

The Effect of Yoga Technique on the Treatment of Menopausal Symptoms

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Abstract: Menopausal symptoms affect about 70% of women, who are approaching menopause. It is treated as a disease with drugs and hormones. But clinical trials have shown that hormone therapy is associated with increased risk of cardiovascular disease, venous thromboembolic events and dementia. Thus, nowadays women are frequently users of behavioral methods for menopausal symptoms. The goal of this study was to evaluate its probable effect of yoga on menopause syndromes. A total of 47 post menopausal women aging 45-63 participated in a 12 weeks restorative yoga intervention. Assessments were administered before, at week 4, week 8 and week 12 yoga program. Post-treatment measure was a 20 item checklist that embedded menopause symptoms within a list of every day complaints experienced during the two weeks before the interview. Questions were scored on a scale of 0-3, 0 (none), 1 (mild), 2 (moderate) or 3(severe) depend on how dramatically it affects women lives. The improvement for each symptom was defined as the absence the same symptom at week 12, if the total score was 15 or above, women were selected for yoga practice. In yoga classes thought were breathing techniques, postures and relaxation poses designed specifically for menopausal symptoms by certificated yoga teacher. Significant pre- to post-treatment improvements were found for total scores on menopause questionnaire. There was a significant effect on mean hot flash score ($p=0.001$). Mean hot flush was 0.80 ± 0.40 at baseline, 0.72 ± 0.46 at week 4, 0.54 ± 0.50 at week 8 and 0.41 ± 0.50 at week 12. No adverse events were observed. It is suggested yoga is powerful technique that can help menopausal women accept and nourish the inevitable change of life.

Key words: Yoga • Menopause • Menopausal symptoms

INTRODUCTION

Menopause is natural occurring events of women's live as they transit from the productive stage of life to the none reproductive one. In general, the cassation of menstruation occurs at a median age 50 or 51 in European countries [1-3], but the median age of menopause in Iran is 49.6 [4]. The life expectancy in women is increasing with the improved health services as well as conditions, because of a gradual increase in life expectancy in developed countries, on average, 30 years of women's life is spent in post menopausal stage menopause can be a very difficult time for women [5, 6]. In addition to begin a major cause of morbidity (rapid loss of bone density, ischemic heart disease) in postmenopausal women [7, 8], menopause and its attendant hormonal changes also

cause symptoms such as hot flushes, sleep disturbances, urinary frequency, dry vagina, anxiety, depression and decreased activity of life [9,10]. Hot flashes is a common experience for all women, for instance, approximately 85 percent of western menopausal women experience hot flash [11]. Although hormone therapy is a common practice for treatment menopausal symptom, clinical trials have raised concerns about the adverse effect of hormone therapy. In fact, hormone therapy is associated with the increased risk of heart attacks, stroke, deep venous thrombosis, pulmonary embolism and gallbladder disease [12]. Other adverse effects of HRT are: headache, nausea, water retention, phlebitis, breast tenderness, irritability [13], withdrawal vaginal bleeding which is the main reason why women stop taking HRT [14, 15]. Nowadays more women than over before, concerned about the adverse

effect of HRT are turning to yoga in an attempt to find a safe alternative to relieve menopausal symptom and improve the quality of their lives.

Yoga is an ancient science and an eastern perspective on health. It has a favorable effect on breathing, heart and blood pressure [16, 17]. Yoga relaxation techniques, such as meditation and controlled breathing reduce hot flashes [18, 19]. Yogic breathing techniques and meditation seem to help bring oxygen to the frontal cortex, the temporal, parietal areas of the brain. Yoga regulates and balances the metabolism and send energy to the areas of the brain where it is most needed [20]. The goal of any treatment for menopause is not only to be relieved from menopausal symptoms and protect women from post menopausal health conditions but also to consider the adverse effect of medicine in menopausal women.

However, very few studies have examined yoga techniques in relation to menopausal symptoms, due to this gap. We have become interested in yoga to evaluate its probable effect on menopause syndromes.

MATERIALS AND METHODS

A total of 47 post menopausal women aging 45-63 participated in a 12 week restorative yoga intervention. This study was conducted at the Babol Medical University, Iran. Subjects were recruited using advertisement in family magazines, gynecology and primary care; providers can refer to women who may be eligible or interested in participation in this study. The criteria included: the use of pharmacologic, complimentary or alternative medical treatments for menopausal symptoms within 4 weeks of enrollment as well as the inability to sign an informed consent or fill the questionnaire, then the women were provided with a medical and medication history. They also took an interview with psychotherapist, experts and certified yoga instructor. During interview, some women were excluded, if especially those considered not being eligible to understand and follow the yoga training to the end under any circumstance. The questionnaire included three parts.

Part 1: A structured questionnaire was used and the data collected as follows: Age (at interview), duration of education in year, socio-economic status, smoking, marital age, number of children, total number of abortions, marital status, BMI and job.

Part 2: the questionnaire was about the condition of menstrual at the time including the age of menopause (12 month of the last menstrual period and the cause of cessation of period) natural, surgical removal of the uterus or ovarian, the use of estrogen or oral contraceptive before reaching menopause. Hot flash symptom was assessed by asking the open ended questions, such as "what symptom do you associate with menopause this was followed by a more specific question, did you experience hot flashes?

Part 3: women were given a 20 item checklist that embedded menopause symptoms within a list of every day complaints experienced during the two weeks before the interview, hot flashes were among the symptoms listed. Questions are scored on a scale of 0-3, (none), 1 (mild), 2 (moderate) or 3 (severe) depend on how dramatically it affects women lives.

The improvement for each symptom was defined as the absence the same symptom at week 12, if the total score was 15 or above, women were selected for yoga practice. The check list was repeated at week 4, week 8 and week 12. The study protocol was approved by the research board at Babol medical University. All samples provided written informed consent prior to enrollment in the study. Subject participated in the study for 12 weeks. Certified yoga teacher gave yoga practice for three times per week (60 minute). The postures for the relief of menopause symptoms were derived from Hata yoga, a branch of yoga that focuses on deep relaxation and used props to provide total body support. During the study, all women practiced and learned eight postures presented during the yoga intervention [Balasana asana (child's Pose), Adho Mukha Shvasanara (Down ward facing dog), Boddha Konasona (Seated Bound Angle Pose), upavistha Konasana (seated wide angle pose), Viparita Karani (supported Legs up the wall) Supta Baddha Konasana (supported Lying Down Bound Angle Pose) and Savasana (corpse pose)]

No adverse events occurred during the study. All data analyses were run using SPSS version 13. Continuous variables were summarized using the mean, standard deviation and confidence intervals and to determine the effectiveness of yoga techniques in controlling menopausal symptom one way repeated measures ANOVA with the level of significance of $\alpha=0.05$.

RESULTS

A total number of 47 subjects were recruited in 12 weeks. Sixty one women attended the screening visits

Table1: Baseline characteristics of the participants

Characteristics	N=47
Age, year (mean±S.D. ¹)	52.37±0.66
BMI ² (mean±S.D)	27.63±1.11
Education, year (mean±S.D)	12.98±0.61
Mean marital age (mean±S.D)	22.09±0.68
Mean age at first full-term pregnancy (mean±S.D)	23.24±0.70
Mean number of children (mean±S.D)	3.16±0.15
Mean number of abortion (mean±S.D)	3.00±0.77
Current smoker (n %)	2.00 (4.3)
History of hysterectomy/orophorectomy (n%)	11.00 (23.4)

¹S.D: Standard deviation ²BMI: Body mass Index

Table 2: Changes in symptom scores

Measures	Baseline	Week 4	Week 8	Week 12	P value
Hot flash	0.80	0.72	0.54	0.41	0.001
Light headed feeling	0.22	0.07	0.07	0.11	0.013
Headache	0.61	0.52	0.33	0.24	0.000
Irritability	0.59	0.41	0.28	0.20	0.000
Depression	0.46	0.48	0.33	0.13	0.000
Unloved feeling	0.24	0.13	0.04	0.07	0.009
Anxiety	0.80	0.54	0.28	0.24	0.000
Mood changes	0.24	0.04	0.02	0.07	0.014
Sleeplessness	0.67	0.50	0.50	0.39	0.005
Unusual tiredness	0.72	0.59	0.61	0.33	0.001
Backache	0.72	0.70	0.54	0.30	0.000
Joint pains	0.78	0.59	0.43	0.22	0.000
Muscle pains	0.61	0.43	0.30	0.09	0.000
New facial hair	0.24	0.07	0.37	0.15	0.001
Dry skin	0.61	0.46	0.37	0.26	0.005
Drawling feeling under skin	0.40	0.22	0.24	0.07	0.004
Less sexual feelings	0.41	0.26	0.15	0.15	0.000
Day vagina	0.65	0.54	0.43	0.26	0.000
Uncomfortable intercourse	0.37	0.30	0.24	0.17	0.151
Urinary frequency	0.43	0.33	0.26	0.24	0.034

out of which 47 were selected for the study. The baseline characteristics of the subjects are shown in Table 1. The mean age of women under study was 52.37±0.66 years (rang 44.0 to 62.0). The women weight was 71.4±2.85 kg (rang 48 to 107) kg, the mean BMI was 27.63±1.11 (18.25-72) kg/m².

Of the 47 subject enrolled in the study, one subject failed to participate in the yoga training course after week 4 and two subjects after week 8. The main reasons were non medical. The most common response to the initial open ended question about symptom associated with menopause was hot flash (87%) and the other symptom volunteered were as follows: joint pains (78.7%), anxiety (78.7%), headache (72.3%), unusual tiredness (70.2%), sleeplessness (66.0%).

In addition, 38% women reported hot flash in two weeks before the interview. The changes in questionnaire scores are shown in table 2, mean of the total scores on menopause questionnaire decreased from 19.9±6.43 at baseline, 11.81±4.59 at week 4, 7.60±3.60 at week 8 and 6.0±9.60 at weeks 12. There was a significant effect for time, wilks' lambda= 0.12, P= 0.000, multivariate eta square= 0.88.

The mean hot flash score was 0.80±0.40 at baseline, 0.72±0.46 at week 4, 0.54±0.50 at week 8 and 0.41±0.50 at week 12. There was a significant effect for time, wilks' lambda= 0.693, p=0.001, multivariate eta squared=0.31.

At the end of this study, 40.4% of subjects had improvement in hot flash, 28.4% of subjects had improvement in anxiety, 57.3% had improvement in joint pain and 56.1% had improvement in muscle pain.

DISCUSSION

Less than one in three menopausal women currently choose conventional HRT because of side effects and/or a fear of increased breast cancer risk [21]. As alternative medicine and Eastern Philosophy have become more popular in the west, teachers, therapist, homeopaths, counselors and even doctors are recommending more natural approaches include yoga, to manage the menopausal years. Khalasa *et al.* [22] presented that yoga exercise might be effective in reducing tension around the lower back and ovaries, or can help them maintain the best hormone balance and improve coping with stimulation of glandular system. Meditation often dramatically lowers the breath rate and it as low as four times per minute slowing the respiration can move the body out of the flight or flight stress response and can deliver a more balanced mental state, more a weekend sensitivity and a calm perspective.

Restorative yoga emphasizes deep relaxation, gentle and supported poses. Cohena *et al.* [23], in a pilot trial showed that it is feasible to teach restorative yoga to middle aged women without prior yoga experience. It produces an improved result in measures of hot flushes frequency and severity and quality of life and sleep quality as well. No adverse events were observed. However, they believe that the restorative yoga intervention needs to be confirmed in a larger randomized controlled trial.

In our study, the majority of subjects were not different to practice yoga and to learn. The attendance in yoga classes was excellent the menopausal symptom improved at weeks 8 and 12 of yoga intervention with

gradual reduction, respectively; this improvement might be the result of decrease sympathetic tone, but our study was not adequately powered to examine change in marks of sympathetic tone.

No trials specifically examining the use of yoga for reduction of menopausal symptoms have been reported. However, the exist of a small trial using relaxation techniques derived from yoga, that evaluated paced respiration, (slow, deep breathing), muscle relaxation or biofeedback control in 33 menopausal women with frequent hot flash, paced respiration training for frequency of hot flashes by 30% progressive muscle relaxation training and the control intervention had no significant effect. No adverse reactions were noted [24]. In a more recent trial by the same investigators, 24 post menopausal women with at least five hot flashes daily were randomly assigned to either paced respiration decreased hot flashes significantly (44%); no change occurred were noted [25]. In a randomized, controlled, prospective study, 33 women were randomized to relaxation training, reading group or control group, after six weeks, the relaxation group demonstrated significant reduction in hot flush intensity, tension anxiety and depression. The control group didn't have any significant changes in these measures [26]. It is suggested yoga is powerful tool that can help menopausal women accept and nourish the inevitable change of life.

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