



Effect of Concurrent and Cross Fit Training on Skill Performance Variables of Tribal Football Players

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ABSTRACT

Cross Fit is a strength and conditioning workout that is made up of functional movement performed at a high intensity level. These movements are actions that you perform in your day-to-day life, like squatting, pulling, pushing etc. Cross Fit is a form of high-intensity interval training and comparable to other high-intensity exercises. Cross Fit exercises increase VO₂max, strength, endurance, and improves the body composition. Concurrent training is a term used to describe performing both cardio and weights in your training regime. For example, doing 2-3 weight session and 1-2 cardio sessions in a single week is concurrent training. Concurrent training involves trying to improve multiple physical qualities at the same time. Concurrent training, with endurance capacity and strength in mind, will also help you achieve better body optimization, so long as your nutrition protocol follows. You can never out-train a bad diet, and that is also true regardless if you're hitting the pavement a few times a week and lifting. Concurrent training (CT) is the simultaneous physical preparation of two or more exercise modalities. This study was investigated the impact of concurrent and cross fit training on skill performance variables of football players. To achieve the purpose of the study 40 male football players were selected from Coimbatore district. The subjects were randomly assigned to two equal groups (n=20). Group- I underwent concurrent training (CC) and group - II was acted as control group (CTG). The traditional training was given to the experimental group for 3 days per week (Monday, Wednesday and Friday) for the period of twelve weeks. The skill performance variables of passing (McDonald soccer test) kicking (McDonald soccer test) before and after training period. The data collected from the subjects was statistically analysed with 't' test to find out significant improvement if any at 0.05 level of confidence. The result of the present traditional training significantly improved passing and kicking endurance and of tribal football players.

Key words: Concurrent and Cross fit training, passing, kicking and football players.

INTRODUCTION

A promising way to increase performance is to train both muscle strength and cardiorespiratory fitness within a training cycle. Concurrent training is doing cardiovascular endurance and resistance training within the same session or closely together within the same day. CrossFit, in fact, is mostly not circuit training. If it weren't for the amount of variance required to achieve CrossFit's ultimate goal of increased General Physical Preparedness (GPP), it wouldn't be circuit training at all. Long ago in the exercise science world, concurrent training was promoted as a way to save time while reaching multiple training goals. Concurrent training is defined by using resistance and endurance training within the same training program. For example, if you do a skill practice, lift weights and go for a run, then repeat these efforts throughout the week, you are training concurrently. HIIT-based concurrent training minimizes the chance of the interference effect on muscle strength gains and muscle hypertrophy when repeated-sprint training (RST) and sprint interval training (SIT) HIIT models are performed.

METHODOLOGY

In this study the selected 40 tribal football players selected from coimbatore district. The subjects were randomly assigned in to two equal groups namely, concurrent training (CCG) (n=20) and control group (CG) (n=20). The respective training was given to the experimental group the 3 days per weeks (alternate days) for the training period of twelve weeks. The control group was not given any sort of training except their routine. The evaluated parameters were passing was assessed by standing broad jump test and the unit of measurement was in points, kicking was assessed by sit-ups the unit of measurements was in points.

TRAINING PROGRAMME

The training programme was lasted for 60 minutes for session in a day, 3 days in a week for a period of 12 weeks duration. These 60minutes included 10 minutes warm up, 40 minutes for concurrent and cross fit training and 10 minutes and warm down. The equivalent in mobile surface strength training is the length of the time each action in total 3 day per weeks (**Monday, Wednesday and Friday**).

STATISTICAL ANALYSIS

The collected data before and after training period of 12 weeks on the above said variables due to the effect of concurrent and cross fit training was statistically analyzed with 't' test to find out the significant improvement between pre and posttest. In all cases the criterion for statistical significance was set at 0.05 level of confidence. ($P < 0.05$)

TABLE - I

COMPUTATION OF 't' RATIO ON PASSING ON EXPERIMENTAL GROUP AND CONTROL GROUP

| Group | Variables | | Mean | N | Std. Deviation Pre | Std. Deviation Post | t ratio |
|--------------------|-----------|-----------|-------|----|--------------------|---------------------|---------|
| Experimental Group | Passing | Pre test | 3.46 | 20 | 0.23 | 0.19 | 7.15* |
| | | Post test | 3.62 | 20 | | | |
| | Kicking | Pre test | 23.73 | 20 | 1.27 | 1.18 | 12.58* |
| | | Post test | 26.53 | 20 | | | |
| Control group | Passing | Pre test | 1.46 | 20 | 0.23 | 0.26 | 1.14 |
| | | Post test | 1.47 | 20 | | | |
| | Kicking | Pre test | 23.73 | 20 | 1.27 | 1.29 | 1.00 |
| | | Post test | 23.66 | 20 | | | |

***significant level 0.05 level degree of freedom (2.09, 1 and 19)**

Table I reveals the computation of mean, standard deviation and 't' ratio on selected physical parameters namely leg explosive power and muscular strength experimental group. The obtained 't' ratio on passing and kicking were 7.15 and 12.58 respectively. The required table value was 2.09 for the degrees of freedom 1 and 19 at the 0.05 level of significance. Since the obtained 't' values were greater than the table value it was found to be statistically significant.

Further the computation of mean, standard deviation and 't' ratio on selected physical parameters namely passing and kicking control group. The obtained 't' ratio on leg explosive power and muscular strength were 1.14 and 1.00 respectively. The required table value was 2.14 for the degrees of freedom 1 and 19 at the 0.05 level of significance. Since the obtained 't' values were lesser than the table value it was found to be statistically not significant.

Figure – I

BAR DIAGRAM SHOWING THE MEAN VALUE ON PASSING OF FOOTBALL PLAYERS ON EXPERIMENTAL AND CONTROL GROUP

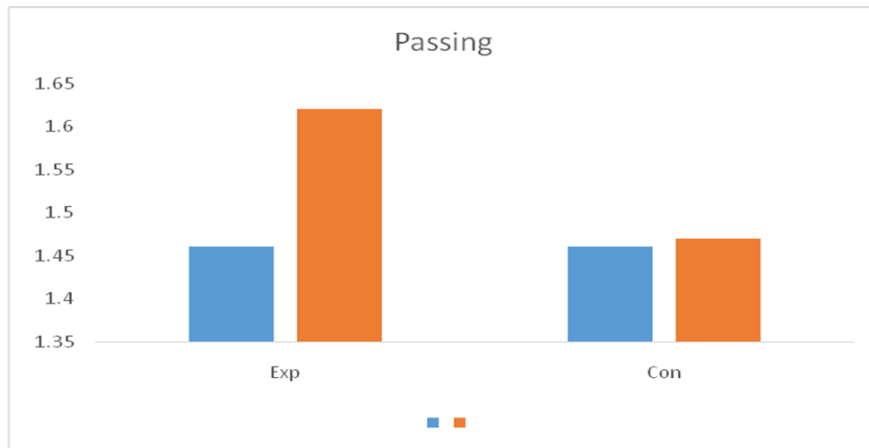
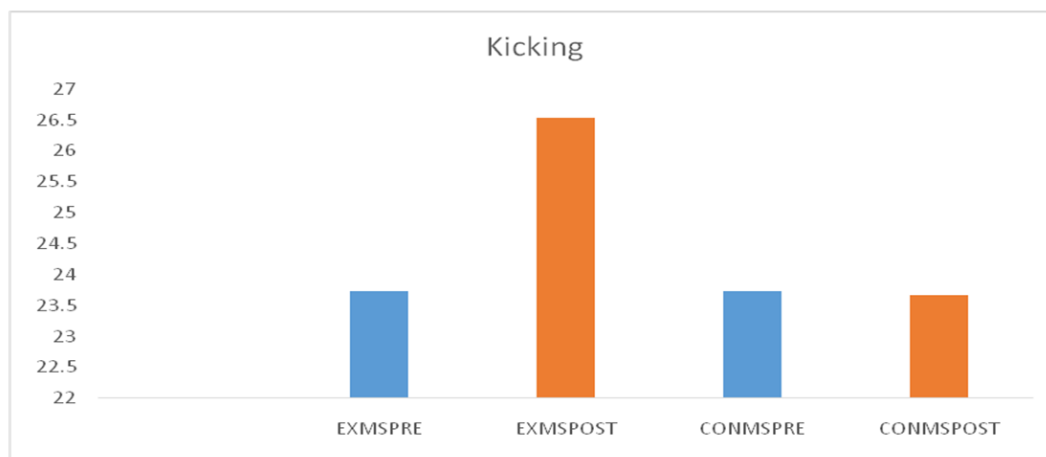


FIGURE – II

BAR DIAGRAM SHOWING THE MEAN VALUE ON KICKING OF FOOTBALL PLAYERS ON EXPERIMENTAL AND CONTROL GROUP



DISCUSSION AND FINDINGS

The present study experimented the effect of concurrent and cross fit training on skill performance parameters of male football players. The result of the study shows that the concurrent and cross fit training improved the passing and kicking. The findings of the present study had similarity with the findings of the investigations referred in this study. However, there was a significantly changes of subjects in the present study the leg passing and kicking was significantly improved of subject in the group may be due to the in concurrent and cross fit training. [Salivo et al., \(2019\)](#) some considerations for training programs design will be provided, by addressing the role of the different concurrent training variables (within session order, between mode recovery length and intensity and volume) on performance outcomes and likely role on injury prevention. [Taracki et al.,\(2021\)](#)The findings obtained when the performance values of football players within and between groups were evaluated statistically; It has been determined that the positive increase in endurance, strength, sprint, agility/speediness, jump and slept pass test values as a percentage (%) was seen in the group that applied strength training before endurance training. The result of the present study indicates that the concurrent and cross fit training programme is effective method to improve passing and kicking of football players.

CONCLUSIONS

- 1.It was concluded that 12 weeks of concurrent and cross fit training significantly improved the passing of tribal football players.
- 2.It was concluded that 12 weeks of concurrent and cross fit training significantly improved the kicking of tribal football players.

Reference

1. **MuluyeAbeje, L. (2020)**. Effects of concurrent training on axum u-17 female football players physical fitness levels, tigray regional state of ethiopia (*Doctoral dissertation, Haramayauniversity*).
2. **Reilly, T., Morris, T., & Whyte, G. (2009)**. The specificity of training prescription and physiological assessment: A review. *Journal of sports sciences*, 27(6), 575-589.
3. **Baker, D. (2001)**. The effects of an in-season of concurrent training on the maintenance of maximal strength and power in professional and college-aged rugby league football players. *The Journal of Strength & Conditioning Research*, 15(2), 172-177.
4. **Karahan, M. (2020)**. Effect of skill-based training vs. small-sided games on physical performance improvement in young soccer players. *Biology of sport*, 37(3), 305-312.
5. **Baker, D. (2001)**. The effects of an in-season of concurrent training on the maintenance of maximal strength and power in professional and college-aged rugby league football players. *The Journal of Strength & Conditioning Research*, 15(2), 172-177.
6. **Abdullah, Z. F. (2021)**. Training program using the concurrent training to develop some physical and physiological variables for 400 meter hurdles. *International Journal of Sports Science and Arts*, 18(018), 51-70.
7. **Akinoglu B, Kocahan T, Ozkan T. (2019)** The relationship between peripheral muscle strength and respiratory function and respiratory muscle strength in athletes. *J Exerc Rehabil*. 2019;15(1):44-49.103
8. **Albano P Santos , Daniel A Marinho, Aldo M Costa, Mikel Izquierdo, Mario C Marques (2012)** The effects of concurrent resistance and endurance training follow detraining period in elementary school students, *J Strength Cond Res Jun*;26(6):1708-
9. **Alexander Ferrauti , Matthias Bergemann (2010)** Effects of a concurrent strength and endurance training on running performance and running economy in recreational marathon runners, *J Strength Cond Res ct*;24(10):2770-
10. **Alves WM, Alves TG, Ferreira RM, Lima TA, C(2019)** Training improves the respiratory muscle strength and quality of life of elderly with Parkinson disease. *J Sports Med Phys Fitness*.2019;59(10):1756-1762.