy due to any cause.

Study design

- Open Label
- Randomized
- Interventional type

Treatment schedule

The randomly selected patients were treated with Classical *Virechana Karma*, *Brimhana Snehapana* in dose of 15 ml twice a day with warm milk before food for 15 days followed by *Amritadi Ghanavati* orally in the dose of two tablets each of 500 mg twice a day with lukewarm milk for 30 days.

Criteria for assessment of the study

Sandhi shoola (Joint pain)
Bhrama (Vertigo)
Raukshaya (Dryness)
Aswapna (Loss of sleep)
Sirah Shoola (Head Ache)
Sandhi Sthambha
Hasta-Pada Suptata (Numbness in extremities)
Kati Shoola (Back pain)
Ushanabhitapa (hot flushes)
Ratri Sweda (Night sweating)
Hrit Dravatva (Paliptation)
Chinta (Anxiety)
Avasad (Depression)
Anavastitha Chita (Mood swing)
Udvega (Irritability)

The improvements in the patient were assessed on the basis of relief in the sign and symptoms of the disease. To analyze the efficacy of the drug, scores were given for each

symptom. According to the severity of the symptoms, the grading was given, as mentioned herewith:

Table No: 1 showing the scoring pattern of subjective parameters

Parameters		**Score**
1.*Sandhi Shoola* (Joint pain)	No pain.	00
	Mild pain after movement & subside by rest.	01
	Moderate degree of pain, no relief by rest but not disturbing sleep or other activities.	02
	Severe degree of pain, disturbing sleep or other routine activities.	03
	Severe degree of pain, disturbing sleep or other routine activities and relieved by analgesic.	04
4.*Bhrama (*vertigo*)*	No	00
	Once in week	01
	2-3 times in a week	02
	4-5 times in a week	03
	More than 5 times in a week	04
7.*Raukshya* (Dryness)	No dryness	00
	Dryness during winter disappear after applying moisturizer.	01
	Dryness during winter, but no longer effect of moisturizer.	02
	Dryness during winter, but no effect of moisturizer.	03
	Dryness during humid climate no effect of moisturizer	04
8.*Aswapna* (Loss of sleep)	Sound sleep	00
	Disturbed sleep wake up 1-2 times a night	01
	Difficult to onset sleep remains disturbed (Aipa Nindra)	02
	Very less sleep in small intervals	03
	No getting sleep without medicine (Anindra)	04
Other sign and symptoms	No	00
	Sometime	01
	Mild	02
	Moderate	03
	Severe	04

The improvement is documented through statistical significance. The parameters are assessed by means of interrogations and by ascertaining the sign and symptoms before and after the treatment. Statistical analysis for assessing the improvement of symptomatic relief and to analyze it statistically and observation were recorded before and after the treatment.

METHODOLOGY

15 patients received classical *Virechana Karma*.

Virechana Karma. Classical *Virechana Karma* was administered in the following steps.

Poorvakarma

1. ***Deepana* and *Paachana***

Panchakola Choorna 3 grams three times a day orally before food with warm water was given for 3 to 7 days i.e., till *Nirama Lakshana* achieved.

2. Snehapana

It was done with *Murchchita Tila Taila* In an increasing order started with small dose on first day between 30 to 50 ml depending upon appetite (*Agni Stithi*) between 6.30am to 7 am for 3 to 7 days with lukewarm water till *Samyak Snigdha Lakshana* were obtained.

During *Snehapana* liquid, warm light diet like rice gruel, green gram soup with little vegetables and warm water for drinking was advised.

3. *Sarvanga Abhyanga* and *Svedana*

Sarvanga Abhyanga with *Dashamoola Taila* done for 25 to 30 minutes followed by *Mridu Bashpa Svedana* for 5 to 10 minutes, for 4 days including the day of *Virechana Karma*.

4. Diet during *Abhayanga* and *Svedana*

Food including rice gruel, green gram soup, sour fruits like grapes, sweet lemon, orange and pomegranate were advised.

5. Pradhanakarma

1. Preparation of *Virechana Yoga*

Virechana Yoga contains: *Triphala Kvatha* (prepared from 25 gm of coarse powder of *Triphala*): 100 ml

TrivrithChoorna: 15grams

Kutaki Choorna: 10grams

Eranda Taila 30ml

2. Administration of *Virechana Yoga*

After *Sarvanga Abhyanga* and *Mridu Svedana* patients were examined for the vitals like pulse, blood pressure then above mentioned *Virechana Yoga* was administered in between 9.30 to 10.00 am with warm water.

3. Observations of the patient

The observations like the time of initiation of *Virechana Vega* (urge of daefecation), total number of *Virechana Vega*, time of completion, nature of *Vega*, *Kshudhapravritti*, examination of vitals, *Lainghiki Lakshana, Antiki Lakshana, Vyapad* if any were noted.

Pashchatkarma

1. Samsarjana Krama was advised for 3, 5 and 7 days depending upon Avara, Madhyama and Pravara Shuddhi respectively.
2. In general advised to take lukewarm water.

Brimhana-Sneha

After *Samsarjana Karma Brimhana-Snehapana* was given. *Brimhana-Sneha* with *Ketaki-Rasonadi Taila* was prepared by using *Ketaki* (Pandanus odorotissimus), *Rasona* (Allium sativum), *Bala* (Sida cardifolia) and *Atibala* (Abutilum indicum) was administrated orally 15ml twice a day with warm milk before food for 15 days.

Shamana Yoga

After *Brimhana-Snehapana* Amritadi Ghanavati was given. It was prepared from *Amrita* (Tinospora cardifolia), *Madhuyasthi* (Glycyrrhiza glabra), *Shatavari* (Asparagus racemosus), *Asthishrinkhala* (Cissus quadrangularis), *Shunthi* (Zingiber officinails) and *Methica* (Trigonella foenum-graecum) was administrated orally 2 tablets each of 500 mgm twice a day with lukewarm milk for 30 days.

CLINICAL OBSERVATIONS AND RESULT

Observations

The observations made on15 patients suffering with osteoporosis (*Asthi-Kshaya*) were as follows:

Observation of Demographic data

Maximum (53.33%) number of patients in the age group of 40-50 years, followed by 40% in the age group of 51-60 years and 6.66% in the age group of 61-70 years. 73.33% patients were Hindu,

Data related to *Ahara* (Diet)

20% patients were taking *Rooksha, Laghu tikta, Katu Tikta* and *sheeta Ahara* each.

Data related to disease

In this study, 91.11% patients had *shrama*, 82.22% patients had *Sandhi Shool*, 80% each had anxiety and back pain, 77.77% had headache, 71.11% each had *Asthi Toda* and depression, 68.88% had joint stiffness and 66.66% each had *Brahama* and *Hrit Dravatva*, 48.88% patients had *Raukshaya*.

RESULTS

Statistical Methods

- All the Results were calculated by using software In Stat graph pad 3.
- Wilcoxon Matched Pairs Signed Ranks Test and paired "t" test has been used for subjective and objective parameters.

Table No: 2 showing effect of therapy in subjective parameters (Wilcoxon Matched Pairs Signed Ranks Test)

Symptoms	Mean score		Difference	% of relief	S.D±	S.E±	P value	S
	AT	BT						
Sandhi Shoola	3.467	1.467	2.000	57.68	1.195	0.3086	0.0005	ES
Bhrama	1.800	1.067	0.733	40.73	2.017	0.5207	0.1272	NS
Raukshaya	1.400	0.7333	0.666	47.62	0.8165	0.2108	0.0156	S
Aswapna	1.933	0.8667	1.067	55.19	1.438	0.3712	0.0195	S
Sandhi Sthambha	3.000	0.6667	2.333	77.76	1.447	0.3737	0.0005	ES
Kati Shoola	2.467	1.467	1.000	40.53	1.254	0.3237	0.0156	S
Hrit Dravatva	1.200	0.5333	0.6667	55.55	0.8165	0.2108	0.0156	S
Shirah Shoola	2.533	1.400	1.133	44.72	1.685	0.4350	0.0269	S
Suptata	1.533	0.9333	0.6000	39.13	0.7368	0.1902	0.0156	S
Mutrateet	0.6667	0.4000	0.2667	40.00	0.7988	0.2063	0.5000	NS
Ratrisweda	0.5333	0.2667	0.2667	50.00	0.5936	0.1533	0.2500	NS
Ushaanabhitapa	0.7333	0.3333	0.4000	54.54	0.8281	0.2138	0.1250	NS
Chinta	2.000	1.267	0.7333	36.66	1.163	0.3003	0.0547	S
Avasad	1.667	1.267	0.4000	23.99	1.056	0.2726	0.2188	NS
Anavastitha Chita	0.7333	0.6000	0.1333	18.17	0.3519	0.09085	0.5000	NS
Udvega	0.8000	0.4000	0.4000	50.00	0.8281	0.2138	0.1250	NS

NOTE: ES

Extremely Significant, **VS:** Very Significant, **S**- Significant, **NS**- Non Significant

Table no. 2 showing effect was statistically extremely significant (P 0.0001) in *Sandhi Shoola*, significant (P <0.01) in, *Raukshaya, Aswapna, Kati Shoola, Hrit Dravatva, Shirah Shoola, Suptata and Chinta* and non significant (P >0.01) in *Bhrama, Mutrateet, Rtrisweda, Ushaanabhitap, Avasad, Anavatitha Chita* and *Udvega.*

DISCUSSION

Rajonivriti is a *Swabhavik Jarajanya Vyadhi*. *Jaravastha* is associated with natural decline of all *Dhatu* (especially *Rasa* and *Rakta Dhatu*), *Agnimandhaya* and *Daurbalya* (Generalized weakness). According to *Ayurveda Sodhana* Therapy is best for *Agni Deepti*, *Bala*, *Pusthi* and to delay ageing.[12] Among *Sodhana* therapys *Virechana* is best for *Agni Deepti* and elimination of vitiated *Pitta* thierby correcting the *Rakta dhatu*.[8, 9]

Rajonivriti is a disease of *Jaravastha*. *Jaravastha* is a condition of *Vata Vraddhi*. Dominant *Vata Dosha* will have effect all over the female body including all anatomical as well as physiological factors by virtue of its characters i.e. "*Laghuta"* and "*Rookshata.*" There is no other Drug equivalent to *Taila* in the management of *Vata Roga.*[13]

Tila Taila is best among all *Tailas* for *Balvardhana* and *Snehana*.[14] It is *Vata Shamaka* due to its *Guru* and *Snigdha Guna*, *Madhura Rasa* and *Ushna Virya*.[15]

Phytoestrogens are plant-derived estrogens. Phytoestrogens are natural "selective estrogen receptor modulators" (SERMs). Phytoestrogens bind to the estrogen receptors, acting either as "partial agonists" or "antagonists", depending on the levels of endogenous estrogens.[16, 17] Phytoestrogens exhibit estrogenic activity in the order of 10-210-3 that of 17β-estradiol,[18,19,20] but may be present in the body in concentrations 100-fold higher than endogenous estrogens.[21, 22, 23] Phytoestrogens have a higher binding affinity for β-estrogenic receptors than for α-estrogenic receptors.[24, 25, 26] The majority of phytoestrogens found in plants can be classified into two major categories: isoflavones and lignans. After consumption of the plant lignans and isoflavone precursors, metabolic conversions occur in the gastrointestinal tract resulting in the formation of heterocyclic phenols that are similar in structure to estrogens.[27] A study suggests that sesame ingestion benefits postmenopausal women by improving blood lipids, antioxidant status, and possibly sex hormone status.[28]

Bala and ***Atibala*** are *Vata Shamaka* due to their *Snigdha, Pichchila Guna, Madhura Rasa* and *Madhura Vipaka* and it is also has *Brimhana, Rasayana* and *Bhagna-Sandhankara* properties.[29] *Sida cordifolia* contains phytoestrogens, which influences bone mineral density[30] and useful in back pain and joint pain.

Rasona is *Vata Shamaka* due to its *Snigdha*, *Pichchila* and *Guru Guna*, *Madhura* and *Lavana Rasa* and *Ushna Virya*.[31]

Menopause is a process of normal aging, during which the level of estradiol secreted by the ovaries gradually declines.[32]

Aging is a complex biological phenomenon which involves progressive decline in different physiological functions of various tissues.[33] Oxidative stress, an unavoidable consequence in the metabolism of oxygen by aerobic cells, is a major factor not only in the normal aging process but also in many age-related degenerative processes.[34, 35] Garlic improved the balance between blood oxidants and antioxidants. It is quite possible that reduced peroxidation processes due to this combination may play a part in some of their beneficial effects as a nonpharmacological, food complimentary substance in healthy postmenopausal women.[36]

Ingredients of *Amritadi Ghanavati* are *Guduchi, Madhuyasthi, Shatavari, Asthishrinkhala, Shunthi* and *Methica.* The drugs are mostly *Rasayana*, *Vata Hara* and *Deepniya* in nature according to *Ayurveda*. The main aim of *Rasayana* is *Dhatu Poshana*; i.e. replenishment of all *Dhatus* and to delay the aging process.[37]

Guduchi *is Vata Shamaka* due to its *Guru* and *Snigdha Guna* and *Ushana Virya*, it is well known *Rasayana* and has *Agni Deepana* effect.[38] It contains ligan which is a form of phytoestrogen[39] and it is an alternative therapy of HRT so effective in post-menopausal syndrome.[40] It also displays anti-inflammatory,[41] antioxidant[42,43] and anti-stress activity.[44]

Madhuyasthi is *Vata Shamaka* due to its *Guru* and *Snigdha guna, Madhura Rasa* and *Madhura Vipaka.*[45] It showed anti-inflammatory, anti-arthritic and antioxidant[46] properties and also contains phytroestrogen.[47] Researches reported that administration of Glycyrrhiza glabra to immature, ovariectomized mice exhibited estrogenic activity.[48, 49]

Shatavari is *Vata Shamak* due to *Madhuravbk Rasa, Snigdha* and *Guru Guna.*[50] Asparagus racemosus is well known for its phytoestrogenic properties and use as a hormone modulator demonstrated the inhibitory action of Asparagus racemosus on DMBA-induced mammary carcinogenesis in rats.[51] A drug prepared from Asparagus racemosus (about 85 parts), patented has been shown to be effective in the treatment of PMS in human females who experience adverse symptoms.[52] A study observed a clinical physiological effect of AR on female genital organs and an antioxytocic action on uterine muscle and mammary gland.[53]

Asthishrinkhala is *Vata Shamaka* due to its *Madhura Rasa* and *Vipaka* and *Ushana Virya*.[54] Phytoestrogen-rich fraction (IND-HE) of *C. quadrangularis* exhibits mild to moderate estrogenic activity.[55] IND-HE therefore stands a chance as a potential candidate for hormonal replacement therapy in postmenopausal woman.[55]

Methica is specially *Vata Shamaka* due to its *Snigdha Guna* and *Ushana Virya* and effective on *Agnimandhaya* due to its *Agni Deepti* effect.[56] The Trigonella foenumgraecum seeds contain considerable amount of isoflavones, lignans and coumestrol.[57] A study showed that the administration of *T. foenum-graecum* improves metabolic features and corrects inflammatory alterations associated with ovariectomy and thus has a potential for management of menopause.[58]

Nagara is *vata Shamaka* due to its *Snigdha* and *Guru Guna*, *Madhura Rasa* and *Ushana Virya* and also show *Agnideepti effect*.[59]It displays anti-inflammatory,[60] antioxidant[61, 62] and analgesic[63] properties.

CONCLUSION

- Menopause is one of the most significant events in a woman's life and brings in a number of physiological changes that affect the life of a woman permanently.
- Majority of menopausal women experienced joint and muscular discomfort (86%) and physical and mental exhaustion (81%).
- Post-menopausal syndrome may be correlated with *Rajonivritijanya Lakshana* in *Ayurveda*.
- This condition is associated with *Agnimandhaya* and *Vata Vraddhi*.
- According to *Ayurveda Sodhana* therapy is best for *Agni Deepti, Bala, Pusthi* and to delay ageing.
- *Taila* is best treatment for *Vata Vraddhi* hence *Brimhana Sneha* with *Ketaki-Rasonadi Taila* is done.
- Ingredients of *Amritadi Ghanavati* are *Rasayana, Vata Hara* and *Deepaniya* in Nature. And all Ingredients of *Brimhana* and *Amritadi Ghanavati* are having phytroestrogenin antioxidant and anti-inflammatory in nature.

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