

A Study on Effect of Yoga and Dietary Practices on Health Parameters of Menopause Women

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Abstract:

The investigation studying the impact of yoga on the health status of early-menopause, during menopause and post-menopausal women in terms of Physical (anthropometry), and physiological variables namely signs and symptoms, to document the dietary practices, and to develop an educational module for menopausal women. A total of 50 menopausal women between the age group of 40-55 years were selected for the study. General information regarding the subjects was collected using questionnaires and personal interviews. The information on anthropometric measurements viz., height, weight, waist-to-hip ratio and BMI were calculated further dietary habits like frequency of food consumption pattern were recorded. Information about the age of onset of menopause age of the respondent, was collected. Good results were observed in percent of recovery among the physiological variables i.e. signs and symptoms of Early, During and Post menopause women after yogic intervention.

This study shows the physiological variables namely the signs and symptoms of early-menopausal, during-menopausal and post-menopausal women where the number of women found with irritability symptom was 7 out of 10, 14 out of 15 and 19 out of 25 among the early, during and post-menopausal groups respectively before intervention. whereas fall in number and change in recovery percent was observed as 57%, 71% and 68% among early, during and post menopausal groups after yogic intervention respectively. The percent of recovery of the symptom Mood swings was observed as 75% in early, 64% in during and 100% in post menopause women after yogic intervention. Recovery percent for Tension and depression noted symptom was observed to be 60%, 38% and 58% among early, during and post menopause women after yogic intervention. Joint and muscle pain was commonly observed among all the groups and there was great change in recovery percent observed after intervention of yoga i.e. 73% in during menopause group 62% in early and 61 percent among post menopause women. Almost similar results were found in all the groups which shows that yogic intervention is very much effective on the symptom of joint and muscle pains. There was no recovery percent observed before and after yogic intervention in symptoms namely facial hair growth, dry and wrinkle skin and tender breasts as they might be influenced by factors like genetics, age and might need more time for practice of yoga. Thus, these observations show that yogic intervention has positive effect on the above symptoms among menopause women.

Keywords: Menopause, Yoga, Meditation, Pranayama, Menopause foods.

Introduction:

Menopause is a natural part of a woman's life. It is a phase when she no longer experiences menstruation, technically her body begins to produce less and less progesterone and estrogen, and eventually her periods cease. Menopause typically occurs in a woman's late 40's to early 50's. A "Premature" menopause is one which occurs spontaneously before the age of 40 as a result of surgical removal, irradiation or abnormalities of ovaries, occurring in the fashion in 8 per cent women [3] (Devi et al.,2003).

During menopause, the women develops certain physical, physiological changes. The symptoms start appearing soon after the ovaries stop functioning. The main cause for the symptoms is lack of estrogen and progesterone. The symptoms may be mild in some and severe in others. Physiological symptoms namely Hot-flushes, dizziness, faintness, nausea, vomiting, bloating, dryness, muscle and joint pains, anorexia, night sweats, changes in bowel habit, weight gain, headaches or migraines, pelvic discomfort, skin and hair disorders, edema and swelling. These in turn are thought to increase the risks of various chronic diseases including heart diseases and osteoporosis [4] (Frankenfeld et al.,2003).

Behavioral changes of menopause women include avoiding social activities, lowered work performance, staying at home and in bed. All these, psychological and physiological changes have impact on food intake and food choices of menopausal women. It is an established fact that well balanced diet is important for good health and to combat some of the complications of menopause to certain extent. Therefore, there is a need to study the nutritional status of menopausal women [1] (Agarwal R P *et al.*,2003).

Typically lasting 5-10 years, the menopausal transition is associated with symptoms including hot flushes, night sweats, and liable mood. As these symptoms often hinder a woman's successful functioning in everyday life, hormone therapy is commonly early scribed as a means to diminish symptoms. However, many women are seeking complementary and alternative treatments due to side effects and/or detrimental health-risks associated with conventional therapies. A mixed methods study helped to determine changes in physiological symptoms associated with menopause and changes in women's quality of life, as a result of participation in a ten-week yoga intervention [2] (Brandi M. Crowe *et al.*,2015)

Similar results were found in a study conducted on "Effect of yoga on menopausal symptoms" by [5] Joshi S *et al.* 1998, they proved that the effect of yoga on menopausal symptoms using a prospective, randomized, controlled and interventional study. On day 90, the scores in the yoga group showed a reduction in score on all sub scales, which was statistically significant. No significant difference was noted in the control group. Yoga is effective in reducing menopausal symptoms and should be considered as alternative therapy for the management of menopausal symptoms. Effect of Yoga on Objective and Subjective Menopausal Hot Flashes [8] (GLAM) (2000). The purpose of this research study is to compare yoga and health and wellness classes

for helping peri menopausal or newly postmenopausal women who are experiencing hotflashes.

METHODOLOGY:

A detailed Questionnaire was structured to collect necessary information of the subjects. The details of various aspects of questionnaire includes general information of menopausal women such as age, education, occupation, type of family, income, number of children were collected by self-structured questionnaire through personal interview method.

Details about The Menopause women: Information about the age of onset of menopause of the respondent, present and past trend of menstrual cycle, number of days of bleeding at present and past symptoms of menopause and irregularity of menses were collected.

The lifestyle pattern of the women such as exercise behavior and physical activities performed were assessed by personal interview.

SAMPLE DESIGN:

Visakhapatnam (Phase 1)

Sivajipalem AU quarters (40– 55 age)

75 Women (Phase 2)

50 menopausal women selected (Phase 3)



YOGA INTERVENTION (8 weeks- 8 sessions)

(40-45 yrs., n=10)

Early-menopause women group

(51-55 yrs., n=25)

Post-menopause women group

(46-50 yrs., n=15)

During-menopause Women group

SAMPLE SELECTION

The sample for this study consists of 50 women both working women and housemakers living at Sivajipalem, AU quarters area, Visakhapatnam. They are divided in to three groups: 10 women of age group 40-45 years (Early- menopause) before onset of menopause.15 women of age group 46-50 years (During- menopause) during onset of menopause.25 Women of age group 55 years (Post- Menopause) after onset of menopause.

INTERVENTION

Yogic regimes were suggested among the selected menopause women of AU Staff quarters Sivajipalem. Total eight sessions for 8 weeks were given for the selected sample who were divided into three batches as early-menopause, during-menopause and post-menopause groups.

Every weekend Nutrition Awareness sessions included symptoms of menopause, factors affecting menopause and diets for menopause like Iron, calcium and fiber rich diets, balanced diet concept was explained and importance of omega fats essential fats as well as complete protein foods were suggested, functional foods for menopause were included in diet, vitamin A, D, C and B complex foods were suggested for each batch. Weekday sessions included yogic intervention pre and post test results were observed i.e. yoga asanas for menopause, meditation and pranayama techniques were taught both theoretically and practically.

The present study in the year 2019 consisted of three phases. In Phase 1, permission was obtained from the yoga village. After seeking permission from the head of the department of yoga, Andhra University, then the women of age 40-55 years were informed and explained about the purpose of the study, finally 50 women were selected. The researcher gave instructions to them about filling of the questionnaire. They were asked to read the instructions carefully and give their authentic responses after reading each

of the items and select responses. They were informed to respond only to one option to every item. The respondents were also told to answer all the items without fail. They were also informed that the responses will be kept highly confidential and used for research purpose only. The instrument was administered. Whenever doubts were raised, the researcher explained to the sample.

In phase 2, based upon the findings of phase 1 data, a yoga module intervention was designed with the help of yoga expert guide.

YOGA SCHEDULE

| | |
|------------------------------|-------------------|
| Prayer | 5mins |
| Pawana mukta series(warm up) | 10 min. |
| Suryanamaskaras | 10 min. |
| Sitting and Standing asanas | 10 min. |
| Khapalabathi | 5mins |
| Pranayama | 5mins |
| Meditation | 5mins |
| End prayer | 5mins |
| Total time | 50- 60mins |

Yoga for a period of eight weeks was administered for all the three groups. In Phase 3, testing of the effectiveness of the developed yoga module intervention was done on the selected experimental groups. Soon after the completion of intervention of eight weeks’ duration Post-test on symptoms of early-menopause group, during-menopause group and post-menopausal women group was conducted. The responses of subjects were analyzed in frequency and percentages, mean values in tabular form are shown in the results.

RESULTS AND DISCUSSION:

The results related to demographic profile, anthropometry, dietary history, and physiological assessment (pre and post intervention) are included in this section.

The data collected on the demographic profile of 50 women consisting of 10 women of early-menopause, 15 women of during-menopause and 25 women of post-menopause are presented in Table 1. Among the different age groups, majority of early-menopausal (90%) were in 40-45 years followed by 46-50 years (10%). While, 50 percent of during-menopausal and post-menopausal women belonged to the age group of 46-50 years followed by 51-55 years (40%) and 40-45 years (12%).

Table 1: Demographic profile of Menopausal Women (N=50)

| Particulars | Stage | | | | | |
|--------------------------|----------------------------|-------|------------------------------|-------|---------------------------|-------|
| | Early-menopausal (n=10) | | During -menopausal (n=15) | | Post-menopausal (n=25) | |
| | Frequency | % | Frequency | % | Frequency | % |
| Age(years) | | | | | | |
| 40-45 | 9 | 90.00 | 7 | 46.67 | 3 | 12.00 |
| 46-50 | 1 | 10.00 | 8 | 53.33 | 12 | 48 |
| 51-55 | - | - | - | - | 10 | 40 |
| Educationalstatus | | | | | | |

| | | | | | | |
|---------------------------------------|----|--------|----|--------|-------|-------|
| Illiterate | - | - | 1 | 6.67 | 2 | 8.00 |
| High school | 2 | 20.00 | 8 | 53.33 | 15 | 60.00 |
| Graduate | 4 | 40.00 | 4 | 26.67 | 6 | 24.00 |
| Post-graduate | 4 | 40.00 | 2 | 13.33 | 2 | 6.00 |
| Occupational status | | | | | | |
| Employed | 4 | 40.00 | 1 | 6.67 | 1 | 4.00 |
| Non-employed | 6 | 60.00 | 14 | 93.33 | 24 | 96.00 |
| Types of family | | | | | | |
| Nuclear | 10 | 100.00 | 15 | 100 | 21 | 84.00 |
| Joint | - | - | - | - | 4 | 16.00 |
| Marital status | | | | | | |
| Married | 10 | 100.00 | 15 | 100.00 | 23 | 92.00 |
| Un-married | - | - | - | - | 2 | 8.00 |
| Number of children | | | | | | |
| 1-2 | 9 | 90.00 | 9 | 60.00 | 16 | 64.00 |
| 3-4 | 1 | 10.00 | 4 | 26.66 | 5 | 20.00 |
| >4 | - | - | 1 | 6.67 | 2 | 8.00 |
| No children | | | 1 | 6.67 | 2 | 8.00 |
| Family Income (Rs./>10,000) | | | | | | |
| LIG(<10,000) | 2 | 20.00 | 2 | 13.3 | 5 | 20.00 |
| MIG (10,000-25,000) | 8 | 80.00 | 13 | 83.33 | 20 | 80.00 |
| Food Habits | | | | | | |
| Vegetarians | 9 | 90.00 | 12 | 70.00 | 23.00 | 92.00 |
| Non-Vegetarians | 1 | 10.00 | 3 | 30.00 | 02 | 8.00 |
| Tubectomystatus | | | | | | |
| YES | 1 | 10.00 | 5 | 40 | 18 | 70.00 |
| NO | 9 | 90.00 | 9 | 60. | 7 | 30.00 |

When the women were distributed based on education level, nearly half the during-menopausal and post-menopausal women (53.33% and 60% respectively) and only 20% of early-menopause women had high school education. Only (6.67%) and (8%) were illiterates in during -menopausal and post-menopausal groups and none of them belonged to illiterate category in early-menopausal group.

Higher percentage of early-menopausal women had graduation and post-graduation (40% and 40% respectively) when compared to during -menopausal (26.67% and 13.33% respectively) and post-menopausal women (24% and 6% respectively).

Majority of the early-menopausal (60%), During –menopausal (93.33%) and post-menopausal women (96%) were not gainfully employed. About 40% of early-menopause, (6.66 %) of During -menopausal and only (4%) of post-menopausal women were employed. Nuclear family system was common among

the study group. All of the early-menopausal women and majority of during –menopausal (86.66%) and post-menopausal women (98%) belonged to nuclear type of family, while very few belonged to joint family from post-menopausal women (92%) were married and a few post-menopausal women were found unmarried (8%).

Majority of early-menopausal (90%) and 60 per cent of During -menopausal and 64 per cent of post-menopausal women had one to two children. 80 per cent of early, during and post-menopausal women belonged to middle income group and rest of them were in low income group (20%, 13.33% and 20% respectively)

Maximum number of women (early-menopausal 90%, during-menopausal 80% and post-menopausal 92%) were vegetarians. Women who had undergone tubectomy (early-menopausal women 10%, during-menopausal women 60% and post-menopausal 72%). Majority of women undergone tubectomy during the period of menopause and after attaining menopause.

Table 2. Mean anthropometric measurements of menopausal women

| Types | Stages | Mean |
|--------------------------|--------------------|---------------|
| Height (cm) | Early-menopausal | 146.00 ± 24.8 |
| | During -menopausal | 152.00 ± 3.46 |
| | Post-menopausal | 149.12±19.85 |
| Weight (kg) | Early-menopausal | 60.90 ± 9.04 |
| | During -menopausal | 61.60±9.81 |
| | Post-menopausal | 67.11±9.22 |
| Waist circumference (cm) | Early-menopausal | 86.60±7.71 |
| | During -menopausal | 86.90±11.10 |
| | Post-menopausal | 89.61±8.47 |
| Hip circumference(cm) | Early-menopausal | 102.00±8.36 |
| | During -menopausal | 103.00±7.16 |
| | Post-menopausal | 110.87±8.86 |

The mean height was higher in During -menopausal women (152 cm) compared to post-menopausal women (149.12 cm) and early-menopausal women (146 cm), with no significant difference. The mean weight was maximum for post-menopausal women (67.11 kgs) followed by During -menopausal women (61.6 kgs) and early-menopausal women (60.9 kgs). The difference between the means for early and post-menopausal women was found to be significant at 5 % level. On the contrary, differences between during and post-menopausal women was found to be significant at 1 per cent level. Similar trend was observed for hip circumference.

The mean hip circumference of post-menopause women was highest (110.87 cm) followed by during-menopausal and early-menopausal (103 cm and 102cm). The mean waist circumference of post-menopausal women(89.61 cm) was found to be higher when compared to early-menopausal(86.6%) and During -menopausal women(85.9 cm), with no significant difference

Table 3. Mean BMI and WHR of menopausal women

| Indices | stage | mean |
|---------|---------------------|------------|
| BMI+ | Early-menopausal | 26.50±3.05 |
| | During --menopausal | 26.80±3.75 |

| | | |
|-----|---------------------|------------|
| WHR | Post--menopausal | 29.15±3.39 |
| | Early-menopausal | 0.83±0.05 |
| | During --menopausal | 0.82±0.05 |
| | Post--menopausal | 0.80±0.03 |

The mean BMI and WHR of menopausal women. Mean BMI was higher in post-menopause women (29.15%) followed by During -menopause women (26.8) and early-menopause women (26.5). The mean BMI of post-menopausal women was higher compared to early and post-menopausal women. The mean waist to hip ratio of early-menopause women was maximum (0.83) followed by During -menopause women (0.82) and post-menopause women (0.80). The mean WHR of early-menopause women was significantly higher when compared to post-menopausal women and that of During -menopause women.

Table 4. Exercise Behavior of menopausal women

| particulars | Stage | | | | | |
|------------------------------|-------------------|-------|--------------------------|-------|------------------|-------|
| | -menopausal(n=10) | | During-menopausal (n=15) | | menopausal(n=25) | |
| | Frequency | % | Frequency | % | Frequency | % |
| Exercising habit | 6 | 60.00 | 9 | 60.00 | 7 | 28.00 |
| yes | 4 | 40.00 | 6 | 40.00 | 18 | 72.00 |
| No | | | | | | |
| Type of exercise | | | | | | |
| walking | 4 | 40.00 | 8 | 53.33 | 12 | 24.00 |
| yoga | 1 | 10.00 | 1 | 6.66 | - | - |
| walking and yoga | 1 | 10.00 | - | - | 1 | 4.00 |
| Period of initiation | | | | | | |
| 1-2 | 3 | 30.00 | 4 | 26.67 | 1 | 4.00 |
| 2-5 | 3 | 30.00 | 5 | 33.33 | 4 | 16.00 |
| 5-10 | | 40.00 | - | - | 2 | 8.00 |
| Frequency of exercise | | | | | | |
| Daily | 2 | 20.00 | 2 | 13.33 | 2 | 8.00 |
| Once a week | 1 | 10.00 | 2 | 13.33 | 2 | 8.00 |
| Thrice a week | 3 | 30.00 | 5 | 33.33 | 6 | 12.00 |
| Duration | | | | | | |
| 30 minutes | - | - | - | - | 3 | 12.00 |
| 45 minutes | 1 | 10.00 | 2 | 13.33 | 3 | 12.00 |
| 1 hour | 8 | 45 | 7 | 46.66 | 1 | 4.00 |

A Higher percentage of During-menopausal women were 60%, who exercised compared to Early- and Post-menopause women were 55% and 28% respectively. Among the exercising women, walking was the form of exercise performed by higher number of During-menopausal women were 56.67% followed by early and post-menopausal women 45 % and 24 % respectively.

Very few of the During-menopausal (3.33%) and early-menopausal (5%) followed yoga. About (5%) from early and (4 %) from Post-menopausal women did walking as well as yoga. Most of the During-menopausal has started doing exercise for the last 2-5 years were (33.33) when compared to early-menopausal were (30%) and post-menopausal women (16%) and about 26.67, 25.00, and 4.00 percent of during-menopausal, early-menopausal and post-menopausal women had started doing exercise for the last 1-2 years and only very few of post-menopausal women (8%) were doing exercise from last 5-10 years.

Higher percentage of women in early-menopause women performed exercise daily when compared to during-menopause and post-menopause women, (early-menopausal 20%, during-menopausal 16.67 % and post-menopausal women 6%). Equal number of During- and Post-menopausal women each 10% and 5%. Early-menopausal women exercised thrice a week compared to post-menopausal women i.e. during-menopausal 33.3%, early-menopausal 30% and post-menopause women 12%.

Table 5. Mean Nutrient Intake of early, during and post-menopausal women

| Nutrients | Stages of Menopause | | | |
|------------------------|------------------------------|--------------------------------|-----------------------------|--------|
| | Early-menopause women (n=10) | During- Menopause women (n=15) | Post-Menopause women (n=25) | RDA* |
| Energy (kcal /day) | 2204 ± 321 | 2236 ± 415 | 2206 ± 713 | 1875 |
| Proteins (g/day) | 65.59 ± 12.90 | 69.13 ±13.36 | 64.69 ±15.80 | 50 |
| Fat (g/day) | 53.98 ± 13.48 | 55.16 ± 14.12 | 52.92 ± 14.18 | 20 |
| B-Carotene (mg/day) | 2170.45 ± 2275.60 | 2469.03 ± 2088.63 | 1824.66± 1853.87 | 2400.0 |
| Thiamine (mg/day) | 1.33 ± 0.27 | 1.34± 0.66 | 1.15 ± 0.49 | 0.90 |
| Ascorbic acid (mg/day) | 35 ± 2.16 | 31 ± 2.86 | 32 ± 1.39 | 40.00 |
| Calcium (mg/day) | 248.85 ± 104.78 | 229.69 ± 105.37 | 279.90 ± 154 | 400.00 |
| Iron (mg/day) | 33.56 ± 10.30 | 28.80 ± 0.66 | 23.36 ± 3.19 | 30.00 |

*[10] RDA by ICMR 2010

The mean nutrient intake of menopausal women is presented in Table 3. The mean energy intake among During-menopausal women was slightly higher compared to post and early-menopause women (2236, 2204, 2206 kcal/day) for energy respectively. The mean intake of proteins in early, during and post menopause women was (69.13,65.59,64.69 g/day) respectively, B-carotene levels almost met the RDA among early-menopause and during-menopause group i.e. 2170 and 2469 mg/day respectively whereas

B-carotene was slightly deficient among Post-menopause group women may be due to lack of absorption age as a factor. Thiamin was almost met the RDA in all three groups i.e. nearly 1mg/day. The ascorbic acid intake was below the RDA ranging between 31 mg/day to 35mg/day in all the three groups which might affect Iron absorption among the menopause women. Appropriate diets and foods were suggested among all the three groups during weekend sessions. The mean intake of Calcium was found to be below the RDA levels among all the three groups i.e. very low in during-menopause group (229mg/day), (248mg/day) among early-menopause group and (279mg/day) among post-menopause group. The mean intake of Iron was found to be 33mg, 28mg and 23 mg/day among early, during and post-menopausal women which shows slight iron deficiency among during-menopausal group and much difference in RDA levels was found in post-menopausal group.

Table 6. shows the physiological variables namely the signs and symptoms of early-menopausal women, during-menopausal and post-menopausal women where the number of women found with irritability symptom was 7 out of 10, 14 out of 15 and 19 out of 25 among the early-menopausal group, during-menopausal and post-menopause groups respectively before intervention. whereas fall in number and change in recovery percent was observed as 57%, 71% and 68% among early-menopausal, during-menopausal and post menopause groups after yogic intervention respectively.

The percent of recovery of the symptom Mood swings was observed as 75% in early-menopause women, 64% in during-menopause and 100% in post-menopause women after yogic intervention. Recovery percent for tension and depression noted symptom was observed to be 60%, 38% and 58% among early-menopausal, during-menopausal and post menopause women after yogic intervention.

Joint and muscle pain was commonly observed among all the groups and there was great change in recovery percent observed after intervention of yoga i.e. 73% in during-menopause group 62% in early-menopause women and 61 percent among post menopause women. Almost similar results were found in all the groups which shows that yogic intervention is very much effective on the symptom of joint and muscle pains.

For the Symptom of thinning and hair loss, good recovery percent observed in early menopause group i.e., 71% after yogic intervention where as during- menopause and post -menopause groups showed 46% and 16% only. 80 to 100% results were observed after yogic intervention for the symptoms like headache, migraine, sleep disturbances and water retention and loss of bladder control. Thus, these observations show that yogic intervention has positive effect on the above symptoms among menopause women. There was no recovery percent observed before and after yogic intervention in symptoms namely facial hair growth, dry and wrinkle skin and tender breasts as they might be influenced by factors like genetics, age and longer time for practice of yoga.

The physiological changes observed among menopause women may be also due to the nutrient deficiencies like calcium, iron and vitamin C which were presented in table 5. some nutrients were adequately met as per RDA among the early, during and post-menopausal groups but the symptoms like muscle and joint pains or hair loss, headache and migraine may be due to lack of absorption among menopausal women. In the post-menopause group most of the nutrient intake was good but lack of absorption might be the reasons for the severity of signs and symptoms. A pilot study on Integral Yoga on Hot flushes showed benefits of yoga for reducing hot flashes [6] (Nancy E. Avis, et al.,2015). [11] Vasudeven, et al., (1994) have found that Statistically significant reduction in pain perception was observed. Yogic Meditation was effective in reducing tension headache. Yoga is most commonly used complementary therapies for menopausal symptoms [7] (Lunny.C.A et al., 2010).

Table . 6. Menopausal symptoms of early, during and post-menopausalwomen. (before and after yoga intervention)

| Physiological Signs and Symptoms | stage | | | | | | | | |
|----------------------------------|---------------------|--------------------|---------------|---------------------|--------------------|---------------|----------------------|--------------------|---------------|
| | menopausal(n= 10) | | | menopausal(n = 15) | | | – menopausal(n = 25) | | |
| | Before Intervention | After Intervention | % of Recovery | Before Intervention | After Intervention | % of Recovery | Before Intervention | After Intervention | % of Recovery |
| Irritability | 7 | 3 | 57.1 | 14 | 4 | 71.1 | 19 | 6 | 68.4 |
| Mood swings | 4 | 1 | 75 | 14 | 5 | 64.2 | 22 | 0 | 100 |
| Tension and depression | 10 | 4 | 60 | 12 | 8 | 33.3 | 12 | 5 | 58.3 |
| Aching joints and muscles | 8 | 3 | 62.5 | 15 | 4 | 73.3 | 21 | 8 | 61.9 |
| Dry and wrinkly skin | 2 | 2 | 0 | 6 | 5 | 16.6 | 3 | 3 | - |
| Facial hair growth | 2 | 2 | 0 | 4 | 4 | 0 | 0 | 0 | - |
| Thinning and hair loss | 7 | 2 | 71 | 13 | 7 | 46.1 | 24 | 20 | 16.6 |
| Headaches/ migraines | 9 | 2 | 77 | 15 | 3 | 80 | 10 | 2 | 80 |
| Heart palpitation | 3 | 0 | 100 | 11 | 9 | 81.1 | 9 | 6 | 33.3 |
| Hot flushes | 2 | 0 | 100 | 15 | 8 | 46.6 | 14 | 6 | 57 |
| Night sweats | 4 | 1 | 75 | 14 | 6 | 42.8 | 9 | 4 | 55 |
| Sleep disturbances | 7 | 0 | 100 | 15 | 7 | 53.3 | 23 | 3 | 86.9 |
| Loss of bladder control | 9 | 4 | 55.5 | 11 | 1 | 90.9 | 21 | 8 | 61.9 |
| water retention | 3 | 0 | 100 | 8 | 4 | 50 | 4 | 0 | 100 |
| Breast tenderness | 5 | 5 | nil | 15 | 13 | 13.3 | 3 | 3 | nil |

From this study it can be concluded that menopausal phase has been a moderate problem in the study group. The abdominal obesity prevalent among women may create health related problems. Hence an intensive orientation and education is absolutely necessary. Yoga, meditation and Pranayama and diet can do miracles among these women.

Conclusion:

The amazing thing about Yoga is that its positive effects on the health and mind are visible over time. Another specialty about yoga is wide choice of asanas. Depending upon the stamina and overall health, one can choose from mild pranayama, asanas to high intensity asanas. It is a medication without the actual cause of medicines. Moreover, no visible side effects are associated with the practice of yoga on a regular basis. All you need to know is the most appropriate exercises meant for the structure of body, while choosing the asanas of the activity. In addition, one needs to know the right way of performing the asnas because any wrong attempt can cause sprain and injuries.

Healthy women can cope up with all the problems faced due to Stress and hormonal changes during different age level. Physiological changes during menstruation may cause stomach pain, headache and other Premenstrual Syndrome due to hormonal changes, so to overcome these troubles the female should be healthy. Yoga can help Women to manage all the health issues and develop the state of their body and mind. Yoga poses are intended to tone and exercise the muscles of the body to remove excess fat, and formulate it more flexible and stronger. Practicing yoga can provide women with both unpredicted and obvious benefits for the mind, body, and spirit. Some yoga postures relieve stress that occurs due to hormonal changes in women during pregnancy and menopause. A regular yoga practitioner has high tolerance capacity, mentally and physically more flexible and more self-confident.

Many studies concluded that Yoga improved the mental health of women. It showed that yoga improved quality of life, quality of sleep and provided peace of mind and reduced depression, anxiety and psychological symptoms of stress related problems, illness and insomnia, menopausal symptoms. It also helped breast cancer survivor to achieve psychological wellbeing. Though there were certain limitations these studies have shown the benefit of yoga on mental health of women. Yoga can be a useful tool for all physical, physiological and mental wellbeing.

Out of 120 articles found in the database, six articles entered the study based on the inclusion criteria and were investigated for intervention methods and consequences. The results indicated positive impact of yoga on quality of life in menopausal women. Considering the effects of yoga on the symptoms and quality of life in menopausal women it is suggested that this low-cost methods be used to improve their quality of life and health.[9] ([Neda Sharifi, et al., 2021](#))

Most of the volunteers felt calmness of mind, a sense of well-being, and some felt sleepy, thus supporting parasympathetic stimulation. This may be the effect of increased melatonin production after a regimen of slow breathing pranayamic exercises. Slow pranayama breathing was also reported to elicit alpha waves, indicating a parasympathetic dominance and may be the cause of the sleepy feeling. Slow pace pranayama shows a strong tendency of improving or balancing the autonomic nervous system through enhanced activation of the parasympathetic system and thus can be practiced for mental relaxation and reduction of stress of daily life.

Thus there was a very positive impact of Yoga, pranayama and meditation in alleviating the symptoms and health problems of Menopause women. The results suggest that Yoga, Meditation and pranayama

leads to Samadhi, kaivalya, eternal bliss, which aim to maintain physical fitness, mental stability, emotional quietness and spiritual elevation.

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