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**EFFECTS OF SWISSBALL TRAINING AND YOGA PRACTICES ON  
SELECTED PHYSICAL FITNESS COMPONENTS AMONG COLLEGE  
LEVEL VOLLEYBALL PLAYERS**

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**\*Corresponding Author: Mr. M. Raveen**Ph.d research scholar, department of physical education, bharathiar university,  
coimbatore.DOI: <https://doi-doi.org/101555/ijrpa.2556>**ABSTRACT**

*The purpose of the study was to find out the effects of swissball training and yoga practices on selected physical fitness components among college volleyball players. To achieve the purpose of the study forty-five college volleyball players were selected randomly aged 18 to 21, from various colleges in Coimbatore. The selected subjects were divided into three equal groups, namely the swissball training group, the yoga practice group, and the control group of fifteen subjects each. The training period was limited to eight weeks and three days per week. Swissball training and yoga practice were selected as independent variables. Dependent variables selected as flexibility and balance were measured by the static flexibility test and standing-stork tests, respectively. The obtained data from the swissball training group, the yoga practice group and the control group before and after the experimental period were statistically one-way analysis of variance (ANOVA) and analysis of co-variants (ANCOVA) repeated measurements (three groups means). The level of significance was fixed at a 0.05 level of confidence for all the cases. Significant improvement was found in flexibility and balance in the swissball training group and yoga practice group when compared to the control group.*

**KEYWORDS:** Swissball training, Yoga practices and volleyball players.**INTRODUCTION**

Interest in core steadiness coaching and the use of Swiss balls has improved dramatically in current times. Historically, the Greek logician Galen wrote that workout with a ball “is

capable to provide the most extreme exercising and the gentlest relaxation (Sweet., 1987). Since the late 1980s, education programs outlining the advantages of Swiss ball training have seemed in both the therapeutic and athletic conditioning sectors (Fuller., 2002). Proponents of Swiss ball training argue that such training enhances neuromuscular pathways, leading to greater strength, proprioception, and balance (Check., 1999). Hence, Swiss balls are commonly used in both athletic therapy and conditioning settings (Bartonietz., 1998).

Volleyball is a dynamic, fast-paced game. The purpose of strength training for volleyball is not to develop the physical attributes necessary to improve a player's performance. Strength training is very important to volleyball and should not be developed independently of other abilities such as agility, quickness and endurance. When watching a great volleyball player, the one word that comes to the mind is "quick" everything the player does is short and quick. There are no long drawn-out motions like sprinting in other sports, volleyball players must be able to quickly change direction from the upward motion of a vertical jump to the downward motion of a point-saving dig. One of the most crucial phases of volleyball is how players perform at the net. To be successful, players must be able to control play at the both offensively and defensively. Since this is the case, two of the most valued traits in a volleyball player are height and jumping ability. (Gabbet, 2006)

Yoga is no more observed as a discipline to be followed only by those who have set emancipation's the highest goal of their life. All cultivated and uncultivated people find yoga to be useful. Refutation is no longer a pre-complaint to the study of yoga. Yoga has come out of its secret 'beating place'. It has crossed the restrictions of its land of origin, and has spread practically to the nook and turning of the world. The acceptance of yoga has not been stalled by the diversity of religious beliefs, languages or terrestrial conditions. The asanas aim at a consistently integrated system of neuromuscular is always consciously followed by their relaxation. At every step, a mental association is established with the physical actions, so that the unsounded reserves and power of the mind are harnessed for achieving a perfect physical culture of the body. (Dhirendra Brahmachari, 1966).

## **METHODOLOGY**

To achieve the purpose of the study, forty-five college volleyball players were selected randomly, aged 18 to 21, from various colleges in Coimbatore. The selected subjects were divided into three equal groups, namely the swissball training group, the yoga practice group, and the control group of fifteen subjects each. The training period was limited to eight weeks and three days per week. Swissball training and yoga practice were selected as independent

variables. Dependent variables selected as flexibility and balance were measured by the static flexibility test and standing-stork tests, respectively.

### STATISTICS TECHNIQUE

The pre test and post test random group design will be used as experimental design in which forty five students are divided into three groups of fifteen each at random. The data will be collected from the three groups prior to and immediately after the training programme on selected criterion variables will be statistically analyzed with analysis of covariance (ANCOVA), whenever the 'F' ratio for adjusted post test means would be found to be significant, the Scheffe's test will be followed as a post hoc test to determine which of the paired mean difference will be significant. In all the cases 0.05 level of confidence

**TABLE-I CRITERION MEASURES.**

S.No	Criterion variables	Test items	Unit of measurements
<b>PHYSICAL FITNESS COMPONENTS</b>			
1.	Flexibility	static flexibility test	In Centimetres
2.	Balance	Standing stock test	In seconds

**TABLE – II SHOWS ANALYSIS OF COVARIANCE ON PRE, POST AND ADJUSTED POST TEST MEANS ON PHYSICAL FITNESS COMPONENTS OF SWISSBALL TRAINING GROUP (STG) AND YOGA PRACTICES GROUP (YPG) AND CONTROL GROUP. (CG)**

Variable	Mean	SWTG	YPG	CG	F- ratio
<b>FLEXIBILITY</b>	Pre	15.34	15.40	15.32	0.88
	Post	16.02	16.11	15.40	24.88*
	Adjust post	16.03	16.06	15.44	33.71*
<b>BALANCE</b>	Pre	36.30	36.45	35.98	0.27
	Post	49.68	49.59	37.03	44.43*
	Adjust post	49.62	49.02	37.66	147.07*

**Significant at 0.05 level for the degrees of freedom (3.21)**

Table 2 reveals the computation of 'F' ratio on pre-test, post-test and adjusted post-test means of Swiss ball training group, yoga practices group and control group on physical fitness components.

The obtained 'F' ratio for the pre-test means of Swiss ball training group, yoga practice group and control group on physical fitness components such as namely Flexibility and Balance were (15.34, 15.40,15.32) and(36.30,36.45,35.98) respectively. Since, the 'F' value was less

than the required table value of 3.21 for the degrees of freedom 2 and 44, it was found to be insignificant at 0.05 level of confidence.

Further, the ‘F’ ratio for the post test means of Swiss ball training group, yoga practices group and control group on physical fitness components such as namely flexibility and balance were (16.02, 16.11,15.40) and (49.68,49.59,37.03) respectively. Since, the ‘F’ value was higher than the required table value of 3.21 for the degrees of freedom 2 and 44, it was found to be significant at 0.05 level of confidence.

The obtained, ‘F’ ratio for the adjusted post-test means of Swiss ball training group, yoga practices group and control group on physical fitness variables such as namely Flexibility and Balance were (16.03, 16.06, 15.44) and (49.62, 49.02, 37.66) Since, the ‘F’ value was higher than the required table value of 3.21 for the degrees of freedom 2 and 43, it was found to be significant at 0.05 level of confidence.

The results revealed that there was a significant difference in post-test means among Swiss ball training group, yoga practice group and control group on physical fitness components of volleyball players.

**TABLE 3 SHOWS CALCULATION SCHEFFE’S POST HOC TEST FOR THE DIFFERENCES THE PAIRED ADJUSTED POST TEST MEANS OF PHYSICAL FITNESS COMPONENTS.**

Variables	SWTG	YPG	CG	MD	CI
<b>FLEXIBILITY</b>	16.03	16.06	-	0.03	<b>0.26</b>
	-	16.06	15.44	0.62	
	16.03	-	15.44	0.59	
<b>BALANCE</b>	49.62	49.02	-	9.00	<b>0.02</b>
	-	49.02	37.66	11.36	
	49.62	-	37.66	11.96	

**Significant at 0.05 levels**

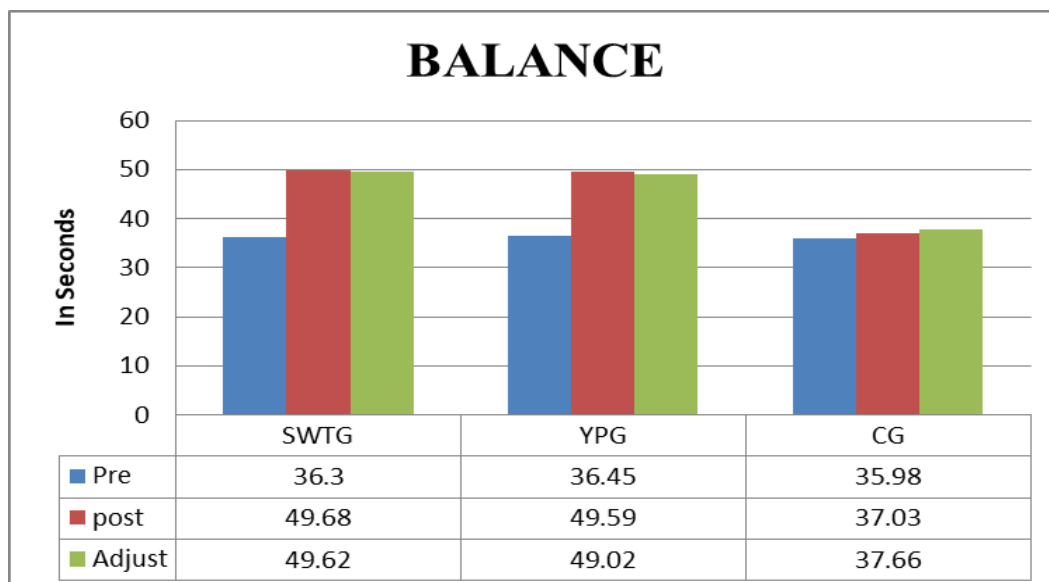
Table 3 reveals the mean differences between the adjusted post test means of Swiss ball training group, yoga practice group and control group.

The mean difference between Swiss ball training group, yoga practices group and control group and Swiss ball training group, yoga practices group and control group physical fitness components namely flexibility and balance were (16.03,16.06,15.44) and (49.62,49.02,37.66) respectively. Since the values of mean difference of adjusted post test means were higher than that the required confidence interval value of (0.26, 0.02) it was found to be significant at 0.05 level of confidence.

Even though the Swiss ball training group and the yoga practice group had significant improvements in physical fitness components, when comparing flexibility between the two groups, the Swiss ball training group had a higher mean difference than the yoga practice group. The balance between the two groups is that the yoga practice group has a higher mean difference than the Swiss ball training group. It might be predicted that the two training groups will have a higher impact on physical fitness components.



**BAR DIAGRAM SHOWS THE ADJUSTED POST HOC TEST MEAN VALUES OF PHYSICAL FITNESS COMPONENTS ON VOLLEYBALL PLAYERS**



### DISCUSSION ON FINDINGS

This study confirms that Swiss ball training group, yoga practice group produce improvement in physical fitness variables namely flexibility and balance. According to this study consider

as effects of Swiss-ball core strength training on strength, endurance, flexibility, and balance in sedentary women. The results support the fact that Swiss-ball core strength training exercises can be used to provide improvement in the aforementioned measures in sedentary women. In conclusion, this study provides practical implications for sedentary individuals, physiotherapists, strength and conditioning specialists who can benefit from core strength training with Swiss balls [1]. In consider on this study Swiss ball training group, yoga practice group. The effects of 12 week Swiss ball exercise program on physical fitness and balance ability of elderly women. There was a significant increase in the physical fitness and balance ability of the exercise group [2].

## CONCLUSIONS

It was concluded that in the eight-week Swiss ball training and yoga practice significantly improved the flexibility and balance of volleyball players. Even though the Swiss ball training group and the yoga practice group had significant improvements in physical fitness components, when comparing flexibility between the two groups, the Swiss ball training group had a higher mean difference than the yoga practice group. The balance between the two groups is that the yoga practice group has a higher mean difference than the Swiss ball training group.

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