Effects Of Selected Pilates Exercise On Body Composition Of Obese People

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Abstract

The purpose of the present study was to find out effect of selected Pilates exercises on the body composition of obese people. The total sample of 60 males between the age group of 20-45 years was selected and divided into two groups i.e. 30 in the experimental group and 30 in the control group from the general population of Muzaffarnagar Uttar Pradesh. In the present study, a purposive-random sampling technique was employed to select the sample for measuring Body weight, body mass index, body fat percentage & visceral fat level. The subjects underwent training for 24-week with the Pilates exercises. The difference in the mean of each group for selected variables was tested for the significance of difference by paired 't' test. The level of significance was set at 0.05. The Result was found that the effect of selected Pilates exercises was significant body weight, body mass index, body fat percentage, a visceral fat level of the experimental group as compared to the control group.

Key words: body fat percentage, body mass index, visceral fat level.

Introduction

Obesity is accountable for the manifestation of serious fitness problems and is currently viewed as a public fitness problem, thus constituting a difficulty of worldwide hobby and strong impact.1,2 Obesity is defined as a physique mass index (BMI) larger than or equal to 30 kg/m2. It is estimated that about 2.8 million annual deaths worldwide are associated to the unsafe consequences of being obese or obese. Obesity is related with many continual fitness prerequisites as diabetes, hypertension, coronary heart disease, sleep and mortality fees upward push with increasing physique weight physique fats percentage, visceral fat level & body mass. Obesity is described as an excess of body fats and body fats is tough to measure. However, make bigger of physique fats is usually related with an expand in complete body mass, hence indices of relative weight are in many instances used to diagnose obesity. The body mass index is that one of the most typically used indices of relative weight. two body fat percentage, visceral fats stage & Body mass index (BMI; in kg/m2) is an estimator of the morbidity and mortality that numerous continual diseases are embracing as type 2 diabetes, cardiovascular disorder (CVD), and stroke and it has long been known26,18. Additionally, belly obesity evaluated whereby waist circumference (WC) and predicts obesity-related fitness risk.

With an estimated forty two million young people whose age is below 5years being affected in 2013, there's a global escalation within the incidence of obesity (WHO, 2013). there may be a forty-five percent amplify within the incidence of childhood weight problems within the ultimate 10 years alone.

Health is that the clean functioning of each organism in accordance with its specified tasks. Health can also be a kingdom of entire physical, mental and social well-being and not simply an absence of ailment or infirmity. Health implies a adequate reserve of bodily strength, ability, and patience also as mental equilibrium to satisfy the stress of lifestyle. Seen commonly as a drag of adults within the past, weight problems is becoming extra general as age increases. Literature has diagnosed fat youngsters with Charles Dickens' portrayal of the fats boy in 'The Pickwick Papers', and 'Billy Bunter' within the 20th century. it had been noteworthy commonly due to the fact fats youth had been individual in these days. Nowadays, obesity is frequent in youth and additionally the pace of prevalence is growing alarmingly. Most pathological tactics commence fairly in the past in lifestyles and every so often obesity hastens them (Mary Harding, 2015).

Obesity among preschool teenagers aged two to 5 extended from 5% to 10.4%; from 6.5% to 19.6 p.c amongst teens aged 6 to 11, and from 5% to 18.1 percent amongst adolescents, for the duration of a find out about finished from 1991 to 2007. 16% of kids throughout India are obese and 31% are in threat of becoming overweight, as proven via current statistics. Indian school-based data indicates an obesity vary of 5.6% to 24% for kids and adolescents through greater studies are required to understand the prevalence of overweight and weight problems (Litha Thampy, 2014).

It is known that bodily lively lifestyles is necessary in health safety and development. Body composition inside bodily fitness elements is necessary in weight problems classification, nutrition level, contrast of positive aspects as a end result of exercise, protection and development of generic health. In many countrywide and worldwide researches, regular physical endeavor or workout has been said to improve body weight control and body composition, thereby lowering persistent disorder prevalence. Body composition can be examined in two sections as fats mass and fats free mass. Fat-free mass incorporates muscle, bone, water, nerves, veins and natural structures, fats mass consists of subcutaneous fat, storage fat, and indispensable fats. The assessment of physique fats degree as a proportion offers statistics about the generic health fame of individuals. In mid-age person male (30-39 years), the most efficient body fat share is said to be 12 - 22% and in female it is 16 - 26%. The share of body fats in male over 25% and physique fat percentage in girl over 32% represent a fitness risk, while the minimum level is well-known as 8% to 12% for girl and 5% for male.

The remedy of weight problems has developed successfully at some stage in the previous 10-20 year. Most of these remedies involve workout as phase of the treatment, however, until recently, these advice Sar typically made on the viable beliefs that exercising would be of cost alternatively than on scientific evidence. The proof referring to to intensity of workout and type of workout as nicely as exercise. In the research factor out to be pretty dramatically exclusive the quantity of weight loss with exercising in solely intervention group and they have boasted the biggest modifications in weight as a end result of exercise alone. While the use of the whole physique for the duration of a coaching session, Pilates is a shape of exercising that goals the core of the body (the abdomen, hips, and back, i.e.). Pilates also enhance flexibility and enhance posture. The exercises are generally achieved that toughen the stomach muscles, hips, and returned by lying down on a mat and encompass a series of controlled movements of the arms and legs. Pilates also can be completed on exceptional Pilates equipment. 1045 Received for e-book October 11, 2010

Dharmendra Kumar and D. Sakthignanavel, (2012) the motive of the discover out about was to decide the outcomes of yoga asanas and Pilates exercising routines education on Muscular Endurance and BMI. There had been forty-five randomly chosen male students,

from Pt. K.L.S. Degree College, Kanpur Dehat- (U.P), aged 20 –25 years, volunteered to take part in the study. They had been divided into three equal corporations A, B, C with 15 in every group. The matters of Group a (YG), Group B (PEG) and group C have been given 12-weeks yogasanas and Pilates exercise program. The topics have been evaluated pre and post-test have been taken beforehand than and after the 12-week teaching program. The files used to be statistically analyzed with the aid of using ANCOVA to locate out the large editions among the three groups. Dependent variable Muscular Endurance has appreciably increased and a big decrease in BMI. There used to be no magnificent big difference observed between two experimental groups for Muscular Endurance and tremendous difference BMI. These findings factor out that normal Yogasanas and Pilate's workout routines can have a really useful effect on Muscular Endurance and BMI.

Materials and methods

To achieve the purpose of the study total of sixty (n=60) male obese people were selected as subjects divided into two groups, thirty (n=30) experimental and, thirty (n=30) control groups general population of Muzaffarnagar Uttar Pradesh. Purposive sampling technique was employed to select the sample. The age group ranged from 20-45 years.

Data Collection Tools

The Researcher has used Body Composition Analyzer and norms table to measure body weight, body fat percentage, body mass index, visceral fat level. The subjects were subjected to a twenty-four-week Pilates training programmed.

Body composition

In this study participated total 60 obese men. They were informed with the requirements of the study and body composition method testing procedure. The researcher has decided to select body composition analyser to get appropriate and reliable result. The researcher demonstrated the procedure of the test to the subjects, and how to hold the equipment and to step on it. Then the researcher had set the age, gender, height (cm) on the body composition analyzer after fill up all the required information on the body composition analyzer the researcher command the subject to step on it with bare-footed and instructed the subject to stand as demonstrated and then waited for some time till the measurements appeared on the display screen.

Pilates training

Table 1- Show that the 24-week Training programs of various Pilates exercise.

Table 1. Training Schedule

CATEGORY	DURATION OF TIME	EXERCISE NAME
BEGINNER	8 WEEK	The Hundred, The Roll-Up, Standing Foot Work Series
INTERMEDIATE	8 WEEK	The Double Straight Leg Stretch, The Saw, The Criss Cross

ADVANCED	8 WEEK	The Swan Dive, The Shoulder Bridge, The Side Band, The Push-Ups, Teaser IInd

Data Analysis

The collected data were put to statistical computing t-value to find out the differences if any, between the pre and post body weight, body mass index, body fat percentage & visceral fat level of obese peoples.

Statistical Technique

to find out, in order to find out the effect of selected Pilates exercises on body composition & physiological characteristics of obese peoples, paired 't' test was used at a 0.05 level of significance.

Result

The result of multiple stepwise regression has been given in table-1

Table 1.1

Show the **Bodyweight of Experimental and Control group**

Group	Number	Mean	S.D	SEM	't' Value
Experimental (Pre-test)	30	91.7600	2.6602	.4856	16.879
Experimental (Post-test)	30	86.8467	2.5880	.4725	
Control (Pre-test)	30	90.5400	2.2888	.4178	-2.147
Control (Post-test)	30	91.2167	2.8529	.5208	

Significant "t" 0.05 (29) = 1.70
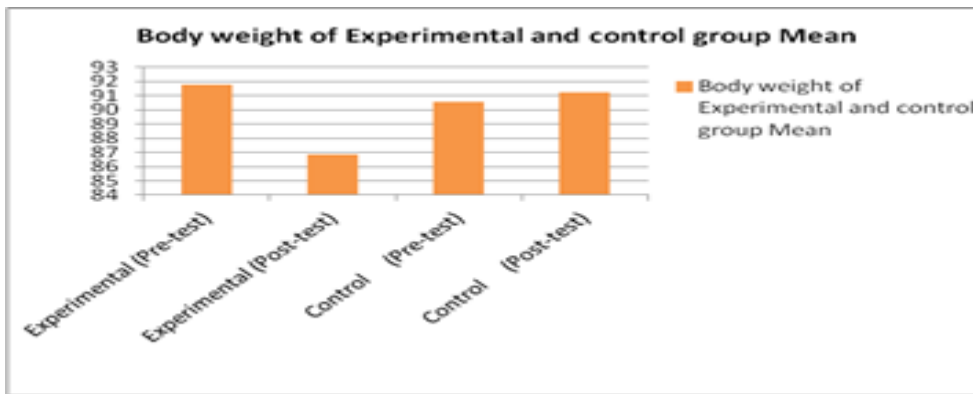
Figure 1.1 mean deference of body weight

Table-1.1 shows that the mean bodyweight of the pre-test of the experimental group and post-test of the experimental group was 91.7600 and 86.8467 respectively, whereas the mean body weight of pre-test of control and post-test of the control group was 90.5400 and 91.2167. The "t" value in the case of the experimental group was 16.879 and for the control group, it was -2.147. Since calculated t (=16.879) > tab t .05 (29) (=1.70), the results of this study showed that statistically significant and explained its effects positively.

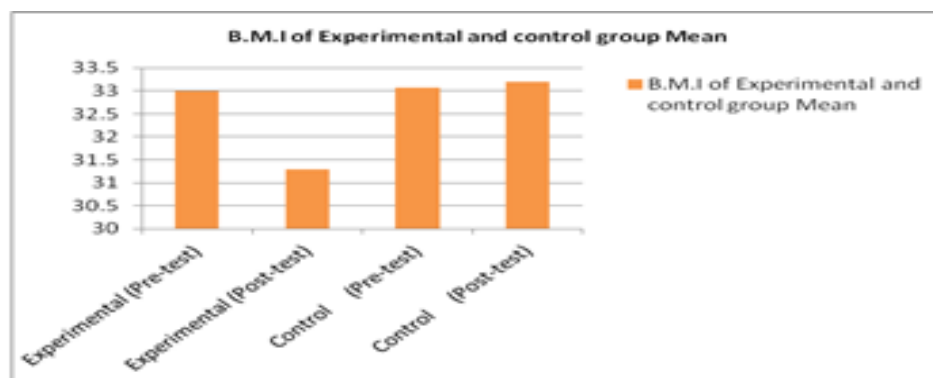**Table 1.2**

Show the **Body Mass Index of Experimental and Control group**

Group	Number	Mean	S.D	SEM	't' Value
Experimental (Pre-test)	**30**	32.9930	1.40312	.25617	
					15.420
Experimental (Post-test)	**30**	31.2930	1.30288	.23787	
Control (Pre-test)	**30**	33.0630	1.55017	.28302	
					-.956
Control (Post-test)	**30**	33.1960	1.42764	.26065	

Significant "t" 0.05 (29) = 1.70

Figure 1.2 mean deference of Body Mass Index

B.M.I of Experimental and control group Mean

Table-1.2 shows that the mean of Body Mass Index of pre-test of experimental group and post-test of the experimental group was 32.9930 and 31.2930 respectively, whereas the mean of B.M.I of pre-test of control and post-test of the control group was 33.0630 and 33.1960. The "t" value in the case of the experimental group was 15.420 and for the control group, it was -.956. Since calculated t (=15.420) > tab t .05 (29) (=1.70), the results of this study showed that statistically significant and explained its effects positively.

Table 1.3

Show the **Body Fat Percentage of Experimental and Control group**

Group	Number	Mean	S.D	SEM	't' Value
Experimental (Pre-test)	30	32.1403	2.3450	.4281	4.615
Experimental (Post-test)	30	29.2820	2.2160	.4046	
Control (Pre-test)	30	32.1403	2.3450	.4281	-.958
Control (Post-test)	30	32.3257	2.1940	.4005	

Significant "t" 0.05 (29) = 1.70

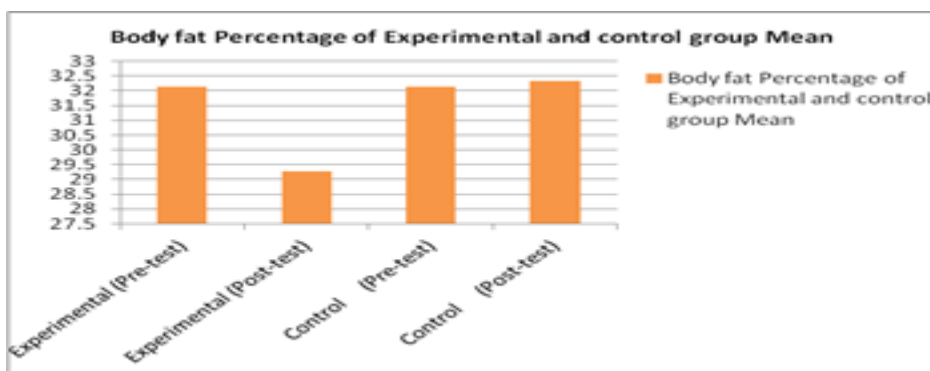**Figure 1.3 mean deference of Body Fat Percentage**

Table-1.3 shows that the mean of Body Fat Percentage of pre-test of experimental group and post-test of the experimental group was 32.1403 and 29.2820 respectively, whereas the mean of Body Fat Percentage of pre-test of control and post-test of the control group was 32.1403 and 32.3257. The "t" value in the case of the experimental group was 4.615 and for the control group it was -.958 Since calculated t (=4.615) > tab t .05 (29) (=1.70), the results of this study showed that statistically significant and explained its effects positively.
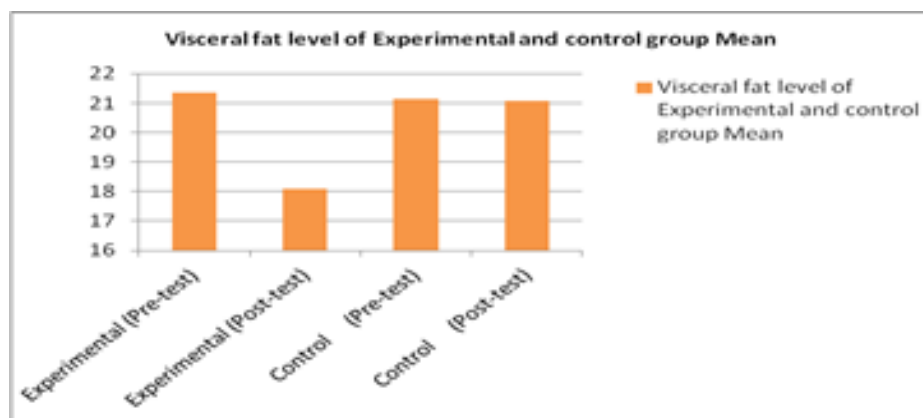
Table 1.4

Show the **Visceral Fat Level of Experimental and Control group**

Group	Number	Mean	S.D	SEM	't' Value
Experimental (Pre-test)	**30**	21.350	1.7672	.3226	**24.37**
Experimental (Post-test)	**30**	18.083	1.7469	.3189	
Control (Pre-test)	**30**	21.133	2.1573	.3938	**.459**
Control (Post-test)	**30**	21.066	2.0245	.3696	

Significant "t" 0.05 (29) = 1.70

Figure 1.4 mean deference of Visceral Fat Level

Table-1.4 shows that the mean of the Visceral fat level of the pre-test of the experimental group and post-test of the experimental group was 21.3500 and 18.0833 respectively, whereas the mean of the Visceral fat level of pre-test of control and post-test of the control group was 21.1333 and 21.0667. The "t" value in the case of the experimental group was 24.374 and for the control group it was .459 Since calculated t (=24.374) > tab t .05 (29) (=1.70), the results of this study showed that statistically significant and explained its effects positively.

Discussion

From the results, it is evident that the twenty-four week Pilates training program had shown a significant effect of the experimental group as compared to the control group of obese people. Determine the effects of Pilates training on body composition and physiological characteristic of obese people showed a statistically significant *"t" 0.05 (29) = 1.70*

Conclusion

Obesity is characterized as a serious public health problem with significant impact worldwide, as represented by high rates of death. Among the major comorbidities derived from obesity, changes in body composition can be highlighted. That condition can lead to Body weight, body fat percentage, body mass index, visceral fat level. Thus, physical exercise is one effective means of therapeutic intervention for improving respiratory function. In that context, Pilates is considered to be a method of Pilates exercise that promotes overall reducing Body weight, body fat percentage, body mass index & visceral fat level. As a result, it has been gaining ground and is being popularized. With the results found in the current literature review, the authors have observed that Pilates promotes the strengthening of abdominal muscles. That fact could possibly be related to improvement of the diaphragmatic function, which may result resolved the significant effect of selected Pilates exercises on body weight, body mass index, body fat percentage & visceral fat level of obese people.

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