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A STUDY TO ASSESS THE EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION ON SLEEP QUALITY AMONG POST MENOPAUSAL WOMEN IN SELECTED COMMUNITY AREA AT SALEM DISTRICT

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ABSTRACT

Aim: The aim of this study was to assess the effectiveness of progressive muscle relaxation on sleep quality among post menopausal women in selected community area at Salem district.

Methods: The quasi-experimental one group pre and post -test control research design was selected for this study. A total of 60 post menopausal women selected by using purposive sampling technique. Individual consent both verbal and written was obtained from post menopausal women. Assessment of the pretest level of sleep quality among post-menopausal women in experimental and control group by using Pittsburgh sleep quality index in both experimental and control group. The interventions are progressive muscle relaxation on experimental group. After the interventions, 21st day, the investigator conducted posttest level of sleep quality among post-menopausal women in experimental and control group by using Pittsburgh sleep quality index in both experimental and control group.

Results: The result shows in experimental group, 10(33%) had moderate sleep problem, 13 (43%) had severe sleep problem, 7 (23%) had worse sleep problem, whereas in the control group 10(33%) had moderate sleep problem, 11 (36%) had severe sleep problem, 9 (30%) had worse sleep problem among postmenopausal women and in post test. In experimental group, 25 (83%) had mild sleep problem, 3 (10%) had moderate sleep problem, 2 (7%) had severe sleep problem, whereas in the control group 2 (7%) had mild sleep problem,11 (36%) had moderate sleep problem, 10 (33%) had severe sleep problem, 9 (30%) had worse sleep problem among postmenopausal women.

Conclusion: The study concludes that progressive muscle relaxation was more effective on improves sleep quality among post menopausal women.

Keywords: Progressive Muscle Relaxation, Post Menopausal Women, Sleep Quality.

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INTRODUCTION

Menopause is a normal physiologic process in aging women in which the number of ovarian primary follicles quickly diminishes, such that there are inadequate amounts to respond to the effects of FSH. In turn, there is no LH surge, and ovulation does not take place, resulting in the decline of estrogen production and the cessation of menstruation. Moreover, LH and FSH go uninhibited and remain at high levels years after the onset of menopause. Small amounts of estrogen may still be produced via conversion from testosterone released by the adrenal glands, such that symptoms other than the discontinuation of periods may be negligible in some individuals. **(Peacock K, Ketvertis, 2022)**

Insufficient sleep leading to increased incidences of cardiovascular morbidity, increased chances of diabetes mellitus, obesity, impaired cognitive processes, auto accidents, and a rise in occupational accidents. Teens who don't get enough sleep are more likely to be overweight and experience depressed symptoms. **(Chattu.V.K., 2019)**

NEED FOR THE STUDY

In this study progressive muscle relaxation is helps to deep relaxation and distress tolerance technique that reduce the tension and anxiety in the body and the focus intensity in stressful thoughts or anxiety. It can improve sleep quality, including sleep time, sleep interval, sleep deficiency and sleep duration.

Sleep disturbances may arise during the menopausal transition and post-menopause in association with primary sleep disorders, such as Sleep disturbance breathing, restless legs syndrome (RLS), and periodic limb movement disorder.

Though many studies are conducted in the area of sleep quality among post menopausal women, the researcher could not find any valid study to effectiveness of progressive muscle relaxation on sleep quality among post menopausal women. Hence, the researcher felt the need to assess the effectiveness of progressive muscle relaxation on sleep quality among post menopausal women in selected community area.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of progressive muscle relaxation on sleep quality among post menopausal women in selected community area at Salem District.

OBJECTIVES

1. To assess the level of sleep quality among post-menopausal women in experimental and control group
2. To determine the effect of progressive muscle relaxation on sleep quality among Post-menopausal women.
3. To find out the association between the sleep quality and selected demographic variables among Post-menopausal women.

RESEARCH HYPOTHESES

H_1 - There is significant effect of progressive muscle relaxation on improving sleep quality among

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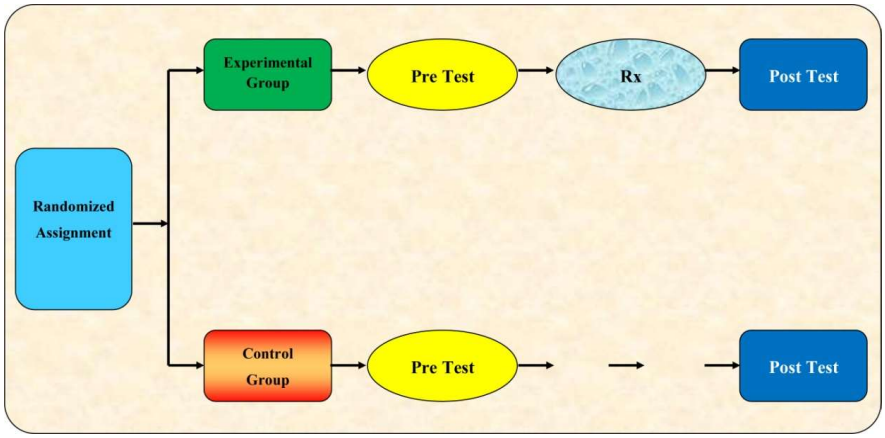
Post-menopausal women.

H_2 - There is significant association between the sleep quality of post-menopausal women and their selected demographic variables after progressive muscle relaxation.

RESEARCH APPROACH

In this study, quasi-experimental one group pre and post test control research design was used. It can be represented as diagrammatically.



SETTING OF THE STUDY

The setting of the study refers to the area where the study was conducted. The study was conducted in K.K.Nagar, Salem District.

RESEARCH VARIABLES

Dependent Variable : The dependent variable in this study was level of sleep among post menopausal women.

Independent Variable : The independent variable in this study was progressive muscle relaxation.

STUDY POPULATION

The population of the study was the menopausal women in K.K.Nagar, Salem District.

SAMPLE AND SAMPLE SIZE

The Sample size for the study was 60. Among 60 samples, 30 women were in experimental group and 30 women were in control group. The Samples were selected based on the inclusive criteria.

SAMPLING TECHNIQUE

In this study the investigator was used non-probability purposive sampling techniques.

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CRITERIA FOR SAMPLE SELECTION

The sample was selected based on the following inclusion and exclusion criteria.

Inclusion Criteria

- Menopausal women who are having the sleep level above the score 5.
- Menopausal women with age group of 45-60 years.
- Menopausal with who are willing to participate in the study.
- Menopausal women with no choronic illness

Exclusion Criteria

- Women with unnatural menopause (examples- surgical and cancer)
- Recent trauma in women's life
- Those who were taking drug for sleep
- Those who are taking hormone replacement therapy
- Those who are not available at the time of data collection

RESEARCH TOOL AND TECHNIQUE

The method and procedures employed for the collection of data are called technique and instrument used are called tool. The tool consists of two sections.

Section A: Demographic variables

It consists of demographic characteristics of menopausal women age, religion, marital status, dietary life pattern, occupational status, educational status, parity, and duration of attainment of menopause, type of family, body mass index, chronic illness, income, and type of living house.

Section B: Pittsburgh sleep quality index

It is a self report questionnaire that assesses sleep quality over a 1 month time interval. It consists of 19 individual items, creating 7 components that produce one score and takes 5-10 minutes to complete.
It is used to evaluate the sleep quality, sleep latency, habitual sleep efficiency, sleep duration, day dysfunction, sleep disturbances, use of sleep medication.

CONTENT VALIDITY

The content of the tool was established on the basis of the opinion of nursing experts in the obstetrical surgical nursing. The suggestions given by the experts were incorporated and the tool was finalized.

RELIABILITY

Reliability of the tool was tested by the investigator and other nursing experts. The reliability of the tool was determined by the test retest method. The reliability score was r = 0.84. Hence the tool was

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considered reliable for proceedings the study.

PROCEDURE FOR DATA COLLECTION

Data collection is the gathering of information needed to address a research problem. Before the data collection procedure, the researcher got permission from the Principal, Research Ethical Committee and HOD in Obstetrics and Gynaecological Nursing of Sreesakthimayeil Institute of Nursing and Research . A formal permission was obtained from the chairman of K.K.Nagar at Salem District for conducting the main study.

The investigator got the data from Primary Health Centre and selected the sample through house to household survey. The study participants were selected by purposive sampling technique. Consent was obtained from the study participants after explaining the objectives of the study. Sixty post menopausal women with sleep problems, who satisfied the inclusion criteria were recruited and assigned 30 in experimental and 30 in control groups. Pre test data was collected by researchers using the Pittsburgh sleep quality index for both the groups. The researcher demonstrated the progressive muscle relaxation and then taught to the experimental group. Return demonstration was done and ensured they are doing well. They were instructed to do it every night for 20 minutes for three weeks. The researcher visited the sample for a consequent two days to verify that they are doing exactly what it has been taught through the attendance sheet. No intervention was given to the control group. The post test was from the fourth week for the experimental and control group.

ORGANISATION OF THE DATA

Data collected were organized under the following sections.

- **Section - A:** Description of the socio-demographic variables among post-menopausal women in experimental and control group
- **Section - B:** Assessment of the pre-test and post-test the level of sleep quality among Post-menopausal women in experimental and control group
- **Section - C:** Effectiveness of progressive muscle relaxation on sleep quality among Post-menopausal women.
- **Section - D:** Comparison Effectiveness of progressive muscle relaxation on sleep quality among Post-menopausal women in experimental and control group
- **Section - E:** Association between the sleep quality and selected demographic variables among Post-menopausal women in experimental group

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SECTION - A

Table – 1: Frequency and percentage distribution of democratic characteristics of post menopausal women in experimental and control group (N = 60)

S. No.	Demographic Variables	Experimental Group (n = 30)		Control Group (n = 30)	
		F	%	F	%
1	**Age**				
	a) 45-48 years	0	0	0	0
	b) 49-51 years	0	0	0	0
	c) 52-55 years	15	50	17	57
	d) 56-60 years	15	50	13	43
2	**Religion**				
	a) Hindu	20	67	22	73
	b) Muslim	7	23	1	3
	c) Christian	3	10	7	23
3	**Marital status**				
	a) Married	22	73	21	70
	b) Widowed	8	27	8	27
	c) Divorced	0	0	1	3
	d) Single	0	0	0	0
4	**Dietary pattern**				
	a) Vegetarian	4	13	5	17
	b) Mixed	26	87	25	83
5	**Occupation**				
	a) House wife	13	43	12	40
	b) Self employee	12	40	15	50
	c) Government employee	5	17	3	10
6	**Education**				
	a) Primary	19	63	15	50
	b) Secondary	7	23	9	30
	c) Tertiary	4	13	6	20
	d) Illiterate	0	0	0	0
7	**Parity**				
	a) Nulli	3	10	0	0
	b) Primi	6	20	7	23
	c) Multi	13	43	13	43
	d) Grand Para	8	27	10	33

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8	**Duration attainment of menopause**				
	a) 0-1	0	0	0	0
	b) 1-2	4	13	0	0
	c) 2-3	18	60	17	57
	d) >4	8	27	13	43
9	**Type of family**				
	A) Nuclear	15	50	16	53
	B) Joint	15	50	14	47
10	**BMI**				
	a) <25.0	13	43	12	40
	b) 25.0-29.9	15	50	9	30
	c) >30.0	2	7	9	30
11	**Chronic illness**				
	a) DM	0	0	0	0
	b) HTN	0	0	0	0
	c) No	30	100	30	100
12	**Income**				
	a) < Rs.7,000	6	20	12	40
	b) Rs.7,000 - Rs.9,000	17	57	14	47
	c) Rs.9,000 - Rs.11,000	4	13	4	13
	d) > Rs.11,000	3	10	0	0
13	**Type of living house**				
	a) Kutcha	10	33	13	43
	b) Pucca	20	67	17	57

Table 1 shows in postmenopausal experimental group, majority 15 (50%) were in the age of 52-55 & 56-60 years, 20(67%) were Hindus, 22 (73%) were married, 26 (87%) were mixed dietary pattern, 13 (43%) were housewife, 19 (63%) were primary education, 13 (43%) were multi parity, 18(60%) were 2 duration attainment of menopause, 15 (50%) were joint & nuclear family, 15 (50%) were 25.0-29.9 BMI, 17 (57%) were 7000-9000 income, 20(67%) were pucca type of living house and 30(100%) were no chronic illness.

In postmenopausal control group, majority 17(57%) were in the age of 52-55 years, 22 (73%) were Hindus, 21 (70%) were married, 25 (83%) were mixed dietary pattern, 15 (50%) were self employee, 15(50%) were primary education, 13 (43%) were multi parity, 17(57%) were 2-3 duration attainment of menopause, 16(53%) were nuclear family, 12(40%) were <25.0 BMI, 14(47%) were 7000-9000 income, 17(57%) were pucca type of living house and 30(100%) were no chronic illness.

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SECTION - B:

Table – 2: Assessment of Frequency and percentage of pre test level of sleep quality among post menopausal women in experimental and control group (N = 60)

Pre Test Level of Sleep Quality	Postmenopausal			
	Experimental Group (n = 30)		Control Group (n = 30)	
	F	%	F	%
Mild	0	0	0	0
Moderate	10	33	10	33
Severe	13	43	11	36
Worse	7	23	9	30

Table 4.2 shows in **pre test level of sleep quality,** experimental group, 10 (33%) had moderate sleep problem, 13 (43%) had severe sleep problem, 7 (23%) had worse sleep problem, whereas in the control group 10 (33%) had moderate sleep problem, 11 (36%) had severe sleep problem, 9 (30%) had worse sleep problem among postmenopausal women.

Table – 3:Assessment of post test level of sleep quality among post menopausal women in experimental and control group (N = 60)

Post Test Level of Sleep Quality	Postmenopausal			
	Experimental Group (n = 30)		Control Group (n = 30)	
	F	%	F	%
Normal	0	0	0	0
Mild	25	83	2	7
Moderate	3	10	11	36
Severe	2	7	10	33
Worse	0	0	9	30

Table 3 shows in **post test level of sleep quality** experimental group, 25 (83%) had mild sleep problem, 3 (10%) had moderate sleep problem, 2 (7%) had severe sleep problem, whereas in the control group 2 (7%) had mild sleep problem,11 (36%) had moderate sleep problem, 10 (33%) had severe sleep problem, 9 (30%) had worse sleep problem among postmenopausal women.

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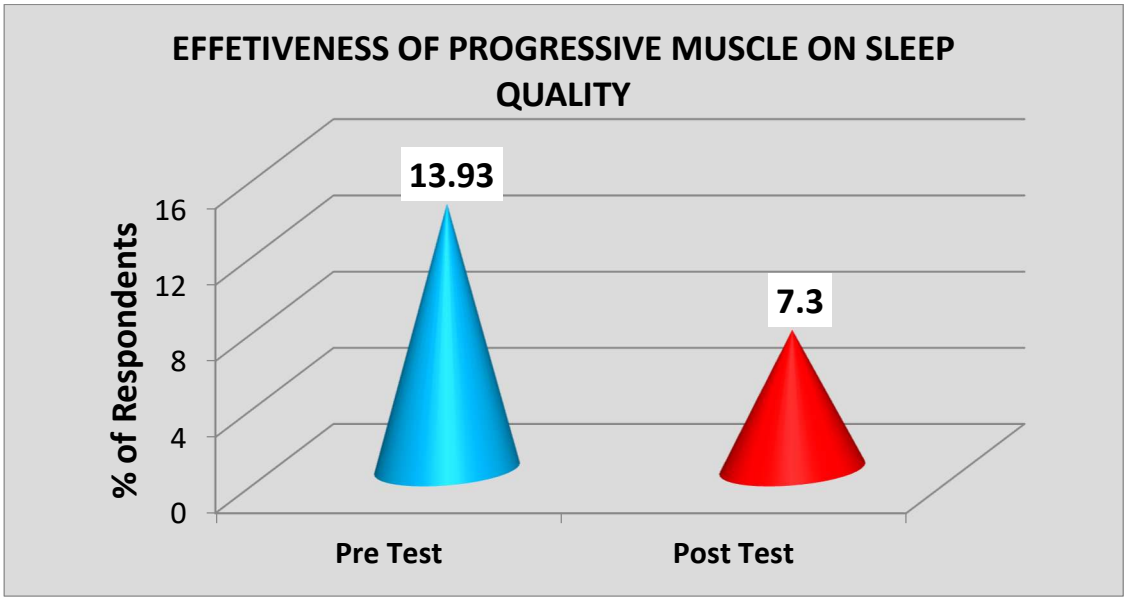
SECTION - C:

Table – 4 Effectiveness of progressive muscle relaxation on sleep quality among Post-menopausal women (N=30)

Test	Mean	Standard deviaton	Mean difference	't' value Paired -t test	df	'p' value
Pretest	13.93	3.0386	6.63	12.17	29	**0.001** HS**
Posttest	7. 3	2.26132				

Table - 4 shows that, Effectiveness of progressive muscle relaxation on sleep quality among Post-menopausal women. The calculated *paired 't' test* value of **t = 12.17** shows ***statistically highly significant*** difference of Effectiveness of progressive muscle relaxation on sleep quality among Post-menopausal women.



SECTION - D:

Table – 5 Comparison of pre test level of sleep quality among post menopausal women in experimental and control group (n = 60)

Pre test level of sleep quality	Postmenopausal	
	Experimental Group	Control Group
Mean	13.93	14.26
Standard deviation	3.0386	3.8187
Unpaired t test	0.2929 NS	

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p-value	0.458

Table 5 shows the significance of level of sleep disturbance among post menopausal women in experimental and control group. In postmenopausal, the mean value of sleep disturbance in experimental group 13.93 (14.96) and control group mean value of sleep disturbance 3.0386 (3.8187). The calculated unpaired t test value **t=0.2929** shows there is no significance in the level of sleep disturbance.

Table – 6 Comparison of post test level of sleep quality among post-menopausal women in experimental and control group (n = 60)

Post test level of sleep quality	**Postmenopausal**	
	Experimental	**Control**
Mean	7. 3	14.2
Standard deviation	2.26132	3.6
Unpaired t test	8.8940 S	
p-value	0.001** HS	

Table 6 shows in postmenopausal, the mean value of sleep disturbance in experimental group 7.3 (2.26132) and control group mean value of sleep disturbance 14.2 (3.6). The calculated unpaired t test value **t = 8.8940** shows there is significance in the level of sleep disturbance. Progressive muscle relaxation followed by the postmenopausal group was improve the sleep quality.

MAJOR FINDINGS OF THE STUDY

The First objective of the study to assess the level of sleep quality among post-menopausal women in experimental and control group

Table 2 shows in experimental group, 10 (33%) had moderate sleep problem, 13 (43%) had severe sleep problem, 7 (23%) had worse sleep problem, whereas in the control group 10 (33%) had moderate sleep problem, 11 (36%) had severe sleep problem, 9 (30%) had worse sleep problem among postmenopausal women

Table 3 shows In experimental group, 25 (83%) had mild sleep problem, 3 (10%) had moderate sleep problem, 2 (7%) had severe sleep problem, whereas in the control group 2 (7%) had mild sleep problem,11(36%) had moderate sleep problem, 10 (33%) had severe sleep problem, 9 (30%) had worse sleep problem among postmenopausal women.

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The second objective of the study was to the effect of progressive muscle relaxation on sleep quality among Post-menopausal women.

Table - 4 shows that, effectiveness of progressive muscle relaxation on sleep quality among Post-menopausal women. The calculated *paired't' test* value of **t = 12.17** shows ***statistically highly significant*** difference of Effectiveness of progressive muscle relaxation on sleep quality among Post-menopausal women.

Table 5 shows the significance of level of sleep disturbance among post menopausal women in experimental and control group. In postmenopausal, the mean value of sleep disturbance in experimental group 13.93 (14.96) and control group mean value of sleep disturbance3.0386 (3.8187). The calculated unpaired t test value **t=0.2929** shows there is no significance in the level of sleep disturbance.

Table 6 shows in postmenopausal, the mean value of sleep disturbance in experimental group 7.3 (2.26132) and control group mean value of sleep disturbance 14.2 (3.6). The calculated unpaired t test value **t**=8.8940 shows there is significance in the level of sleep disturbance. Progressive muscle relaxation followed by the postmenopausal group was improve the sleep quality

Hence H_1 - There is significant effect of progressive muscle relaxation on improving sleep quality among Post-menopausal women was accepted and null hypothesis was rejected.

The third objective of the study was to find out the association between the sleep quality and selected demographic variables among Post-menopausal women.

Table 7 shows the chi-square test to associate the post test level of quality of sleep with the selected demographic variables like age, education, type of family, occupation, monthly income, marital status, duration of illness, in the experimental group. While analyzing the statistical significance at ($P<0.05$) level it shows that there was no significant association of the post test level of quality of sleep with the selected demographic variables at $P<0.05$ level except parity.

Hence H_2 - There is significant association between the sleep quality of post-menopausal women and their selected demographic variables after progressive muscle relaxation was accepted and null hypothesis was rejected.

CONCLUSION

The present study to assess the effectiveness of progressive muscle relaxation on sleep quality among post menopausal women in selected community area at Salem district.

The result shows in experimental group, 10 (33%) had moderate sleep problem, 13 (43%) had severe sleep problem, 7 (23%) had worse sleep problem, whereas in the control group 10 (33%) had moderate sleep problem, 11 (36%) had severe sleep problem, 9 (30%) had worse sleep problem among postmenopausal women and in post test In experimental group, 25 (83%) had mild sleep problem, 3 (10%) had moderate sleep problem, 2 (7%) had severe sleep problem, whereas in the control group 2 (7%) had mild sleep problem, 11 (36%) had moderate sleep problem, 10 (33%) had severe sleep problem, 9 (30%) had worse sleep problem among postmenopausal women.

The result of this study showed that progressive muscle relaxation was more effective on improving

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sleep quality among post menopausal women.

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