

A STUDY TO ASSESS THE EFFECTIVENESS OF DEEP BREATHING EXERCISES ON REDUCTION OF MENOPAUSAL SYMPTOMS AMONG WOMEN OF AGE BETWEEN 40 TO 50 YEARS IN SHANKAR NAGAR JALNA MAHARASHTRA

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ABSTRACT: A quasi experimental study was conducted to assess the effectiveness of deep breathing exercise to reduce the menopausal symptoms among menopausal women of age group 40 to 50 years of Shankar Nagar Jalna, Maharashtra, India. Data was collected from Shankar Nagar, Jalna. The study design used for the study was non randomized control group design. A total 40 women were selected by non- probability convenience sampling technique. A pre-test is done by using a menopausal rating scale. After pretest an intervention was given as deep breathing exercise for 25 min up to the 5 days, then finally the post -test assessment was done to assess effectiveness of deep breathing exercise on menopausal symptoms using menopausal rating scale. This study finding could help to reduce the complications of menopause among women of age between 40 to 50 years.

INTRODUCTION:

In today's society, women have achieved a very active role. Women are the primary caretakers of children and elders in every country of the world. International studies demonstrate that when the economy and political organization of a society change, women take the lead in helping the family adjust to new realities and challenges. They are likely to be the prime initiator of outside assistance, and play an important role in facilitating (or hindering) changes in family life.

Menopause can happen in 40s or 50s, but the average age is 51 in the United States. Menopause is the end of a woman's menstrual cycle and fertility. It happens when the ovaries no longer make oestrogen and progesterone, two hormones needed for a woman's fertility, and periods have stopped for 1 year. The term "menopause" is commonly used to describe any of the changes women experience either just before or after they stop menstruating, marking the end of their reproductive period. Menopause simply means the end of menstruation for one year. As women age, there is a gradual decline in the function of their ovaries and the production of oestrogen.

Menopause is a natural biological process. But the physical symptoms, such as hot flashes, and emotional symptoms of menopause may disrupt your sleep, lower your energy or affect emotional health. There are many effective treatments available, from lifestyle adjustments to hormone therapy. This stage usually occurs between ages of 40 to 50 years, and is associated with hormonal, physical and psychological changes. This changes can occur gradually or abruptly. It can start as early as the age of 30 years or not until as late as 50 years. It can also occur when ovaries are remove or have stopped functioning. The mean age of onset of the menopausal transition is 47 years and commonly lasts approximately 4 to 5 years.

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.

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 stress and calm down the body and mind. Inhaling, exhaling a few deep breaths every day could make a drastic improvement in your lifestyle. No, we are not exaggerating when we say this.

NEED FOR STUDY:

Nowadays menopausal problems after menopause are common because of the hormonal changes and life practices. It is necessary that mothers should be educated regarding the alternatives for alleviating menopausal symptoms. Deep breathing exercise is considered as one of the simple, cost effective and natural methods. The studies are conducted in related to menopausal symptoms. But still in our society women are unaware about deep breathing exercise as treatment to cure the menopausal symptoms. Also very less study conducted on awareness of deep breathing exercise for reducing menopausal symptoms, motivate the researcher to do this study the researcher has a view that the studies may help to gain and insight into the problems faced by menopausal women.

STATEMENT OF PROBLEM:

A study to assess the effectiveness of demonstration of deep breathing exercises on reduction of menopausal symptoms among the women of age between 40 to 50 years in Shankar Nagar, Jalna, Maharashtra.

OBJECTIVES:

- To assess the pre-test level of menopausal symptoms among experimental and control group.
- To assess the post- test level of menopausal symptoms among experimental group and control group.
- To compare the effectiveness of deep breathing exercises on menopausal symptoms in pre-test level and post -test level among menopausal women.
- To find out the pre-test association of menopausal symptoms score with selected demographic variables among women aged between 40-50 years.

HYPOTHESIS:

H₁: There will be significant difference in the menopausal symptoms score of experimental group and the control group.

H₂: There will be significant pre-test association of menopausal symptoms score with selected demographic variables among women aged between 40-50years.

METHODOLOGY:

The methodology is the blueprint of the study. In other words, it outlines how the study will be conducted. (Polit & Beck, 2014).

Research Approach: it is defined the approach as a general set of orderly disciplined procedure used to acquire information. A quantitative approach is used in this study.

Research Design: Research design is the plan and strategy of investigation for answering the research questions. It is an overall blue print, with the researcher selected to carry out this study. Quasi Experimental design [Non randomized control group design] is used in this study.

Samples	Group	Sample size	Pre-test	Intervention	Post-test
Menopausal women	Experimental group	20	X ₁	DBE	X ₂
Menopausal women	Control group	20	Y ₁	-----	Y ₂

Population:

The target population of the study constitute womens of age between 40-50 years in community.

Description of the Study:

The study was conducted in Shankar Nagar at Jalna. It is located 550 m away from Vasantnao Naik College of Nursing.

SAMPLING:

- **Sample:** Women of age between 40 to 50 years those who were residing in Shankar Nagar Jalna and who fulfilled the inclusion criteria.
- **Sampling technique and sample size:** The investigator selected 40 women of age between 40 to 50 years through non probability convenience sampling technique.
- **Criteria for Sample Selection:** The sample selection was based on the following inclusion and exclusion criteria.

Inclusion Criteria:

- Women who are menopausal women
- In age between 40 -50 years who are suffering from menopausal symptoms.
- Women who are willing to participate in the study

- Women who are having moderate to severe symptoms as measured by MRS Scale.
- Women are available at the time of data collection.

Exclusion Criteria:

- Women who were non-cooperative.
- Women who had Hormonal replacement therapy.
- Women who has undergone hysterectomy.
- Women who is suffering from cardiorespiratory insufficiency and illness.

VARIABLES:

Independent variable: Deep breathing Exercise

Dependent variables: Menopausal symptoms among women of age between 40-50 years.

Description of the Tool: The tool consists of 2 sections. **Section-**

A: Demographic Variables

- The demographic variables comprised 10 items such as age, education, type of family, History of family planning, Number of children, Marital status, Dietary lifestyle, Body built, Age of marriage, Number of miscarriage.

Section-B: Menopausal Rating Scale

- International versions of the Menopause Rating Scale (MRS) Lothar AJ Heinmanna has discovered the menopausal rating scale. The menopausal rating scale (MRS) is a health related quality of life scale (HROL) and was developed in response to the lack of standardized scales to measure the severity of ageing symptoms and their impact on the HROL in the early 1990's The MRS consists of a list of 11 items (symptoms or complaints)
- **(Score Interpretation)**

Sr.no	Score	Grade	Percentage
1.	1-11	Mild	Less than 25%
2.	12-22	Moderate	25% to 50%
3.	23-33	Severe	50% to 75%
4.	34-44	Very-severe	75% above

TECHNIQUES OF DATA COLLECTION: Data are the observable and measurable facts that provide information about phenomenon under study. Data collection is the process of acquiring and collecting information needed for the practicing deep breathing exercise among menopausal women. There is collection of data as target population and accessible population. Samples were selected as experimental and control group method. The survey was done to identify the number of menopausal symptoms among women of age between 40-50 years in Shankar Nagar Jalna. Those who fulfilled the inclusion and exclusion criteria were selected as a sample. Totally all menopausal women will be selected to check the menopausal symptoms by using menopausal rating scale. [MRS] Then 40 samples were selected by convenience sampling technique.

INTERVENTION:

There are 5 deep breathing exercise:

1. Relaxation Breathing Technique
2. Stimulating Breathe
3. 4-7-8 Breathing Technique
4. Alternate Nose Breathing Technique
5. Abdominal Breathing Technique

METHOD OF DATA ANALYSIS:

- **Paired't' Test :** Analysis of 'T' test is applied to test the effectiveness of demonstration of deep breathing exercise among women of age between 40 to 50 years who are living in Shankar Nagar, Jalna.
- **Chi- Square Test:** Chi- square test was used to measure association between demographic variables with pre-test level of menopausal symptoms.

RELIABILITY AND VALIDITY OF TOOL

It is the degree of consistency and accuracy with which an instruments measures the attribute for which it is design to measure this study, the tool was validated by various guide and expert in Vasantrao Naik Instituted of Nursing, Jalna .

- **Reliability:** Reliability has to do with the quality of measurement. In its everyday sense, reliability is the "consistency" or "repeatability" of measures. Reliability is the consistency of a set of measurements or measuring instruments .Reliability does not imply validity.

- **Validity:** A validity refers to getting results that accurately reflect the concept being measured. A valid measure to degree to which and instrument measure what it is supposed to be measuring. In practice, validity can also refer to the success of the research in retrieving "valid" result.

PILOT STUDY: The pilot study was conducted at Shankar Nagar Jalna .Ethical clearance was obtained through the ethical committee. A written permission was obtained from the concerned authority prior to the study.

The convenience sampling technique was used to select 10 samples .The purpose of the study was explained to each subject and written consent was obtained from them. The collected data was analyzed using descriptive and inferential statistics. The study was found feasible, practicable and acceptable .No modification was made in the tool or in the study design.

METHOD OF DATA COLLECTION: Structured Interview Schedule was used to collect the data based on the study objectives.

DATA COLLECTION PROCEDURE: The study was conducted at selected area, Jalna. In the beginning survey was done from which samples were selected by convenience sampling technique based on sampling criteria. Introduction about investigator was given to samples. Written consent was obtained and confidentiality was assured.

The pre-test was conducted. Researcher selected 40 samples through convenience sampling technique. Total samples were divided into 2 groups for the convenience. Menopausal Rating Scale was used to assess the menopausal symptoms among women of age between 40 to 50 years. The time taken by the researcher to complete the tool for each sample was 1015 minutes. The samples were asked to mark the severity of menopausal symptoms.

After the pre-test samples were taught about Deep Breathing Exercise in a calm and quite environment daily. The duration of the procedure was 25 minutes. The samples were made to practice the technique daily in front of the researcher. Each day the samples were made to practice Deep Breathing Exercises in front of the researcher. The post test was done on the 7th day of intervention.

Plan for Data Analysis: Data were collected, arranged and tabulated. Descriptive statistics like frequency, percentage and mean were used for categorical data. Inferential statistic was used to find out the effectiveness of deep breathing exercise among women age between 40 to 50 years. And Chi-Square test was used to associate pre-test menopausal symptom score with the demographic variables.

RESULT:

- Most of women in experimental and control group were at the age of 41-45 years.
- Majority of women in experimental and control group were educated up to primary education.
- Many of women in experimental and control group were belong from nuclear family.
- Highest number of women in experimental group and control group were not having history of family planning
- Maximum number of women in experimental group and control group were having two children.
- Largest number of women in experimental group and control group were married at age of less than 15years.
- Almost majority of women in experimental group and control group were followed vegetarian diet.
- Among total number most of women in experimental group and control group had moderate body built.
- Out of total number of women, majority of the women in experimental group and control group were age at marriage less than 15 years.
- Most of women in experimental group and control group had no miscarriage.
- The tabulated value for $n=20-1$ i.e. 19 degrees of freedom was 2.09. The calculated 't' value i.e. 10.39 are much higher than the tabulated value at 5% level of significance for overall MRS score of women age 40 to 50 years which is statistically acceptable level of significance. **Hence the stated hypothesis H1 was accepted**
- The tabulated value for $n=20+20-2$ i.e. 38 degrees of freedom was 2.02. The calculated 't' value i.e. 13.23 are much higher than the tabulated value at 5% level of significance for overall MRS score of women age 40-50 years which is statistically acceptable level of significance. **Hence the stated hypothesis H1 was accepted**
- It is interpreted that age in years of women of age between 40-50 years is statistically not associated with their pre- test MRS score
- The findings reveals that educational status of women of age between 40-50 years is statistically associated with their pre-test MRS score.
- This shows that type of family of women of age between 40-50 years is statistically not associated with their pre -test MRS score.
- The study clarify that history of family planning of women of age between 40-50 years is statistically not associated with their pretest MRS score
- It is clearly defined that number of children of women of age between 40-50 years is statistically not associated with their pretest MRS score.
- The study interpreted that dietary pattern of women of age between 40-50 years is statistically not associated with their pretest MRS score

- This study shows that body built of women age 40-50 years is statistically not associated with their pretest MRS score. It reveals that age at marriage of women age 40-50 years is statistically not associated with their pretest MRS score.
- Thus, there is no association of pre-test level of MRS score with number of miscarriage among women of age between 40-50years
- The chi square test was used to find out association between effectiveness of pranayama and selected demographic variables among elderly.
- The calculated p value were greater than 0.05 which confirmed the fact that there is no significance association between effectiveness of pranayama and selected demographic variables among elderly. The variables such as age, education, marital status, occupation, religion, monthly income, number of children, type of family and type of habits are not associated with pre-test pranayama score.
- The calculated p value was less than 0.05 which confirmed the fact that there is significance association between effectiveness of pranayama and selected demographic variable among elderly. The variable gender is associated with pre-test pranayama score. **Hence the stated Hypothesis H₂ was accepted.**

REFERENCE:

1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5455070/>
2. <https://pubmed.ncbi.nlm.nih.gov/21790835/>
3. <https://ajner.com/AbstractView.aspx?PID=2020-10-4-1>
4. <https://www.mayoclinic.org/diseases-conditions/hot-flashes/expert-answers/paced-breathing/faq-20119343>
5. <https://www.statisticshowto.com/probability-and-statistics/chi-square/>
6. https://en.wikipedia.org/wiki/Chi-squared_test
7. <https://www.uofmhealth.org/health-library/uz2255https://www.healthline.com/health/menopause#:~:text=Menopause%20is%20the%20natural%20cessation,to%20early%20onset%20of%20menopause>



Section-A: The Demographic Profile for women of age between 40 to 50 years

N=40

Sr.no	Demographic Variables	No. of samples
1	Age (in years)	a) 41-45 years
		b) 46-50 years
2.	Educational status	a) Illiterate
		b) Primary education
		c) Secondary education
		d) Graduation
3.	Types of family	a) Nuclear
		b) Joint
4.	History of Family Planning	a) Yes
		b) No
5.	Number of children	a) 1
		b) 2
		c) 3 and above
6	Marital Status	a) Married
		b) Unmarried
		c) Widows
7.	Dietary lifestyle	a) Vegetarian
		b) Non-vegetarian
8.	Body built	a) Thin
		b) Moderate
		c) Obese

9.	Age of marriage	a) ≤15 years
		b) 16-20 years
		c) ≥ 21 years
10.	No. of miscarriage	a) 0
		b) ≤ 2
		c) >2

TOOLS

Section-B: Menopause Rating Scale (MRS)

Menopause Rating Scale (MRS)

Which of the following symptoms apply to you at this time? Please, mark the appropriate box for each symptom. For symptoms that do not apply, please mark 'none'.

Symptoms:

	none	mild	moderate	severe	very severe
	-----	-----	-----	-----	-----
Score =	0	1	2	3	4

- | | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Hot flushes, sweating (episodes of sweating) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Heart discomfort (unusual awareness of heart beat, heart skipping, heart racing, tightness)..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Sleep problems (difficulty in falling asleep, difficulty in sleeping through, waking up early) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Depressive mood (feeling down, sad, on the verge of tears, lack of drive, mood swings) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Irritability (feeling nervous, inner tension, feeling aggressive) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Anxiety (inner restlessness, feeling panicky)..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Physical and mental exhaustion (general decrease in performance, impaired memory, decrease in concentration, forgetfulness) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Sexual problems (change in sexual desire, in sexual activity and satisfaction) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Bladder problems (difficulty in urinating, increased need to urinate, bladder incontinence)..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Dryness of vagina (sensation of dryness or burning in the vagina, difficulty with sexual intercourse) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Joint and muscular discomfort (pain in the joints, rheumatoid complaints) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Score Interpretation:

Sr.no	Score	Grade	Percentage
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