Sports Scientists Views in
Indian Journal of Physical Education, Sports & Applied Sciences
Available Online
www.sportscientistsviews.com
Journal DOI-05-2016-44975451
I.J.P.E.S.A.S
Scientific Journal Impact Factor-4.917

ROLE OF PILATES EXERCISES TO REDUCE BODY FAT PERCENTAGE OF OVERWEIGHT PEOPLE

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ABSTRACT

The purpose of the present study was to find the Role of Pilates Exercises to reduce body fat percentage of overweight people. For this study 30 overweight male subjects were selected between the age of 30-45 years from the General population of District Meerut of Uttar Pradesh and then selected subjects were divided into two groups i.e. 15 as experimental group and 15 as control group. In the present study purposive-random sampling technique was applied to select the subjects. For measuring body fat percentage the body composition analyzer and WHO's BMI norms table were used. The BMI was calculated easily from the following formula BMI = [Weight in kg / Square of height in meters]. After assessment of pre-test as experimental treatment Pilates exercises training was conducted for experimental group for ten weeks and no training to control group. After the completion of 10 weeks Pilates exercises training the post-test (measure body fat percentage) was conducted to know the significance difference. The 't' test was applied to find out the significance difference. On the basis of statistical analysis it was concluded that the Pilates Exercises play a significant role to reduce body fat percentage of overweight people.

Key words : Body composition, analyzer, Pilates, Body mass index.

1. INTRODUCTION

Throughout the human history, being fatty was not an option. The constant struggle to hunt, gather or harvest enough food to maintain life meant most people were always slim. Plumpness was a sign of excess, found only in the wealthy. So early on, being fatty was a status symbol. Still, for most people, just getting enough to eat was still the big issue. Whenever food is scare, being able to eat was still the big issue. Whenever food is scare, being able to eat well is something to talk pride. When food is routinely plentiful, it may be considered a sign of self-control to resist the temptation to over-indulge **(Fernandez Sot, Varsavsky 2010)**. Human body composition refers to the assessment of the absolute and relative amounts of bone, muscles, and fat mass measured by different methods depending on the technology i.e. skinfold calipers, hydrostatic weighing, body composition analyzer, BMI etc. **(Areghan G. 2005)**.

Body Mass Index (BMI) is a grass estimation for the amount of fat in the body. It tells whether one needs to lose weight or not all adults who have a BMI in the range labeled healthy are at their most healthy weight. They may have lots of fat but very little muscle. Similarly, if an athlete may have lots of muscles and less fat and if BMI is more than normal range, then still it may still be healthy. BMI tells whether body weight is appropriate for one's height. In Indians it is advisable that the BMI be not more than 29.9. BMI is normally a good indication for weight problems **(R.F. Zoeller 2007)**.

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have an adverse effect on health. It is defined by Body Mass Index (BMI) and further evaluated in terms of fat distribution via the waist hip ratio and total cardiovascular risk factors. BMI is closely related to both percentage body fat and total body fat **(Dey, P. 1991)**.

Pilates is a form of exercise, developed by Josoph Pilates, which emphasizes the balanced development of body through strength, flexibility and awareness in order to support efficient, graceful movement. Pilates is a body conditioning routine that helps build flexibility and long, lean muscles strength and endurance in the legs, abdominals arms, hips and back. It puts emphasis on spinal and Pelvic alignment, breathing to relieve stress and allow adequate oxygen flow to muscles, developing a strong core or center (tones abdominals while strengthening the back), and improving coordination and balance **(Anderson, B. 2000)**. Pilates flexible system allows for different exercises to be modified in range of difficulty from beginning to advanced. Intensity can be increased over time as the body conditions and adapts to the exercises. No muscle group is under or over trained. It enhances care strength and brings increased reach, flexibility and agility.

Pilates help weight loss by building lean muscles while burning fat, weights is lost by creating a calorie deficit, burning more calories than take in. Pilates are designed to make the heart and lungs work harder, strengthening cardiopulmonary system in the process for good cardiovascular fitness it is greatly recommended to exercise 5 to 6 times a week and for 30 – 40 minutes daily, not including warming up at the start and cooling down at the end. The improvement in cardiopulmonary system can also be accompanied by an increase in good cholesterol, which helps to remove fatty acids from the body **(Freytag 2009 and Bernard 2007)**. Keeping all the views in the mind regarding importance of Pilates exercise the present study was carried out to determine the role of Pilates exercises to reduce body fat percentage of overweight people.

2. MATERIAL AND METHODS

2.1 Subjects

To achieve the purpose of the study 30 male overweight people were selected as subjects from general population of Meerut (U.P.). Purposive sample technique was applied to select the subjects. Selected subjects were divided into two equal groups i.e., 15 as experimental and 15 as control group. Age group of the subjects ranged from 30 – 45 years. The study was conducted during summer 2019.

2.2 Variables and Instruments

For measuring body fat percentage the Body Composition Analyzer and BMI norms table were used. The BMI was calculated easily from the following formula.

BMI = [Weight in kg / square of height in meters]

As far as experimental training is concern the ten weeks specified Pilates exercise training programme was conducted in a systematic manner.

10 weeks training programme of various Pilates exercise

CATEGORY	DURTION	NAME OF EXERCISE
Beginner	3 Weeks	The Hundred, The Roll up, Standing Foot work Series
Intermediate	3 Weeks	The Double, Straight Leg Stretch, The Saw, The Criss Cross
Advanced	4 Weeks	The Saw Dive, The Shoulder Bridge, The Side Band, The Push ups.

2.3 Procedure

For the measurement of body fat percentage as percentage Body Composition Analyzer and WHO's BMI norms table was used. After assessment of pre-test as experimental treatment Pilates exercise training was conducted for experimental group for ten weeks and no training was given to control group. After the completion of specified training programme, the post-test (measure body fat percentage) was conducted to know the significance difference. To ensure uniform testing all subjects were testing by same tools (weighing machine and measuring tape).

2.4 Statistical Technique

The 't' test was used to determine the Role of Pilates exercises to reduce body fat percentage of overweight people. Further the level of significance was set at 0.05 level.

3. RESULT

To find out the significance difference between the pre-test and post-test means of control group and experimental group on BMI norms the 't' test was applied. The findings related to it are presented in table 1 – 4.

TABLE – 1
SIGNIFICANCE DIFFERENCE IN PRE-TEST (BODY FAT PERCENTAGE SCORE) BETWEEN CONTROL AND EXPERIMENTAL GROUP

Group	N	Mean	S.D.	't' ratio
Control Group	15	32.70	2.88	0.88
Experimental Group	15	33.58	2.33	

Significant at 0.05 level 't' 0.05 (28) = 2.04

It is observed from Table – 1 that the calculated 't' (0.88) is less than the tabulated 't' (2.04). Hence, it may be considered that there was no significant difference found between the control and experimental group on pre-test scores of body fat percentage. The scores are also illustrated in the figure – 1.

FIGURE – 1

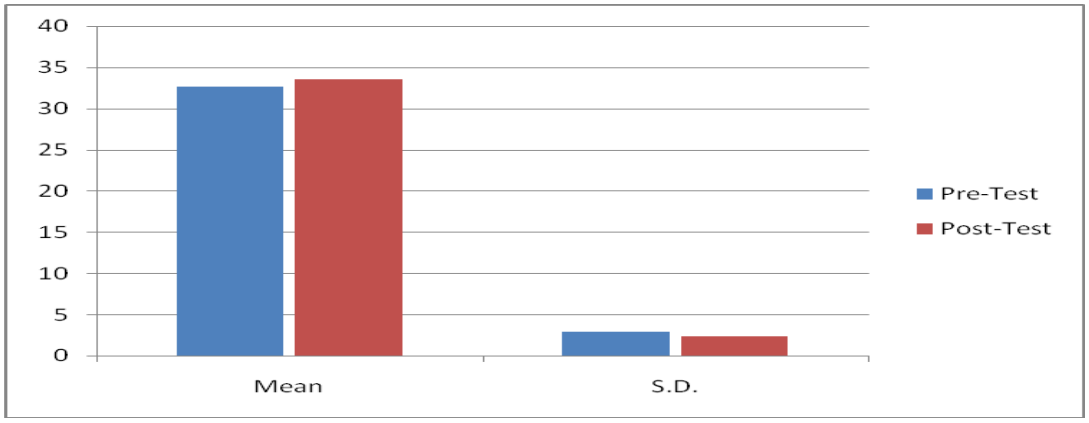


TABLE 2
SIGNIFICANCE DIFFERENCE IN POST-TEST (BODY FAT PERCENTAGE SCORE) BETWEEN CONTROL AND EXPERIMENTAL GROUP

Group	N	Mean	S.D.	't' ratio
Control Group	15	32.91	3.04	4.75
Experimental Group	15	28.27	2.02	

*Significance at 0.05 level 't' 0.05(28) = 2.04

It is observed from Table – 2 that the calculated 't' (4.75) is more than the tabulated 't' (2.04). Hence, it may be considered that there was significant difference found between the control group and experimental group on the post-test scores of body fat percentage. The scores are also illustrated in the figure – 2.

FIGURE – 2

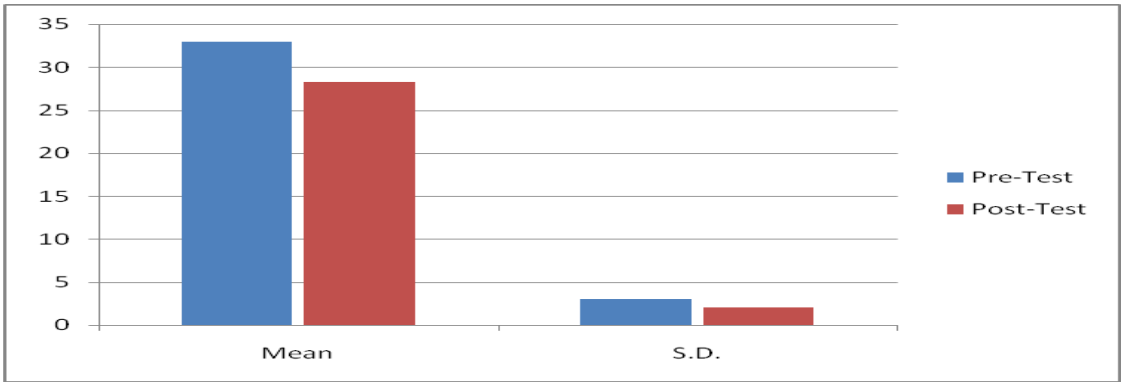


TABLE – 3
SIGNIFICANCE DIFFERENCE IN BODY FAT PERCENTAGE SCORE BETWEEN PRE-TEST AND POST-TEST OF CONTROL GROUP

Test	N	Mean	S.D.	't' ratio
Pre-test	15	32.70	2.88	0.26
Post-test	15	32.91	3.04	

Significant at 0.05 level 't' 0.05(28) = 2.04

It is observed from table – 3 that the calculated 't' (0.26) is less than the tabulated 't' (2.04). Hence, it may be considered that there was no significant difference found in body fat

percentage scores between pre-test and post-test of control group. The scores are also illustrated in the figure – 3.

FIGURE – 3

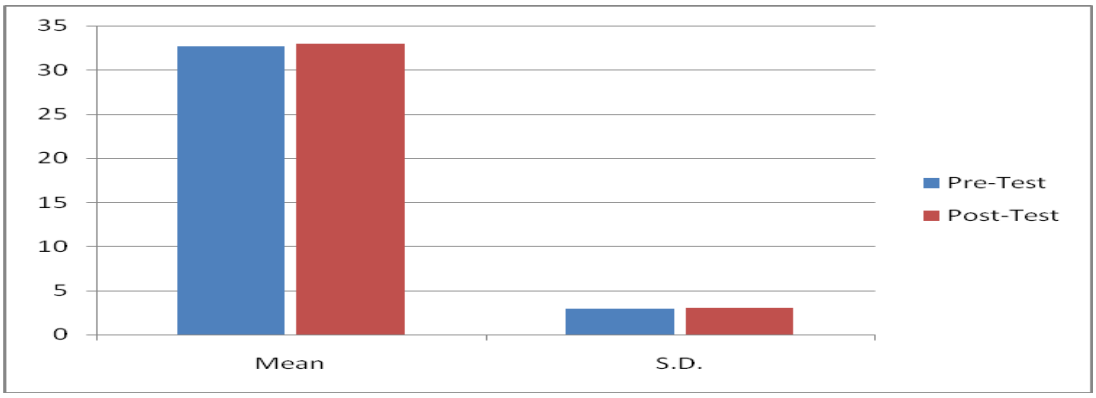


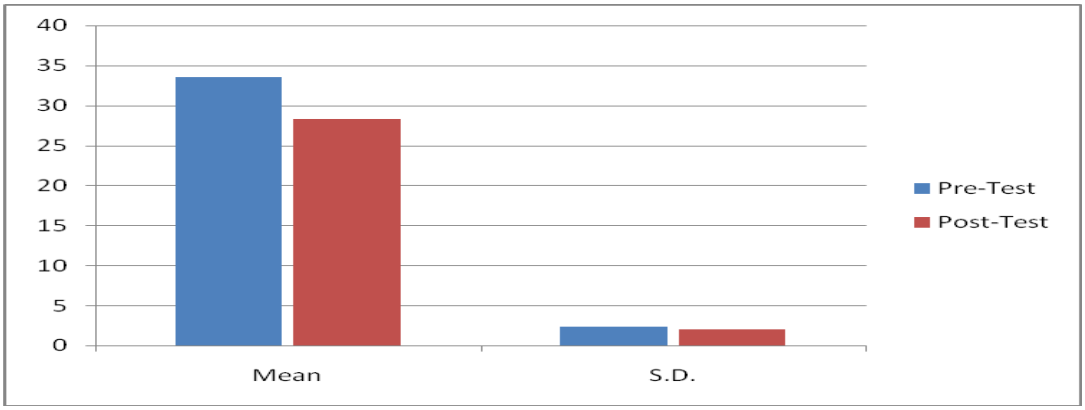
TABLE – 4
SIGNIFICANCE DIFFERENCE IN BODY FAT PERCENTAGE SCORE BETWEEN PRE-TEST AND POST-TEST EXPERIMENTAL GROUP

Test	N	Mean	S.D.	't' ratio
Pre-test	15	33.58	2.33	6.44
Post-test	15	28.27	2.02	

*Significant at 0.05 level 't' 0.05 (28) = 2.04

It is observed from table – 4 that the calculated 't' (6.44) is more than the tabulated 't' (2.04) Hence, it may be considered that there was significant difference found in body fat percentage between pre-test and post-test of experimental group. The score are also illustrated in the figure – 4.

FIGURE – 4



4. DISCUSSION

On the basis of obtain results, it has been observed that there was no significant difference found between control and experimental group on pre-test scores of body fats percentage. Results also revealed that there was no significant difference found in body fat percentage scores between pre-test and post-test of control group but as far as 10 weeks Pilates exercise training (experimental training) is concern there was significant difference found in

post-test scores of body fat percentage between control and experimental group as well as in pre and post-test of experimental group.

By the Pilates exercise training the body fat percentage of experimental group was reduced in comparison to control group which didn't have any training. So their performance with respect to Pilates exercise training programme was found to be significant because by the 10 weeks Pilates exercise training experimental group was also improved (reduce in body fat percentage) in comparison to pre and post-test of body fat percentage. This result is consistent with the findings of similar study conducted at **Barry University in Miami Shares Fla, cited by Freytag (2009)** which confirmed scientifically that Pilates reduce body fat percentage.

5. CONCLUSION

With the limitations of the study it was conducted that there was no significant similarities found between control and experimental group on pre-test scores of body fats percentage. Further it was concluded that by the 10 weeks Pilates exercise training the experimental group having low percentage of body fats in comparison to control group those having no training. The overall result showed that the effect of Pilates exercises was significant on body fat percentage of experimental group as compared to control group.

REFERENCES

Anderson, B. & Spector, A. (2000) Introduction to Pilates-based rehabilitation Orthopedic Physical Theraphy Clinics of North America, 9 :395 – 410.

Anring, C. D. C. (2008) The obese children Dynamic Chiropractic, New York : Harmony Book.

Areghan, G. (2005) Obesity and the African-American Adolescent in Mississippi :A Overview, Southern Medical Journal, 95 (1):

Argo, C. (1999) The Pilates method for a balanced body American Fitness, New Jersey : Prentice – Hall Mc.

Bernardo, L.M. (2007) The effectiveness of Pilates training in healthy adults : an appraisal of the research literature. Journal of Body Work and Movement Therapies 11.

Curnow, D., Cobbin, D., Wijndham, J., & Choy, B. (2009) Altered motor control, posture and Pilates method of exercise prescription. Journal of Body Work and Movement Therapies 13.

Dey, Pradeep Kumar (1991) Relationship of body fat with selected physical parameter of sedentary people and active people, Unpublished Master's Dissertation, Amravati University.

Ferna'ndez Soto, M., Lonza'lez Jimenez, A., & Varsavsky, M. (2010) Metabolism mineral riesgo de fracturas en la anorexia nerviosa, Medicina Clinica, 135 (6) :274 – 279.

Freytag, Chris (2009) Barry University in Miami shares, Fla Proved Scientifically that Pilates reduced body fat percentage cited by http:/blog.gaiam.com.

R.F. Zoeller J.R. (2007) Physical Activity and Obesity : Their Interaction and Implications for Disease Risk and The Role of Physical Activity in Healthy Weight Management American Journal of Lifestyle Medicine, 1 (6) : 437 – 446.