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Effect of long term training on balance ability on women's soccer players

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Abstract

Purpose: The purpose of the study was to assess the effect of long term training (one year plan) on Balance ability on women's Soccer players enrolled under Uttar Pradesh state women's Soccer academy, Varanasi.

Methods: The study involved 30 female field Soccer players and age level ranged from 16 to 21 years. Balance ability was selected as a variable. One year long term training program was adopted and data were collected in different phase of training. The collected data was statistically analyzed by using ANOVA (F-ratio) and level of significance was 0.05.

Result: The analysis exhibits that Balance ability was found significant among the group. The calculated F- ratio of Balance ability (2.23*) was significant at 0.05 levels.

Conclusion: The findings of the present study have indicated significant effect of training phase on Balance ability. It shows that there is significant difference between mean of balance ability at different training phase from preparatory to transitional period.

Keywords: Soccer, balance ability and training

Introduction

A commonly used approach is to segment physical activity on the basis of the identified portion of daily life during which the activity occurs. Early periodization model usually based on the competitive calendar more than on adaptive process because information regarding a latter was limited. As the knowledge about sports training theory has expanded, the training effects are based on exploiting biological principles. In general, the greater the duration of training program, the more stable its residual training effect. The annual training plan_ Macro cycle (Long Term Cycle) is created from shorter time cycle: Meso cycle (Mid Length time period, several week Training cycle), Micro cycle (short term training cycle, usually one week training cycle) and training unit.

Balance is established by four different body systems, Vestibular system, Vision, Proprioceptors, and the Hip and Trunk Muscle group. The vestibular system is the inner ear or the semi-circular canals. These canals are filled with fluid. As we move our head the fluid flows from side to side and front to back. The movement of the fluid stimulates little hairs that send signals to the eye muscles so the eyes can stay focused while our head is in motion. Vision is very important to balance. We need to be able to see the target or the ball in the case of Soccer ball while our head is in motion. There is a very small area on the retina that allows us to see details. It is called the fovea. If you hold your thumb at arm's length in front of you and focus on the nail that is the size of the fovea. The proprioceptors are sensors in all of our joints and tendons that communicate with your brain and muscles. These small sensors are important to balance. Finally, the strength and endurance of specific hip and trunk muscles has been determined through research to be important to body balance. Specific exercises can increase the strength and endurance of these muscle groups and help to improve your balance.

On an average, women are shorter and lighter, with more fatty tissue and less muscle mass than that of men. Some of the performance difference between men and women can thus be explained by their characteristic of body composition and size differences.

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This is brought out by the fact that the performance and body size differences between prepubescent boys and girls are minimal. Very less scientific work has been done in the field specially physiological effect on women Soccer players, research work is very important for advancement of game through which we can educate the coaches, physical education teachers and Soccer players regarding the role and importance of physiological variables in achieving high performance efficiency.

Objective of the study

The Purpose of the study was the effect of long term training (one year plan) on Balance ability on women’s Soccer players

Subject and Methodology

Total 30 Female Soccer players selected for the study who are enrolled under Utter Pradesh State Soccer Women Soccer Academy Governed by the Utter Pradesh Government. The training program continued for one year regularly which was divided into different Phase’s i.e. preparatory, competition and transitional phase. The distribution of load intensity, division of yearly training program, training means & method at various meso & micro cycle and per day duration of training. The age ranged from 16 to 21 years. The data were collected in different phase of training. The Balance ability was selected as the variable of the study. The criterion measure for selected variable Balance and Fat %, are as follow: 1. Balance ability was measured by Long Nose test suggested by Peter Hertz score recorded in Seconds. To find out the progressive changes throughout the training program.

A one way analysis of variance (ANOVA) was applied with the help of L.S.D Post Hoc test. The level of significance was set at 0.05.

Result

To analysis the collected data during different phase of training from preparatory to transitional phase was analyzed by the statistical tool, the one way analysis of variance (ANOVA) with the help of L.S.D post hoc test. The level of significance was set at 0.05. The result pertaining the analysis of variance of balance ability presented from Table 1 to 2 and graphical representation of mean comparison presented in figure 1.

Table 1: Analysis of variance of difference observation in relation to balance ability

Source of variance	Sum of Squares	df	Mean Square	F
Between Groups	13.547	6	2.258	2.23*
Within Groups	204.895	203	1.009	
Total	218.441	209		

*significant, $F_{0.05}(6,203) = 2.14$

The above Table 1 revealed that, the calculated value of F-ratio (2.23*) in relation to balance ability were higher than the tabulated F-value (2.14) at 0.05 level of significance. It shows that there is significant difference between mean of balance ability at different training phase from preparatory to transitional period. To find out the paired mean difference, the LSD Post Hoc test was used and the finding pertaining to this has been presented in Table 2.

Table 2: Least significant difference Post Hoc test of the mean of balance ability at different phase of training

PPP	IP-1	IP-2	PP	I C	P C	P T	Mean difference
10.84	10.91	10.79	10.63	10.42	10.33	10.21	0.07
10.84							0.05
10.84							0.21
10.84							0.42
10.84							0.51*
10.84							0.63*
	10.91	10.79	10.63	10.42	10.33	10.21	0.12
	10.91						0.28
	10.91						0.49
	10.91						0.58*
	10.91						0.70*
		10.79	10.63	10.42	10.33	10.21	0.16
		10.79					0.37
		10.79					0.46
		10.79					0.58*
			10.63	10.42	10.33	10.21	0.21
			10.63				0.30
			10.63				0.42
				10.42	10.33	10.21	0.09
				10.42			0.21
					10.33	10.21	0.12

Significant, $CD_{0.05} = 0.50$

Once the analysis of variance of balance ability were found significant and to find out the paired mean difference amongst the different phase of training, the L.S.D Post Hoc test was applied and revealed that the balance ability at different phase of training at pre-preparatory and post of competition, pre preparatory and post of transitional, 1ST intermediate of preparatory and post of competition, 1st intermediate of preparatory and post of transitional, 2nd intermediate of preparatory and post of transitional is 0.51, 0.63, 0.58, 0.70

and 0.58 respectively. The highest significant paired mean difference can be seen at 1ST intermediate of preparatory and post of transitional (0.70) whereas the lowest significant paired mean difference was recorded between the pre-preparatory and post of competition (0.51). The highest and lowest mean of balance ability was observed 1ST intermediate of preparatory (10.91) and post of transitional (10.21) respectively.

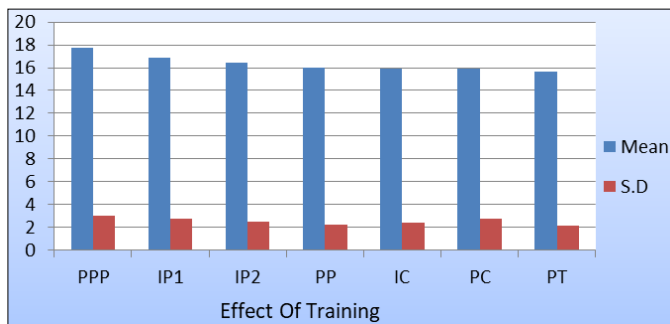


Fig 1: Comparison of mean and standard deviation of balance at different phase of training

Discussion

The finding and result of the study highlights the long term training program (yearly plan) effect on Balance ability of Utter Pradesh State Women Soccer Academy. To pertain the effect pre and post training data of every phase of training were collected. To access the training effect total seven time data were collected from preparatory to transitional phase. Balance ability found significant improvement from preparatory to transitional; this may be due to the fact that the load which was experienced by the subject in different training phase was adequate to produce significant improvement. All training phase consist of exercise which involved change body position and direction which might have been the main reason for the significant improvement in balance ability

Reference

1. Silvestre Body composition and physical performance during a National Collegiate Athletic Association Division I men's soccer season, *Journal of Strength Conditioning Research*, 2006, 20(4).
2. Sirotic AC, Coutts AJ. Physiological and performance test correlates of prolonged, high-intensity, intermittent running performance in moderately trained women team sport athletes, *J. Strength Cond. Res*, 2007, 21(1).
3. Smith DJ, *et al.* Physiological profiles of the Canadian Olympic Soccer Team, *Canadian Journal of Applied Sport Science*. 1980-1982;7(2):142-146
4. Tahara Y. Physique, body composition and maximum oxygen consumption of selected soccer players of Kunimi High School, Nagasaki, Japan, *Journal of Physiology and Anthropology*, 2006, 25(4).
5. Yaggie JA, Campbell BM. Effects of balance training on selected skills. *J Strength Cond Res*, 2006, 20(2).