EFFECTIVENESS OF YOGA THERAPY ON MENOPAUSAL PROBLEMS AMONG POSTMENOPAUSAL WOMEN IN SELECTED DESTITUTE HOMES, BENGALURU, KARNATAKA

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ABSTRACT:

Menopause is a significant milestone in a woman's life which is considered as a natural biologic event. When a woman permanently stops having menstrual periods, she has reached the stage of life called Menopause. Menopause is generally reported to be a stressful life event or 'stormy transition'. Women have to spend almost one third of their life in menopause, so they should be fully prepared for this event. As the world's population ages, estimated women in menopause in India would increase from 26 million to 36 million by 2013. Menopause affects a woman's quality of life and a wide variety of symptoms are reported in women during the menopause that includes hot flushes, night sweats, irritability, depression, insomnia, head ache and body pain, decreased lubrication in the vagina, crawling sensation in the skin and inability to control urination. Yoga creates strength and flexibility in body and calms the mind. The deep breathing that goes hand in hand with asana (yoga poses) oxygenates the blood, cleansing the organs and respiratory system nourishing the nervous system. The nurse is important health care personnel who can help the postmenopausal women to cope with menopausal problems. Hence the researcher felt the need to evaluate the effectiveness of Yoga Therapy on menopausal problems among postmenopausal women in selected destitute homes, Bengaluru. Methods An evaluative research approach was used for the study. The study was carried out in a selected destitute home in Mangalore. The sample consisted of 40 post menopausal women living in selected destitute homes who met the inclusion criteria. Purposive sampling technique was used to select the samples for the study. Data collection for the main study was conducted from 16.12.2020 to 16.02.2021. Formal written permission was obtained from the authorities to conduct the study and informed consent was obtained from subjects prior to the data collection process. Forty postmenopausal women of age 45-60 years were assessed to find the level of menopausal problems by structured interview technique using standardized Menopause Rating Scale. Yoga Therapy was taught to the subjects for 1hour for 5 days per week for 4 weeks. Post test was assessed after one month of Yoga Therapy by structured interview using the same standardized Menopause Rating Scale. The data was analysed using descriptive and inferential statistics. Paired 't' test was used to find the effectiveness of Yoga Therapy and chi-square was used to find the association between the pre-interventional level of menopausal problems score and selected demographic variables. Results :The findings of the study revealed that most of the postmenopausal women 26(65%) had severe menopausal problems, 10(25%) had moderate menopausal problems and 4(10%) had very severe menopausal problems. After the Yoga Therapy most of the subjects 30(75%) had moderate menopausal problems and the remaining 10(25%) had mild menopausal problems. The maximum percentage mean reduction of menopausal problems score has occurred in the area of somatic domain (42.03%) and least reduction has occurred in the area of urogenital domain (16.46%). There is a significant association between age of the postmenopausal women ($\chi 2$ =4.095,P last menstrual period ($\chi 2$ =12.75, P and pre-interventional level of menopausal problems. Interpretation and Conclusion: The findings of this study support the need for teaching Yoga Therapy to postmenopausal women to reduce menopausal problems. Yoga Therapy is a non pharmacological, cost effective and simple intervention without any adverse effects. The results proved that the Yoga Therapy was effective in reducing menopausal problems.

Key Words: *Menopausal problems; Yoga Therapy; Menopause Rating Scale; Effectiveness; Postmenopausal women living in destitute homes; Evaluative approach.*

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INTRODUCTION

Menopause is one of the women's most important life stages. It marks the end of menstruation leading to women's aging process. It is the physiological cessation of the menstrual cycle associated with advancing age of women. It is said to be a natural process that happens to every woman as she grows older and not a medical problem, disease or illness, even though it may appear so[1].As a result of a dramatic increase in life expectancy over the last few decades, women now may live one third of their lives postmenopause[2] . As the world's population ages, estimated women in menopause in India would increase from 26 million to 36 million by the year a 2018[3].

The menopausal transition occurs at a time in a woman's reproductive life when the production of estrogen and progesterone, two hormones made by the ovaries, vary dramatically and unpredictably[2]. Menopause begins between the ages of 45 and 55, the average age being 51, about one in five women residing in India are likely to experience menopause by the age of 41, according to a study conducted by India-based Institute for social and economic change, London's Times reports[5]. Research has shown that around 20% of women report distressing symptoms at menopause, 15% do not have any problem and the remaining 65% have variation of symptoms[6].

The concept of yoga is joy and the meaning of yoga is union. Yoga is not merely a set of yogasanas or pranayama or meditation; but it is a science of holistic living consisting of a holistic value system featured by health and wealth, bliss and poise, harmony and efficiency[8]. Pranayama are particularly helpful in reducing hot flushes because it cools the body and fills it with energy and life force[9]. Irritability, depression and moodiness can be greatly eased by regular meditation, which will help to stabilize the emotions[10]. Yoga not only balances the endocrine system and regulate the hormonal and glandular changes that take place during menopause, but also conduit to more bodily and spiritual awareness for women at a time when they need it most.

MATERIALS AND METHODS

Research Approach

Evaluative research is an applied form of research that involves finding out how well a programme, practice or policy is working.

Research Design

The research design selected for this study was pre- experimental, one group pre- test post- test design. Thus only one group is observed twice, i.e. before and after introducing the independent variable. The effect of the treatment would be equal to the level of the phenomenon after the treatment minus the level of the phenomenon before treatment.

Phase I: Preparation of tool and learning Yoga Therapy.

Phase II: Eighty postmenopausal women of age 45-60 years were assessed to find the level of menopausal problems by structured interview technique using standardized Menopause Rating Scale. Yoga Therapy was taught to the subjects for one hour for 5 days per week for 4 weeks for forty members and same repeated for another forty members. Posttest was assessed after one month of Yoga Therapy by structured interview using the same Standardized Menopause Rating Scale.

Phase III: Plan for data analysis by using descriptive and inferential statistics.

Variables

Independent Variable

In this study, Yoga Therapy is the independent variable.

Dependent Variable

In this study, menopausal problems are the dependent variable.

Extraneous Variable

Extraneous variables in this study are;

- Age
- Educational status
- Last menstrual period
- Type of menopause
- Leisure activities
- Spirituality

Setting of the Study

This study was conducted in selected destitute homes in Bangalore. Pilot study was conducted in the Elders Heaven Senior Citizen Care Home, Hegdenagar, Bangalore and the main study was conducted in Sumangali Seva Ashrama, RT Nagar, Bangalore.

Population

In the present study accessible population was considered to be all the postmenopausal women between the age group of 45-60 years living in the destitute homes and experiencing menopausal problems.

Sample and Sample Size

In this study, 80 postmenopausal women in the age group of 45- 60 years who fulfilled the inclusion criteria were selected as sample.

Sampling Technique

Purposive sampling technique was used for present study. Out of the total population of 124 women 80 subjects who met the inclusion criteria were selected for the study.

Sampling Criteria

Inclusion Criteria

- Postmenopausal women in the age group of 45- 60 years.
- Postmenopausal women who were experiencing menopausal problems.
- Postmenopausal women who were willing to participate in the study.
- Postmenopausal women who could understand English/ Kannada.

Exclusion Criteria

- Postmenopausal women who had previous exposure to Yoga Therapy.
- Postmenopausal women who were undergoing Hormonal Replacement Therapy.
- Postmenopausal women who were chronically ill.

Data Collection Tool and Technique

In this study the data collection instruments used are:

1. Demographic Proforma
2. Standardized Menopause Rating Scale to assess the level of menopausal problems among postmenopausal women.

Selection and Development of the Tool

In the present study investigator used a Standardized Menopause Rating Scale developed by ZEG- Berlin center for Epidemiology and health research. The investigator obtained a written permission from the concerned authority prior to the study. The tool was developed by reviewing the literature from books, journals, articles, published and unpublished thesis and electronic media, discussion with guide and experts, investigator's self experience with the people during destitute home visit and reviewing related tools developed by others.

Blue Print

The blueprint of the Menopause Rating Scale consists of three domains-

1. Psychological domain
2. Somatic domain
3. Urogenital domain

A blue print consisted of 11 items based on three domains psychological , somatic and urogenital .The distributions of 11 items are given which shows that 4 items (36.36%) are on Psychological domain, 4 items (36.36%) are on Somatic domain and 3 items (27.27%) are on Urogenital domain.This scale ranges from 0 to 4 with responses "none, mild, moderate, severe, very severe".The direction of responses does not vary, it goes from 0 (= no, not applicable) to 4 (very severe). The weightage given for the responses is 0, 1,2,3,4 respectively. The menopausal problems are graded into 'none', 'mild', 'moderate', 'severe' and 'very severe' depending on the total score. The total score is 44.

Content Validity

Criteria check list was prepared which consist of three criteria 'strongly agree', 'agree' and 'disagree'. A remark column was provided for each item where the experts would give their suggestions and remarks The prepared tool along with the objective, blue print, criteria check list and requisition letter was submitted to nine experts. The experts were: two Obstetrician and Gynaecologist, seven nursing experts from the department of Obstetrics and Gynaecological Nursing and three yoga specialists and one Statistician .

Pre-testing of the Tool

After seeking permission from selected destitute home, the tool was tested on ten postmenopausal women who meet the inclusion criteria. The average time for the completion of the interview schedule was about 30 minutes. Tool was found feasible.

Reliability of the Tool

Reliability of the tool was carried out on ten postmenopausal women living in selected destitute home. Test-retest method was used to check the reliability of the Menopause Rating Scale to assess the level of menopausal problems. Using Spearman's Rank Correlation Coefficient, the reliability obtained for the total

scores is 0.89, somatic domain is 0.67, psychological domain is 0.87 and urogenital domain is 0.56. Hence the Menopause Rating Scale to assess the level of menopausal problems was found to be reliable.

Description of the Final Tool

Section I: Demographic Proforma

It consists of items which include variables such as age, educational status, last menstrual period, type of menopause and leisure activities.

Section II: Menopause Rating Scale (MRS)

The Menopause Rating Scale contains 11 items covering three domains i.e. 4 items (36.36%) are on Psychological domain, 4 items (36.36%) are on Somatic domain and 3 items (27.27%) are on Urogenital domain.

Description of Yoga Therapy

The intervention for the present study is Yoga Therapy for the reduction of menopausal problems.The investigator had undergone two weeks of theory and practical training during the month of October 2020. Yoga was taught to the postmenopausal women for one hour for 5 days per week for 4 weeks for 40 postmenopausal women and again one hour for 5 days per week for 4 weeks was repeated for another 40 postmenopausal women under the supervision and participation by the investigator. Covid etiquette was followed.

Pilot study

Pilot study was conducted in The Elders Heaven Senior Citizen Care Home, Hegdenagar, Bangalore from 13th November to 13th December 2020. The investigator obtained written permission from the concerned authority prior to the study

Data collection

The main study was conducted from 16th December 2020 to 16th February 2021 on 80 subjects. The subjects were selected from Sumangali Seva Ashrama. The investigator obtained written permission prior to data collection The investigator introduced herself to the subjects; the purpose of the study was explained to them. Covid etiquette was followed. Confidentiality was assured and written consent was obtained A brief introduction about yoga and its benefits were explained to the group. Covid etiquette was adopted. Yoga was taught to the postmenopausal women for one hour for 5 days per week for 4 weeks for 40 postmenopausal women and again one hour for 5 days per week for 4 weeks was repeated for another 40 postmenopausal women. On the first day three Om chanting, neck exercises, hands stretch breathing, butterfly exercises, Shavasana and Ekapada uthithasana was taught. Gradually the other Asanas, Pranayama and Meditation techniques were introduced to the subjects. After completion of Yoga Therapy under the supervision of the investigator the same Standardized Menopause Rating Scale was administered to identify the effectiveness of Yoga Therapy on the menopausal problems.

Plan for data analysis

Descriptive statistics (frequency, percentage, mean, standard deviation) and inferential statistics (paired‘t’ test, chi square) will be used for the analysis and interpretation of data. For interpretation of hypothesis and findings level of significance would be set at 0.05.

Section I: Demographic profile containing sample characteristics will be analysed by using frequency and percentage.

Section II: The level of menopausal problem score before and after Yoga Therapy will be analysed using mean, mean percentage and standard deviation.

Section III: The significant difference between pre-test and post-test menopausal problem score will be tested using paired ‘t’ test.

Section IV: Association between pre- test menopausal problems experience score and selected demographic variables will be analysed using chi – square.

RESULTS

Section I: Description of demographic data

This section deals with the characteristics of the 80 postmenopausal women in terms of frequency and percentage and are depicted in Table 1.

Table 1: Frequency and percentage distribution of subjects on selected demographic variables. N=80

Sl.No	Variables	Frequency (f)	Percentage (%)
1.	**Age (in years)**		
	45 – 48	12	15.0
	49 – 52	46	57.5
	53 – 56	14	17.5
	57 – 60	08	10.0
2.	**Educational Status**		
	Illiterate	28	35.0
	Primary school	30	37.5
	Higher primary school	16	20.0
	High school	04	05.0
	Graduation	02	2.5
3.	**Last menstrual period was before**		
	One year	38	47.5
	Two years	26	32.5
	Three years	14	17.5
	More than three years	2	2.5
4.	**Type of menopause**		
	Natural	70	87.5
	Surgical	10	12.5
5.	**Leisure activities**		
	Gardening	58	72.5
	Watching Television	20	25.0
	Reading	02	2.5

Data presented in table depict the distribution of sample according to age, education, last menstrual period, type of menopause and leisure activity.

Section II: Pre-interventional and post- interventional menopausal problems score.

This section deals with the analysis and interpretation of data to find out the pre- interventional and post-interventional level of menopausal problems. Data was analyzed using descriptive statistics and represented in tables.

Table 2: Distribution of subjects according to the grading of pre- test and post- test menopausal problems score. N=80

Range of percentage	Category	Pre- test		Post –test	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
0 – 25%	Mild	-	-	20	25
26 – 50%	Moderate	20	25	60	75
51 – 75%	Severe	52	65	-	-
76 – 100%	Very severe	08	10	-	-

Table 3: Area wise mean, standard deviation and mean percentage N =80

Sl.no	Areas	Pre- test			Post- test		
		Mean	±SD	Mean %	Mean	±SD	Mean %
1.	Somatic	11.58	2.352	72.34	4.85	1.477	30.31
2.	Psychological	11.25	2.415	70.31	7.50	1.783	46.88
3.	Urogenital	4.58	1.174	38.13	2.60	0.982	21.67
4.	Overall	27.40	4.940	62.27	14.95	3.351	33.98

Section III: Effectiveness of Yoga Therapy.

In order to find out the significance of difference between pre-test and post-test menopausal problem score, a null hypothesis was formulated and paired 't' test was computed.

Table 4: Mean, SD and 't' value showing the difference between mean pre test and post test menopausal problem scores. N=80

Variable	Mean		±SD		't' value
	Pre-test	Post-test	Pre-test	Post-test	
Over all Menopausal problem score	27.40	14.95	4.940	3.351	*19.66

T_{79}= 1.68, p< 0.05 ***Significant**

Table 5: Area wise mean, SD and 't' value showing the difference between mean pre test and post test menopausal problem scores. N=80

Areas	Mean		±SD		't' value
	Pre-test	Post-test	Pre-test	Post-test	
Somatic	11.58	4.85	2.352	1.477	*21.13
Psychological	11.25	7.50	2.415	1.783	*10.59
Urogenital	4.58	2.60	1.174	0.982	*11.15

t_{39}= 1.68, p< 0.05 ***Significant**

Section IV: Association between the pre-interventional level of menopausal problems score and selected demographic variables.

Table 6: Association between the pre-interventional level of menopausal problems score and selected demographic variables. N =80

S. No	Demographic variables	<M(28)	≥M(28)	Table χ^2	df	χ^2	Level of significance
1.	**Age in years**						
	45 - 52	9	20	3.84	1	4.095	P<0.05
	53 – 60	8	3				*Significant
2.	**Educational Status**						
	Illiterate	7	7	5.99	2	0.877	p>0.05
	Primary school	5	10				Not significant
	Higher primary/ high school/ Graduate	5	6				
3.	**Last menstrual period**						
	Before one year	2	17	3.84	1	12.75	P<0.05
	More than a year	15	6				*significant
4.	**Type of menopause**						
	Natural	16	19	3.84	1	0.365	p>0.05
	Surgical	1	4				Not significant
5.	**Leisure activities**						
	Gardening	14	15	3.84	1	0.708	p>0.05
	Watching TV/Reading	3	8				Not significant

The data represented in table 6 reveals that there is a significant association between age of the postmenopausal women ($\chi 2$ =4.095, P<0.05), last menstrual period ($\chi 2$ =12.75, P<0.05) and pre-interventional level of menopausal problems. Hence, null hypothesis was rejected and research hypothesis was accepted i.e. there is a significant association between the pre-interventional level of menopausal problems score and demographic variables (age, last menstrual period) of the postmenopausal women.

DISCUSSION & **CONCLUSION**

Major findings of the study and discussion

Section I: Description of demographic data

Majority of the postmenopausal women 46 (57.5%) were within the age group of 49 – 52 years, 14(17.5%) within the age group of 53-56 years, 12(15%) within the age group of 45-48 years and 08(10%) were in the age group of 57-60 years. Most of the respondents 30(37.5%) had primary level education, 28 (35%) were illiterate, 16(20%) were educated till higher primary level, 04(5%) had high school level education and only 02(2.5%) was a graduate. Majority 38(65%) of the respondents attained menopause before one year, 26(32.5%) before two years, 14(17.5%) before three years and only 02(2.5%) more than three years ago. Majority of the respondents 70(87.5%) attained menopause naturally and the remaining 10(12.5%) surgically (hysterectomy). Majority of the postmenopausal women's 58(72.5%) leisure activity was gardening, 20(25%) watching television and only 02(2.5%) reading books.

Section II: Pre-interventional and post- interventional menopausal problems score

In the present study pre- interventional menopausal problems score depicts that most of the subjects 52(65%) had severe menopausal problems, 20(25%) had moderate menopausal problems and only 08(10%) had very severe menopausal problems. After the Yoga Therapy none of them experienced severe and very severe menopausal problems, most of the subjects 60(75%) had moderate menopausal problems and the remaining 20(25%) had mild menopausal problems.

Section III: Evaluation of effectiveness of Yoga Therapy

The findings in the study reveal that the overall post-test mean percentage was 33.98%, the mean and SD were 14.95±3.351 which are lower than pre-test mean percentage 62.27% , the mean and SD 27.40±4.940. The present data also shows that the maximum percentage mean reduction of menopausal problem score has occurred in the area of somatic domain (42.03%) and least reduction has occurred in the area of urogenital domain (16.46%). The mean post test score (14.95) is lower than the pre- test menopausal problem score (25.40). The paired 't' test showed significant difference in the post-test menopausal problem score (t_{39}= 19.66, $p<0.05$)

Section IV: Association between the pre-interventional level of menopausal problems score and selected demographic variables.

The present study reveals that there is a significant association between age of the postmenopausal women ($\chi 2$ =4.095, P<0.05), last menstrual period ($\chi 2$ =12.75, P<0.05) and pre-interventional level of menopausal problems.

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