

Impact of Pilates Training versus Progressive Muscle Relaxation Technique on Quality of Life in Menopausal Women- A Comparative Study

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Abstract

Background: Menopausal women shows common symptoms which includes night sweats and hot flushes, heart distress, disturbances in sleep, depression, irritability, anxiousness, weight changes, physical and mental fatigue, joint and muscle pain. This affects the Quality Of Life of the Menopausal women. Pilates Training has proven beneficial for enhancing Quality Of Life in menopausal women but there is paucity of evidence of effect of Progressive Muscle Relaxation Technique in Menopausal women on QOL. The research is an initiative study that focuses on the effectiveness of PMRT on the various aspects of Quality Of Life of the menopausal women and comparison of the Pilates training and PMRT in order to enhance the QOL of participants.

Aim and Objective: Effect of Pilates training & Progressive Muscle Relaxation Technique on menopausal women's Quality Of Life and comparison of both the technique.

Methods: 42 participants aged more than 45 years will be randomly categorized in two groups: Group A (n= 21) and Group B (n=21). The study duration will be of 6 months. The pre and post Intervention will be taken from both the group and data will be analyzed with the help of main outcome measure which is Menopause specific Quality Of Life (MENQOL).

Result- The expected result would include the details about whether the measures are effective for improving the quality of life in menopausal women, as well as the comparison of both the interventions. Data will be analyzed using paired t-test.

Conclusion- It will be published after results are analyzed

Keywords- Menopausal women, Quality Of Life, Pilates, Progressive Muscle Relaxation Technique.

Introduction

The concept of menopause is a complete cessation of ovarian function¹. Mean age for Indian women in menopause is 44 years. The symptoms peak between 45 to 55 years and decrease in severity after 55 years².

Most common symptoms of menopause include muscle and joint pain, slow feeling, poor memory, lower back pain and trouble sleeping. The vasomotor and emotional domains reported less often compared with the physical and psychological domains². About 75 per cent of women are reported to experience

acute symptoms after menopause. Such adverse changes in physical and mental health may have an adverse effect on Quality Of Life (QOL) as they undergo transition from menopause³. The self-administered questionnaire that works well to classify women by their QOL and find out how their QOL benefits is known as Menopause-specific Quality of Life (MENQOL) questionnaire⁴.

Pilates is a therapeutic exercise intended to enhance strength, stabilize core muscles, endurance, muscle coordination, posture and respiration. Exercises can be done on mats or require the use of specialized equipment

and the concepts of Pilates include centering that occurs by tightening of the body's muscle core between the ribcage and the pelvic floor throughout exercise, focus where cognitive focus needed to accomplish the activity, balance that needs the posture and movement control throughout the activity, precision that allows the accurateness of the technique of exercise, flow to get smooth movement changes within the course of exercise and most importantly, respiration that needs proper inhalation and exhalation of air from the lungs in combination with the exercise⁵. The Pilates mat training regimen results in young women's physical and psychological health in terms of body weight, slimming, anxiety, depressed mood, tiredness and quality of life⁶. Pilates helps to enhance both the mental and physical components in women during menopause⁷.

Relaxation offers or helps to reduce anxiety, muscle tension and controls the pain⁸. Progressive muscle relaxation technique (PMRT) is a therapy used since Edmond Jacobson's implementation in 1938. PMRT involves tensing a muscle and then relaxing the tension; it is based on the psychological claim that people with stress and anxiety have tensed muscles and are able to relieve their pain both mentally and physically by learning how to relieve the tension⁸. Music-accompanied PMRT can be a beneficial therapy to improve pain and QOL in pregnant women with LBP⁹. Relaxation techniques lowers tension rates and enhance autonomic functions, cardiopulmonary performance and lipid profile¹⁰. Researches had been conducted which shows positive effect of PMRT on cardiac patients, insomnia, chronic pain, anxiety¹¹. But there is paucity of evidence of PMRT effect in menopausal women on the QOL.

Sagdeo et al., 2011 conducted a study at Nagpur included 500 cases including 250 cases of rural and urban women stated that Indian scenarios should offer priority to menopausal health as menopausal women have improved life expectancy and population growth and presenting complaints which includes night sweats and hot flushes, heart distress, disturbances in sleep, depression, irritability, anxiousness, weight changes, physical and mental fatigue, joint and muscle pain, bladder problems, vaginal dryness².

Ghafari et al., carried out a review in the year 2009 on 33 diagnosed multiple sclerosis patient stated that

PMRT is convenient and contributed to improving quality of life for multiple sclerosis patients¹².

Akbaş E et al., carried out a review in the year 2018 in which 26 participants were included in Pilates mat training stated that 6 weeks of Pilates training protocol leads to young women's physical as well as psychological betterment as for the body fat, slimness, anxiousness, depressed mood, fatigue, and Quality Of Life.⁶

Pilates is the physical training focuses on the breathing pattern which also helps in enhancing the QOL during menopause. The progressive muscle relaxation technique (PMRT) also helps to improve the QOL in several other conditions but not in menopausal women. It has been proven that PMRT reduces the stress in post-menopausal women. This intends to whether the PMRT increase the QOL of patient in menopausal women. The research is an initiative study that focuses on the effectiveness of PMRT on the various aspects of Quality Of Life of the menopausal women and comparison of the Pilates training and PMRT in order to enhance the QOL of participants.

Objectives

1. Pilates training effect in menopausal women on Quality Of Life
2. To find out the effect of Progressive Muscle Relaxation Technique in menopausal women in view of Quality Of Life
3. Comparison of Pilates training & Progressive Muscle Relaxation Technique on menopausal women's Quality Of Life.

Methods

This research is being conducted in local communities in Wardha City; Maharashtra, India after ethical clearance is obtained from Institutional Ethics Committee, Datta Meghe Institute of Medical Sciences, and Deemed to be University.

Study design: Comparative study

Study setting: Local communities from Wardha, Maharashtra, India.

Participants:

Inclusion criteria –

1. Any female in the age group more than 45 years
2. Participants willing to perform exercises
3. Menopause without any medical or surgical intervention
4. No contraindications related to performing the physical activity
5. Not indulged in any kind of structured physical activities or exercise program since 6 months

Exclusion criteria-

1. Menopause due to any surgical condition like oophorectomy, hysterectomy
2. Pathologies related to musculoskeletal and cardiovascular system
3. Cognitive impairments and neurological disorders
4. Recent Orthopedic surgery of lower back and lower limb
5. Hormone replacement therapy
6. Subjects on anti-depressant medications
7. History of vertigo or fall in previous 6 months

Variables

Outcome measures: Menopausal Quality Of Life (MENQOL)

Data Source Measurement-

After using intraclass correlation coefficients (ICC), the test-retest reliability were 0.81 for physical domain, 0.79 for psychosocial domain, and 0.70 for sexual domain, 0.37 for vasomotor domain and 0.55 for QOL. There are certain systematic changes demonstrated in vasomotor domain. The score of face validity was 4.7 out of 5. Validity of the evaluative construct suggested correlation coefficients in which physical domain was 0.60, vasomotor domain was 0.28, psychosocial domain was 0.55 and 0.54, and sexual domain was 0.54 and 0.32,

and 0.12 for the QOL. Discriminative construct validity ranges from 0.57 to 0.70 in between all the domains⁴.

SAMPLE SIZE: 42

Intervention:

Group A: Intervention will be Pilates Training Protocol.

Group B: Intervention will be Progressive Muscle Relaxation Technique

Group A:

A six week protocol has been made. The average length of every session would be 40 to 50 minutes including 5 minutes of warm up and cool-down each. The exercise prescription has been formed by the FITT (Frequency, Intensity, Time and Type of exercise) principle which includes frequency of 3 days a week for 6 weeks. Intensity has been calculated according to Rate of perceived exertion (RPE) scale and the progressions will be done with the same scale and there will be an interval of 10 seconds between each performed exercise. The exercises included in this intervention are considered as beginners and intermediate level exercise in order to fulfill the result. Therapist will demonstrate the activities by visual and verbal instructions to the patient and educate the patient about the correct form of exercise and how to perform it correctly. The main program consisted of exercise that illustrate 6 principles of Pilates includes- 1)Hundred 2) Half roll-down 3) Leg stretch (single and double) 4) Leg circle(single and double) 5) Rolling back (also known as rolling like a ball) 6) Spine stretch forward 7) Shoulder Bridge 8) Criss-cross and progression will be done accordingly.

Group B:

Division of body by four muscle group techniques occurs in such manner¹ both upper limb and arms;² the face, neck & shoulder;³ the chest, back and abdomen; and⁴ both lower limb. It should be done alone, in a quiet place. Each group of muscles retains tension for 5 seconds and relaxes for 10 seconds.

The participant will be in quiet place where there won't be any interruption. They will lie down on back and stretch out in a comfortable manner. Guidance must be given to the participants to keep the muscle group

tighter and tenser and to feel it. The participant will inhale deeply and tense first group of muscles for the given seconds. The tension should be in limit that they do not allow any cramps or pain of that muscle group. Relaxation of the muscle group along with exhalation will be done thereafter, which should be complete and sudden. Therapist will ask the participant to notice the differences in muscle group when they are tense and when they are relaxed.

The therapist will then help these muscles relax by advising them to remember what it feels like to relax those muscles in prior activities; this is the relaxation technique and recall. The process of counting involves count of 10 at the conclusion of the completed recall. This includes a profound technique of relaxation. The procedure is planned for 20 days, as well as a training program that could be done with 45 minute sessions.

Expected Results

Pilates training has been effective in Menopausal women for improving the Quality Of Life but Progressive Muscle Relaxation Technique has never been evaluated. The result would include the details about whether the measures are effective for improving the quality of life in menopausal women, as well as the comparison of both the interventions. Once the study result is complete, data will be analyzed using paired t-test and will be presented in the form of research paper.

Discussion

Menopause is defined as complete cessation of ovarian function by which the women experiences various symptoms after menopause which leads to changes in physical and mental health and may have an adverse effect on Quality Of Life (QOL). The aim of the study is to see the effect of both the interventions and compare the two interventions further I.e. Pilates Training versus Progressive Muscle Relaxation Technique on Quality Of Life in Menopausal women. Pilates is the physical training focuses on the breathing pattern which helps in enhancing the QOL during menopause. The progressive muscle relaxation technique (PMRT) helps to improve the QOL in several other conditions but not in menopausal women. In conclusion, this research seeks to explore both the effectiveness of Pilates and the Progressive Muscle Relaxation Technique in menopausal women.

The result of the study would help prospective patients enhance quality of life. Outcome measure of the study is Menopause specific Quality Of Life (MENQOL) which is a self-administered questionnaire and it works well to classify women by their QOL and find out how their QOL benefits.

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