



A comparison of the effects of hatha yoga and resistance exercise on mental health and well-being in sedentary adults: A pilot study



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Exercise program;
Yoga;
Depression;
Body images;
Life quality;
Self esteem

Summary

Objectives: Physical activity has a positive effect on people's mental health and well-being. The aim of this study was to compare the effects of hatha yoga and resistance exercises on mental health and well-being in sedentary adults.

Design: Randomized controlled study.

Methods: Fifty-one participants aged mean (SD) 25.6 (5.7) years were randomly divided into three groups: Hatha Yoga Group, Resistance Exercise Group and Control Group. The Hatha Yoga Group and Resistance Exercise Group participated in sessions three days per week for 7 weeks and the Control Group did not participate in any sessions. All the subjects were evaluated through the Rosenberg Self-Esteem Scale, Beck Depression Inventory, Body Cathexis Scale, Nottingham Health Profile and Visual Analog Scale for fatigue pre-and post-session.

Results: Significant improvements were found in terms of all outcome measures in the Hatha Yoga Group and the resistance exercise group. No improvements were found in the Control Group. Hatha yoga more improved the dimensions fatigue, self-esteem, and quality of life, whilst resistance exercise training more improved body image. Hatha yoga and resistance exercise decreased depression symptoms at a similar level.

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Conclusion: The results indicated that hatha yoga and resistance exercise had positive effects on mental health and well-being in sedentary adults. Hatha yoga and resistance exercise may affect different aspects of mental health and well-being.

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Introduction

Numerous physical and psychological benefits of exercise have been well reported.¹ The benefits are not limited to physical health as the psychological aspect of health is also affected.² Individuals who take exercise frequently claim a feeling of “well-being” from physical activity. In the modern world with high stress and inactivity, there is an ever-increasing necessity to evaluate the potential benefits of physical activity on mental health.³ There are an increasing number of studies examining the effects of physical exercise on the psychological health of individuals both with and without psychological disorders.^{4–8} However, there is still a need for evidence in some issues related with the effects of exercise on psychological health. For example, how do the type of exercise, the difficulty of the performed exercise, and the exercising frequency (sedentariness or regular exercising) affect the mental health benefits of exercise? Although the effects of aerobic exercise on healthy individuals have been confirmed, the number of studies about anaerobic exercises such as resistance exercise is limited.⁹

Resistance exercise, also known as power-weight training, is one of the most popular types of exercise used to increase the physical fitness of individuals and the condition of athletes.¹⁰ Resistance exercise training develops an individual’s maximum activity and body functions, can produce high power, and help build the body image.^{11,12} Traditionally, resistance training has been accepted as the physical activities used to increase muscle power, endurance, and muscle mass and the effects on the improvement of general health have been ignored.¹³

Another approach is that of yoga, which has become increasingly popular in Western cultures as a means of exercise and fitness training.¹⁴ Yoga is an approach that originated in India and has been used since ancient times. It has many types, which include physical postures (asanas), controlled respiration (pranayama), deep relaxation, and meditation.¹⁵ There is powerful scientific evidence demonstrating its positive effects on the mind.^{16,17} To the best of our knowledge, there are no studies comparing the effectiveness of Hatha Yoga and Resistance Exercise on mental health. The objective of this study was to investigate and compare the effects the two different approaches of hatha yoga and resistance exercise on mental health and well-being in sedentary adults.

Materials and methods

This study was conducted at the Sports Science and Technology Application Center of Pamukkale University and the Physical Treatment and Rehabilitation Institution of Higher Education of Pamukkale University. Informed consent was obtained from all the study participants and approval for

the study was granted by the Ethics Committee of Denizli Clinical Research.

Participants

The study sample consisted of individuals living in the city who were students and employees of the University. Before the study, announcements were placed in different departments of the University. Cases between the ages of 20–40 years without any musculoskeletal or neurological problems, heart disease, lung disease, or systemic disease, and with no prior surgery of the musculoskeletal system were included in the study. Individuals who had participated in a regular exercise program over the previous six months or who had regularly participated in sports, who had chronic diseases, had received psychiatric medical treatment, or had a body mass index of more than 29 kg/m² were excluded from the study. A waiting list was established for appropriate, willing participants in the study. Since this was a pilot study, no sample size calculations were performed. A total of 80 cases were selected to participate in the study and, taking gender into consideration, were randomly assigned (via sealed envelope method) to one of three groups; the Hatha Yoga Group (HYG) ($n=27$), Resistance Exercise Group (REG) ($n=25$), and the Control Group (CG) ($n=28$).

Interventions

Participants in the HYG and REG trained for a mean 50 min, three times a week for seven weeks, the first of which was an adaptation week. A protocol was determined for HYG and REG. The programs of the groups were applied as follows:

Hatha Yoga Group

The HYG training program was applied by two certified yoga instructors. Taking into account the sedentary nature of the individuals in the groups, postures were modified when necessary using yoga apparatus (blocks, belts, pillows, etc...) in order for the selected postures to be performed correctly by the individuals without impairing body mechanics. The duration of the yoga postures was increased each week and the individuals passed to a more difficult asana. In addition, individuals focused on breathing when passing from one asana to another and during relaxation. After warm-up workouts, ardha navasana, marichyasana, shalabhasana, balasana, chaturanga dandasana, adho mukho svanasana, tadasana, vrksasana, uttanasana, utkatasana, utthita trikonasana, parivitta trikonasana, utthita parsvakonasana, salamba sarvangasana, viparita karani, sarvangasana, and shavasana were performed (Fig. 1).

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