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Effectiveness of breathing exercises versus applied relaxation technique on menopausal problems among women.

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Abstract: A quasi-experimental study was conducted to assess the effectiveness of breathing exercises versus applied relaxation technique on menopausal problems among women in selected areas of Sonipat, Haryana**.** The study aimed to assess the menopausal problems among women in experimental group I & II, to compare the menopausal problems among women in experimental group I & II, to find out the association of menopausal problems among women with the selected demographic variables. Data was collected from thirty (30) in experimental-I and (30) in experimental-II samples that were selected purposively by using Modified menopausal rating scale Pre-test and post-test design was adopted. The comparison between Pre-test and Post-test scores obtained by the modified menopausal rating scale in menopausal women. The mean pre-test score in experimental group – I was 73.93% and in experimental group -II was 77.7 % The difference between pre-test means menopausal problems in experimental group-I and experimental group-II was statistically non-significant at $p<0.05$ level of significance. During posttest, in experimental group-I, mean menopausal problems score was 61.13 and in experimental group-II posttest mean menopausal problem score was 73.9. The difference between posttest between mean of menopausal problems in experimental group-I and experimental group-II was statistically significant at $p<0.05$ level of significance. It was concluded that there is significant effect of breathing exercises on experimental group-I than applied relaxation techniques on experimental group-II. Hence, there is statistically significant reduction in menopausal problems among women in experimental group-I as compared to experimental group-II after performing breathing exercises as measured by modified menopausal rating scale at $p<0.05$ level of significance is accepted. As a result, H1 hypothesis is accepted, H0 as well as H2 hypothesis is rejected.

Keywords: Effectiveness, Menopause, Breathing Exercises, Relaxation technique, Women.

Woman is a precious creature of God. She has many roles in the society to perform being a daughter, sister, wife and a mother. She works easily with the opposite sex at work place but also has responsibilities to perform as a home maker and to rear a child. In order to perform these functions effectively her health needs has to be taken care and requires more attention[1].

In current society women play an important role in the family "Health is Wealth" if there is any alteration in the health of Women the house hold routines get altered. Women are the vital set up and heart of the family. When women are tired, family function would be altered. Women are facing lot more problems through their life. Women experience various turning points in their life cycle, which may be developmental or transitional. Midlife is one such transitional period which brings about important changes in women. Menopause is just another phase of life like puberty. It is the time when ovaries stop producing eggs any more. It is a stage when the menstrual cycle stops for longer than 12 months, and there is a drop in the levels of estrogen and progesterone, the two most important hormones in female body. The onset of this physiological development not only marks the end of women's reproductive function but also introduces them to a new phase of life[2].

Menopause is a Greek word typically means "meno"- month; "pausis"- stop; that means the cessation of menses. It is the point at which the menstruation ceases. Menopause is the end result of cessation of ovarian function. Menopause is defined as the state of an absence of menstrual periods for 12 months. The menopausal transition starts with varying menstrual cycle length and ends with the final menstrual period[3].

Menstruation is the monthly shedding of the lining of a woman's uterus (more commonly known as the womb). Menstruation is also known by the terms menses, menstrual period, cycle or period. The menstrual blood—which is partly blood and partly tissue from the inside of the uterus—flows from the uterus through the cervix and out of the body through the vagina. The menstrual cycle is a term used to describe the sequence of events that occur within a woman's body as it prepares for the possibility of pregnancy each month. A menstrual cycle is considered to begin on the first day of a period. The average cycle is 28 days long; however, a cycle can range in length from 21 days to about 35 days. Girls start menstruating at the average age of 12 and, however, girls can begin menstruating as early as 8 years of age or as late as 16 years of age. Women stop menstruating

at the age of 51 years also turned as menopause[4].

India has a large population, which has already crossed one billion marks with 71 million people over 60 years of age and the number of menopause women about 43 million. Menopausal symptoms affect about 70% of women approaching menopause. Average age of menopause is 47 years in Indian women with an average life expectancy of 71 years. Menopause involves hormonal changes that cause physical symptoms. Symptoms of menopause vary from woman to woman[5].

World Menopause Day is celebrated on 18th October every year. World Menopause Day started all the way back in 1984 and was instituted by the international Menopause society. The Menopause Day is devoted in creating awareness about one of which most difficult period women's life. Women born with about 1.5 million ova reach menarche, with around 4, 00,000. Most women menstruate about 400 times between menarche and menopause, using all responsive ova. When all these ova become atretic, the ovary is no longer capable of responding to pituitary gonadotropins, and the production of estrogen and progesterone, and the other ovarian hormone is reduced. The result of these low levels of hormones is often manifested by deleterious physical, psychological and sexual changes[6].

Menopause is an adaptation process during which women go through a new biological state. This process is accompanied by many biological and psychosocial changes. During menopause, loss of skin flexibility, a decrease in libido, sexual dysfunction, an increase in the risk of cardiovascular diseases, urinary tract infections, incontinence, bone loss, and somatic and vasomotor symptoms may appear. Depressed mood, sleep disorders, and other psychological problems reduce the quality of life in postmenopausal women[7].

Every woman's menopause experience is unique. Symptoms are usually more severe when menopause occurs suddenly or over a shorter period of time. Conditions that impact the health of the ovary, like cancer or hysterectomy, or certain lifestyle choices, like smoking, tend to increase the severity and duration of symptoms. Aside from menstruation changes, the symptoms of peri-menopause, menopause, and post menopause are generally the same[8].

Menopausal symptoms and their severity vary from person to person due to the effects of confounding factors such as lifestyle, social status, body composition, and psychological status. Menopausal symptoms, especially the vasomotor and sexual symptoms, are associated with impaired QOL (Quality of life) in women. QOL (Quality of life) is "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is an imperative outcome measure of overall health. Therefore, understanding the impact of menopause on the QOL (Quality of life) in middle-aged women is critically important in the contemporary health care system[9].

Menopause is associated with reduction in the normal estrogen levels and subsequent incidence of menopausal symptoms. Some symptoms of estrogen deficiency in this period include disruption in the menstrual pattern, vasomotor instability, genital atrophy, rapid and irregular heartbeat, mood changes, sleep disorders, headache, muscular pain, joint pain, as well as concentration and memory problems. About 80% of women experience the unpleasant symptoms of menopause every year. The symptoms and complications of menopause affect women's psychological, physical, and emotional health, in addition to social function and family relationships Due to the side-effects of hormone- therapy and other medical therapies, women have paid more attention to the use of complementary and alternative medicine. Behavioral interventions are one of the therapeutic options of complementary medicine, which includes yoga, cognitive-behavioral therapy, mindfulness, etc[10].

In the premenopausal period, women have a lower prevalence of cardiovascular and metabolic diseases than men of the same age. In contrast, after menopause (50-59 years of age), there is a higher prevalence of these diseases in women, indicating that the hormonal transition present in menopause is an important risk factor for female morbidity and mortality. The postmenopausal period is divided into two phases: an initial phase, which occurs in the first four years after the cessation of menstruation, with women more prone to irritability and frequent mood changes, and a late phase, starting from four years after the end of menstruation. The postmenopausal period, whether early or late, is associated with several changes in the female body, which influence the development of health problems, promoting significative losses in the functioning of the body[11].

Hot flushes, night sweats, muscles and joint pains, sleep disturbances, urinary frequency, vaginal dryness, poor memory, anxiety and depression are commonly reported symptoms. Menopausal symptoms affect the quality of life significantly at various stages of menopause. Health problems among menopausal women are significant challenge to public health, taking into consideration that there is no unique separate health program in India to take care of such problems. Rise in geriatric population leads to increase in number of women in menopause. An understanding of menopausal symptoms experienced by these women is essential for designing the appropriate health care delivery services and to ensure an easy transition in peri-menopausal period[12].

The vaginal symptoms include uterine prolapsed and vaginal atrophy. The psychosomatic symptoms include dizziness, rapid heartbeat, numbness of extremities, irritability, tiredness, headache, sleep disturbance, pressure and tightness in head and body, muscle and joint pain, fainting and breast pain. The psychological symptoms include dysuria, increased urine frequency and urine leak during coughing and laughing[13].

The menopause transition can cause psychological and somatic disturbances in a woman's life, and over 75% of women may experience some if not all of menopause related symptoms which may include vasomotor symptoms, sleep difficulties, depression and anxiety and uro-genital symptoms and sexual dysfunction. Meanwhile, negative emotions such as depression and anxiety symptoms and increased social and psychological stress were associated with increased reporting ofphysical symptoms in menopausal women. It has been suggested that women's psychological reactions to vasomotor and somatic symptoms may exacerbate these physical symptoms, and the National Institutes of Health convened panels recognizedthe need to evaluate psychological and behavioral interventions which can potentially mediate the reaction to and increase resilience and coping of menopause-related symptoms.[14]

There are various remedies used to relieve menopausal symptoms. These include lifestyle modification, hormonal and non-hormonal treatment and various other complementary therapies by the usage of traditional herbs and natural food. Menopause is considered as natural life event with significant physical and emotional consequences. Many women in developing countries are blind to risks of menopause. Overall, many menopausal women have little knowledge about menopausal issues and their management. Most of women in rural areas do not have enough knowledge about preventive measures and remedies to cope with menopausal symptoms[15].

Deep breathing exercise is a quick relaxation technique in which attention is focused on breathing deep inhalation and holding the breath for a few seconds before exhalation. Deep breathing exercise is the fastest way to trigger your parasympathetic

nervous system throughout what some practitioners call the relaxation response. It helps in reducing menopausal symptoms and calm down the body and mind. Inhaling, exhaling a few deep breaths every day could make a drastic improvement in your lifestyle.[16]

Applied relaxation technique, the most commonly used relaxation method for treating menopausal complaints, shows promise for alleviating vasomotor and other symptoms. However, the applied relaxation technique involves intensive training over 12 consecutive weeks. Each session lasts for 60 minutes, and individuals are asked to practice at home for at least 15–20 minutes per day. More than 25% of individual drop out of the training course as a result of this time commitment. Modified relaxation (MR) training is a modification of the applied relaxation technique that shortens the training time and emphasizes home practice.[17]

In the past, women were encouraged to undergo hormone replacement therapy (HRT) to reduce frequently observed menopausal symptoms such as those resulting from vasomotor changes and sleep disorders. However, many concerns have been raised surrounding the use of HRT, including its correlation with breast cancer. In addition to the risk of turning benign breast diseases into breast cancer, HRT is also linked to endometrial cancer due to the single use of oestrogen, increased cardiovascular and thromboembolism risk when HRT is initiated a long time after menopause, and an increase in gall bladder diseases causing pain and resulting in sleep disorders. For these reasons, alternative methods are currently recommended to reduce menopausal symptoms. In recent years, complementary and alternative medicine (CAM) methods have become widely recommended.[18]

Statement of the problem.

A quasi-experimental study to assess the effectiveness of breathing exercises versus applied relaxation technique on menopausal problems among women in selected areas of Sonipat, Haryana.

Objective: -

1) To assess the menopausal problems among women in experimental group-I and group-II.
2) To compare the menopausal problems among women in experimental group-I and group-II.
3) To find out association of menopausal problems among women with the selected demographic variables.

Hypothesis:

- **H0**: There was no statistically significant difference on the menopausal problems among women in experimental group I and II as measured by modified menopausal rating scale at $p<0.05$ level of significance.
- **H1**: There was statistically significant reduction on the menopausal problems among women in experimental group I as compared to experimental group II as measured by the modified menopausal rating scale at $p<0.05$ level of significance.
- **H2**: There was statistically significant reduction on the menopausal problems among women in experimental group II as compared to experimental group I as measured by the modified menopausal rating scale at $p<0.05$ level of significance.

Material and Methods:

A Quasi-experimental pre-test and post-test study was conducted to assess the Effectiveness of breathing exercises versus applied relaxation technique on menopausal problems among women in selected areas of Sonipat, Haryana. Data was collected from thirty (30) in experimental-I and (30) in experimental-II samples who fulfilled the inclusion and exclusion criteria (>50 years). Subjects were selected using non-probability purposive sampling technique. Data was collected using the Modified Menopausal Rating Scale. Firstly, pre-test was conducted to both groups (experimental group-I and experimental group-II) then intervention was given to both the groups (breathing exercises for experimental group-I) and (applied relaxation technique for experimental group-II). After that post-test was conducted by both groups (experimental group-I and experimental-II) to assess the Modified menopausal rating scale was used to score the problems of menopausal women. The number of items were 124 under six categories i.e. vasomotor symptoms, psychological symptoms, genitor urinary symptoms, sexual, muscular skeletal and any other symptoms like; ranging from no symptoms to very severe symptoms (0-124). 0 was given to no symptoms and 124 was given to very severe symptoms. Formal permission was obtained from concerned authorities of selected areas of District Sonipat for the data collection. All the formalities related to data collection were finished before the 15-day scheduled plan for data collection in January. Self-introduction was given to participants in selected areas of Sonipat an information sheet was provided, and rapport was established during visits. After explaining the purpose of the study, Informed Consent was taken from the subjects. Confidentiality of the information was assured. A separate code number was used for each subject. In (experimental group-I and experimental group-II) deep breathing exercises for 10 minutes twice a day and applied relaxation techniques for 15 minutes twice a day for 15 days provided and on the last day of intervention post test was conducted by using modified menopause rating scale among women on both the groups.

Results:

Findings related to distribution of participants on the basis of Demographic variables

n = 60

Table-1 Distribution of Population according to demographic variables:

Demographic variable	Experimental group-I (n=30)		Experimental group-II (n=30)		df	x^2
	N	%	n	%		
1) Age (in years)						
a) 45-50	13	43.33	9	30.00	2	2.09^{NS}
b) 50-55	7	23.34	12	40.00		

c)	<55 years	10	33.33	9	30.00		
2)	**Marital Status**						
a)	Married	17	56.67	18	60.00	3	2.62^{NS}
b)	Unmarried	0	0.00	0	0.00		
c)	Widow	12	40.00	8	26.67		
d)	Divorced	1	3.33	4	13.33		
3)	**Educational Status**						
a)	Illiterate	0	0.00	1	3.33	4	3.42^{NS}
b)	Up to primary	2	6.67	5	16.67		
c)	Up to secondary	15	50.00	10	33.33		
d)	Up to senior secondary	10	33.33	10	33.33		
e)	Graduation &above	3	10.00	4	13.34		
4)	**Occupation**						
a)	Housewife	21	70.00	18	60.00	3	2.03^{NS}
b)	Government Job	1	3.33	4	13.33		
c)	Private Job	8	26.67	8	26.67		
d)	Business	0	0.00	0	0.00		
5)	**Family income (₹) per month**						
a)	>10,000	5	16.67	3	10.00	4	2.18^{NS}
b)	10,001-20,000	12	40.00	10	33.33		
c)	20,001-30,000	9	30.00	9	30.00		
d)	30,001-40,000	3	10.00	5	16.67		
e)	<40,000	1	3.33	3	10.00		
6)	**Type of Family**						
a)	Nuclear family	12	40.00	15	50.00	2	0.71^{NS}
b)	Joint family	11	36.67	10	33.33		

c) Extended	7	23.33	5	16.67		
7) Religion						
a) Hindu	12	40.00	9	30.00	3	3.42^{NS}
b) Muslim	0	0.00	0	0.00		
c) Sikh	18	60.00	18	60.00		
d) Christian	0	0.00	3	10.00		
8) Dietary habits						
a) Vegetarian	10	33.33	9	30.00	2	4.17^{NS}
b) Non-Vegetarian	18	60.00	17	56.67		
c) Eggetarian	2	6.67	4	13.33		
9) Source of information						
a) Family members	5	16.67	10	33.33	3	4.17^{NS}
b) Relatives	1	3.33	0	0.00		
c) Health personnel	13	43.33	14	46.67		
d) Media	11	36.67	6	20.00		

*= significant at the p<0.05 level of significance

NS= non-significant

Data from Table-1 showing that in experimental group -I maximum of study subjects were 45-50 years, In experimental group-II, maximum of study subjects were 50-55 years. In both experimental group-I and II maximum of study subjects were married , In experimental group-I maximum subjects educated up to secondary , In experimental group-II, majority of study subjects were educated up to secondary and senior secondary , In both experimental group-I and II, majority of study subjects were housewives ,In both groups majority of study subjects had family income of 10,001- 20,000 .In both groups majority of study subjects belonged to nuclear family & majority of study subjects were Sikh . In both groups, majority of study subjects were non- vegetarian & obtained information from health personnel.

Table-2(a)

Frequency and percentage distribution of women according to pre-test to assess the menopausal problems in experimental group-I and experimental group-II.

N=60

Modified Menopausal rating Scale	Criterion Measure	Pre-test Experimental Group-I		Pre-test Experimental Group-II	
		n	%	N	%
None	0-24	00	0.00	00	0.00
Mild	25-50	03	10.00	04	13.33
Moderate	51-75	15	50.00	07	23.33
Severe	76-100	10	33.33	16	53.33
Very Severe	101-124	02	6.67	03	10.00

Maximum Score-124
Minimum Score=0

Table 2 (a) - In experimental group-I during pretest, maximum i.e. 50.00% women were having moderate level of menopausal problems, in experimental group-II, during pre-test, majority i.e. 53.33% women were having severe level of menopausal

problems. Hence, it was concluded that in pretest majority of women had moderate level of menopausal problems in experimental group-I whereas experimental group- II had severe level of menopausal problems.

Table-2(b)

Frequency and percentage distribution of elderly according to posttest to assess the menopausal problems in experimental group-I and experimental group-II

N=30

Modified menopausal rating scale	Criterion measure	Posttest Experimental Group-I		Posttest Experimental Group-II	
		n	%	N	%
None	0-24	02	6.67	00	0.00
Mild	25-50	08	26.67	06	20.00
Moderate	51-75	12	40.00	09	30.33
Severe	76-100	07	23.33	14	46.67
Very Severe	101-124	01	3.33	01	3.33

Maximum score-124
Minimum score- 0

Table-2(b) In the experimental group-I, during posttest, maximum i.e. 40.00% women were having moderate level of menopausal problems, In experimental group-II, during posttest, most of i.e. 46.67% women were having severe level of menopausal problems. Hence, it was concluded that in posttest majority of women had moderate level of menopausal problems in experimental group-I whereas experimental group- II had severe level of menopausal problems.

Table-3

To compare the menopausal problems among women in experimental group-I and experimental group-II.

H0: There was no statistically significant difference on the menopausal problems among women in experimental group-I and experimental group-II as measured by modified menopausal rating scale at $p<0.05$ level of significance.

H1: There was statistically significant reduction on the menopausal problems among women in experimental group-I as compared to experimental group II as measured by the modified menopausal rating scale at $p<0.05$ level of significance.

H2: There was statistically significant reduction on the menopausal problems among women in experimental group-II as compared to experimental group-I as measured by the modified menopausal rating scale at $p<0.05$ level of significance.

TABLE 3: Comparison of pre-test and posttest mean menopausal problems among women in experimental group-I and experimental group -II.

N=60

		Pretest		Posttest			
Menopausal problems	**n**	**Mean Score**	**SD**	**Mean Score**	**SD**	**Df**	**'t' Value**
Experimental Group-I	30	73.93	19.92	61.13	20.38	58	2.46^{*}
Experimental group-II	30	77.7	20.37	73.9	21.42	58	0.7^{NS}
		df=58		df=58			
		't'=0.72^{NS}		't'=2.36*			

* =significant at the $p<0.05$ level of significance
NS= non-significant

Table 3 Depicts that In experimental group-I, pre-test mean menopausal problems score was 73.93 and in experimental group-II pre-test mean menopausal problem score was 77.7. The difference between pre-test mean menopausal problems in experimental group-I and experimental group-II was statistically non-significant at $p<0.05$ level of significance. During posttest,

in experimental group-I, mean menopausal problems score was 61.13 and in experimental group-II posttest mean menopausal problem score was 73.9. The difference between posttest between mean of menopausal problems in experimental group-I and experimental group-II was statistically significant at $p<0.05$ level of significance. It was concluded that there is significant effect of breathing exercises on experimental group-I than applied relaxation techniques on experimental group-II.

Hence, it was concluded that there is significant effect of breathing exercises on experimental group-I than applied relaxation techniques on experimental group-II. Hence research hypothesis that there is statistically significant reduction in menopausal problems among women in experimental group-I as compared to experimental group-II after performing breathing exercises as measured by modified menopausal rating scale at $p<0.05$ level of significance is accepted. As a result, H1 hypothesis is accepted, H0 as well as H2 hypothesis is rejected.

Table – 4(a)

Determine the association of menopausal problems among women in selected demographic variables.

N=30

Demographic Variable	Pretest Experimental group-I			Pretest Experimental group- II		
	N	Mean	SD	N	Mean	SD
1) Age (in years)						
a) 45-50 years	13	76.15	19.06	9	78.11	22.44
b) 50-55 years	7	78.57	20.37	12	78.25	22.53
c) <55 years	10	64.80	20.10	9	76.55	17.34
	df= 2, 27	$F=1.31^{NS}$		df=2, 27	$F=0.01^{NS}$	
2) Marital status						
a) Married	17	71.86	17.82	18	76.66	22.32
b) Unmarried	0	0.00	0.00	0	0.00	0.00
c) Widow	12	76.16	23.05	8	75.87	11.74
d) Divorced	1	52.00	0.00	4	86.00	27.56
	df= 3,26	$F=0.72^{NS}$		df=3, 26	$F=0.59^{NS}$	
3) Education status						
a) Illiterate	0	0.00	0.00	1	110.00	0.00
b) Up to primary	2	70.50	5.65	5	66.20	26.62
c) Up to secondary	15	73.06	24.42	10	74.20	21.98
d) Up to senior secondary	10	76.20	16.12	10	78.00	12.00
e) Graduation and above	3	63.00	18.00	4	92.00	17.45
	df= 4,25	$F=0.32^{NS}$		df=4, 25	$F=1.76^{NS}$	

4) Occupation						
a) Housewife	21	71.71	19.35	18	76.11	21.36
b) Government Job	1	82.00	0.00	4	88.25	13.27
c) Private Job	8	67.12	22.68	8	76.00	21.51
d) Business	0	0.00	0.00	0	0.00	0.00
	df=3,26	$F=0.51^{NS}$		df=3, 26		$F=0.60^{NS}$
5) Monthly family income (in Rs)						
a) > 10,000	5	85.80	22.30	3	70.00	27.62
b) 10,001 – 20,000	12	75.91	16.63	10	71.70	22.46
c) 20,001 – 30,000	9	70.33	19.27	9	80.77	23.15
d) 30,001 – 40,000	3	61.66	11.96	5	86.20	7.19
e) < 40,000	1	30.00	0.00	3	82.00	14.73
	df=4,25	$F=2.42^{NS}$		df=4, 25	$F=0.59^{NS}$	
6) Type of family						
a) Nuclear family	12	80.16	19.15	15	74.53	24.99
b) Joint family	11	70.72	18.98	10	80.60	17.65
c) Extended	7	64.00	20.92	5	81.40	6.80
	df=2,27	$F=1.63^{NS}$		df=2, 27	$F=0.34^{NS}$	
7) Religion						
a) Hindu	12	74.83	22.66	9	71.77	26.33
b) Muslim	0	0.00	0.00	0	0.00	0.00
c) Sikh	8	71.66	18.44	18	77.77	16.54
d) Christian	0	0.00	0.00	3	95.00	17.69
	df=3,26	$F=0.17^{NS}$		df=3, 26	$F=1.51^{NS}$	

8) Dietary habits						
a) Vegetarian	10	74.00	24.64	9	75.66	10.96
b) Non-vegetarian	18	72.72	18.51	17	78.41	23.64
c) Eggtarian	2	69.50	13.43	4	79.25	26.29
	df=2,27	$F=0.04^{NS}$		df= 2, 27	$F=0.06^{NS}$	
9) Source of information						
a) Family members	5	72.20	18.41	10	79.60	18.90
b) Relatives	1	120.00	0.00	0	0.00	0.00
c) Health personnel	13	74.69	18.62	14	77.85	22.85
d) Media	11	66.90	19.92	6	74.16	19.62
	df=3,26	$F=2.60^{NS}$		df=3, 26	$F=0.12^{NS}$	

Table 4 (a), depicts that according to age, The relationship between of mean menopausal problems score and age in experimental group-I experimental group-II was found statistically non- significant at p< 0.05 level. So age had no relationship with menopausal problems among women.

According to marital status, The relationship between of mean menopausal problem score and marital status among women in experimental group-I and experimental group-II was found statistically non-significant at p<0.05 level. So marital status had no relationship with menopausal problems According to education status, The relationship between of mean menopausal problems score among women in experimental group-I and experimental group-II was found statistically non-significant at p<0.05 level. So education status had no relationship with menopausal problems among women. According to occupation, The relationship between of mean menopausal problems score and occupation among women in experimental group-I and experimental group – II was found statistically non- significant at p<0.05 level. So occupation had no relationship with menopausal problems among women. According to monthly family income (in ₹), The relationship between of mean menopausal problems and monthly family income (in ₹) in experimental group-I and experimental group-II was found statistically non-significant at p<0.05 level. So monthly family income (in ₹) had no relationship with menopausal problems among women. According to type of family, The relationship between of mean menopausal problems and type of family in experimental group-I and experimental group-II was found statistically non-significant at p< 0.05 level. So type of family had no relationship with menopausal problems among women. According to religion, The relationship between of mean menopausal problems score and religion in experimental group-I and experimental group-II was found statistically non- significant at p<0.05 level. So religion had no relationship with menopausal problems among women. According to dietary pattern, The relationship between of mean menopausal score and dietary pattern in experimental were group-I and experimental group-II was found statistically non- significant at p< 0.05 level. So dietary pattern had no relationship with menopausal problems among women

According to source of information, The relationship between of mean menopausal problems and source of information among women in experimental group-I and experimental group-II was found statistically non-significant at p<0.05 level. So source of information had no relationship with menopausal problems among women.

Table-4 (b)

Determine the association of menopausal problems among women with selected demographic variables.

N=30

Demographic variable	Pretest Experimental group-I			Pretest Experimental group- II		
	N	Mean	SD	N	Mean	SD
10) Age (in years)						

d) 45-50 years	13	76.15	19.06	9	78.11	22.44
e) 50-55 years	7	78.57	20.37	12	78.25	22.53
f) <55 years	10	64.80	20.10	9	76.55	17.34
	df= 2, 27	$F=1.31^{NS}$		df=2, 27	$F=0.01^{NS}$	
11) Marital status						
e) Married	17	71.86	17.82	18	76.66	22.32
f) Unmarried	0	0.00	0.00	0	0.00	0.00
g) Widow	12	76.16	23.05	8	75.87	11.74
h) Divorced	1	52.00	0.00	4	86.00	27.56
	df= 3,26	$F=0.72^{NS}$		df=3, 26	$F=0.59^{NS}$	
12) Education status						
f) Illiterate	0	0.00	0.00	1	110.00	0.00
g) Up to primary	2	70.50	5.65	5	66.20	26.62
h) Up to secondary	15	73.06	24.42	10	74.20	21.98
i) Up to senior secondary	10	76.20	16.12	10	78.00	12.00
j) Graduation and above	3	63.00	18.00	4	92.00	17.45
	df= 4,25	F=0.32NS		df=4, 25	F=1.76NS	
13) Occupation						
e) Housewife	21	71.71	19.35	18	76.11	21.36
f) Government Job	1	82.00	0.00	4	88.25	13.27
g) Private Job	8	67.12	22.68	8	76.00	21.51
h) Business	0	0.00	0.00	0	0.00	0.00
	df=3, 26	F=0.51NS		df=3, 26		F=0.60NS
14) Monthly family income (in Rs)						

f) > 10,000	5	85.80	22.30	3	70.00	27.62
g) 10,001 – 20,000	12	75.91	16.63	10	71.70	22.46
h) 20,001 – 30,000	9	70.33	19.27	9	80.77	23.15
i) 30,001 – 40,000	3	61.66	11.96	5	86.20	7.19
j) < 40,000	1	30.00	0.00	3	82.00	14.73
	df=4, 25	F=2.42NS		df=4, 25	F=0.59NS	
15) Type of family						
d) Nuclear family	12	80.16	19.15	15	74.53	24.99
e) Joint family	11	70.72	18.98	10	80.60	17.65
f) Extended	7	64.00	20.92	5	81.40	6.80
	df=2, 27	F=1.63NS		df=2, 27	F=0.34NS	
16) Religion						
e) Hindu	12	74.83	22.66	9	71.77	26.33
f) Muslim	0	0.00	0.00	0	0.00	0.00
g) Sikh	8	71.66	18.44	18	77.77	16.54
h) Christian	0	0.00	0.00	3	95.00	17.69
	df=3, 26	$F=0.17^{NS}$		df=3, 26	$F=1.51^{NS}$	
17) Dietary habits						
d) Vegetarian	10	74.00	24.64	9	75.66	10.96
e) Non-vegetarian	18	72.72	18.51	17	78.41	23.64
f) Eggtarian	2	69.50	13.43	4	79.25	26.29
	df=2, 27	$F=0.04^{NS}$		df= 2, 27	$F=0.06^{NS}$	
18) Source of information						

e) Family members	5	72.20	18.41	10	79.60	18.90
f) Relatives	1	120.00	0.00	0	0.00	0.00
g) Health personnel	13	74.69	18.62	14	77.85	22.85
h) Media	11	66.90	19.92	6	74.16	19.62
	df=3, 26	$F=2.60^{NS}$		df=3, 26	$F=0.12^{NS}$	

* = significant at the p<0.05 level of significance
NS=non-significant

Table 4 (b), depicts that The relationship between mean menopausal problems score and age in experimental group-I experimental group-II was found statistically non- significant at p< 0.05 level. So age had no relationship with menopausal problems among women According to marital status, The relationship between mean menopausal problem score and marital status among women in experimental group-I and experimental group-II was found statistically non-significant at p<0.05 level. So marital status had no relationship with menopausal problems among women According to education status, The relationship between of mean menopausal problems score among women in experimental group-I and experimental group-II was found statistically non-significant at p<0.05 level. So, education status had no relationship with menopausal problems among women According to occupation, The relationship between of mean menopausal problems score and occupation among women in experimental group-I and experimental group –II was found statistically non- significant at p<0.05 level. So occupation had no relationship with menopausal problems among women. According to monthly family income (in ₹), The relationship between of mean menopausal problems and monthly family income (in ₹) in experimental group-I and experimental group-II was found statistically non-significant at p< 0.05 level. So monthly family income (in ₹) had no relationship with menopausal problems among women. According to type of family, The relationship between of mean menopausal problems and type of family in experimental group-I and experimental group-I were found statistically non-significant at p< 0.05 level. So, type of family had no relationship with menopausal problems among women According to religion, The relationship between of mean menopausal problems score and religion in experimental group-I and experimental group-II was found statistically non-significant at p<0.05 level. So religion had no relationship with menopausal problems among women. According to dietary pattern, The relationship between of mean menopausal score and dietary pattern in experimental group-I and experimental group-II was found statistically non- significant at p< 0.05 level. So dietary pattern had no relationship with menopausal problems among women.

According to source of information, The relationship between of mean menopausal problems and source of information among women in experimental group-I and experimental group-II was found statistically non-significant at p<0.05 level. So source of information had no relationship with menopausal problems among women.

Summary: This chapter dealt with the analysis and interpretation of findings of the data collection from 60 (30 from experimental group-I & 30 from experimental group -II) in community areas of Sonipat, Haryana. It reflects that there is significant effect of breathing exercises on experimental group-I than applied relaxation techniques on experimental group-II. Hence, there is significant reduction in menopausal problems among women in experimental group-I as compared to experimental group-II after performing breathing exercises as measured by modified menopausal rating scale at p<0.05 level of significance

DISCUSSION

A quasi-experimental study was conducted to assess the effectiveness of breathing exercises versus applied relaxation technique on menopausal problems among women in selected areas, Hoshiarpur, Punjab.

Breathing exercises and applied relaxation technique interventions was administered for 15 days after assessment of menopausal women in experimental group-I and experimental group-II.

The findings of the present study have been discussed under the following headings:-

Objective1: To assess the menopausal problems among women in experimental group-I and experimental group-II.

According to the first objective i.e. to assess the menopausal problems among women in experimental group-I result of the present study depicts that according to menopausal problems, half i.e. 50% women had moderate level of menopausal problems and minimum i.e. 6.67% women had very severe level of menopausal problems. During posttest, majority of i.e. 40% women had moderate level of menopausal problems and minimum i.e. 3.33% women had very severe level of menopausal problems. In experimental group-II, during pretest about half 53.33% women had severe level of menopausal problems and least 10.00% women had very severe menopausal problems. During posttest, majority i.e. 46.67% women had severe level of menopausal problems and minimum i.e. 3.33% women had very severe menopausal problems.

These findings were consistent with the study conducted by R. Iniyaval (2019) to assess effectiveness of soybean vs chickpea on menopausal symptoms among women and the findings showed that in group I, in the pretest, maximum of i.e. 86% women had severe level menopause symptoms and minimum of i.e. 14% had moderate level of menopausal symptoms. In the posttest, maximum of i.e. 54% women had moderate level of menopausal symptoms and minimum i.e. 46% women had mild level of menopausal symptoms. In group II, in pretest, the majority of i.e. 38.76% women had extreme menopausal symptoms and minimum of i.e. 24% women had moderate level of menopause symptoms.

During the posttest, maximum of i.e. 80% women had moderate level of menopausal symptoms and minimum of i.e. 20% women had mild level of menopausal symptoms. In group III, in the pretest, maximum of i.e. 76% women had extreme level of menopausal symptoms and minimum of i.e. 24% women had moderate levels of menopausal symptoms and in the posttest, maximum of

i.e. 66% women had severe levels of menopausal symptoms and minimum of
i.e. 34% women had moderate levels of menopausal symptoms.

Objective 2: To compare the menopausal problems among women in experimental group-I and experimental group-II.

The findings of the present study revealed that in experimental group-I, pretest score among menopausal women was 73.93 and posttest mean menopausal problem score was 61.13. The difference between mean pre-test menopausal problems was statistically significant at $p<0.05$ level of significance. In experimental group-I, pretest mean menopausal problems score was 77.7 and in experimental group-II posttest mean menopausal problem score was 73.9. The difference between pretest and posttest menopausal problems score was statistically non-significant at $p<0.05$ level of significance.

These findings were consistent with study conducted by Juliet Sofia E. on breathing exercises versus applied relaxation technique on menopausal problems among women in selected urban areas of Coimbatore (2018) findings showed that in experimental group-I, the mean score of vasomotor, psychological, musculoskeletal, overall symptoms in experimental group was 18.00, 12.77, 6.59 and 54.88, respectively. In experimental group-II, the mean scores of vasomotor, psychological, musculoskeletal, overall symptoms in experimental group II, 6.49, 9.67, 4.71 and 48.27 was less.

Objective- 3: To find out the association of menopausal problems among women with the selected demographic variables.

The demographic variables that is age (in years), marital status, education status, occupation, monthly family income (in ₹), type of family, religion, dietaryhabits and source of information. It depicted that these demographic variables had no significant impact on menopausal problems among women.

These results were consistent with the study conducted by Kanamoottill T. (2019) which showed that association was found between pre and post assessment of menopausal problems with socio-demographic variables in experimental group, it depicted that age, education, occupation, religion, type of family, dietary habits and source of information had no impact on menopausal problems. But family income during posttest was found to be statistically significant at the level of $p<0.05$. Whereas in control group, source of information in both pre and posttest was found to be statistically significant at the level of $p<0.05$.

These results were also consistent with the study conducted by Kavitha G. to assess the effectiveness of relaxation, exercises and Diet intervention on symptoms among post-menopausal women in selected villages at Nellore, Andra Pradesh (2017). The findings showed that in experimental group, there was a significant association between age in years, dietary pattern, source of information and Menopause attained at the age and in control group, age in years, family income has got association with menopausal symptoms.

Conclusion :

It was concluded that there is significant effect of breathing exercises on experimental group-I than applied relaxation techniques on experimental group-
II. Hence research hypothesis that there is statistically significant reduction in menopausal problems among women in experimental group-I as compared to experimental group-II after performing breathing exercises as measured by modified menopausal rating scale at $p<0.05$ level of significance is accepted. As a result, H1 hypothesis is accepted, H0 as well as H2 hypothesis is rejected.

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