

Effectiveness of selected Yogasanas on Menopausal Symptoms among Menopausal Women in Kirumampakkam, at Puducherry

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Abstract: *Background: Menopause is affecting the life event of millions of menopausal women in world statistics. The main responsibility is for nurses to provide them with comprehensive medical care and to bring newer strategies to promote the support of women in India to develop health and well-being. Objectives: The objectivity of the study to assess the menopausal symptoms among menopausal women and to evaluate the effectiveness of selected yogasanas on menopausal symptoms among menopausal women and to associate the menopausal symptoms with the selected demographic variables among menopausal women. Methods: A Pre-Experimental study was done from 2nd -30th November 2017 among menopausal women in selected area with sample size of 60 by purposive sampling method. Data was collected from 60 menopausal women in a rural area of Kirumampakkam, Puducherry by using demographic variables. The selected yogasanas was administered for a period of 42 days followed by that a Post-test was conducted. The data were analyzed by using SPSS 17. $P < 0.05$ was considered as statistically significant. Result: The findings of the study revealed that assessment of effectiveness of selected yogasanas on menopausal symptoms in the pretest and posttest group were the overall menopausal symptom pretest mean score was 21.42 with S.D 2.053 and in the post test score was 7.317 with S.D 2.325. Which was statistically highly significant difference at $p < 0.001$ level.*

Key Words: *selected yogasanas, menopausal symptoms among menopausal women*

1. INTRODUCTION:

Menopause usually occurs between the ages of 45 and 50 years. The average age is 47 years. However, it is not uncommon to see a woman menstruate well beyond 50 years. This delayed menopause may be related to good nutrition and better health. About 467 million menopausal women are present worldwide and are expected to increase to 1200 million by 2030 (WHO, 1996). The average age of menopause in western countries is 51 years, while in India it is 47.5 years according to the Indian menopause society (IMS) and the normal range for the age of 45-55 years. [3] it is likely that the proportion and absolute number of Indian women aged 45 and older will increase substantially in the coming decades. According to India's 2011 census, there were about 96 million women aged 45 and over and this number is expected to increase to 401 million in 2026. Since life expectancy at 45 is 30 years, women in India, on average, approximately 30 years could pass in the post-menopausal stage of life. Given that the post-menopausal years are associated with health risks, such as hypertension, heart disease, osteoporosis and the decline in quality of life in general, this group will present profound future challenges for the provision of public health care. The treatment of these symptoms basically involves the restoration, preservation or replacement of ovarian function. One of the methods for this is hormone replacement therapy in which estrogen is replaced with the addition of a progestogen. The other treatment modalities include ayurvedic medicines, herbal medicine, acupuncture, naturopathic and homeopathic treatment, hormonal therapy, regular weight lifting exercises, yogasanas and construction of a good support system. Yoga keeps the body and mind in good health. Women who practice yoga from their midlife period hardly notice the onset and disappearance of the menopause period. Yoga can help eliminate many of the uncomfortable physical and emotional feelings associated with menopause. [25] thus, the present community-based study was conducted to assess the effectiveness of selected yogasanas on menopausal symptoms among menopausal women in Kirumampakkam, at Puducherry.

2. MATERIALS AND METHODS:

2.1 Research design

A community based Pre-Experimental research design study was conducted from **2nd -30th November 2017** among menopausal women in rural area Kirumampakkam, Puducherry, South India.

2.2 Sample size and sampling technique

The sample calculated using open Epi version 3 for at a population size for finite population correction factor of 100 and hypothesized 90.5% frequency of outcome factor in the population as reported by a study done in reported

by a study done in representative population (p); 90.5%+/-5, confidence limits as % of 100 (absolute +/-%) is : 5%, Sample size (n) for various confidence levels - Confidence level (%) = 95% and Sample estimated was 58 and 5% dropout rate total sample size for the study was 60. the present study was done in Kirumampakkam of Puducherry, in which I selected 60 study participants using purposive sampling technique.

2.3 Selection criteria

Menopausal women with the age group of 45-55 years with menopausal symptoms, menopausal women who understand Tamil or English and women who are willing to participate were included in this study, Menopausal women who are all critically ill, menopausal women with medical disorders such as diabetes Mellitus and hypertension etc., menopausal women who were under medical treatment, women who had undergone surgical menopause were excluded from the study.

2.4 Study tool

Part I. Demographic variables (Age, Body mass index, Religion, Education, Occupation, Family income, Personal habits, Type of family, Level of activity, Dietary pattern Marital status, Specific health practices, Alternative therapies).

Part II. Menopausal rating scale was used to assess the level of menopausal symptoms. It consists of Psychological symptoms, Somato vegetative symptoms, Urogenital symptoms items that assess the level of menopausal symptoms among menopausal women.

Scoring key:

Psychological symptoms: 0 to 16 scoring point (4 symptoms: depressed, irritable, anxious, and exhausted)

Somato vegetative symptoms: 0 to 16 points (4 symptoms: sweating/ flush, cardiac complaints, sleeping disorders, joints and muscle complaints.

Urogenital symptoms: 0 to 12 points (3symptoms: sexual problems, urinary complaints, and vaginal dryness)

It consists of 11 symptoms and scoring points. The total score of menopausal Rating Scale ranges between 0 (asymptomatic) and 44 (highest degree of complaints)

The symptoms are divided into 5 categories- no symptoms/ asymptomatic, mild, moderate, marked, severe symptoms. According to the score it is categorized as

SCORE	CATEGORY
below1 (0)	Asymptomatic
1-11	Mild symptoms
12-22	Moderate symptoms
23-33	Marked symptoms
34-44	Severe symptoms

Maximum Score: 44

Minimum Score: 0

3. DATA COLLECTION

The demographic variables were collected by using the pre-test level of menopausal symptoms assessed by using Menopausal Rating Scale.

After the pre-test, Selected Yogasanas was administered. Menopausal women in posttest group practiced Yogasanas daily in the morning and evening for one and half hours per day. The intervention package for study group consists of selected yoga asanas. The intensive training on yoga was given to menopausal women for 5 days continuously for 1 ½ hours per day by the Investigator. After the intensive training for 5 days, the menopausal women practiced yoga at home on their own for 35-40 mints per day along with group yoga practice for 7 days in a week under supervision of investigator till 4 weeks. The menopausal women have followed the yoga practice chart which is as follows.

INTERVENTION PACKAGE	YOGA PRACTICE	ROUNDS	DURATION (MINUTES)
YOGA ASANAS	BADDHAKONA ASANA	5	5
	CHATUS PADA ASANA	5	5
	SADANTA PRANAYAMA	6	5

	BRAHMARI PRANAYAMA	5	5
	SHAVA ASANA	9	10
	PRANAVA PRANAYAMA IN SHAVASANA	3	5
TOTAL DURATION			35-45 MTS

4. ETHICAL CONSIDERATION:

The protocol of the research study was submitted to the Institutional Ethics Committee, and the study was initiated after getting approval from Institutional Ethical Committee. Informed consent in local language was obtained from every interviewee.

5. STATISTICAL ANALYSIS:

The collected data were entered into Statistical Package for the Social Sciences version 20.0 and checked for any duplicate or erroneous entry. Descriptive statistical methods like numbers, frequency, percentage distribution, means and standard deviation were analyzing the demographic variables.

Inferential statistical methods like t-test and Wilcoxon was used to determine the effectiveness of selected yogasanas. Chi-square test were used to associate the selected variables with the effectiveness of selected yogasanas and P<0.05 was considered as statistically significant.

6. RESULTS:

This study was conducted among 60 participants among which higher proportions of the menopausal women majority 35(58.3%) were in the age group of 45-50years, with regard to the body mass index, majority 45(75.0%) were 18.5-24.5, considering the religion, majority 47(78.3%) were Hindu, considering the education, majority 15(25.0%) were non literates, with regard to the occupation, majority 37(61.7%) were Housemaker, considering the family income per month in rupees majority of 26(43.3%) were 5001-10,000, regarding the personal habits, majority of 45(75.0%) were belongs to none of the habits, regarding the type of family, majority of 45(75.0%) were joint family, considering the level of activity, majority of 44(75.0%) were mild activity, regarding the type of diet, majority of 56(93.3%) were non-vegetarian, considering the marital status, majority of 56(93.3%) were married, regarding the specific health practices, 60(100%) were none, regarding the alternative therapies, 60(100%) were none.

In present study assessment of menopausal symptoms shows that in the pretest group with regard to psychological symptoms majority of 59(98.33%) had very severe symptoms and, in posttest group majority of 55(91.67%) had moderate symptoms. Considering the somato vegetative symptoms in pretest group, majority 47(78.33%) had severe symptoms and, in posttest majority of 55(91.67%) had moderate symptoms. Regarding urogenital symptoms in pretest group, majority of 35(58.33%) had very severe symptoms and in posttest group majority of 30(50.00%) moderate symptoms.

(a)The mean systolic blood pressure in pretest was 120.3 and posttest was 110.57, the test ‘t’ value was 8.622 and the p value was < 0.001.

(b) The mean diastolic blood pressure in pretest was 78.45 and posttest was 73.5, the test ‘t’ value was 5.722 and the p value was < 0.001.

(c) The mean mean arterial pressure in pretest was 92.39 and posttest was 85.84, the test ‘t’ value was 7.470 and the p value was < 0.001. The obtained p value was <0.001, is highly significant for the pretest and posttest value.

Assessment of effectiveness of selected yogasanas on menopausal symptoms shows that in the pretest and posttest group, the overall menopausal symptom pretest mean score was 21.42 with S.D 2.053 and in the post test score was 7.317 with S.D 2.325. which was statistically highly significant at p<0.001 level.

Assessment of association between menopausal symptoms and demographic variables of the menopausal women reveals that none of the demographic, obstetrical & gynecological variables were significantly associated with physiological, psychological symptoms and somato-vegetative symptoms of menopausal women in posttest group.

Table 1: Frequency and percentage distribution of pretest level and posttest level of menopausal symptoms

SYMPTOMS	PRETEST		POSTTEST		TOTAL	
	n	%	n	%	n	%
Psychological symptoms						

Mild	0	0.00	0	0.00	0	0.00
Moderate	0	0.00	55	91.67	55	91.67
Severe	1	1.67	5	8.33	6	10.00
Very Severe	59	98.33	0	0.00	59	98.33
Somato vegetative symptoms						
Mild	0	0.00	0	0.00	0	0.00
Moderate	7	11.67	55	91.67	62	103.33
Severe	47	78.33	4	6.67	51	85.00
Very Severe	6	10.00	1	1.67	7	11.67
Urogenital symptoms						
Mild	0	0.00	1	1.67	1	1.67
Moderate	0	0.00	30	50.00	30	50.00
Severe	25	41.67	29	48.33	54	90.00
Very Severe	35	58.33	0	0.00	35	58.33

Table 2 : Comparison of pretest and posttest level of mean and standard deviation of Systolic Blood Pressure, Diastolic Blood pressure and Mean Arterial Pressure among menopausal women with menopausal symptoms.

VARIABLES	TEST	MEAN	SD	SE	T-TEST	P VALUE
SYSTOLIC BLOOD PRESSURE	PRE	120.3	5.958	0.769	8.622	<0.001*** (HS)
	POST	110.57	9.61	1.241		
DIASTOLIC BLOOD PRESSURE	PRE	78.45	6.015	0.777	5.722	<0.001*** (HS)
	POST	73.5	6.594	0.851		
MEAN ARTERIAL PRESSURE	PRE	92.39	5.75	0.742	7.470	<0.001*** (HS)
	POST	85.84	7.331	0.946		

P<0.001***HS- Highly Statistically Significant

Table 3: Comparison of pretest and posttest level of menopausal symptoms among menopausal women in study group

VARIABLES	TEST	MEAN	MEDIAN	SD	WILCOXON
PSYCHOLOGICAL SYMPTOMS	PRE	10.22	10	1.091	<0.001 *** (HS)
	POST	2.283	2	0.7152	
SOMATO VEGETATIVE SYMPTOMS	PRE	5.6	5	1.509	<0.001 *** (HS)
	POST	2.65	2	1.614	
UROGENITAL SYMPTOMS	PRE	5.6	6	0.9057	<0.001 *** (HS)
	POST	2.383	2	0.8654	
OVERALL SCORE	PRE	21.42	22	2.053	<0.001 *** (HS)
	POST	7.317	7	2.325	

P<0.001***HS- Highly Statistically Significant

7. DISCUSSION:

The study findings were consistent with the study conducted by Rahman SA et al (2014) to determine the symptoms of menopause among Sarawak women using modified MRS questionnaire among 356 women aged 40-65 years and were interviewed to document 11 commonly associated symptoms with menopause. The most frequent

symptoms reported were joint pain and muscular discomfort [80.11%], physical and mental exhaustion [67.1%] and problems sleeping (52.2%), followed by hot flashes and sweating (41.6%), irritability 37.9%, dryness of the vagina (37.9%), anxiety (36.5%), depressive mood (32.6%), other complaints observed were sexual problem (30.9%), bladder problem (13.8%) and heart discomfort (18.3%).

Studies were done by Ruchi Vora conducted a study on the effect of yoga on menopausal symptoms in the early period of menopause a randomized controlled trial. Objective to study the effect of yoga on menopausal symptoms in women in the post-menopausal phase. Main outcome measures: the menopause rating scale (MRS) score with three subscale scores (somatic, psychological and urogenital) of the MRS and the menopause quality of life questionnaire (MENQOL) score were measured on the day 1 and on day 30 in the study group that performed yoga (pranayama, surya namaskar and savasana) under supervision for 4 weeks each alternate day. The scores were compared with the control group that did not perform yoga. Results: it was observed that on day 1 the scores in both groups were comparable. On day 30, the yoga group showed a statistically significant reduction in the total score of the MRS, scores on the 3 subscales of the MRS and the MENQOL score. No significant difference was observed in the control group.

This study was supported by Wenbo Peng conducted a study on yoga for menopause symptoms: a systematic review and meta-analysis 13 RCTS were included with 1306 participants. Compared to no treatment, yoga reduced total menopausal symptoms (SMD = -1.05, 95% ci -1.57 to -0.53), psychological (SMD = -0.75, 95% ci -1.17 to -0.34), somatic (SMD = -0.65, 95% ci: -1.05 to -0.25), vasomotor (SMD = -0.76, 95% ci -1.27 to -0.25) and urogenital symptoms (SMD = -0.53, 95% ci: -0.81 to -0.25). In comparison with exercise controls, only one effect was found on vasomotor symptoms (SMD = -0.45, 95% ci -0.87 to -0.04). The effects were strong against the selection bias, but not against the detection and attrition bias. There were no serious events reported. Yoga seems to be effective and safe to reduce the symptoms of menopause. The effects are comparable to those of other exercise interventions.

This study was supported by Baskaran Jayabharathi a community intervention study was conducted in selected areas in the Kattankulathur block, Kanchipuram district, Tamil Nadu, India. A simple random sampling technique was used to select menopausal women for the study. Of 260 identified menopausal women, 130 were assigned to a study group and 130 to a control group. The study group underwent yoga training for 1.5 hours per day for 5 consecutive days. After the intensive 5-day yoga training program, menopausal women practiced yoga daily at home for 35-40 minutes a day. Along with the daily practice of yoga, they underwent group yoga practice 2 days a week under the supervision of one of the researchers until 18 weeks. The standardized QOL BREF scale of the world health organization was used to assess the quality of life of women. There was an extremely high statistically significant difference ($p = 0.001$) between the study group and the control group with respect to the physical, psychological, social and environmental domains of quality of life after 6, 12 and 18 weeks of therapy yoga

This study was supported by Joshi, et.al. Conducted a study to evaluate the result of yoga on the symptoms of menopause in menopausal women. She and her colleagues randomly assigned 44 women to one of three groups. 15 had no treatment, 14 stretched with a physiotherapist twice a week and 15 participated in yoga classes twice a week. After 4 months, women in the yoga group reported fewer menopause problems than those who did nothing. Women often experience hot flashes, night sweats, anxiety and irritability during menopause, and some have trouble sleeping or feeling, research has shown that yoga reduces stress levels and slows sympathetic nervous system activity. A questionnaire rated the symptoms of menopause from 0 to 18 as mild, from 18 to 35 as moderate and from 35 and more as serious. After 4 months, women who practiced yoga had an average score of 12.4%, while women who did not have treatment had a score of 19.9%. In a sleep questionnaire from 0 to 28, with 28 being the most severe insomnia, yoga practitioners had an average score of 9.7%, while those without treatment obtained a score of 13.7%.

8. CONCLUSION AND RECOMMENDATION:

The results of the present study revealed that, there was very high statistically significant difference found in physiological symptoms, psychological symptoms and somato-vegetative of menopausal women in the study group at $p = 0.001$ level. The practice of yoga for 6 weeks had greater impact on physiological, psychological and somato-vegetative symptoms of menopausal women in study group. The present study concluded that, yoga was an effective intervention in reducing the physiological, psychological and somato-vegetative symptoms of menopausal women to a greater extent and it also improved the physiological, psychological, somato-vegetative domain of menopausal women. The maternity nurses working in hospital and community areas have great scope in advocating yoga as a complimentary therapy or an alternative method for the management of menopausal symptoms. This present study suggests that, yoga can be recommended as a non-pharmacological approach for alleviating the wide range of symptoms associated with menopause. A similar study can be performed with a large sample size with a longer duration. A comparative study between perimenopausal and postmenopausal women can be carried out. A comparative study can be performed in different hospital environments.

9. FINANCIAL SUPPORT AND SPONSORSHIP:

Nil

10. CONFLICTS OF INTEREST :

There are no conflicts of interest.

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