

Effects of Yogic Practices on BMI on Osteoarthritis of Knee Joint of Middle- Aged Women

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Abstract

The primary objective of this research is to assess the effects of yogic practices on knee osteoarthritis in middle-aged women. To fulfil this objective, a total of 90 middle-aged women were randomly selected from ECHS Guntur, within the age range of 35 to 55 years. Being overweight is recognized as a major contributing factor to knee osteoarthritis. Therefore, this study also aims to evaluate the effectiveness of yoga exercises in mitigating the risk associated with knee osteoarthritis.

Yogic practices are known to positively influence Body Mass Index (BMI) and alleviate the symptoms of knee osteoarthritis in middle-aged women. Yoga enhances physical activity levels, promoting calorie expenditure and boosting metabolic functions. Additionally, yogic breathing techniques and postures (asanas) support hormonal balance, which assists in effective weight management.

Participants were asked to complete a questionnaire that gathered information regarding their age, educational background, employment status, body mass index, lifestyle habits, and other relevant factors. The subjects were then randomly divided into two groups: the Experimental Group I, consisting of 45 participants, and the Control Group II, also comprising 45

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participants. The Experimental Group I engaged in yogic practices for five days a week, with each session lasting one hour, conducted in the early morning from 5:30 a.m. to 6:30 a.m. In contrast, the Control Group did not participate in any yoga training and continued with their usual daily routines and regular health check-ups.

Data collected from both groups before and after the intervention period were analysed statistically using the paired' test. The results indicated that the Experimental Group experienced a significantly greater reduction in knee pain compared to the Control Group, which remained at rest. The findings were statistically significant ($p \leq 0.001$), leading to the acceptance of the hypothesis at the 0.05 level of confidence.

Keywords: BMI, yogic practices, weighing scale.

Introduction

Knee osteoarthritis (KOA) is the most prevalent type of arthritis, often described as a degenerative joint condition or commonly referred to as "wear and tear" disease, characterized by the gradual deterioration of articular cartilage. This condition is especially common among middle-aged women. KOA is generally classified into two categories: primary and secondary. Osteoarthritis (OA), in general, is the most widespread form of arthritis, typically causing stiffness, discomfort, and pain in one or both knees. It is often labelled as "wear and tear arthritis" due to its association with aging and the progressive breakdown of joint structures.

Although osteoarthritis can impact various joints in the body, the knees are among the most frequently affected, given their critical role in weight-bearing activities. It is a chronic, progressive musculoskeletal disorder that commonly involves the knee and hip joints, which support most of the body's weight. OA is a degenerative disease that advances over time.

Among the various non-pharmacological approaches for managing knee osteoarthritis, yoga exercises have been identified as beneficial. Osteoarthritis affecting the knee can often result in sensations of grinding or scraping during joint movement.

To assess the range of motion in the knee joint, a goniometer is commonly used. This tool measures both active and passive joint movements. Proper positioning is essential in goniometric assessments, as it ensures the joint is in a neutral starting position and stabilizes

the proximal segment of the joint. During the evaluation, the examiner stabilizes the upper portion of the joint and carefully moves the lower part through its full range of motion until the endpoint, known as the "end feel," is reached.

As yoga practitioner and trainer. I have seen so many middle-aged women are suffering from knee osteoarthritis. It's impact of the quality of life of the middle-aged women. It's impacting their ability to perform daily activities, work, and engage in physical exercise. Researching this topic can lead to inventions that improve their overall well-being, by focusing on yogasana. As yoga practitioner and trainer, I have seen so many middle-aged women are suffering from knee osteoarthritis. It's impact of the quality of life of the middle-aged women. It's impacting their ability to perform daily activities, work, and engage in physical exercise. Researching this topic can lead to inventions that improve their overall well-being, by focusing on yogasana. Randomized controlled trials were collected by reviewing studies that examined the effects of yoga therapy on pain management in middle-aged women diagnosed with knee osteoarthritis. The primary aim of this document is to revise and enhance the initial guidelines, focusing specifically on the design, execution, and reporting of clinical trials intended to address symptom relief or structural changes in individuals affected by knee osteoarthritis. The subjects will be middle aged women.

Objectives of the Study

To assess the influence of yogic practices on Body Mass Index (BMI).

1. To explore how yogic practices impact knee osteoarthritis in middle-aged women.
2. To examine and compare the changes in BMI among participants following yogic practices.
3. To investigate the effectiveness of yogic practices in improving physical function, alleviating joint pain, and enhancing the overall quality of life.

Statement of the Problem

The problem statement of this study is to determine the significant effects of specific yogic practices on knee osteoarthritis in middle-aged women.

Hypothesis

1. It is anticipated that yogic practices will lead to significant improvement in the condition of individuals with osteoarthritis.

2. There would be significance effect on pain due to yogic practice.

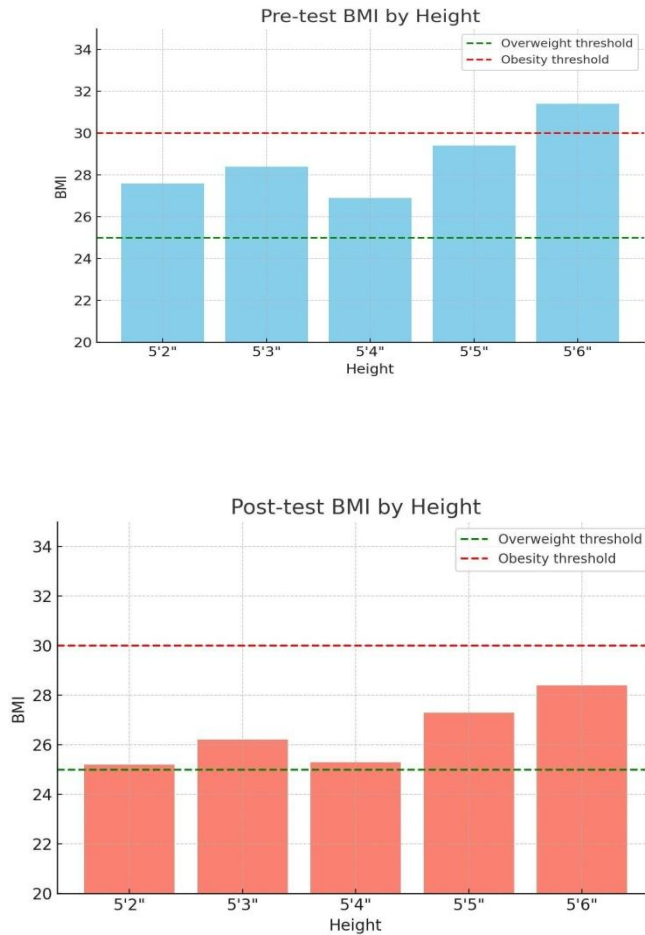
Methodology

To collect groups of the population we will give brief introduction about Knee Osteoarthritis and also about my research. Will randomize them and select them with a randomized sampling technique. This study delves into the effectiveness of yoga as complementary therapy for middle aged women with knee osteoarthritis. 90 participants with age group 35 to 55 were randomly split in to total number of samples is determined to be 90, in the two groups: Experimental group A, Yogis will be immersed in daily practice (Asanas, Mudras, Meditation and Pranayama) for 3 months and a Controlled group engaging in active rest over the same period. All are selected from ECHS Guntur only. The researchers aim to uncover the impact of yoga on various aspects of life for these middle-aged women from pain. The participants in this study will consist of middle-aged women. Each participant will be thoroughly informed about the purpose and procedures of the study and their written consent will be obtained prior to data collection. A structured questionnaire will be administered to gather information related to their age, educational background, employment status, body mass index (BMI), lifestyle habits, and other relevant factors. Additionally, their medical histories will be reviewed through hospital records for more detailed insights.

The total sample size has been statistically determined to be 90 participants. These participants will be randomly divided into two groups:

1. **Experimental Group (Group A)** – 45 participants who will undergo yogic practices.
2. **Control Group (Group B)** – 45 participants who will not engage in any specific exercise regimen.

In this study, the primary independent variable selected by the researcher is the implementation of yogic practices



Conclusion

The findings of the study demonstrated that the group practicing yoga (experimental group) showed significant improvements in the selected variables, particularly Body Mass Index (BMI), compared to the control group. These improvements can be attributed to the structured yogic training undertaken by the experimental group over a period of 12 weeks.

A randomized group experimental design was employed to test the hypothesis and to draw valid conclusions regarding the relationships between the independent and dependent variables. This design was essential to identify the cause-and-effect relationships and to determine how the variables should be systematically manipulated and controlled throughout the study.

Prior to participation, all subjects were given an orientation session, and written consent was obtained. The participants were randomly assigned to two groups, with each group consisting of 45 individuals:

- Group 1: Experimental group practicing yoga
- Group 2: Control group with no intervention

Experimental group 1 would be given Yoga practices and Group 2, the controlled group would not be given any treatment and led their normal daily routine. The duration of the practices would be 60 minutes. Pre-tests and Post-tests would be conducted for all the subjects on selected Physiological variables pain, stiffness in joints the normality of the data procedure would be followed. The pre

-test scores statistically would be analysed using the Paired 't' Test to find out the significant differences among the groups. The level of significance would be fixed at 0.05%. The training is transparent to the subjects and their family members. There are no major risks as the practices would be modified to individual requirements. Plans to with draw are easy and would be informed to the subjects that they can exit at any part of the training. The benefits of the training program would be assessed by comparing post-test with pre-test values on the same selected dependent variables at the end of the training to find the significant differences among the groups. Finally, the investigators aim is to reduce the obesity who is suffering from Knee Osteoarthritis.

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