



A Study the Effect of Physical Exercise on BMI & Weight of College Students

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1. Introduction

Exercise describes, “Planned structured and repetitive bodily movement done to improve or maintain one or more components of physical fitness” and is subset of physical activity. Exercise is usually goal related and designed to endurance components of physical fitness components such as strength, endurance, flexibility and aerobic capacity.

Regular physical activity – such as walking, cycling, or dancing – has significant benefits for health. For instance, it can reduce the risk of cardiovascular disease, diabetes and osteoporosis, it also control weight and promote psychological well-being. Everyone should engage in at least 30 minutes of moderate physical activity every day. More activity may be required for weight control.

Physical Education has a history as old as the human race. Prehistoric man developed motor skills because it was necessary that he do so in order to survive. He had to run swiftly, throw accurately, dodge and jump with precision in order to secure ample supplies of food and protect himself from his enemies. As men become civilized they banded together for greater protection. Within this society, certain individuals were chosen because of their strength and skills to serve as soldiers; other duties were assigned to those who were best able to perform them. In the societies of most of the early civilizations, soldiers were required to undergo an extensive period of physical training designed to increase their proficiency, strength and endurance. Because of the importance of the army in these early societies the soldiers were the only group who received specific training in physical skills.

The scientific study of exercise and its beneficial effects on the body is becoming increasing important with the growing realization of relationship of exercise with health. Field and laboratory observation on exercising human subjects are being supplemented with physiological and bio-chemical studies on laboratory animals, with acute and chronic exercise can now be explained at basis cellular and molecular levels.

Regular physical exercise and participation in games and sports help to improve physical fitness, which includes strength, speed, agility flexibility and endurance. Exercise helps in controlling obesity, specially a few grams of fat from the wrong places such as in the walls of the coronary and other important arteries. It aids digestion by reducing nervous tension and has a favorable effect on the level of function. It also improves the function of the lungs. One can improve his agility and the activities.¹ Body composition is concerned in part with the obesity of the individual. The total amount of body fat stored in the marrow of bones and in the heart, lungs, liver, spleen, kidneys, intestine, muscles and lipid rich limner through the Central Nervous System. This fat is required for normal physiological

¹ John W. Bunn , The Art of Officiating Sports (Englewood Cliff,. N.J.: Prentice Hall Inc.,1968) P.38

functioning. In the female essential fat also including sex-specific on sex characteristic fat : It is not all clear whether this fat depot in expandable or serves on reserve storage ².

In measuring the body composition, the total body weight is divided into two component; lean body weight and fat body weight. Lean body weight includes muscles, bone and vital organs. The underlying assumption is that total body weight equals lean body weight plus fat body weight. The higher percentage of fat body weight in relation to lean body weight, the higher the degree of obesity³

2. Objective

To find out whether there would be any significant difference in BMI and weight due to Physical Exercise of Experimental group - I and Control group - II among college student.

3. Methods

The purpose of the present study was to find out the effect of Physical Exercise on BMI and Weight variables of the college Girls student. To achieve the purpose of this study, were 60 subject selected at random out of 1500 Girls students from Shri J M Patel Arts & Smt M N Patel Commerce Mahila College, Unjha their age ranged from 18 to 25 years as per the college records. The selected subjects were divided into two groups and each group with Thirty subjects in each (n=30). Experimental group-I underwent Group Physical Exercise (PE), and Group - II served as control group (CG) for the training period of 12 weeks.

1. 60 Girls students were selected randomly who interest in the Physical Exercise.
2. The age group of students was 18-25 years.
3. Only college Girls were selected in this study

Table 1

Group	Total Strength	Treatment
Experimental Group A	30	Physical Exercise
Controlled Group B	30	Neutral

It will be ensured that treatment. Two groups in this study (B) Neutral group (A) Physical Exercise The training programme consisted of two groups with forty (30) subjects in each group. Group-A Physical Exercise every day 45 minute.

Aerobic type of exercises namely Double step, Sideward movement, V step, Walk forward, Diamond shape movement, Kicking Jump rope, Cycling, Skipping, Stair climbing, swinging the legs side to side with arms moving, two count jumping jacks, jogging and Circuit training.

4. BMI & WEIGHT

4.1 Purpose

To measure the Weight and BMI of the individual.

4.2 Equipment

(Bioelectrical Impedance Analyzer) Omron body fat monitor

4.3 Procedure Preparation

Enter the subjects' gender, age, height and weight in the Omron body fat monitor.

The subjects stood with feet slightly apart. Subjects wrap the middle finger around the grove of the handle. Subjects place the palm on the top and the bottom electrodes. Subjects put thumbs up position,

² Mcardle Katch & Katch, "Exercise Physiology : Energy, nutrition and human performance" (Len Febiger; III edition) p. 600.

³ Vendci, "Measurement and Concept in Physical Education" (Smith Louis : The C.V. Mosby Co., 1980) p.215

resting on the top of the unit. Then subject hold the arms straight out at a 90 angle to his body. On gripping with both hands, measurements will automatically begin.

4.4 Scoring

Only one trial was permitted, displayed score Weight & BMI in the Omron body fat monitor was recorded as the test

5. Result & Discussion

A total number of Sixty Girls students from Shri J M Patel Arts & Smt M N Patel Commerce Mahila College Unjha were selected as subjects for the study. To identify Girls weight and BMI measurement was measured by research scholar using BMI test. Before starting the actual training programmed (Physical Exercise) to find out their BMI and Weight administered to them. It was pre-test for them. After measuring BMI and Weight, actual training programmed (Physical Exercise) was given them by the research scholar. The training programme consisted of two groups with thirty (30) subjects in each group. Group-A Physical Exercise and Group-B control group. Training programme was given to the subjects for twelve (12) weeks. After twelve weeks to find out the actual results again the post test was conducted of them of BMI and Weight.

Analysis

Table: 2 BMI

	Physical Exercise Group			Control Group		
	MEAN	SD	t	MEAN	SD	t
PRE TEST	23.18	0.8547	3.41	23.47	0.6584	0.124
POST TEST	22.15	0.8965		23.36	0.6325	

The hypothesis was tested at 0.05 level of confidence

It is evident from table-II that Physical Exercise group T is better than tabulated $T_{0.05} (29) = 2.009$ and control group T is less then tabulated $T_{0.05} (29) = 2.009$
So treatment is effective

On the basis of table –II it may be concluded that there was a significant change by the Group Activity on BMI of college boy students.

Table:3 Weight

	Physical Exercise			Control Group		
	MEAN	SD	t	MEAN	SD	t
PRE TEST	61.32	0.8284	3.1482	61.18	1.0425	0.6254
POST TEST	58.06	0.9133		61.45	1.0978	

The hypothesis was tested at 0.05 level of confidence

It is evident from table-III that Group Physical Exercise T is better than tabulated $T_{0.05} (29) = 2.009$ and control group T is less then tabulated $T_{0.05} (29) = 2.009$
So treatment is effective

On the basis of table –III it may be concluded that there was a significant change by the Group Activity on Weight of college boy students..

References

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4. Mcardle, Katch & Katch, “Exercise Physiology : Energy, nutrition and human performance” (Len & Febiger; III edition