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## Effect of swiss ball exercise on selected physical fitness components among inter collegiate women football players

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### Abstract

The primary purpose of this study was to investigate the effect of swiss ball exercise on selected physical fitness components among inter collegiate women football players. For this study experimental design was implemented and purposive sampling technique was used in order to achieve the intended goal. For this study 40 women football players were selected from inter collegiate women football players as study sample that had been fulfilled the health history questionnaire. From those players, 20 were assigned randomly to experimental group and also 20 were assigned to control group. The intervention group was engaged in swiss ball training for 4 consecutive weeks with frequency of 6 days per week for 60 minutes. The physical fitness components selected for this study was sit and reach test for flexibility and balance. Pre and post tests were conducted to measure the selected variables. Paired-Samples T test was used to compare the mean difference between pre and post-tests. The finding of this study indicated that effective physical fitness training program has positive effect of swiss ball exercise on selected physical fitness components among inter collegiate men football players.

**Keywords:** Flexibility, balance, swiss ball exercise

### Introduction

Currently a large number of sports are practicing in the world, football standing out due to its constant transformation, social acceptance, excessive media coverage, cultural importance and economic profit that lead to top-quality performance, especially teams with international recognition (Lago, Rey & Lago, 2009) <sup>[8]</sup>. To understand this development better and also the issues facing the game of football in the third millennium, all individuals should perhaps take a brief glance at the current state of the game in proper education and training of coaches, of technical staff and even administrative staff, is therefore proving to be a fundamental building block in the football pyramid of today and for the future.

Football is a high-intensity, multi-dimensional sport that is physically, mentally, technically demanding and conditioning has become an integral part of football training. Indeed, counter attacks and high pressure defending are key parts of the high-tempo, modern-day game, and attaining high levels of fitness is critical to succeeding. Players today are quicker, stronger and greater stamina than ever before. In fact, one of major differences between top class and low class players are the amount of high-intensity actions they perform during a game (Stolen, 2005) <sup>[9]</sup>.

### Swiss ball training

Swiss balls are large, inflated, rubber and vinyl balls used by physical therapists to enhance the Neuro-development of their patients. More recently, the Swiss ball has been introduced as a strength-training aid to athletes. Using the Swiss ball as multi-purpose bench forces athletes to train in an unstable environment. It is claimed that training in an unstable environment strengthens stabilizer muscles, reduces chance of injury due to repetitive stress, and improves nervous-system function that lead to functional strength gains. The shape of the ball also facilitates multi-angle training and allows greater range of motion on some exercises; both potentially important factors in properly training certain muscle groups.

**Methodology**

To achieve the purpose of the study (40) inter collegiate women football players were selected from Coimbatore District association. The subject are divided in to two group, group I Swiss Ball Exercise Group (SBEG), group II is control group (CG). The age of the subjects ranged between 18 to 25years.The following tests was performed to measure the physical fitness components:-To measure flexibility and balance.

**Statistical Techniques**

The data was collected & statically examined to compare the physical fitness components variables of inter collegiate men football players. The “t” ratio was calculated to find out the significance difference if any in all the cases to test significance of 0.05 level of confidence was used.

**Table 1:** Computation of ‘t’ ratio for the mean difference between the pre and post test scores of excremental group and control group on flexibility

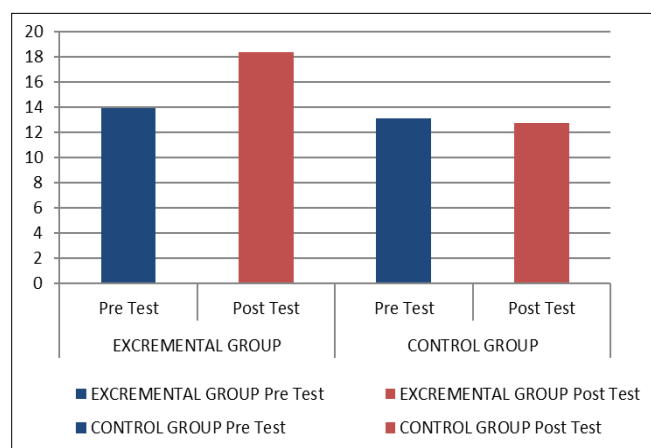
Group	Test	Mean	SD	SDM	MD	‘t’
Excremental Group	Pre Test	28.20	7.34	1.64	1.55	11.461
	Post Test	29.75	7.30	1.63		
Control Group	Pre Test	27.30	1.54	1.54	.40	1.285
	Post Test	26.90	1.59	1.59		

\*Significant at 0.05 level of confidence.

Table 1 shows that the mean value of the experimental group on flexibility were 28.20 and 29.75 respectively. The obtained’ test was 11.461 which was greater then the required table value 2.09 at 0.05 level of confidence.

Table 1 shows that the mean of the control group on flexibility were 27.30 and 26.90 respectively. The ‘t’ test was 1.285.

Since the obtained’ ratio value was greater then the table ‘t’ value. It shows that there was a significant difference that exists between pre-test and post-test on flexibility of the experimental group and control group.



**Fig 1:** The diagram shows pre & post test of flexibility of Experimental and control group

**Table 2:** Computation of ‘t’ ratio for the mean difference between the pre and post test scores of excremental group and control group on balance

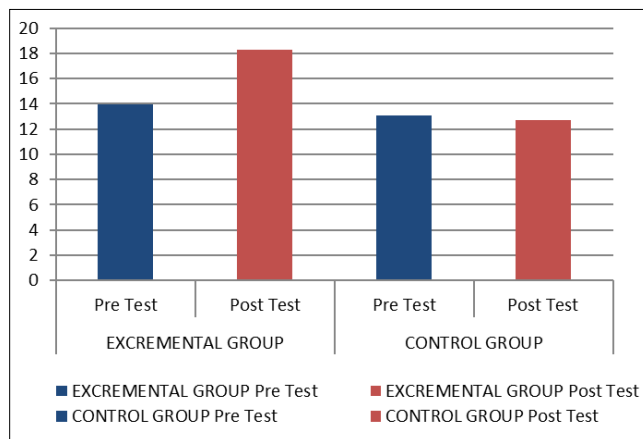
Group	TEST	MEAN	SD	SDM	MD	‘t’
Excremental Group	Pre-Test	13.935	4.921	1.100	4.169	7.585
	Post-Test	18.319	5.31909	1.189		
Control Group	Pre-Test	13.06	3.25	.727	.382	1.266
	Post-Test	12.724	2.27	.664		

\*Significant at 0.05 level of confidence.

Table 1 shows that the mean value of the experimental group on flexibility were 13.935 and 18.105 respectively. The obtained’ test was 7.585 which was greater then the required table value 2.09 at 0.05 level of confidence.

Table 1 shows that the mean of the control group on flexibility were 13.106 and 12.724 respectively. The ‘t’ test was 1.266.

Since the obtained’ ratio value was greater then the table ‘t’ value. It shows that there was a significant difference that exists between pre-test and post-test on Balance of the experimental group and control group.



**Fig 2:** The diagram shows pre & post test of balance of Experimental and control group

**Discussions on findings**

The result of present study was indicates that Swiss ball training programme may significant improve the Swiss ball exercise on selected physical fitness variables of intercollegiate women football players.

**Conclusion**

With In the limitation of this study of following conclusions have been drawn from the results.

- From the results obtained through the study it has been find out that the Swiss ball exercise training for four weeks of intercollegiate women football players on flexibility has significantly improved.
- The results indicated that the Swiss ball exercise training given four weeks has developed on the balance of intercollegiate women football players.

**Recommendations**

The result of the study subjecting the following recommendation of the research.

1. Since the Swiss ball training to improve selected physical fitness Flexibility, Balance, Muscular strength and Endurance and co-ordination.
2. A similar study may be conducted on the physical variables to develop the physical fitness.
3. A similar study may be conducted by using other students.
4. A similar study may be conducted to various categories.

**References**

1. Alex. conducted a study on computation of norms of the ability among college foot ball players; c1990.
2. Anderson GS, Norwood JT, Gaetz MB, Twist PW. May conducted a study on Electromyography activity of the trunk stabilizers during stable and unstable bench press; c2007.

3. Barfield WR. Oct conducted a study on The biomechanics of kicking in soccer; c1998.
4. Balogti A. Pilates and pregnancy Swiss cottage Pilates studio London; c2005 May.
5. Brown DA. Normative data for strength and flexibility of women throughout life. Exercise Science Programs, The George Washington University Medical Center, Washington, DC 20052, USA; c2006.
6. Brown SH. Effect of abdominal muscle coactivation on the externally preloaded trunk, variations in motor control and its effect on spine stability". Department of Kinesiology: University of Waterloo, Ontario, Canada Jun 2006.
7. Cosio - Lima. Lm Effect of physioball and conventional floor exercises on early phase adaptations in back and abdominal core strength and balance in women Health Sciences Department, Spring field college, Massachusetts 01109. USA; c2003 Nov.
8. Lago-Méndez L, Diniz-Freitas M, Senra-Rivera C, Seoane-Pesqueira G, Gándara-Rey JM, García-García A. Postoperative recovery after removal of a lower third molar: role of trait and dental anxiety. Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology. 2009 Dec 1;108(6):855-60.
9. Stølen T, Chamari K, Castagna C, Wisløff U. Physiology of soccer: an update. Sports medicine. 2005 Jun;35:501-36.