

Effect of Circuit Training on Physical Fitness of The School Softball Players

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ABSTRACT

The purpose of this study was to investigate the effect of circuit training on the physical fitness of the school's softball players. Twenty (20) subjects were selected for the study; their ages were 18–19. They attended St. Joseph convent school in Namli Ratlam, M.P. Further, it is subdivided into two groups. Three variables were selected for this study to measure the physical fitness of schoolgirls' softball fitness, i.e., standing broad jump, sit and reach, and 50-metre sprint. The data was examined by applying the analysis of paired t-tests. The level of significance to test the hypothesis was set at 0.05. Results of this study revealed that there was a significant effect of circuit training on the physical fitness of the school softball players and that it increased their performance at the school level.

Keywords- circuit training, physical fitness, softball.

I. INTRODUCTION

These days, one of the most valuable things a person may have been a physically fit body free of any illnesses. Due to the importance of physical fitness and exercise that is customised to the individual needs of both young and old people, the use and popularity of exercise equipment have increased. The ease of access to fitness centres and gyms underlines the value of physical fitness even more. People are living longer and healthier lives as a result than their forebears could have ever anticipated. Our quality of life is improved by being physically healthy, but there are also long-term advantages. Both general body endurance and cardiovascular fitness are enhanced. Your heart can become stronger with regular exercise. Furthermore, being physically fit improves blood circulation and aids oxygen and nutrition delivery to all tissues. This not only improves your general body strength, but it also improves your muscles' capacity to apply force and maintain contractions.

Circuit training is the most widely used, structured kind of physical exercise training. The

number of repetitions, the learner's intensity, the time interval, and other factors are all predetermined. The basic goal of circuit training is to build tolerance, muscle strength, and proficiency all at the same time.

The scientific findings, some of which examine schoolchildren, suggest the positive effects of resistance training on the progress of athlete performance and that progressive strength training can lead to substantial increases in maximal strength and mass of trained muscles, even in older women and men.

II. METHODOLOGY

The purpose of this study is to find out the effect of circuit training on the physical fitness of the school's softball players. In this chapter, the selection of the subject, selection of variables, criterion measures, administration of the training programme, procedure for administration of tests, collection of data, and statistical technique for analysis of data were described.

2.1 Selection of subjects

A total of twenty (20) subjects were selected for the study; their ages were 18–19 and they attended St.

Joseph Convent School, Namli Ratlam M.P. Further, it is subdivided into two groups. Three variables were selected for this study to measure the physical fitness of school girls' softball fitness: standing broad jump, sit and reach, and 50-metre sprint.

To find the effect of circuit training on the physical fitness of the school softball players, the data was examined by applying the analysis of the Paired T-

Test. The level of significance to test the hypothesis was set at 0.05.

2.2 Findings

In order to determine the significant difference between the experimental group and the control group, the pretest and posttest scores were collected, and the initial and final test scores were analysed using paired t-tests. The results of the study are presented in tabular form with figures for each selected parameter.

Table 1: Standing Broad Jump of Experimental and Control Group

	Test	Mean	S.D	S.E.	M.D	t-value
Experimental	Pre	1.20	0.19	0.028	0.16	5.77*
	Post	1.36	0.26			
Control	Pre	1.12	0.137	0.002	0.001	.361
	Post	1.12	0.136			

*Significant at 0.05 level of significance, $t_{0.05(18)} = 2.101$

Table-1 shows that there was significant difference among pre-post test of strength Standing Broad Jump of experimental group as calculated value t-ratio 5.77 was more than tabulated t-value 2.10. Thus it

can be said that there was significant effect of nine (9) weeks of school girls softball players training on strength.

Table 2: Sit and Reach of Experimental and Control Group

	Test	Mean	S.D	S.E.	M.D	t-value
Experimental	Pre	15.00	3.52	0.339	2.00	7.06*
	Post	17.40	3.23			
Control	Pre	12.70	3.52	0.098	0.00	1.33
	Post	12.70	3.53			

*Significant at 0.05 level of significance, $t_{0.05(18)} = 2.101$

Table -2 shows that there was significant difference among pre-post test of flexibility sit and reach of experimental group as calculated value t-ratio 7.06

was more than tabulated t-value 2.10. Thus it can be said that there was significant effect of nine (9) weeks of school girls softball players training on flexibility.

Table 3: 50m run of Experimental and Control Group

	Test	Mean	S.D	S.E.	M.D	t-value
Experimental	Pre	10.17	1.48	0.099	0.78	7.86*
	Post	9.39	1.42			
Control	Pre	10.55	1.55	0.002	0.01	1.40
	Post	10.54	1.55			

*Significant at 0.05 level of significance, $t_{0.05(18)} = 2.101$

Table – 3 shows that there was significant difference among Pre-post test of sprint 50m race of experimental group as calculated value t-ratio 7.86 was

more than tabulated t-value 2.10. Thus it can be said there was significant effect of nine (9) weeks of school girls softball players training on sprint.

III. CONCLUSION

The objective of the study was to determine the effect of circuit training on the physical fitness of the school's softball players. Twenty school softball girls from St. Joseph convent school Namli Ratlam M.P. were selected as subjects for this study. The age of the subjects is below 18 years. The subjects were divided into two groups, i.e., one experimental group and one control group. Results of this study revealed that there was a significant effect of circuit training on the physical fitness of the school softball players and that it increased their performance at the school level.

REFERENCES

- [1] Comana, F., "Function training for Sports" Human Kinetics, Champaign IL, (2004), pp:22,
- [2] Julie, Debrabant. et. al., "Neural Underpinnings of Impaired Predictive Motor Timing in Children with Developmental Coordination Disorder", Research in Developmental Disabilities., 34 (2013), pp 1478-1487,
- [3] Wei, Huang and Zheng, Cheng., "Exercise Load research on Common Technical Method in Taekwondo Training Courses", Journal of Chemical and Pharmaceutical research, 6:7 (2014), pp 1195-199,
- [4] Yen, Ke-tien., "Training Periodization in Lower Limb Performance and Neuromuscular Controlling in Taekwondo Athletes", Life Science Journal, 9:3 (2012), pp 850-857.
- [5] Bandyopadhyay, Abhishek & Datta, Gouriprosad & Dey, Swapan. (2020). Relationship of Body Composition Variables with Selected Physiological Parameters of Young Sports Person of Different Games. 4. 1-009.
- [6] Brittain, Abigail & Friesen, Kenzie & Wasserberger, Kyle & Barfield, Jeff & Oliver, Gretchen. (2020). Single-Leg Squat Performance and Reported Pain within Youth Softball Players. Applied Sciences. 10. 1648. 10.3390/app10051648.
- [7] Calmels, Claire & Berthoumieux, Christelle & D'Arripe-Longueville, Fabienne. (2004). Effects of an Imagery Training Program on Selective Attention of National Softball Players. Sport Psychologist. 18. 272-296. 10.1123/tsp.18.3.272.
- [8] D Singh, Ajita & Deswal, Ajay. (2020). Effects of Playing Surface on Physiological Responses and Performance Variables of Hockey Players. 10.1007/978-3-030-202279_74.
- [9] Farhadian, Joshua & Tlougan, Brook & Adams, Brian & Leventhal, Jonathan & Sanchez, Miguel. (2013). Skin Conditions of Baseball, Cricket, and Softball Players. Sports medicine (Auckland, N.Z.). 10.1007/s40279-013-0022-4.
- [10] Fathoni, Amirudin & Rachman, Hari. (2020). Effect of Sprint Training Exercise, Shuttle Run and Prevention on Base Softball Running Speed Among High School Students. Acta Facultatis Educationis Physicae Universitatis Comenianae. 60. 32-43. 10.2478/afepuc2020-0003.