



Research Article

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EFFECT OF CLINICAL YOGA PACKAGE ON QUALITY OF LIFE OF PERIMENOPAUSAL WOMEN: A RANDOMIZED CONTROLLED TRIAL

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ABSTRACT

Menopause is the most critical stage of women's lives. The transition phase to menopause has an important influence on women's physical, physiological and emotional wellbeing and overall quality of life. One of the major aims of health for all in the 21st century is the improvement in the quality of life. Aim and objective is to evaluate the effect of clinical yoga packages on the quality of life of perimenopausal women. It is a randomized controlled trial conducted in the Clinical research institute of yoga and Ayurveda under the department of Swasthavritta, Vaidyaratnam P S Varier Ayurveda College, Kottakkal. A total number of 40 participants were selected by using a prepared questionnaire. The participants were randomly assigned into the study group (received yoga) (n = 20) and control group (not received yoga) (n = 20). Menopause specific Quality of Life questionnaire was used to assess the quality of life in both groups before and after 60 days. For the study group, a clinical yoga program was conducted for 60 days. The paired t-test was used to compare the changes within the group and the unpaired t-test was used to compare between the groups. The results showed that there was a statistically significant difference in the study group (P < 0.05). Concluded that quality of life on perimenopausal women could be improved with a clinical yoga package for 60 days. Thus, implementing appropriate educational programs to promote the quality of life in perimenopausal women is recommended.

Keywords: Yoga, Perimenopause, Quality of Life

INTRODUCTION

Women are the most important part of family, society and community. The phase of menarche and menopause has an important influence on the women's physical, physiological, social, spiritual and emotional wellbeing and overall quality of life. The perimenopausal phase is a transition stage from the reproductive phase to the non-reproductive phase. The World Health Organization (WHO) formulates the most appropriate definition of perimenopause. The term perimenopause should include the period immediately before menopause (when the endocrinological, biological, and clinical features of approaching menopause commence) and the first year after menopause¹. According to the Indian Menopausal Society, there will be a large increase in perimenopausal women in India².

In the perimenopausal stage, the ovaries gradually begin to make less estrogen which is the major hormone helping to stimulate parasympathetic nervous action. So, the fluctuation at the level of estrogen leads to the fluctuation of sympathetic- parasympathetic balance. A decline in the level of estrogen hormone leads to under-reactive parasympathetic action and over-reactive sympathetic action, and may produce many symptoms includes physical and emotional symptoms. These physical symptoms such as hot flashes, night sweats, memory loss and emotional symptoms like mood swings, depression may negatively affect women's health-related quality of life (HR-QoL)^{3,4}. Factors such as older age, lack of partner and/or children, unfavorable socioeconomic conditions, low social support, presence of chronic diseases, obesity and unhealthy lifestyles are associated with HR-QoL⁵. There is a considerable lack of awareness about the effects and the treatment of perimenopausal symptoms in women in India. For improving immediate symptoms of

menopause and to manage long-term consequences, hormone therapies (HT) have been used extensively. However, unfortunately, these therapies have created new concerns about the increased risk of neoplastic of the endometrium and possibly the breast.^{6,7} Therefore, the contraindication associated with HT has motivated several researchers to investigate the role of alternative therapies in the safe management of perimenopausal symptoms and improving quality of life.

Yoga, the traditional Indian body-mind science has been used effectively in various health disorders affecting almost all the major organ systems. Yoga being holistic provides the multidimensional solution for overall well-being^{8,9}. This integrated approach of Yoga helps the person to attain health by viewing the individual as a unit of body, mind, and spirit. The Pathogenesis of disease can be explained based on Pañcakōśa theory. Yoga may be particularly important to mid-life women as a safe option. It can be very effective in providing relief from physical and psychological symptoms associated with many chronic diseases and also provide good health, physical strength and enhance the overall quality of life¹⁰. The present study aims to evaluate the effectiveness of yoga on the quality of life of perimenopausal women in Malappuram district, Kerala.

MATERIALS AND METHODS

In this randomized controlled trial, simple random sampling techniques were used for the selection of participants. The total sample for the study comprised 40 of which 20 were allotted to the study group and 20 of them to the control group. Women between the age group 45-50 years with the symptoms of perimenopause were selected. Participants with a major systemic disease like DM, CVD, thyroid disorder, diagnosed fibroid

uterus, psychotic complaints, and those who have attained surgical menopause were excluded. Formal approval was obtained from the Institutional ethical committee (Approval no: IEC/CL/19/14 dated 27.5.2014). Both written and verbal information about the study were given in the local language to women who participated in the present study.

The questionnaire for the present research study comprises two sections. Section I pertained to information regarding demographic data like age, religion, marital status, etc. Section II consisted of Standardized Menopause specific Quality of Life questionnaire (MQOL) were used to assess the quality of life consist of 48 items in 8 domains - energy, sleep, Memory, Feelings, Home life, Love life, Work activities, and social interactions on a 6-point scale.¹¹

The Clinical Yoga Package training class including Sukshma vyayama, Asana, Pranayama, and Meditation (Deep relaxation technique and Naadanusandhana Meditation) for 1 hour 30 minutes were given to the study. After completing the 15-day class, they were instructed to perform the Clinical Yoga Package at home for the remaining 45 days of the intervention period. The participants under the Control group are kept as a Waitlist control group. A review was conducted for both the group on the 31st day and 61st day.

Statistical analysis was done by using Microsoft Office 2007 Excel and GraphPad In Stat version 3.05. Data was checked, analyzed, and presented with the help of tables and graphs. An unpaired t-test was used to check the difference between groups after treatment. A paired t-test was used to assess the effect of intervention within the group. Repeated measures ANOVA was done to assess the difference between observations at pre-treatment, post-treatment, and after follow-up. Post hoc analysis was done with the Tukey-Kramer Multiple Comparisons test for paired comparisons in three assessments done before, after treatment, and after follow-up.

Table 1: Comparison of Quality-of-Life Score of two groups before intervention

DOMAIN	BT MEAN		t	p
	Study	Control		
Sleep	21.65	20.85	0.90	P>0.05
Energy	14.6	14	0.87	P>0.05
Memory	12.882	13.29	0.52	P>0.05
Feelings	40.05	38.85	0.732	P>0.05
Love life	11.5	9.65	1.43	P>0.05
Home life	23.75	22.4	1.31	P>0.05
Work activities	23.5	24.65	0.60	P>0.05
Social life	18.3	14.3	3.61	P<0.01
Total	166.4	157.95	1.59	P>0.05

Table 2: Comparison of Quality-of-Life Score of two groups after intervention

DOMAIN	AT MEAN		t	p
	Study	Control		
Sleep	19.25	21.3	3.74	P<0.001
Energy	12.8	14.15	3.19	P<0.01
Memory	13.9	13.25	1.57	P>0.05
Feelings	31.7	40.15	7.27	P<0.001
Love life	12	9.9	0.37	P>0.05
Homelife	19.3	23.1	4.12	P<0.001
Work activities	16.9	25.05	6.517	P<0.001

Table 3: Comparison of the effect of CYP on QOL total score in both group after treatment

GROUP	MEAN	T	p
CASE	143.92	7.57	p<0.001
CONTROL	161.55		

RESULT

The mean age of the study group was 48.3 and, in the control, group was 48.5. Status shows that 30% in the study group and 25% in the controlled group were in the stage of amenorrhea and the remaining 70% in the study group and 75% in the controlled group were having still menstrual periods. 32% in the study group and 35% in the control group had normal menstruation period and 68% in the study group and 65% in the control had a problem during menstruation. It was observed that these two groups were similar in terms of menopausal characteristics and age.

As shown in Table 1, Menopause Quality of life Questionnaire, there are eight domains and a total score. The values of case and control groups before CYP were compared using an unpaired t-test and it was statistically insignificant at the level of $p > 0.05$ for all the domains except Social life, which means that the two groups are comparable.

The effect of the Clinical Yoga Package on Quality of life was assessed using the Menopause Specific Quality of life questionnaire is having a Total score that is representative of all the other domains like sleep, energy, memory, feelings, love life, home life, work activities, and social life. The effect of the Clinical Yoga Package in both groups was analyzed using a paired t-test. Feelings, Work activities scores were statistically significant at the level $p < 0.001$ in the study group. Sleep, energy, and home life were statistically significant at the level $p < 0.01$ in the study group. Memory, Love life and social life were statistically not significant at the level $p > 0.05$. But in the control group, all scores were statistically insignificant. To find whether the effect was due to chance RM ANOVA was done and it was highly significant at level $p < 0.001$ for sleep, feelings, work activities, and home life. Energy shows statistically significant at $p < 0.01$. When the effect of therapy of both the groups was compared using unpaired t-test a high statistical significance was observed ($p < 0.001$) in domains sleep, feelings, home life, and work activities and energy show statistical significance at $p < 0.01$ as represented in Table 2.

When the effect of CYP was analyzed using a paired t-test in the study group, the Total score showed a statistical significance at the level $p < 0.001$ but was statistically insignificant in the control group. To find whether the effect was due to chance RM ANOVA (Repeated Measures ANOVA) was done and it was highly significant at level $p < 0.001$. This shows that the result obtained in this study was more than expected by the chance effect. When the effect of therapy of both the groups was compared using an unpaired t-test a high statistical significance was observed at the level $p < 0.001$ as in Table 3. So, the Clinical Yoga Package is effective in the quality of life of perimenopausal women.

DISCUSSION

In the case of perimenopausal women, the Quality of life was closely related to Energy level, sleeping pattern, cognitive functions like memory, feelings, sexual life, home activities, work activities and their social life. These domains were mostly affected by the menopausal transitional stage. Stress affects the physical, emotional, cognitive and behavioral aspects of life thereby reducing the quality of living. Therefore, a reduction in

stress levels can result in improvement in Quality of life and vice versa.

By practicing the Sūkṣma Vyāyāma and Yōga asana in the Clinical Yoga Package is improved the regular physical activity and body flexibility. When there is an improvement in physical activity it also reflects on women's mental health and their emotional feelings and helps to increase the health-related quality of life. This statement was supported by some previous studies. A study conducted by Skrzypulec V *et al* in 2010 reported that regular physical activity like yoga can assist women in the management of symptomatic menopause and is associated with decreasing physical and emotional issues, associated with menopause.¹² Jayabharathy *et. al* in 2014 concluded that combine the practices of Yoga asanas, pranayama, and meditation increase the quality of life of perimenopausal women¹³

Most of the women complained of disturbed sleep during this perimenopausal stage. The main reason for disturbed sleep was hormonal changes happening in this stage. During perimenopause through menopause, a woman's ovaries gradually decrease the production of estrogen and progesterone, a sleep-promoting hormone. A study done by Manjunath *et. al* reported that yogic meditation improved the sleep quality of menopausal women, meditation was associated with an increased short wave sleep duration and decreased Rapid eye movement sleep duration on the night following practice¹⁴. From these findings, it can be inferred that Clinical Yoga Package is effective in improving sleep quality. Fatigue can be one of the more frustrating symptoms of menopause. Its influence on the women's energy level. By practicing Prāṇāyāma and meditation in the Clinical Yoga Package help to oxygenate the blood, Increases the amount of Prāṇā bringing into the system, and activates the energy flows through the body. This statement was supported by a study done by Jeter PE *et. al* stated that Yoga therapy especially meditation helps the brain to release more of the positive chemicals that make the person feel better and energetics¹⁵. From these findings, we can conclude that, doing meditation and pranayama help women to attain more energy levels and improve their work activities and everyday activities.

A study done by Wooley *et. al* London suggested that women who practiced Yoga found reducing levels of perceived self-objectification and increased internal bodily awareness¹⁶. Increased internal body awareness help women to improve their positive feelings and confidence level. In the present study, improvement in sleep quality, energy level, emotional feelings, work activities and home life activities resulted in a significant improvement in overall quality of life in perimenopausal women by Yoga intervention.

Stress at the physical and functional level is considered an imbalance of the neuroendocrine system may cause an imbalanced outlook at the Vijnānamayakōśa, resulting in cognitive problems. This will percolate to the Manōmayakōśa resulting in emotional and behavioral problems. It is called ādhi, which can cause imbalances at the Prāṇamayakōśa resulting in functional problems. This further percolates into the Annamayakōśa causing physical changes and diseases (vyādhi). Therefore, it is clear that stress is a multidimensional phenomenon and is having an impact not only on the body but also on the mind. It causes imbalances in all the Pañcakōśa and reduces the quality of life.

The different practices of Clinical Yoga Package like Nadiśuddhi Bhrāmārī Prāṇāyāma and nādānusandhāna meditation are having a positive effect on the parasympathetic nervous system as well as the Hypothalamic Pituitary Adrenal axis, thereby reducing

stress and correct the imbalances at different levels of Pañcakōśas i.e., from the gross to the subtle level¹⁶⁻¹⁸. So in the present study, it can be concluded that by practicing Clinical Yoga Package the participants are benefitted from the psychological level of corrections along with physical, and as a result, stress is resolved and the quality of life is improved.

CONCLUSION

Thus, the present study has shown that the practice of yoga for 8 weeks increased the quality of life of menopausal women. The present study concluded that yoga is a non-pharmacological intervention in improving menopausal women's quality of life.

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