



**EFFECT OF ANAEROBIC TRAINING ON SELECTED BODY COMPOSITION  
PROFILES AMONG MIDDLE AGED OBESE WOMEN**

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**Abstract**

The purpose of the study was to investigate the effect of anaerobic training on selected body composition profiles among middle aged obese women. To achieve the purpose of this study thirty middle aged obese women were randomly selected in and around from Namakkal district, Tamil Nadu, India and their age ranged between 35 to 45 years. For the present study pre test – post test randomized group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group ‘A’ and Group ‘B’. Group ‘A’ underwent anaerobic training and Group ‘B’ underwent no training. The data was collected before and after six weeks of training. Paired ‘t’ ratio was computed. The level of significance was set at 0.05. The anaerobic training programme produced a significant development on the selected body composition profiles. The control group did not exhibit any significant changes in the body composition profiles.

**Key words:** Anaerobic Training, Obese Women, Body Composition..

**Introduction**

Obesity is from the Latin *obesitas*, which means "stout, fat, or plump". The Greeks were the first to recognize obesity as a medical disorder. Hippocrates wrote that "Corpulence is not only a disease itself, but the harbinger of others". The Indian surgeon Sushruta (6th century BCE) related obesity to diabetes and heart disorders. He recommended physical work to help cure it and its side effects. For most of human history mankind struggled with food scarcity. Obesity has thus historically been viewed as a sign of wealth and prosperity. Obesity is still seen as a sign of wealth and well-being in many parts of Africa. This has become particularly common since the HIV epidemic began. Obesity is most commonly caused by a combination of excessive food energy intake, lack of physical activity, and genetic susceptibility, although a few cases are caused primarily by genes, endocrine disorders, medications or psychiatric illness.

Anaerobic exercise is exercise intense enough to trigger lactic acid formation. It is used by athletes in non-endurance sports to promote strength, speed and power and by body builders to build muscle mass. Muscle energy systems trained using anaerobic exercise develop differently compared to aerobic exercise, leading to greater performance in short duration, high intensity activities, which last from mere seconds to up to about 2 minutes. Any activity lasting longer than about two minutes has a large aerobic metabolic component.

**Methodology**

The purpose of the study was to investigate the effect of anaerobic training on selected body composition profiles among middle aged obese women. To achieve the purpose of this study thirty middle aged obese women were randomly selected in and around from Namakkal district, Tamil Nadu, India and their age ranged between 35 to 45 years. For the present study pre test – post test randomized group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent anaerobic training and Group 'B' underwent no training. The data was collected before and after six weeks of training. Paired 't' ratio was computed. The level of significance was set at 0.05.

## Results and Discussions

The primary objective of the paired 't' ratio was to describe the differences between the pre-test and post-test mean of middle aged obese women.

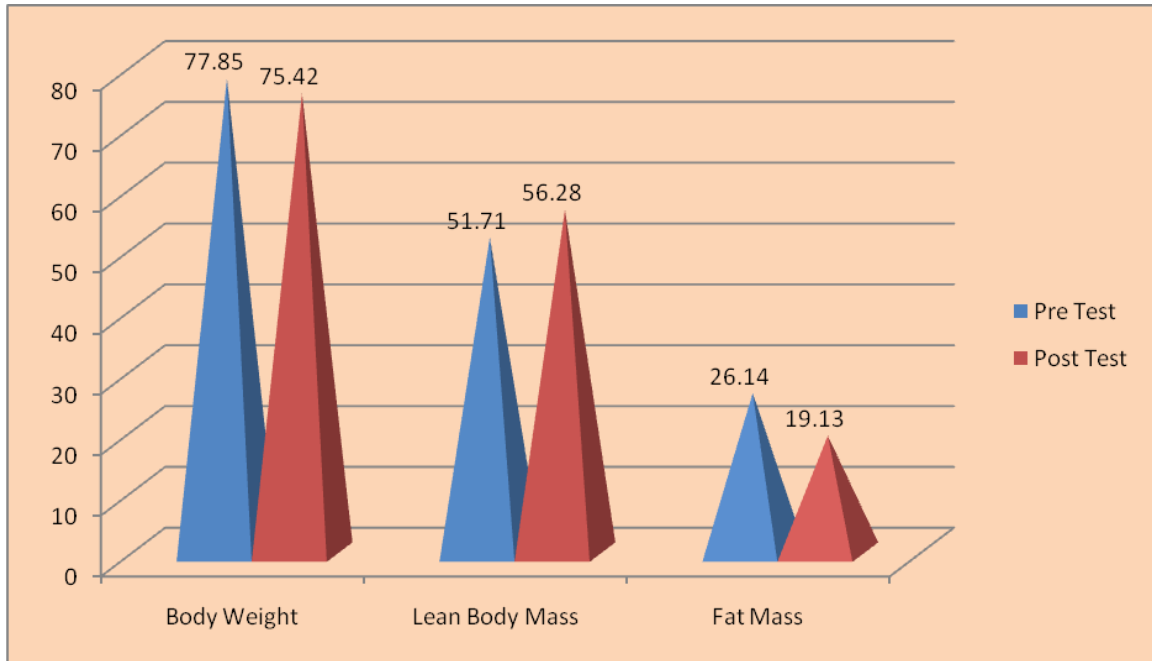
**TABLE – I**

**SUMMARY OF 't' RATIO ON SELECTED BODY COMPOSITION PROFILES OF ANAEROBIC TRAINING GROUP (AATG)**

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev ( $\pm$ )	$\sigma$ DM	't' Ratio
1	Body Weight	77.85	75.42	2.43	3.92	1.01	2.40*
2	Lean Body Mass	51.71	56.28	4.57	2.51	0.64	7.03*
3	Fat Mass	26.14	19.13	7.00	1.42	0.36	19.10*

Required table value= 2.14

An examination of table - I indicates that the obtained 't' ratios were 2.40, 7.03 and 19.10 for body composition profiles of body weight, lean body mass and fat mass respectively. The obtained 't' ratios were found to be greater than the required table value of 2.14 at 0.05 level of significance for 1, 14 degrees of freedom. Hence it was found to be significant.

**Figure – I****PRE AND POST TEST DIFFERENCES OF THE ANAEROBIC TRAINING ON  
SELECTED BODY COMPOSITION PROFILES****Table – II****SUMMARY OF 't' RATIO ON SELECTED BODY COMPOSITION PROFILES  
VARIABLES OF CONTROL GROUP (CG)**

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	$\sigma$ DM	't' Ratio
1	Body weight	79.20	78.81	0.38	1.66	0.43	0.89
2	Lean Body Mass	52.52	52.28	0.23	0.99	0.25	0.89
3	Fat Mass	26.68	26.52	0.15	0.66	0.17	0.89

Required table value= 2.14

An examination of table - II indicates that the obtained 't' ratios were 0.90, 0.25 and 0.33 for body composition profiles of body weight, lean body mass and fat mass respectively. The obtained 't' ratios on all the selected variables were found to be lesser than the required table value of 2.14 at 0.05 level of significance for 1, 14 degrees of freedom. Hence it was found to be insignificant. The results of this study showed that the control group were statistically insignificant.

**Figure – II**

**PRE AND POST TEST DIFFERENCES OF THE CONTROL GROUP ON  
SELECTED BODY COMPOSITION PROFILES**



**Conclusions**

The anaerobic training programme produced a significant development on the selected body composition profiles. The control group did not exhibit any significant changes in the body composition profiles.

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