International Journal of Movement Education and Sports Sciences (IJMESS)
Annual Refereed & Peer Reviewed Journal Vol. IV No. 1 January-December 2016
Online ISSN 2321-7200 Print ISSN 2348-5604

Effect of Specific Conditioning Program on Physical Fitness Components

Pradeep Kumar Sharma*
*Assistant Professor, RLA College, New Delhi

(Received 11 January 2016 – Accepted & Published 19 January 2016)

Abstract

Background: The objective of the study was to develop an efficient conditioning program for the improvement in physical fitness components.

Methods: 40 Ram Lal College students were selected for the experiment whose ages were ranging between 17-21 years. Before the commencement of training, a pre-test was conducted for assessment of selected motor components i.e. Cardio-vascular Endurance, Explosive Strength, Flexibility, Speed and Agility. For assessment of Endurance ability, 12 min Run/Walk test was applied. The data was collected on Repeated Measure Design in the interval of 3 weeks i.e. Pre-test, after 3 weeks, after 6 weeks and after 9 weeks of training. For the analysis of result, Descriptive Statistics and Repeated Measure ANOVA were applied using SPSS (version 22). All the selected motor component shown significant improvement in performance due to specific conditioning program.

Results; It was also found that specific conditioning program leads to linear improvement in the performance of subjects. It was concluded that specific conditioning program is beneficial for the improvement in endurance, power, speed, flexibility and agility ability of an individual.

Key words: Conditioning, Physical Fitness, Repeated Measure ANOVA.

INTRODUCTION

There are enormous studies revealing the importance of exercise and physical fitness. Many methods have already developed for the betterment of health and fitness. Keeping physically fit is now becoming the highest priority on the agenda of the modern man. Conveniences of 20^{th} century living have brought with it marked reduction in physical activity and the promotion of a sedentary lifestyle. The benefits of regular exercise on psychological health and on people with anxiety and depression have been clearly documented. In fact, it is easy to spot a regular exerciser by his improved sense of general wellbeing and enhanced self-image.

Physical exercise linked to longevity, independently of genetic factors. Doing more than 150 minutes of moderate physical activity or 60 minutes of vigorous physical activity a week – whether at work, in the home, or elsewhere – can reduce the risk of coronary heart disease by approximately 30%. Its benefits are not confined to physical level only. Rather, there are evidence available that well planned exercise may cure chronic disease as well. Furthermore, it accounts psychological and emotional benefits too.

The objectives of the study were to assess the efficiency of specific conditioning program on selected physical fitness components i.e. Endurance, Explosive Strength, Flexibility, Speed and Agility. The further objective was to study the pattern of improvement in performance of all selected motor components. It was hypothesized that nine weeks specific conditioning programme will have positive effect on physical fitness components. The study was delimited to only five components of general physical fitness i.e. speed, strength, agility, cardiovascular endurance and

flexibility.The study was also confined to the male students studying in Bachelor degree of Ram Lal Anand College (University of Delhi) Delhi. And following limitation were found in conducting the study: No motivational technique was employed by the research scholar to enable the subjects to give their best performance. However, the subjects were asked to put up their best performance.Non-availability of sophisticated equipment was also considered as a limitation of the study. As far as significance of the study was concerned, following statements were made: The study will help the teachers of physical education and coaches by way of informing them regarding the role of physical fitness.The study will be of great assistance to teachers of physical education and coaches in selecting potential players.Based on the result of the study, teachers of physical education and coaches will be able to organise their training programme effectively and lay more stress on those components which contribute to good performance.

PROCEDURES AND METHODOLOGY

This part included procedure and methodology for the whole research. Here, it has shown that there were 40 male students from Ram LalAnand College, University of Delhi were selected for the experiment. All were doing graduation at that time. Their age were ranging between 17 to 21 years.All the subjects were given a 9-weeks specific training workout designed for the purpose of the present study. The training programme was designed in such a way that the subject does not have any undue stress both physical and mental after the schedule workout three days a week for nine weeks.The research scholar had informal discussion with all the subjects to apprise them with the purpose of the study and also to explain them the efforts required on their part. The specific conditioning exercise were selected as independent variable and in dependent variable endurance, power, flexibility, speed and agility were selected. In order to measure endurance, 12 min Run/Walk test was selected. For Explosive Strength, standing broad jump was selected. With the help of sit and reach test, flexibility was measured whereas speed and agility were tested by using 50m dash and one minute squat thrust. The data was collected on repeated measure design where test was conducted before the beginning of the training program. Second testing was done after 3 week of commencement of training. Third and fourth testing was done after 6 weeks and after 9 weeks of training respectively. To fulfil the purpose of the study, a training programme, with the aim to target physical fitness, was designed with the thorough discussion among supervisor and various specialised expert from concerned area. With keeping the fact in mind that physical capabilities are affected by individual differences, a training programme was designed which found feasible for all the subjects participated in the study as subject.

To fulfil the demand of the study, as the experimental design suggests descriptive statistics and Repeated Measure ANOVA was applied using SPSS software of 22 version. Repeated Measure ANOVA was also followed by Post hoc test to ensure the reliability of the result and significance level was set on 0.05 level.

RESULT AND CONCLUSION

Here we see that this part contains the data interpretation, result of the study and discussion on findings. For 12 min Run/Walk test, Mauchly's test indicates that the assumption of sphericity had been violated, χ^2 (5) = 25.6, p = 0.00 therefore degree of freedom were corrected using Greenhouse-Geisser estimates of sphericity (ε = 0.70).

The result shows that there was significant effect of specific conditioning exercises on endurance ability of subjects, [F(2.115, 82.497 = 294.56, P < 0.001]. These results suggest that specific conditioning exercise has a consistent effect in term of improvement in endurance performance of the subjects. In case of Explosive Strength test, Mauchly's test indicates that the assumption of sphericity had been violated, χ^2 (5) = 31.436, p = 0.00 therefore degree of freedom were corrected using Greenhouse-Geisser estimates of sphericity (ε = 0.66). The result shows that there was significant effect of specific conditioning exercises on power ability of subjects, [F(1.974, 10.225 = 154.05, P < 0.001]. These results suggest that specific conditioning exercise has a consistent effect in term of improvement in explosive strength performance of the subjects. For Flexibility performance, Mauchly's test indicates that the assumption of sphericity had been violated, χ^2 (5) = 19.639, p = 0.00 therefore degree of freedom were corrected using Huynh-Feldt estimates of sphericity (ε = 0.81). The result shows that there was significant effect of specific conditioning exercises on power ability of subjects, [F(2.445, 95.341 = 140.03, P < 0.001]. These results suggest that specific conditioning exercise has a consistent effect in term of improvement in explosive strength performance of the subjects. As far as speed performance is concerned, Mauchly's test for 50m Dash indicates that the assumption of sphericity had been violated, χ^2 (5) = 31.167, p = 0.00 therefore degree of freedom were corrected using Greenhouse-Geisser estimates of sphericity (ε = 0.66). The result shows that there was significant effect of specific conditioning exercises on endurance ability of subjects, [F(2.002, 78.065 = 39.804, P < 0.001]. These results suggest that specific conditioning exercise has a consistent effect in term of improvement in endurance performance of the subjects. Lastly, for Agility performance, Mauchly's test indicates that the assumption of sphericity had been violated, χ^2 (5) = 15.661, p = 0.01 therefore degree of freedom were corrected using Huynh-Feldt estimates of sphericity (ε = 0.88). The result shows that there was significant effect of specific conditioning exercises on endurance ability of subjects, [F(2.648, 96.267 = 178.18, P < 0.00]. These results suggest that specific conditioning exercise has a consistent effect in term of improvement in Agility performance of the subjects. During the discussion on findings, it was found that all the objectives enlisted as: (i) To observe the effect of specific conditioning exercise on selected physical fitness components. (ii) To study the effect of specific conditioning exercise on physical fitness components at different point of time. (iii) To understand the pattern of improvement in physical fitness components following specific conditioning exercise, were met the requirement of the research. On the basis of result obtained, it was concluded that specific conditioning program significantly improves the performance of selected physical fitness components i.e. Cardiovascular Endurance, Explosive Strength, Flexibility, Speed and Agility. Furthermore, it is also concluded that such conditioning program may increase the Endurance and Explosive strength performance linearly. However, a steady or down fall may be seen in these two cases. But, for Flexibility, Speed and Agility performance, they may improve in linear pattern without sudden change for a prescribed period.

References:

A Shahana, Usha S Nair, S SHasrani (2010) Effect of aerobic exercise programme on health related physical fitness components of middle aged women. *Br J Sports Med*;44:i19.

A.R. Aziz, M. Y. Chia, & K.C. Teh, "Measured Maximal Oxygen Uptake in a Multi-Stage Shuttle Test and Treadmill Run Test in Trained Athletes". *The Journal of Sports Medicine and Physical Fitness,* 45 (3), 306-14.

Aboshkair, Kamil, Abidalhussain; Amri1, Saidon, Bin; Yee1, KokLian and Samah, Bahaman, Bin, Abu (2012). Factors affecting levels of health-related physical fitness in secondary school students in selangor. *Malaysia Journal of Basic & Applied Sciences.* 8, 202-216.

AlkaDubey; "Anthropology of Arm and Leg speed performance of Indian Top Class Swimmers as predictor of swim speed" (unpublished Ph.D. *Theses, Jiwaji University, Gwalior* : P -14.

Amusa1, L. O.; Goon1, D. T.; Amey, A. K. and Toriola, A. L. (2011). Health-related physical fitness among rural primary school children in Tshannda. *South Africa: Scientific Research and Essays.* Vol. 6(22), 4665-4680.

B. Ranjana Devi, "Relationship of Depth Perception, Agility and Speed of Movement in Playing Ability of Volleyball". *(Unpublished Master's Thesis, Jiwaji University, Gwalior.*

Brain Mathew Hickey;(2001)"The efficacy of the ROM Device as an erogenic aid with respect to select measures of power generation, flexibility and speed" *Ph.D. The Florida State University,* DAI Vol. 61, No. 10, pp - 3938-A – 3939-A.

C.Cetin, H. Karatosun, M.L. Baydar, & K. Cosarcan,(2005) "A Regression Equation to Predict True Maximal Oxygen Consumption of Taekwondo Athletes Using a Field Test".*Saudi Medical Journal*, 26 (5), 848-50.