



A STUDY TO ASSESS THE EFFECTIVENESS OF LEG EXERCISE INTERVENTION ON PHYSICAL FITNESS AMONG WOMEN IN SELECTED URBAN AREAS OF COIMBATORE.

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ABSTRACT **Background:** Physical inactivity is a major public health concern, particularly among women, leading to reduced physical fitness and increased risk of non-communicable diseases. Structured exercise interventions can play a vital role in improving physical fitness and overall health. To assess the effectiveness of a structured leg exercise intervention on physical fitness among women residing in Vilankurichi and Chinnavedampatti, Coimbatore. A quantitative research approach with a pre-experimental one group pre-test and post-test design was adopted. The study was conducted among 80 women aged 35–50 years selected using convenience sampling technique. A structured physical fitness assessment tool was used to collect data. The intervention consisted of a structured leg exercise programme performed for 30 minutes per day for 2 weeks. Data were analyzed using descriptive and inferential statistics. The findings revealed that the post-test mean physical fitness score (70.6 ± 5.8) was significantly higher than the pre-test mean score (45.2 ± 7.1). The calculated t-value (18.32) was statistically significant at $p < 0.001$ level. A significant association was found between physical fitness and selected demographic variables such as age and BMI. **Conclusion:** The study concludes that the structured leg exercise intervention was effective in improving physical fitness among women. The findings emphasize the importance of regular physical activity in promoting health and preventing lifestyle-related disease.

KEYWORDS : Leg Exercise, Physical Fitness, Women, Exercise Intervention, Urban Population, Community Health

INTRODUCTION

Physical fitness is essential for maintaining health and performing daily activities effectively. Regular physical activity improves strength, endurance, and overall well-being, while preventing non-communicable diseases⁽¹⁾. However, physical inactivity is highly prevalent among women due to sedentary lifestyle and urbanization⁽²⁾. Lower limb strength plays a key role in mobility and functional independence, and its reduction can affect quality of life⁽³⁾. Structured leg exercises are simple and effective in improving physical fitness⁽⁴⁾. Therefore, this study aims to assess the effectiveness of a structured leg exercise intervention on physical fitness among women residing in Vilankurichi and Chinnavedampatti, Coimbatore.

Statement of the Problem

A study to assess the effectiveness of leg exercise intervention on physical fitness among women in selected urban areas of Coimbatore.

Objectives

- ✓ To assess the level of physical fitness among women before the intervention.
- ✓ To assess the level of physical fitness among women after the intervention.
- ✓ To compare the pre-test and post-test level of physical fitness among women.
- ✓ To find the association between post-test physical fitness and selected demographic variables.

Operational Definition

Effectiveness: Refers to the extent to which the structured leg exercise intervention improves the physical fitness of women, as measured by the selected assessment tool.

Leg Exercise Intervention: Refers to a set of planned and structured lower limb exercises (such as walking, squats, leg raises, and stretching) performed for 30 minutes per day for a specified period.

Physical Fitness: Refers to the ability to perform daily activities efficiently without fatigue, measured in terms of strength, endurance, and flexibility using a standardized tool.

Women: Refers to females aged 35–50 years residing in Vilankurichi and Chinnavedampatti, Coimbatore.

Structured Programme: Refers to a systematically planned schedule of leg exercises conducted for 30 minutes daily under guidance.

Assumptions

- Women may have reduced physical fitness due to lack of regular exercise.
- Structured leg exercise may improve physical fitness.
- Participants will cooperate during the intervention.
- Physical fitness can be measured using a standard tool.

Delimitations

- The study is limited to women aged 35–50 years.
- The study is conducted in Vilankurichi and Chinnavedampatti, Coimbatore.
- The study includes only women available during the data collection period.
- The intervention is limited to leg exercises for 30 minutes per day for 2 weeks.

Hypothesis

- There is no significant difference in the level of physical fitness among women before and after the leg exercise intervention.
- There is a significant difference in the level of physical fitness among women before and after the leg exercise intervention.

METHODOLOGY:

Research Design - pre-experimental one group pre-test and post-test design.

Setting & Population

Setting: Selected areas of Vilankurichi and Chinnavedampatti, Coimbatore.

Population: Women aged 35–50 years residing in the selected areas.

Sample Size - 80 Women

Sampling Technique - Convenience sampling technique.

Variables

Independent Variable - Structured leg exercise intervention
Dependent Variable - Physical fitness

Attribute (Demographic) Variables

- Age, education, occupation, marital status, BMI, type of work, physical activity pattern, etc.

Data Collection Tool - A structured physical fitness assessment tool/checklist will be used to measure:

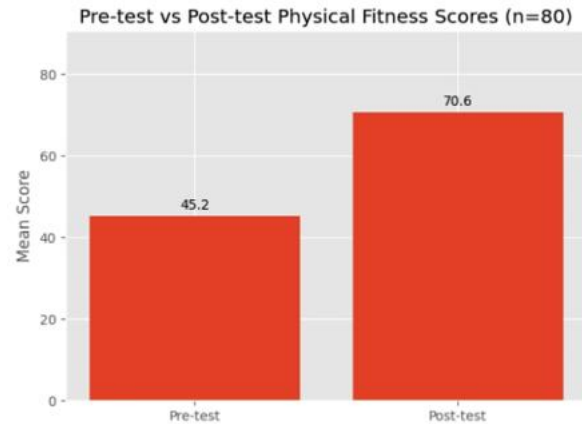
- o Strength
- o Endurance
- o Flexibility

Pre-test and post-test will be conducted using the same tool.

Data Analysis: Data were analyzed using descriptive and inferential statistics. Frequency, percentage, mean, and standard deviation were used for description. Paired t-test were used to compare pre-test and post-test scores. Chi-square test were used for association with demographic variables.

RESULTS

Parameter	Mean	SD	Mean %	t-value	Significance
Pre-test	45.2	7.1	45.2	---	---
Post-test	70.6	5.8	70.6	18.32	p < 0.001 (Significant)



Association with Demographic Variables:

The study findings showed a significant association between post-test physical fitness and selected demographic variables. Age and BMI were found to have a significant association with physical fitness at $p < 0.05$ level. However, education, occupation, and marital status did not show any significant association. This indicates that age and BMI influence the physical fitness level among women after the intervention.

DISCUSSION

The study findings showed a significant improvement in physical fitness among women after the structured leg exercise intervention. The increase in post-test mean score indicates the effectiveness of the intervention in improving strength, endurance, and flexibility. The results are consistent with previous studies showing that regular exercise improves physical fitness and overall health. A significant association was also found between physical fitness and selected demographic variables such as age and BMI.

Recommendations

- Structured exercise programmes should be promoted among women to improve physical fitness.
- Health education programmes should be conducted in community settings regarding the importance of regular physical activity.
- Nurses and healthcare workers should encourage women to practice daily leg exercises.
- Similar studies can be conducted with larger sample size for better generalization.
- Further research can be done on long-term effects of exercise interventions.

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