



Research Article

EVOLUTION OF *BHRAMARI PRANAYAM* IN THE MANAGEMENT OF MENOPAUSAL SYNDROMESmita Beldar^{1*}, Kirti Bhati²¹PG Scholar, ²Associate Professor, Department of Swasthavritta and Yoga, Bharati Vidyapeeth (Deemed to be University) College of Ayurved, Pune, Maharashtra, India.**KEYWORDS:** *Rajonivritti*,
Menopause, Menopausal
symptoms, *Bhramari*
Pranayam.**ABSTRACT**

Menopause is normal physiological change and an important transition in women's life. Onset of menopause has important implication on women's fertility and health. Natural menopause is an age-related decrease in endocrine function of ovaries. Natural menopause occurs at or after age 45-55 years. Menstruation either stops suddenly or becomes irregular or less in quantity. During menopause physical, physiological and psychological changes occur. Few studies on menopausal syndrome and yoga have been carried out throughout the globe.

The study was conducted in 30 clinically diagnosed patients of Menopausal syndrome and its management with *Bhramari Pranayam*. It was observed that the patients of Menopausal syndrome are showed highly significant improvements in psychological symptoms. No adverse effects were noted in any of the patients during the trial period. Such an approach of giving yoga therapies can help improve quality of life for patients suffering from various illnesses and thus provide a big respite from mental illnesses and life stressors that disrupt the society at large in today's day and time.

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kirti.bhati@bharatividyaapeeth.edukirti4bhati@gmail.com**INTRODUCTION**

The word '*Rajonivritti*' is composed of two variable words "*Rajah*" and "*Nivritti*". The word 'Menopause' has been adopted from the Greek word '*Menos*' (month) & '*Pausis*' (cessation).^[6]

During reproductive life of females there is an adequate quantity of Follicle stimulating Hormone, Luteinizing Hormone, Oestrogen and progesterone. Few years prior to menopause, these hormones begin to fluctuate, and in most women menstrual cycle becomes anovulatory. Inadequacy or deficiency of these Hormones produces menopausal symptoms. Modern science is primly depending on hormone replacement therapy which include use of estrogens and progesterone.^[1] Women spend more than one third of their lives in the postmenopausal state. The change in the sex hormones profile, especially the decline in estrogen which plays important key role in the pathogenesis of physical and metabolic imbalances in menopausal women. Decreased progesterone, androstenedione, androstenedione, changes in other hormones such as cortisol, norepinephrine.^[2]

Menopausal syndrome includes mood changes, bloating, aches and pains, headaches, hot flushes, night sweats, tiredness, insomnia, weight gain, depression, irritability, forgetfulness, urinary frequency, dyspareunia and lack of concentration. These symptoms vary in severity and characters from person to person. Menopausal syndrome varies in severity and may decrease health related quality of life, because majority still do not take treatment for these symptoms, as most Indian women have a history of negligence. In view of increasing burden, there is a need to explore new options for the management of these symptoms. *Rajonivritti* is not described separately as a pathological condition or severe health problem in Ayurvedic classics. The ancient Acharyas termed it as a normal physiology.

The breath related exercises are also part of yoga. It has been reported by many researchers that the regular practice of Yoga is preventive, curative and recuperative. Especially, many breath exercises have been observed by researchers to be effective

in bringing good effects on autonomic functions such as parasympathetic activities and sympathetic activities.^[3]

Bhramari Pranayam in *Shanmukhi Mudra*, may play a significant role in prevention. Respiratory exercise releases nitric oxide. Nitric oxide is a gas molecule, key biological messenger playing an important role in biological processes at the cellular level. Humming increases the production of nitric oxide from sinuses and nasal mucosa and blood vessels. Humming exercise also increases the vital capacity. Because of its vasodilator effect, Nitric oxide can control the filling of nasal capacitance vessels, thus nasal airflow, nasal mucosal temperature, and humidification, hence providing air conditioning to sinuses and respiratory passage. Nitric oxide released by *Bhramari* accelerates the microcirculation of blood and *Bhramari* by vibration, declugs the tiny blood vessels of the brain and inner ear.^[4]

Need For Study

In modern days one of the most common disorders is the post-menopausal disorders and large section of population requires medical care for their various symptoms. Large numbers of woman suffering from this disorder who unsatisfied with the existing management of modern drugs. Therefore, it is essential to look for alternative treatment.

Taking into consideration of high percentage of women affected with post-menopausal disorders therefore this topic is selected for clinical study.

Further research is required to investigate whether there are specific benefits of *Bhramari Pranayam* for treating menopausal syndrome. Systematic studies in this field are scarce and hence we need to carry out a systematic study to evaluate the effect of *Bhramari Pranayam* practices on menopausal syndrome.

Aim and objective

Aim

Study the efficacy of *Bhramari Pranayam* in the management of Menopausal Syndrome.

Objective

To study the effect of *Bhramari Pranayam* in the prevention of Menopausal Syndrome.

Material and Methods

Selection of Cases

The study recruited a population of 30 clinically diagnosed patients of Menopausal Syndrome selected from O.P.D. / I.P.D. unit of P.G. Department of Swasthavritta and Yoga, Bharati

Vidyapeeth Ayurved College and Hospital, Pune. A regular record of the assessment of all patients was maintained according to Performa prepared for the purpose.

Following inclusion and exclusion criteria were used for registration of the patients for present clinical trial.

Inclusion Criteria

- Female patients of age group 45 to 55 years.
- Patients irrespective of socioeconomic status were included.
- Patients showing signs and symptoms of menopausal syndrome were included.
- Menopausal women with no side effects of HRT.

Exclusion Criteria

- Current symptomatic pelvic organ prolapsed.
- Major neurologic condition such as stroke.
- Crippling conditions like malignancy.
- Menopausal women with side effects of HRT.
- Patients with severe gynaecological disorders.

Pre-Treatment Observations

All the patients have been studied along with the registration by noting down their demographic profile including their age, sex, address, occupation, education, socio economic status, marital status, life style, addictions, dietary habits etc. After preliminary registration, patients were subjected to detailed case history taking, physical, general and systemic examinations. In history and examination importance was given to mental status examination. During this all other relevant information's like *Ashtavidha Pariksha* and *Dashavidha pariksha* including assessment of *Sharirika Prakriti* and *Manasika Prakriti* (based on the features described in classical texts) etc. were noted.

Yoga Intervention & Treatment Schedule

Duration & Treatment Schedule

Total 30 registered, clinically diagnosed and confirmed patients of Menopausal syndrome were selected for the present clinical trial.

Yoga Intervention adopted: *Bhramari Pranayam* (Standard Operative Procedure)

Sit in *Padmasana* or *Sukhasana*. Spine erect, eyes closed. *Shanmukhi mudra* is perform (plug the ears with respective fingers or thumb). Then inhale and exhale forcibly with humming or buzzing sound. Feel the sound and vibrations produced by this breathing technique. Awareness to be noted in the head making breath steady and even, and in the *Adyna Chakra*.

To be started by doing 5 to 6 repetitions gradually progressing to 10 to 15 repetitions depending on capacity of breathing.

Duration

Total duration of study was 30 days. Each patient was given practice of *Bhramari Pranayam* for 7 days. Each patient was advised *Bhramari Pranayam* for next 30 days. Patients were followed up after 7 days periodically for total duration of 1.5 months and changes, improvements, deterioration and any other effects produced after the therapy were noted down.

Criteria of Assessment

Both subjective and clinical improvements were employed for assessment of the impact of the therapy. Subjective criteria of evaluation included the observations of both patients and assessment of the physician.

For Chief Somatic Complaints

Parameter	Grade 0	Grade 1	Grade 2	Grade 3	Grade 4
Hot Flashes	No hot flushes	Occasional	Daily 1-2 times and increased at the time of stress but do not disturb the routine work	Daily more than 5 - 6 times even without any stress and feeling disturbance in routine work	Appearance of hot flushes every 1 - 3 hourly, feeling of marked discomfort due to it, and patient asks for medical help
Excessive Sweating	No sweating	Occurs only at working in hot or doing hard work	More in day time and when associated or following hot flushes only	Occurs even in night, following hot flushes and disturbs the sleep at night	Excessive sweating to the extent that patient feels like taking bath or changing clothes, moderate walking episodes at night
Fatigue	No fatigue	Fatigue occasionally on doing heavy work.	Fatigue in doing some extra work and not other wise	Fatigue in carrying out at routine work	Fatigue even without doing work
Palpitation	Palpitation	On climbing staircase	On walking small distance or excitement	Even on talking little loudly or on hearing loud voice	Feeling of palpitation at any apparent cause, may be just due to some fearing exciting or irritating thoughts
Sensation of pins and needles prick in Palms and Soles	No sensation of pin and needle prick	Occasionally sensation	Frequently in one limbs at a time. In both legs / in both hands	Daily frequent sensation of pins and needles prick in both limbs (both hands and both legs)	Daily, persisting for longer time in both hands and legs
Pain in joints	No pain in joints	Pain in any one joints	Pain in two major joints of either legs or hands, relief with time	Pain in all smaller as well as major joints, relief with painkillers	Persisting pain in joints and patient is unable to move without painkillers
Backache	No backache	Occasionally (In morning)	Daily pain in morning and then patient is alright for the whole day	Whole day & night pain persists but relieves on taking medicine	Patient becomes dependent on painkiller without it patient can't move
Loss of Appetite	Takes full diet and	Presence of moderate	Presence of moderate appetite	Presence of low appetite and delayed appearance	Persisting low appetite or frequently losing

Subjective Improvement

All the patients registered for the trial were specially asked for any changes or improvement in their growing feeling of well being if any and either physical or mental fitness produced by the therapy during the trial.

Clinical Improvement

All symptoms taken for the assessment of clinical improvements were thoroughly examined and the severity of each symptom were rated before and after the trial for clinical assessment. Efforts were made to give numerical values to all symptoms depending upon their severity before and after the treatment.

Following Symptom Rating Scales were used for this purpose; symptoms of Menopausal Syndrome were assessed before and after the therapy.

	also presence of proper appetite at the next meal hour	appetite and promote appearance of appetite in next meal hour	but delayed appearance of appetite in next meal hour.	of appetite in next meal hour	appetite and unable to consume even low diet
Flatulence	No Flatulence	Occasionally in the evening	Every day in evening any one time in whole day	Daily after any intake of food, feels fullness of abdomen and flatulence	Whole day feels tensed abdomen (feeling of gases inside abdomen)
Constipation	Daily calls, and motions are satisfactory	Daily call but stools are hard, and motions are unsatisfactory feeling of incomplete evacuative	Motions every alternative day with hard stools and feeling of incomplete evacuations	Minimum medication or household remedy is required for motion to pass and takes longer time to evacuate, unsatisfactory defecation	Regular medicine or strong purgative is required to pass the motions. At times not even passing motion with medicines
Loss of Urinary Control	No loss of urinary control	Occasionally experiences the decreased urinary control	Frequently experiences and increased after intake of excessive fluid.	Daily experiences even without excessive intake of fluid	Can't hold even small amount of urine till she could reach at toilet; and her daily routine also gets disturbed due to it.
Dryness of Vagina	No dryness of Vagina	Subjective feeling of dryness due to lack of mucoid secretion	On examination also, one may find decrease in local secretions and painful examination	Patient may feel dyspareunia due to dryness of vagina	Patient requires some lubricants for symptomatic relief

For Chief Psychological Complaints

Parameter	Grade 0	Grade 1	Grade 2	Grade 3	Grade 4
Headache	No headache	Occasionally or due to certain stimulators (i.e. excessive voice, stress etc.) and not disturbing routine work	Daily occurrence but for particular time period.	Throughout the day headache persists moderate discomfort in carrying out routine work	Persistent and recurrent headache disturbing and requires medicines for relief
Irritability	No irritability	Can control and recognize irritable situation	Uncontrollable irritation with specific cause	Uncontrollable irritation without specific cause	Throwing of things here and there, behaving unsocially due to it
Mood Swings	No mood swings or mood remain stable in all conditions	Occasional instability in mood	Mood become instable easily due to any influencing factor	Frequent instability in mood without any influencing factor	Mood never remains stable
Depression	No depression	Occasional depression	Mild presence of depressed mood every day but able to carry out routine work	Marked depression whole day, lost the interest in most things and carry out the routine work and even personal activities (like bathing, combing etc) without any interest.	Wish to be dead or suicidal ideation

Sleep Disturbances	Normal satisfying sleep	Occasional delayed sleep without waking episodes	Frequent delayed sleep with 1 -2 waking episodes	Daily delayed sleep with frequent waking episodes followed by delayed re-appearance of sleep	No sleep whole night and fatigue in morning due to it
Loss of Confidence	Can perform all works confidently	Can perform work with only a few guidelines	Can perform work with others help and proper guideline	Can start to perform the work with others help and systematic guideline but cannot complete it successfully	Cannot ready to perform work alone
Forgetfulness	Very good in recalling & remembering	Recalls and remembers with difficulty (occasionally)	Recalls and remembers with difficulty (frequently)	Delayed recalls and remembers with confusion	Unable to recall and remember
Decreased Libido	No any definite change in sexual desire	Sexual desire somewhat decreased but enjoy sexual activity at regular interval	Occasional sexual desire and that time enjoy sexual activity	No desire of sex and even perform occasionally cannot enjoy it	Complete stoppage of sexual activity

Observations and Results

Subjective Improvement

After the completion of therapeutic trial there was marked improvement in the feeling of well being, physical and mental fitness.

Clinical Improvement

Symptoms taken for the assessment of clinical improvements were thoroughly examined and the severity of each symptom and points were rated before and after the trial for clinical assessment. Efforts were made to give numerical values to all symptoms depending upon their severity before and after the treatment.

Effect on Chief Somatic Complaints:

Parameter	BT	AT	X	Percentage	Positive rank	Negative rank	Tie	Z	P Value
Hot Flashes	1.0667	0.1333	0.9333	87.50%	0	17	13	-3.758	0
Excessive Sweating	1.0667	0.1667	0.9	84.38%	0	21	9	-4.208	0
Fatigue	1.5333	0.4667	1.0667	69.57%	0	23	7	-4.355	0
Palpitation	0.9333	0.1333	0.8	85.71%	0	21	9	-4.347	0
Sensation of pins and needles prick in Palms and Soles	0.3333	0.1	0.2333	70.00%	0	7	23	-2.646	0.008
Pain in joints	0.8	0.2	0.6	75.00%	0	7	23	-2.646	0.008
Backache	0.6	0.1667	0.4333	72.22%	0	13	17	-3.606	0
Loss of Appetite	0.4333	0.1379	0.2954	68.17%	0	8	21	-2.828	0.005
Flatulence	0.6333	0.1667	0.4667	73.68%	0	14	16	-3.742	0
Constipation	0.4333	0.1333	0.3	69.23%	0	9	21	-3	0.003
Loss of Urinary Control	0	0	0	No change	0	0	30	0	1
Dryness of Vagina	0.3667	0.1667	0.2	54.55%	0	6	24	-2.449	0.014

After the completion of the course, its effect on the associated symptoms of Chief Somatic Complaints was significant.

Effect on Chief Psychological Complaints

Parameter	BT	AT	X	Percentage	Positive rank	Negative rank	Tie	Z	P Value
Headache	1.1	0.2667	0.8333	75.76%	0	20	10	-4.134	0
Irritability	1.0667	0.3333	0.7333	68.75%	0	14	16	-3.397	0.001
Mood Swings	1.1667	0.2333	0.9333	80.00%	0	20	10	-4.089	0
Depression	0.8667	0.1333	0.7333	84.62%	0	22	8	-4.69	0
Sleep Disturbances	1.9	0.3667	1.5333	80.70%	0	26	4	-4.532	0
Loss of Confidence	0.4	0.0667	0.3333	83.33%	0	9	21	-2.887	0.004
Forgetfulness	1.0333	0.1667	0.8667	83.87%	0	23	7	-4.564	0
Decreased Libido	0.6333	0.3667	0.2667	42.11%	0	6	24	-2.271	0.023

After the completion of the course, its effect on the associated symptoms of Chief Psychological Complaints was significant.

DISCUSSION

The clinical study of 30 patients carried out in the present series revealed that majority of these cases were of age between 45-55 years with *Vata pradhan Pitta prakruti* dominant in producing Menopausal syndrome.

Chief Somatic Symptoms

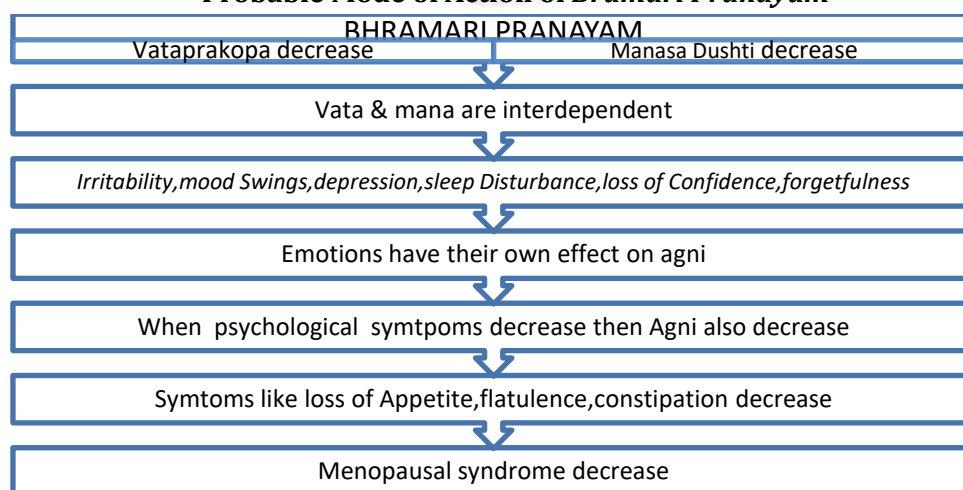
Fatigue, Palpitation, constipation, Flatulence, loss of appetite etc. reduced, because stomach, pancreas, liver, bowels and kidneys are all exercised in *Bhramari pranayam* through the massage given to them by the diaphragm and the abdominal muscles. Constipation is reduced and all the organs function better. So, symptoms like Loss

of Appetite, Flatulence, Constipation etc are affected by *Bhramari pranayam*.^[9]

Chief Psychological Complaints

Excessive Sweating, Headache, Irritability, Mood Swings, Depression, Sleep Disturbances, Loss of Confidence, Forgetfulness etc are reduced, because these all symptoms depend on *Mana* and *Mana* is a separate sense organ. Things requiring thought, consideration, hypothesis, attention, determination can be known by *Mana*. And *Vatadosha* prompts all type of actions. It restrains and impels the mental activities. *Vata* and *Manasa* are interdependent and if one is vitiated, it vitiates the other. It perturbs the mind and affects all the sense faculties. *Bhramari Pranayam* due to its action on *Manovaha srotas*, has a considerable impact in controlling and improving these symptoms.^[10]

Probable Mode of Action of Bramari Pranayam



Bhramari Pranayam reduces *Vata dosha*. *Vata* and *Mana* are interdependent on each other so it results into elevation of *Manas dosha*. So, symptoms like irritability, mood swings, depression, sleep disturbances, loss of confidence, forgetfulness etc. are reduced. Emotions have own effects on *Agni*. So, it vitiates *Agni* so symptoms like

loss of appetite, flatulence, constipation etc get reduced. Thus, menopausal symptoms diminished.

CONCLUSION

Rajonivritti is a physiological condition, but it takes *Vyadhi-swarupa* sometimes due to present lifestyle and casual approach of women towards menopause. According to contemporary point of

view, in menopause the hormonal changes are observed, FSH causes ovaries to produce oestrogen, when they slow down their production of oestrogen, the levels of FSH increase resulting in different vasomotor & psychological symptoms. Relief of symptoms like Headache, irritability, Mood Swings, Depression, Sleep Disturbances, Loss of Confidence, Forgetfulness etc is observed in the patients. *Bhramari Pranayam* has the potential to maintain physical, mental, emotional health assistances to those who practice it with proper procedures.

Therefore, it can be concluded that *Bhramari Pranayam* is very safe and effective treatment modalities and can be used effectively in the management of menopausal syndrome.

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