



## EFFECT OF REGULAR CYCLING (OR JOGGING) EXERCISE ON BODY FAT OF URBAN FEMALES IN DEHRADUN

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### ABSTRACT

Obesity is a major problem in females in Urban Areas. To address this problem, regular practicing physical activity is a growing choice. On the other hand, Cycling is a form of recreational activity involving different body movements and requiring body flexibility. From this point of view, present work has been designed to study the impact of regular cycling is an exercise on body fat in females of Dehradun It has been found that cycling for at least a period of 3 years and it regularly for at least a period of 30 minutes daily have significant favorable value of body fat compared to their age and gender matched individuals of similar socioeconomic condition leading otherwise sedentary lifestyle.

**Objective** 1. To find out the effect on body visceral fat and BMI.  
2. To find out the effect on body cutaneous fat.

#### Methods

**Study Design**- Descriptive study.

**Sampling Methods**- Purposive Sampling.

**Study Area**- Urban Area of Dehradun.

**Study Period**- 2016-17

**Study Population**- Females

**Sample Size**-  $Z^2PQ/e^2=3.84 \times 90 \times 10 / 5 \times 5 = 138.24 \text{----} 140$ .

**Results:** From the present study it can be concluded that regular practicing of Cycling has favorable impact on obesity adjudged in terms of body weight and BMI and also body fat in urban female. As body fat is the main predisposing factor for many metabolic disorders, by achieving favorable value of body fat and maintaining healthy body composition from middle age risk of suffering from those complications can be reduced.

**KEYWORDS** : cycling, Jogging, weight management, body size, body fat.

### Introduction

Obesity, an abnormal or excessive accumulation of body fat that impair health. It is one of the most concerning global public health challenges of recent times. Contrary to the popular belief, it is no more a disease of affluence. One in seven of all women and one in ten of all men are classified as obese worldwide. Along with the shift toward the occupations that require less energy to be expended as a result of industrialization and modernization, marked shift in diet structure are the major predisposing modifiable established causes of obesity. Related to the effect of this industrialization, a similar shift has been found in time allocation in physical effort at home and in leisure activities. Besides accounting for a huge direct and indirect health care cost, the rising prevalence of overweight and obesity has a direct correlation with the increasing prevalence of obesity related co-morbidities including CVD, T2DM, metabolic syndrome, respiratory difficulties, musculoskeletal problems and so on. The prevalence of obesity and its consequences among children, adolescents and adults has increased markedly in recent times. It is therefore important to strategize the management policy of the multifaceted problem, especially from Indian socio-economic perspectives. Epidemiological research shows that exercise improves the body's ability to burn fat, thus enhancing the loss of adipose tissue. Actually physical exercise is a critical adjunct to diet and behavioral modification in a comprehensive weight optimization program. To reverse the growing trend toward an obese population within different culture, not only physical activity and exercise need to become a routine component of daily life but also it is important to select a mode of exercise that is enjoyable to the individual, that uses the large muscles of the body in a continuous, rhythmical fashion, and that is relatively easy to

maintain at a uniform intensity. From the physiological point of view, regular cycling at least 30 minutes apart from being a recreational performing art, is expected to serve as a good exercise having potential beneficial effect in reducing obesity particularly central or abdominal obesity.

### Methods

There are many exercises for reducing fat (swimming, karate, Jogging and yoga) and cycling for 03 years were included from the study. Seventy female (age range 30-40 years) regularly cycling and seventy individuals, regular exercise jogging from similar age and socioeconomic background constituted control group. In mutual convenience, dates of studies were arranged for recording of basic physical and physiological parameters. The age in years, period for which individual are on cycling preliminary socio-economic data and information about medical histories were recorded in pre-designed schedules. The anthropometric and body composition measurements were carried out in morning hours after removal of metal jewelry and heavy pocket items. Obtained data were subjected to suitable statistical analysis and significance level was set at  $P < .05$ .

**Table 1: Descriptive statistics of various variables**

Statistical variables	Cycling		Jogging		P<.05
	BMI (KG/ m <sup>2</sup> )	WEIGHT	BMI (KG/ m <sup>2</sup> )	WEIGHT	
Mean	26.6	66.7	28.4	65.4	
Std. Deviation	5.587	3.86	3.68	2.33.	
Variance	1.52	14.9	13.6	11.7	

**Table 1: One Month Reading of Cycling.**

Variables Age/	Cycling			Univariate analysis		
	Cycling time (min average)	Weight loss (in Kg)	Effect on body fat (%)	OR (95% CI)	p-value	X <sup>2</sup> (Chie-Value)
30	40	0.12	1.3%	.46(0.15-2.1.38)	.125	2.34
31	35	0.21	1.7%	.73(.35-1.53)	.371	.80
32	22	0.10	1.9%	.97(.39-2.44)	.946	.08
33	30	0.9	2.2%	.97(.34-1.59)	.954	00
34	40	0.18	1.7%	.78(0.35-1.74)	.51	.42
35	60	0.15	1.4%	.36(.12-1.03)	.033	4.50
36	55	0.12	1.3%	.97(.39-2.44)	.946	.00
37	40	0.12	1.7%	.97(.39-2.44)	.946	.00
38	30	0.15	1.4%5	.75(.31-1.81)	.492	.47
39	20	00	00	-	-	-
40	15	0.07	00	.78(.35-1.74)	.51	.42

**Table 2 :One month Reading Jogging.**

Variables Age/	Without Cycling but jogging			Univariate analysis		
	Jogging time (min average)	Weight loss (in Kg )	Effect on body fat (%)	OR (95% CI)	p-value	X <sup>2</sup> (Chie-Value)
30	30	0.9	2.3%	.72(0.22-2.29)	.547	.36
31	40	0.12	2.7%	0.82 (0.31- 2.15)	.654	.20
32	50	0.15	1.7%	1.11 (0.49-2.51)	.779	.08
33	60	00	1.9%	---	-	-
34	60	0.9	1.9%	1.11 (0.39-3.15)	.831	.05
35	60	0.12	1.7%	0.82(0.3-2.15)	.654	.20
36	40	0.12	1.6%	1.11 (0.3-2.151)	.804	.06
37	45	0.15	1.7%	1.11 (0.45-2.75)	.779	.08
38	60	0.15	1.4%	1.11 (0.45-2.75)	.779	.08
39	45	0.12	2.0%	1.11 (0.3-2.151)	.804	.06
40	40	0.9	1.8%	1.11 (0.39-3.15)	.831	.05

**Discussion**

The significantly (P <0.05) lower body weight in individuals compared to their counterparts could be attributed to regular cycling exercise. And individuals were not differing in terms of their socio-economic background and dietary energy intake in both age groups. The trend is affirmed by lower BMI in individuals, compared to their counterparts.

As the BMI alone does not provide the true picture of fat distribution in body, for it takes into consideration both fat and fat-free components of body weight, the limitation is overcome by assessing the total body fat percentage. The significantly lowered (P < 0.05) body fat percentage in individuals compared to individuals further affirms that individuals regularly practicing Cycling and Jogging are accomplishing optimized body weight including body fat. The findings of the present study that cycling has a favorable impact on body fat, which are in agreement with several other studies carried out on females as well as on children, is important as incidence of obesity, including obesity in children, and its consequent adverse impacts in India is on the rise. To combat the growing epidemic different management strategies mainly physical activity and dietary management.

**Result:**

BMI is the most popular obesity indicator. It has been found that mean value of BMI is lower in Individuals compared to individuals. Similar trend has been found for other jogging parameters namely body fat, subcutaneous fat and visceral fat.

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