



## EFFECT OF SWISS BALL TRAINING ON BIO MOTOR VARIABLES OF COLLEGE WOMEN

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**Abstract-** The motive of the research was to identify the influence of Swissball training of cardio vascular endurance and abdominal strength of college women, (forty N=40) college from Kannur district were selected randomly as subjects. The subjects are selected from the age group of 18-22 years. The selected subjects were randomly separated into two sections as test and control group. Test group underwent Swiss ball training for eight weeks of five days. Control group who were not engaged in any specific activities other than daily routine. The criterion variables as selected as cardiorespiratory endurance and abdominal strength were assessed by using the standardized test. The random group experimental design was utilized for this investigation. The pre and post test data was collected prior and immediately after the six weeks training period. The data was statistically analyzed with dependent 't' test. In all the cases 0.05 levels will be fixed as level of confidence to test the hypotheses. The aftereffect of the investigation was significant improvement on cardiorespiratory endurance and abdominal strength due to Swiss ball training of college women and there was significant difference between Swiss ball training group and control group on selected criterion variables.

**Key Words:** Swiss ball training, cardiorespiratory endurance and abdominal strength

### I. INTRODUCTION

The Swiss ball, otherwise called an activity ball or an exercise center ball is a preparation help pointed essentially at the extending and reinforcing of the stomach, crotch, lumbar (lower) back, and upper leg muscles of the body. Swiss balls are inflatable, and they are normally filled roughly 80-90%. The ball is developed from a thick rubber treated compound, accessible in varying sizes. For ideal impact, a Swiss ball should stand roughly 2 in (5 cm) over the client's knee from the surface. Arnheim et al., (2006).

Muscle endurance is the muscles' capacity to perform dreary movements - protracting and contracting - throughout significant stretches of time without getting worn out. A significant number of your day by day exercises require strong perseverance, as do most game and exercise exercises. By improving your strong perseverance, you improve your muscles' abilities to help your everyday exercises, just as your presentation in sports and exercise. Shaver (2012).

Cardiorespiratory perseverance or endurance is the capacity of heart and lungs to assimilate ship and use oxygen throughout broadened timeframe during actual effort. Upgraded capacity to take in oxygen (capacity of lungs) and convey it to working muscles (capacity of heart), muscles can turn out consistently for longer timeframe without exhaustion. Peter, (2006).

#### 1.1 STATEMENT OF THE PROBLEM

The motivation behind the investigation was to discover the effect of Swiss ball preparing on cardiovascular perseverance and stomach strength of college women.

#### 1.2 HYPOTHESES

1. There would be significant improvement on cardiovascular endurance of college women due to eight weeks of Swiss ball training.
2. There would be significant improvement on abdominal muscular strength of college women due to eight weeks of Swiss ball training.

## II. MATERIALS AND METHODS

To accomplish the reason, forty (N=40) college women were purposively chosen from Kannur region, Kerala, India. The age of these subjects went from 18 to 22 years, the chose subjects offered ability to take part in this examination. The chose subjects similarly partitioned into two equivalent gatherings, test and control group. The basis variable chose were cardiovascular perseverance and abdominal strength. Harvard step test was utilized to gauge cardiovascular perseverance and sit-up test was utilized to estimated abdominal strength of college women.

### 2.1 TRAINING INTERVENTION

The training programme was scheduled for one session per day. During the training period test group were underwent Swiss ball training (Mondays to Fridays) for a period of eight weeks. The duration of training programme was 60 minutes which include warming up and warming down.

### 2.2 STATISTICAL ANALYSIS

Illustrative insights were inferred for all test factors utilizing SPSS (20). Changes in cardiovascular perseverance and abdominal strength and the distinction between the gatherings were evaluated by utilizing matched example 't' test. The degree of certainty was fixed at 0.05 to test the importance.

## III. RESULTS AND DISCUSSIONS

**Table 1: Descriptive Statistics and Paired Sample 't' Value on Cardio Vascular Endurance of Test and Control Group.**

Group	Pre test			Post Test			t value
	N	Mean	SD	N	Mean	SD	
<b>Test</b>	20	87.69	1.26	20	91.67	1.20	9.76*
<b>Control</b>	20	88.07	1.24	20	89.12	1.25	1.29

Significant at 0.05 (df 19, 2.09)

Table 1 show that clear insights and t worth of the experimental and control group. In cardio vascular perseverance pre and posttest mean qualities were 87.69 and 91.67 individually. The pretest SD esteem was 1.26 and posttest esteem was 1.20. The pre and post-test methods for the benchmark group were 88.07 and 89.12 separately. The pre and post-test SD esteems were 1.24 and 1.29 separately. The 't' worth of the test group was 9.76\*, which was more noteworthy than the necessary table worth 2.09 with df 19, it was discovered to be genuinely huge at 0.05 degree of certainty. The 't' worth of the control group was 1.29, which was lesser than the necessary table worth 2.09 with df 19, it was discovered to be no genuinely critical at 0.05 degree of certainty.

**Table 2: Descriptive Statistics and Paired Sample 't' Value on Abdominal Strength of Test and Control Group**

Group	Pre test			Post Test			t value
	N	Mean	SD	N	Mean	SD	
<b>Test</b>	20	49.45	1.71	20	54.50	1.68	6.91*
<b>Control</b>	20	49.61	1.72	20	49.90	1.70	1.83

Significant at 0.05 (df 19, 2.09)

Table 2 shows that distinct insights and t worth of the test and control group. In abdominal strength pre and post test mean qualities were 49.45 and 54.50 individually. The pretest SD esteem was 1.71 and post test esteem was 1.68. The pre and post-test methods for the benchmark group were 49.61 and 49.90 separately. The pre and post-test SD esteems were 1.78 and 1.70 individually. The 't' worth of the exploratory gathering was 6.91\*, which was more noteworthy than the necessary table worth 2.09 with

df 19, it was discovered to be genuinely huge at 0.05 degree of certainty. The "t" worth of the benchmark group was 1.83, which was lesser than the necessary table worth 2.09 with df 19, it was discovered to be no genuinely huge at 0.05 degree of certainty

### 3.1 DISCUSSION ON FINDINGS

The aftereffects of the examination shows that the test group in particular Swiss ball preparing bunch had altogether improved cardiovascular perseverance and stomach strength of school ladies. It is additionally tracked down that the improvement brought about by Swiss ball preparing when contrasted with the benchmark group.

Stanton et al., (2011) discover the impact of momentary Swiss ball preparing on center strength and running economy. The consequences of the investigation show that momentary Swiss ball preparing were essentially improved center security and running economy among competitors. Nashwa, (2011) led impact of Swiss ball preparing on chosen engine capacities of school young ladies. The consequences of the investigation demonstrated that the Swiss ball preparing altogether contributed stomach strength, adaptability, coordination and perseverance of school young ladies.

Duet to Swiss ball training help to improve the cardio respiratory endurance of college women significantly. The physiological changes are increased cardiac output, expanded ventilation (rate and profundity of breathing); expanded blood stream to dynamic skeletal muscles and to the heart and steady or marginally expanded blood stream to the cerebrum; expanded blood stream to the skin and expanded perspiring. Duet to Swiss ball training help to improve the abdominal strength of college men significantly. The physiological changes are increased size and blood flow of the abdominal muscles.

It is finished up from the consequences of the investigation methodically planned Swiss ball preparing might be given in the preparation projects of the multitude of orders to accomplish most extreme execution. From the aftereffect of the current examination, it is presumed that huge distinction exists among exploratory and control bunch in creating chosen model factors.

## IV. CONCLUSIONS

1. There was a huge enhancement for cardiorespiratory perseverance of the college women because of about two months of Swiss ball preparing.
2. There was a huge enhancement for abdominal strength of college women because of about two months of Swiss ball preparing.
3. The control group didn't show any huge enhancement for cardiorespiratory endurance and abdominal strength.

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