

## A Comparative Study between Walking and Outdoor Cycling As an Exercise Modality of Preference amongst Obese Women

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### Abstract

**Objective:** This study was intended to evaluate perception of the young adult obese women towards outdoor cycling (henceforth referred to as –cycling) as a proper and useful modality as compared to walking.

**Study Design:** The study, a questionnaire based, was conducted in a weight management clinic in Maharashtra state, India. Obese women between 18 - 40 years of age during their first visit were studied for their perception about cycling

**Results:** There was no significant difference between the scores with walking and cycling indicating these as proper and useful modalities of exercise

**Conclusions:** Our results clearly indicate that cycling is perceived to be an equally proper and useful modality of exercise as compared with walking amongst obese women. Further studies using larger sample size must be conducted.

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### I. Introduction

The prevalence of chronic non communicable diseases such as diabetes mellitus, obesity, hypertension, ischemic heart disease is high, and the prevalence of premature deaths due to these diseases is also astounding(1). Obesity is the commonest chronic non communicable disease worldwide. Similar trends are observed in our country as well. With this tremendous rise in obesity prevalence, its understanding as a disease, its complications, and its treatment is evolving rapidly.

Currently, nutritional advice, exercise, psychological counseling, medications and in a few selected cases, surgery are considered as accepted modalities of management (2).

Amongst these, exercise is considered to be an important aspect in the management of weight in obese patients. The most preferred and accepted type, is cardiopulmonary exercise, such as walking, cycling, swimming, dance aerobics. Walking is the most preferred cardiopulmonary exercise amongst the obese (3). The role of weight training in the management of an obese patient is evolving rapidly. Many scientific organizations and scientists worldwide are studying it with great enthusiasm (4), (5).

Against this background, we decided to study whether outdoor cycling is perceived as a useful and proper modality of exercise among obese women.

### II. Aim And Objective

The aim of this study was to evaluate perception of cycling as a proper and useful modality of exercise in obese women compared with walking, the most commonly accepted modality of exercise in the obese population

### III. Patient Methods

This is a questionnaire based study in obese women at their first visit to a weight loss clinic.

#### A) Patients –

Obese women between 18 years to 40 years were selected for this study. They were visiting the weight loss clinic for the first time. The body weight was recorded using a Tanita human body weighing scale with an accuracy of 100 gm. The height was measured to the nearest of 0.5 cm. The method used to record weight is described elsewhere. (6) A BMI of 25 kg / sq mt. was considered as a cutoff for the screening of obesity. This is in accordance with recently developed cutoffs to define obesity in Indian (and other Asian) women (7), (8).

#### Inclusion Criteria –

1. Women between age 18 years to 40 years were selected.
2. Only those women who had completed their education till graduation level were included in the study.
3. Women with a BMI of 25 kg / sq mt. and above were selected.

**Exclusion Criteria –**

1. Women more than 40 years of age were excluded. It was perceived that women older than 40 years may not keep abreast with the recent developments in obesity management.
2. Women suffering from other co morbidities such as diabetes, hypertension, ischemic heart disease, knee arthritis were excluded. These women may be biased against weight training.
3. Women who did not complete the questionnaire were also excluded from the study.
4. Medical doctors were excluded.

**B) The Questionnaire –**

The details of the questionnaire and a sample questionnaire is presented here. Patients were advised to complete the questionnaire on their own without any interference by our advisers. The questionnaire was formulated in Marathi, the local language where this study was conducted (Kolhapur city, Maharashtra state, India). In each patient it was confirmed that she understands Marathi language. The translation between Marathi and English was cross- checked.

**The Actual Questionnaire**

With the help of a table provided below please decide and write your preference number indicating how proper, walking and outdoor cycling as modalities of exercise are for you .(please do not consider indoor or stationary cycling )

Number 5 Most proper exercise

Number 4 Proper exercise

Number 3 less proper exercise

Number 2 least proper exercise

Number 1 improper exercise

Please write the number against each modality of exercise

Modality of exercise for you

your perception of how proper and useful it is

1) Walking

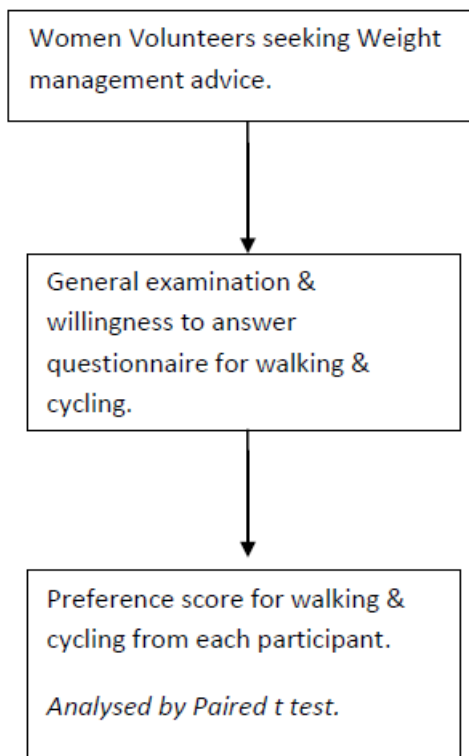
2) Outdoor Cycling

Patient was supposed to write preference number against each mentioned modality of exercise.

**IV. The Statistical Methods**

The data was analyzed by using t test.

Flowchart of study-



**V. Results**

Our results indicate that, there is no significant difference between walking and cycling regarding preference amongst the study population.

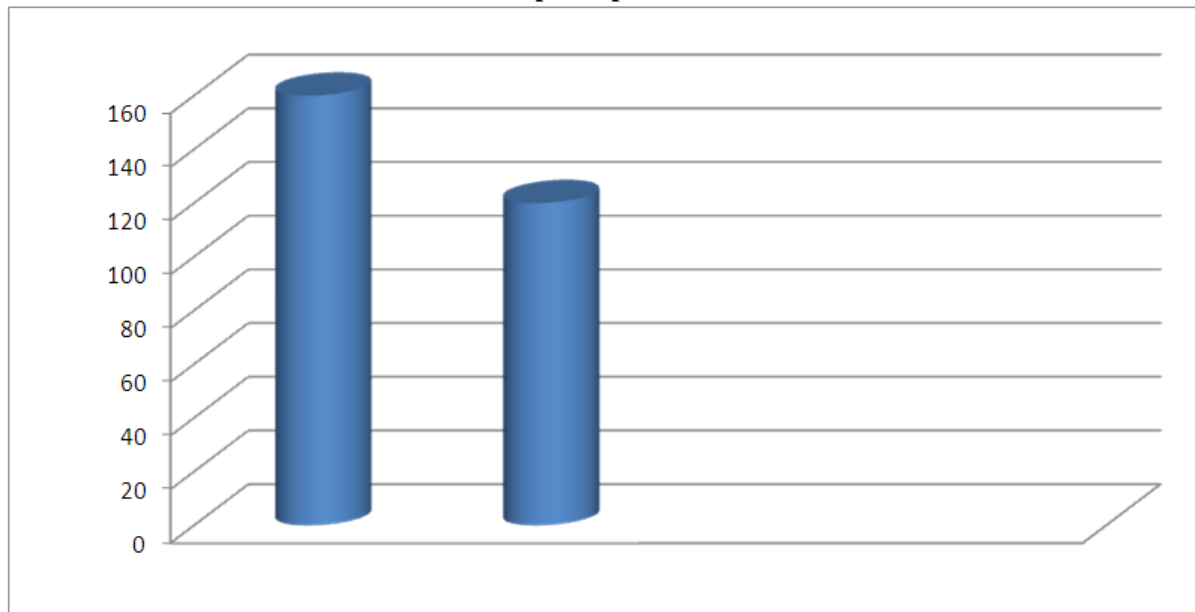
**Table (1) Table representing the demographics of the study participants**

Total number of participants	35
Average age	32
Average BMI	28 kg/ sq meter

**Table (2) Table showing mean, SD, t values of the study sample**

	Mean	SD	df	t-value
Walking	4.5715	0.73906	33	9.89647E-05 <sup>NS</sup>
Cycling	3.4285	1.420		

**Figure 1: The bar diagram showing the total scores for walking and cycling indicated by the study participants**



**VI. Discussion**

As described earlier, obesity is becoming a major health problem of the 21st century, worldwide, India being no exception. Obesity also is a risk factor for the development of and exacerbation of some other chronic non communicable diseases such as diabetes, knee osteoarthritis (9). Obesity has widespread implications on health including psychological wellbeing, especially more in early age group (10). The prevention and management of obesity is thought to be difficult, both at the population level and individual level. Exercise, being an important weapon, both for the prevention and management of obesity is being studied extensively worldwide. Traditionally, cardiopulmonary exercises such as walking, cycling, swimming are favored modalities of exercise in the management of the obese patient. Walking is the commonest cardiopulmonary exercise selected by the obese patients.

We were interested in studying the level of acceptance of cycling as a preferred modality of exercise. This was planned to study in obese women attending the weight loss clinic for the first time. This preference about cycling was compared with that of walking. Walking being the most preferred exercise by the obese women. Our results clearly indicate that, as compared to walking, cycling is perceived to be an equally useful and proper modality of exercise in this study population.

This preference order amongst obese women is thought to be shaped by print news, electronic media, and internet, discussion with the peers or by advice offered by a health adviser. It will be very interesting to study this aspect in details.

It would be very interesting to study the correlation between the development of scientific discoveries and recommendations and these reaching the masses where it is intended to be used ultimately.

Future studies involving a larger sample size would be a logical next step in this direction. Similar studies may also be warranted in obese men, older obese populations, and obese children.

## **VII. Conclusion**

Obesity has become a major health issue of the modern developed or developing countries, India being no exception. Principles of the management of the obese are evolving rapidly. Cycling as an effective modality of a multipronged approach is being studied worldwide. Our results clearly indicate that cycling is perceived to be an equally proper and useful modality of exercise as compared with walking amongst obese women. Further studies using larger sample size must be conducted.

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