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Research Article

AN INTERVENTION STUDY TO ASSESS THE PHYSIOLOGICAL EFFECT OF *MUDGA*, A *NITHYOPAYOGIDRAVYA* ON POSTMENOPAUSAL WOMEN

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ABSTRACT

In the present study, the effect of *mudga*, a *nithyopayogidravya* on postmenopausal women was investigated. For this, 30 postmenopausal women between the age 45-55 years were selected. Data including basic details, *prakriti, agnibala*etc were collected. Scoring was done with internationally accepted Menopause Rating Scale (MRS). Women who score above 25 in MRS were selected for the study. Their Serum Estrogen was quantitatively assessed using CLIA(Chemi-Luminescence Immuno Assay) method. They were instructed to consume 50gm of steamed *mudga* for a period of 30 consecutive days at night. Reassessment of MRS and Serum Estrogen was done immediately at the end of 30days and the results were analyzed statistically. The analysis showed a significant reduction in the score of MRS. Also *mudga* enhanced the level of Serum Estrogen of the study sample. *Mudga* when included in diet showed to be more effective in reducing hot flashes, sleep problems, dryness of vagina and joint and muscle discomforts. So use of *mudga* can give a dietary support for the postmenopausal women.

Keywords: Mudga, Rajonivritti- Menopause, Menopause Rating Scale (MRS), Estrogen.

INTRODUCTION

Ayurveda, 'the science of life' offers physical, mental and spiritual wellbeing of the human population. It is not only a system of medicine, rather a way of life. In the present scientific era, people are fed up with the side effects and after effects of the most effective and fast acting modern medicines, which tend to lower the immunity at the same time when they are suppressing the disease. The use of naturally available substances to relieve the ailment by men as well as animals is as old as commencement of life. *Ayurveda* is becoming more and more acceptable globally as it is considered as toxic free, echo-friendly with its holistic approach. It emphasizes mainly on health rather than cure of disease.

In Indian philosophy, during the evolution of universe, woman is extremely worshipped as '*janani*' due to her power of reproducing. The health of the family revolves around the health and wellbeing of woman, thus producing a healthy universe.

Ayurveda does not give any description about signs and symptoms of menopause. *Susruta* has mentioned it as a *jarapakwaavasta* of the body. He also mentioned the menopausal age as 50years. In most developed countries hormone replacement therapy (HRT) is often recommended to put off the upsetting symptoms connected with menopause. They are used to replace the deficient estrogen and progesterone in order to ease the symptoms. But recent studies has showed that HRT is associated with some adverse effects such as breast cancer, cardiovascular accidents etc. Hence, most of the medical authorities came forward to advise the women and their family about the natural way to manage their menopausal symptoms.

There are advanced studies which explored the presence of phytohormones to manage most of the hormonal imbalances in the body. *Ayurveda*, the science of life adopt a natural way to manage most of the bodily ailments. *Acharyas* has mentioned a list of *dravyas* which should be used regularly for the maintenance of health and prevention of diseases. *Mudga* (green gram-Vignaradiata (Linn.)Wilczek) is one among these *nithyasevaniyadravyas*[1]. Recent studies have explored the presence of isoflavones, a group of phytoestrogens in green gram. They supposed to act somewhat like selective estrogen receptor modulators (SERMs). Thus alleviates the symptoms associated with menopause by restoring the hormonal balance.

The term *rajonivritti* is derived from words '*raja*' and '*nivritti*' meaning cessation of *artavapravritti*.

According to Susruta and various other acharyas, the age of rajonivritti is 50years due to kshaya of all dhatus in

jaraavasta[2]. This age of rajonivritti actually lie in between praudaavasta and vriddhaavasta division of woman's lifespan.
As *rajonivritti* is a *swabhavikavyadhi* and according to *Charaka*, 'by nature it is incurable'[3]. But Chakrapani had commented about it as the word 'nishpratikriya' means ordinary treatment modalities have no effect on ageing(rajonivritti), but it is yapya ie, person can live with disorder without any disturbance by it; by using rasayana.
Menopause is defined as permanent cessation of the ovarian function. The diagnosis of menopause is retrospective following a period of amenorrhea consecutively for 6months or 12months. It signals the end of fertile phase of a woman's life. The transition from reproductive to non-reproductive is due to the reduction in female hormone production by the ovaries.
The term postmenopause can be applied to women who do not experienced a menstrual bleed for atleast 12months assuming that they still have uterus, not pregnant or lactating.

AGE OF MENOPAUSE

It is somewhat difficult to designating the exact age of menopause. Generally menopause occurs in midlife in late 40s and early 50s.On the basis of various cross-sectional studies, it can be taken that the age of menopause ranges between 45 to 55 years, average being 50 years, varying from 47 to 51years.
A woman experiences a decline in the female hormones estrogen and progesterone during menopause. Ovulation stops because the ovaries do not contain any more eggs. Progesterone levels decline dramatically, as there is no corpus luteum to produce the progesterone. But menopause is mainly an outcome of estrogen deficiency, due to diminution and resistance of primordial follicles of ovary to the rising levels of gonadotrophins. The role of other hormones like, progesterone, FSH, LH are inevitable in menopause.

SYMPTOMS OF MENOPAUSE

Physical symptoms	Psychological symptoms
Hot flashes	Disturbance in sleeping
Night sweats	Depressive moods- feeling down, sad, on the verge of tears
Irregular Heartbeats- heart racing	Irritability, Anxiety
Change in sexual desire and satisfaction	Decrease in performance
Urinary incontinence, difficulty in urinating, frequency of urination	Loss of concentration
Dryness of vagina, burning of vagina	Impaired memory
Difficulty in sexual intercourse	Loss of self confidence
Joint and muscular discomfort	

DIAGNOSIS OF MENOPAUSE

A woman declared to have attained menopause only retrospectively.

1. Cessation of menstruation for six consecutive months during climacteric
2. Appearance of menopausal symptoms
3. Vaginal cytology showing maturation index of at least 10/85/5 (features of low estrogen)
4. Serum estradiol: <20pg/ml
5. Serum FSH and LH: >40mIU/ml (three values at weeks interval)[4].

RESEARCH QUESTION

Whether *mudga*, a *nithyopayogidravya*has any physiological effect on postmenopausal women?.

OBJECTIVE

To study the physiological effect of *mudga*, a *nithyopayogidravya* on postmenopausal women.

MATERIALS AND METHODS

Samples of *mudga* were collected from the local market. Best quality of mudga was identified with the help of faculties of Dept of Dravyaguna. *Mudga* was then packed in clean food grade packets as 48-50gm per packing.

Rationale for selecting mudga

- *Mudga* is an easily available pulse in the locality.
- It is a familiar ingredient of the diet used by the population.
- Nutritional need of middle class community is moreover satisfied by *mudga*.
- As such *mudga* can be used in all age groups by converting it in to various formulations.

Dose of administration

As per *Chakrapani*, the most popular commentator of *Charakasamhita* has explained in the second chapter of*Sutrastana* that "*veeryapradhanamoushadhadravyam, rasapradhanamaharadravyam*." Also in the same context, he has mentioned the dose of *rasapradhanaaharadravya* as 4 *pala* and *veeryapradhanaoushadha* as 1 *pala*, ½ *pala*and 1 *karsha*[5].
As *Aharamatra* has been mentioned as 4 *pala*, the dose of *mudga* has been fixed as 1 *pala* which is incorporated along with the *ahara* and administered once per day. Also *Charaka* has described that *aharamatra* depend on *agnibala*[6]. Further, *Charaka* has mentioned that *mudga* is a *laghudravya* which is *vayu-agnibahala*, and are by nature stimulants of *agni*[7]. In the same context, it is said that though *laghudravya*, excessive intake is not prescribed as it may hamper the *agni*[8]. Hence the dose of *mudga* administered is kept as 1 *pala* (around 50gm) itself and the dose of *ahara* which is taken along with *mudga* is altered as per *agni* of the person.

INSTRUCTIONS

In order to avoid mistakes in the administration of *mudga*, a printed copy of instructions were given to the study subjects. It consists of directions for preparing and consuming steamed *mudga*. All these details were explained in the regional language.

DAILY DIET CHART

A daily diet chart is given to the subjects. It contained columns to mark the daily consumption of *mudga* along with other food. It was to ensure the consumption of *mudga* and to check the consumption of phytoestrogens containing other food materials in their diet. They are requested to fill the chart daily as per their convenience.

MENOPAUSE RATING SCALE (MRS)

The menopause rating scale (MRS) is a health-related quality of life scale, developed in Germany (by The Berlin Center for Epidemiology and Health Research) in the early 1990s[9]. Its intent is to measure the severity of aging-symptoms and their impact on the quality of women's lives.

Menopause rating scale is a screening tool widely used internationally. MRS is a self administered tool and it consists of 11 items categorized into three subscales, ie. sweating/ hot flashes, heart discomfort, sleep problems, joint and muscle problems, categorized as somato-vegetative symptoms; depressive mood, irritability, anxiety, and physical/mental exhaustion, categorized as psychological symptoms; and sexual problems, bladder problems, and vaginal dryness, categorized as urogenital symptoms. Severity was rated and scored as none (0 points), mild (1 point),moderate (2 points), severe (3 points), and very severe (4 points). The total score possible ranges from 0 to 44. Scores ranging from 0–4, 5–8, 9–15, and 16+ were used to rate the perceived menopausal symptoms as none/minimal, mild, moderate, and severe, respectively[10].

INVESTIGATIONS

Serum Estradiol- Chemiluminescence Immunoassay (CLIA)

Expected values of Serum Estradiol

	Stage	Normal range (pg/ml)
Male		0-39.8
Female	Follicular phase	19.5-144.2
	Midcycle	63.9-356.7
	Luteal phase	55.8-212.2
	Postmenopausal	0-32.2

DETAILS OF INTERVENTION

Process of data collection

Before the study the bio-data of all the subjects were collected using a proforma which is provided along with the scale. The test reports of each subject were recorded in the proforma.

The study procedure

The study was conducted among postmenopausal women in and around Govt. Ayurveda College, Kannur. Postmenopausal women between the age group of 45-55years who scored above 25 out of 44 in MRS were selected and collected a written consent from them in their regional language. Their serum estrogen (E2) level was quantitatively assessed. All the necessary information including bio-data and vital data are collected using the proforma.

After the initial assessment, the women were given the study kits which include 30 packets *mudga* -50gms each, diet chart, instructions for the preparation and consumption.

The subjects were instructed to consume 50gms of steamed *mudga* between 6pm and 7pm every night. They were directed to mark the diet chart regularly. The duration of intake was for 30days. The subjects were instructed to stop the intervention if she suffers from any discomfort. Regular follow up was done via phone on every third day.

MRS scoring and Serum estrogen (E2) assessment were done again on 31st day of administration.

Schedule of administration

After the first scoring and quantitative assessment of estrogen, *mudga* was given to the postmenopausal women. The time of administration was fixed in between 6pm and 7pm as it may not alter their daily diet pattern.

OBSERVATION AND ANALYSIS

Distribution according to age

Majority of the subjects selected in the present study belongs to age group 51-55years, i.e 76.67%, where as 23.33% of subjects were between age group 45-50years.

Distribution according to age of menarche

Majority of the subjects were having menarche between 12-16years, 26.67% were got menarche after 16years and none were having menarche below the age of 12years

Distribution according to interval menstrual cycle

50% of the subjects were having menstrual cycle with an interval of 29-32days, 33.33% were with menstrual interval of 28days, 13.33% were having menstrual interval <28days and only 3.34% were with menstrual interval of more than 32days.

Distribution according to duration of menstruation

53.33% of the subjects were having menstruation for 5days, 43.33% were with menstruation for less than 5days and 3.34% were with more than 5days of menstruation.

Distribution according to age of menopause

Majority of the subjects (76.67%) had menopause at the age between 47-53years and 23.33% had at the age between 41-46years. None were reported early menopause.

Distribution according to dehaprakriti

All of the subjects included in the study were having dwandwajaprakriti. Majority of the subjects were with vatapittaprakriti- 66.67%, 30% were with kaphapittaprakriti and 3.33% were with vatakaphaprakriti.

Effect of intervention on hot flashes

The mean value of MRS for hot flashes before trial was 3.2333 with standard deviation 0.97143. After trial the mean value was changed to 2.8667 with standard deviation 0.16424. The P value observed is 0.003 ($P<0.05$), which suggests that the change is statistically significant.

Effect of intervention on heart discomfort

The mean value of MRS for heart discomfort before trial was 0.9667 with standard deviation 0.80872. After trial the mean value was changed to 1.0333 with standard deviation 0.80872. The P value observed is 0.161 ($P>0.05$), which suggests that the change is statistically not significant.

Effect of intervention on sleep problems

The mean value of MRS for sleep problems before trial was 2.333 with standard deviation 1.06134. After trial the mean value was changed to 2.1000 with standard deviation 0.95953. The P value observed is 0.032 ($P<0.05$), which suggests that the change is statistically significant.

Effect of intervention on depressive mood

The mean value of MRS for depressive mood before trial was 2.9667 with standard deviation 0.14765. After trial the mean value was changed to 2.9000 with standard deviation 0.80301. The P value observed is 0.326 ($P>0.05$), which suggests that the change is statistically not significant.

Effect of intervention on irritability

The mean value of MRS for irritability before trial was 3.0333 with standard deviation 0.55605. After trial the mean value was changed to 2.8667 with standard deviation 0.62881. The P value observed is 0.057 (P>0.05), which suggests that the change is statistically not significant.

Effect of intervention on anxiety

The mean value of MRS for anxiety before trial was 2.4000 with standard deviation 0.17019. After trial the mean value was changed to 2.2667 with standard deviation 0.82768. The P value observed is 0.161 (P>0.05), which suggests that the change is statistically not significant.

Effect of intervention on physical and mental exhaustion

The mean value of MRS for physical and mental exhaustion before trial was 3.1000 with standard deviation 0.60743. After trial the mean value was changed to 3.1333 with standard deviation 0.57135. The P value observed is 0.662 (P>0.05), which suggests that the change is statistically not significant

Effect of intervention on sexual problems

The mean value of MRS for sexual problems before trial was 2.7333 with standard deviation 1.01483. After trial the mean value was changed to 2.5667 with standard deviation 1.165511. The P value observed is 0.258 (P>0.05), which suggests that the change is statistically not significant.

Effect of intervention on bladder problems

The mean value of MRS for bladder problems before trial was 2.3667 with standard deviation 0.96431. After trial the mean value was changed to 2.5000 with standard deviation 1.10641. The P value observed is 0.211 (P>0.05), which suggests that the change is statistically not significant.

Effect of intervention on dryness of vagina

The mean value of MRS for dryness of vagina before trial was 2.5333 with standard deviation 1.07425. After trial the mean value was changed to 2.3333 with standard deviation 0.92227. The P value observed is 0.031 (P<0.05), which suggests that the change is statistically significant.

Effect of intervention on joint and muscle discomfort

The mean value of MRS for joint and muscle discomfort before trial was 2.9333 with standard deviation 0.63968. After trial the mean value was changed to 3.1667 with standard deviation 0.974664. The P value observed is 0.006 (P<0.05), which suggests that the change is statistically significant.

Effect of intervention on total menopause rating scale (MRS)

The mean value of total MRS before trial was 28.5667 with standard deviation 2.32947. After trial, the mean value was decreased to 27.7333 with standard deviation 2.50425. The P value observed is 0.035 which is <0.05. So the change is statistically significant at 95% confidence level.

Effect of intervention on Serum Estrogen level

The mean value of Serum Estrogen level before trial was 16.2287 with standard deviation 2.83122. After trail the mean value of Serum Estrogen level was increased to 17.2140 with standard deviation 2.45636. The P value observed is 0.010 which is <0.05. Hence it suggests that the change is statistically significant at 95% confidence level.

DISCUSSION

Jara and *rajonivritti* are manifested due to progressive reduction in the functional ability of *agni* which results into an inadequate tissue nutrition. Though *rajonivritti* is physiological phenomenon but due to the rapid migration, stress, strain, hurry-worry, repeatedly leads to *dhatukshayavasta* which stimulates the ageing process in early age.

In ancient world, through the *dinacharya* and *ritucharya*; the codes of conduct for a physical and psychological wellbeing-the population including the women was free of diseases. Perhaps, due to these reasons the incidence of *rajonivrittiavastajanyalakshanas* was very less in that time.

The physiology of menopause get altered due to the changed life style of the women and results in increased physical, psychological and emotional stress and strain which disrupts the hypothalamo-pituitary-ovarian axis leading to many health problems.

According to Ayurveda, rajonivritti belongs to *parihani* period which leads to physiological *vatavriddhi*. On analysis, it is clear that the symptoms of menopause are more nearer to *vatavriddhi* symptoms. As reproductive period between 16 to 50 years is dominated by *pitta*, the transition from reproductive to unproductive, i.e *pitta* to *vata* is responsible for menopausal symptoms.

Further health is the outcome of equilibrium of all the three bio-energies; *vata*, *pitta* and *kapha*, the transition from *youvana* to *varddhakya* which causes in-equilibrium of *doshas* which in turn leads to different symptoms in the body.

The range of symptoms in *rajonivritti* is wide and they vary with each *dosha*. Aggravation all the five subtypes of *vata* can be seen in the development of various symptoms associated with menopause. Derangement of *agni* also contributes to the manifestation of postmenopausal symptoms.

Hot flashes: - Hot flashes are caused by derangement of *agni* which happens at the site where *samanavayu* resides. *Vyanavayu* pushes the abnormal *agni* through peripheral blood vessels. Thus heat suddenly rises and dissipates quickly. So they are the accumulated hot effects of *pitta* which is disturbed next to *vata* during menopause.

According to physiologists, hot flashes can be attributed to fluctuating temperature regulation by hypothalamus.

Excessive sweating: -Flushing of the heat through the peripheral blood vessels of the head and neck allows more blood to shift to these areas resulting in excessive sweating. The vitiated *vyanavata* acts along with *dravaguna* of *pitta* which influences the *rasadhatu* which results in the manifestation of excessive sweating. *Medodhatwagnivaishamya* can be attributed to excessive *swedapravritti* as *sweda* is the *upadhatu* of *medas*.

Heart discomforts: - Palpitation, heart skipping and heart racing are manifested in menopausal women. These symptoms are manifested due to the influence of vitiated *prana* and *vyana* on *rasadhatukshaya*. Accumulation of *ama* due to the derangement of *agni* is the root cause for the heart diseases.

Disturbed sleeping: - During and after menopause, hot flashes and night sweats as well as worry, anxiety and palpitation can result in difficulty in sleeping. Due to these effects, functions of *pranavata* disrupt which in turn distracts the function of *kapha* which has influence on *rasadhatu*, results in disturbed sleep. Also *nidranasa* is a lakshana of

generalized *vatavriddhi*. Moreover, lack of sleep results in poor concentration, irritability and mood swings.

Psychological symptoms: - Vitiated *vyana* and *udana vata* act along with vitiated *pitta* results in *ojovisramsa*, affects the functions of *smriti* thus manifests as psychological symptoms such as anger, mood swings, irritability, anxiety, physical and mental exhaustion. *Kshaya* of *kapha* and *rasadhatu* also results in both physical and mental exhaustion such as decrease in the performance, concentration and impaired memory.

Physiological *vatavriddhi* along with the *jaravasta* vitiates *raja-tamobhavas* of *manovahasrotas* results in the manifestation of psychological symptoms. Due to this imbalance, *rajasabhavas* like irritability, fear, anxiety and *tamasabhavas* like lassitude, sadness, loss of memory, concentration etc dominates. Qualitative and quantitative decrease in *dhatus* and vitiated *vata* are the cause for these *manasikavikaras*. Also *vata* is *niyantapraneta of manas* ie, controller and stimulator of mind, the physiological variation in *vata* causes alteration in the normal functions of *manovahasrotas* resulting in *manasikavikaras*.

Modern science attributes reduced levels of Serum Estrogen for the appearance of psychological symptoms of postmenopausal women. Normally estrogen maintains the level of cortisol which helps to withstand stress. Hence during postmenopausal period deficiency of estrogen disrupts the effective regulation in the level of cortisol which adds to the manifestation of psychological symptoms.

Bladder problems: - Urinary frequency and incontinence of urine are due to the vitiation of *apanavata* associated with *kshaya* of *rasadidhatus* especially *mamsadhatu* at its functional aspect during *jaravasta*. Due to the decrease in estrogen level along with the advancement of ageing process, thinning and atrophy of the bladder musculature occurs. These changes results in urinary incontinence and increased urgency for urination.

Sexual problems: - Vitiated *prana*, *vyana* and*kshaya* of *kapha* and *rasa* affects the *manovahasrotas* which changes the desire for sex, thus results in sexual problems.

Other factors of sexual function may be affected by menopause because of changes in sensory perception, central and peripheral nerve transmission and discharge, peripheral blood flow, and the capacity to develop muscle tension in response to the loss of estrogen.

Dryness of vagina and dyspareunia: - Are manifested as a result of vitiated *apanavata*. Also generalized *kaphakshaya* adds to the decrease in *jalatwa* of *kapha* results as dryness of vagina and dyspareunia.

Decreased estrogen levels can cause thinning and atrophy in vaginal tissue. The cells of the vagina become deficient in a carbohydrate substance called glycogen results in the reduction of the protective secretion of acid, which disrupts the acid/alkaline balance of the vagina. The vagina loses its texture, and becomes smoother and less lubricated. This can lead to itching, increased susceptibility to infections, less interest in sex and dyspareunia.

Joint and muscle problems: - Results due to the effect of vitiated *vata* and *kshaya* of *sleshakakapha*. Women sometimes complain of numbness, cramps etc due to the influence of *vyanavata* on *rasadhatu* of *twak*.

Joint and muscles problems are mainly the resultant of *ama* which can be compared to the accumulation of free radicals which causes *srotorodha*. They are formed in the body due to derangement of the *agni* resulting in faulty metabolism. The free radicals in turn cause oxidative damage which results in degenerative changes in the connective tissues of the body.

Estrogen stimulates the generalized metabolic processes of the body. So estrogen deficiency in postmenopausal period leads to incomplete metabolic pathway which sediments various byproducts and toxins such as free radicals in the tissues which in turn destroy normal structural and functional integrity of different body systems resulting into degenerative changes.

As *rajonivritti* is a biomarker of ageing, dominated by *vatadosha*, majority of the symptoms are due to physiological increase in *vata*. The action of a *dravya* depends upon the *panchabhoutikasanghatana* and ultimately *rasadipanchaka*. Most of the *Acharyas* considered *mudga* as *kashaya, madhura rasa*; *laghu, ruksha, visadaguna*; *seetavirya* and *katuvipaka* having *kaphapittahara* and does not exclusively generates *vata*. On thorough analysis, it can be seen that the *rasadipanchakas* of *mudga* obey the rule of *vichitrapratyayarabdha* though it is not included in that group. Also *mudga* is considered as best among *samidhanyavarga*.

The physiological action of the *mudga* can be interpreted in two ways: to improve the *dhatuprasadaamsa* and to balance the *three doshas*.

Due to its *kashayamadhura rasa*, *mudga* will never increase *vata* to certain level which manifest as serious problems of menopause. Further *mudga* is *kaphapittahara*. Thus balance the three *doshas*. So the majority of the symptoms of *rajonivritti* may subside. Moreover, *agnimandhya* is also being a common manifestation of *rajonivritti*. *Mudga* due to its *deepana* action, acts on *jataragni* and relieves the symptoms of GIT such as *aruchi, ajeerna* etc. By regulating the *jataragni*, it promotes *prasasthadhatu* formation-*dhatupushti*. *Dhatupushti* results in alleviation of the symptoms of *rajonivritti*. *Mudga* is *pushtibalaprada* and *raktamutramayaghna*, so it relieves the somato-vegetative and uro-genital symptoms of *rajonivritti*. As it is known that *sareerika* and *manasikabhavas* are interrelated and affect each other, *mudga* relieves the psychological elements of *rajonivritti*.

Cooked *mudga* is easily digestible and absorbable[11] as *agnimandhya* is the basis of symptoms of menopause. It is endowed with viatmin A and B, which helps in normal cell function in GIT.

Moreover, the period after menopause is characterized by the significant reduction in the estrogen level due to the atrophic changes in the ovaries, resulting in various physiological changes in the body.

Phytoestrogens are a class of compounds found in some of the dietary herbals. Hence use of these dietary materials on a regular basis regulates the hormonal balance for this reason they are also known as dietary estrogens. *Mudga* contains phytoestrogens like isoflavone. Depending upon the target tissues and biological conditions[12], they act as both agonists

and antagonists to estrogen than the endogenous estrogen. Due to this adaptogenic effect, phytoestrogens can act somewhat like selective estrogen receptor modulators (SERMs) in both hypoestrogenic and hyperestrogenic state in the body. Thus alleviates the symptoms associated with menopause.

CONCLUSION

Tridoshas, mainly the transition from *pitta* to *vata* are involved in the physiological process of *rajonivritti* in such a way that each *dosha* takes part in the development of physical and psychological symptoms of menopause.As it is land mark of ageing, classics have considered naturally occurring diseases as *yapya*, as do *rajonivritti*. *Mudga* as a *nithyopayogidravya* contains phytoestrogens named isoflavone which act like SERMs.

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