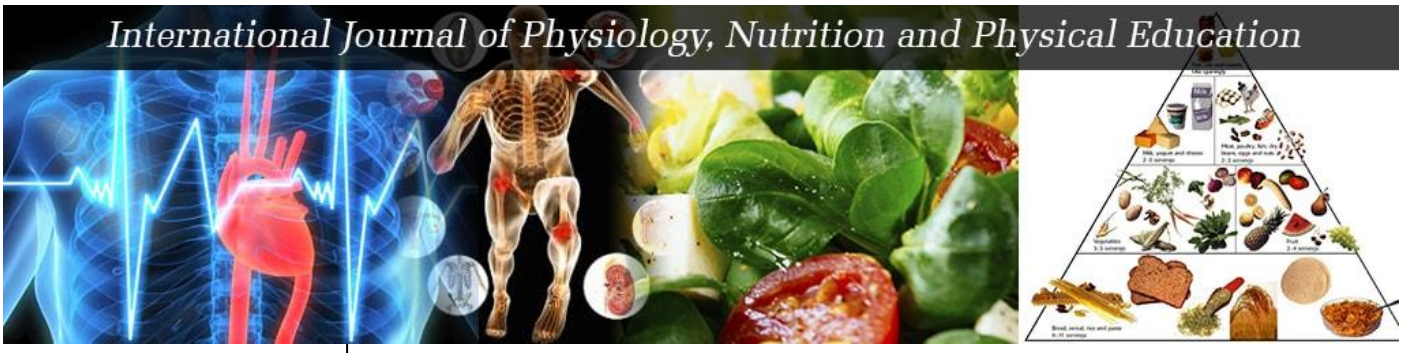

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Effect of uphill running on the sprinting speed, accleration and stride rate among football players

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Abstract
This study attempted to explore the effect of uphill training among football players to improve sprinting speed, acceleration and stride rate among under. Random sampling technique was used to select 24 female and male athletes aged 18 to 19 years nd 50 were selected. The subjects (these are the experimental groups) under this study took part in a followed exercise program performed in uphill training for cosequative eight weeks. frequency of 3 days per week for 2 months and the duration was 50 minutes per session. The physical fitness variables selected for the study were: speed, acceleration and stride rate. The results indicated that there were significantly improvements in performance on selected physical fitness variables due to the effects of uphill training with active rest ($p < 0.05$). This study confirmed that uphill training with active rest was significant to improve the speed, acceleration and stride rate of football plaers. The mean difference (MD) between pre and post tests for: speed was females achieve 0.15m/s and 0.22m/s, males achieve 0.12mls and 0.33m/s both control and experimental groups respectively; acceleration was females achieve 0.06m/s2 and 0.10m/s2 and males achieve 0.05m/s2 and 0.20m/s2 both control and experimental groups respectively and the stride rate was also females 0.06strides/second and 0.56strides/second and male 0.21strides/second and 0.71strides/second of the control and experimental group respectively. The main finding of the study was football players who were exposed to uphill training have discovered positive outcomes towards the speed, acceleration and stride rate. The study also illustrates that stride frequency and speed of participants can be improved as a result of uphill training program.

Keywords: effect, sprinting speed, accleration, among football players

Introduction
Speed is important in most sports, but its a bit more so in soccer since you are running around the field for the majority of the game. When we talk about speed in soccer, we are talking about way more than just running fast. While that is important, it is the ability to run at full pace for the entirety of a game that truly matters.
Forwards, most midfielders, and full backs need to have speed with the ball at their feet to get the most out of their jobs. This doesnt mean that they need to be blazing fast, but they should be able to run at full speed when they are dribbling. It is a tough skill to master (since you also have to master your dribbling skills), but it is essential since it keeps the defense from being able to get comfortable.
Take a look at some of the best teams in the world. They may not be the fastest teams, but they are the ones that get the most out of their speed. Instead of Just standing around with the ball, players move with it quickly to stay in rhythm and to throw off the defense. These are also the teams that are great on the counter attack because they have players who are willing to run with and without the ball.

Statement of the problem
The purpose of study is to investigate "Effect of uphill running on the sprinting speed, accleration and stride rate among football players".

Significance of the study
The main aim of this study was to investigate the effect of uphill training in improving the sprinting speed, acceleration and stride rate among football players. So that, this study was

plan to signify on the following: It helps to improve the performance of the football players.
It helps to identify the biomechanical effects of uphill training on the speed, acceleration and stride rate.
It helps to know the effect of stride rate on the sprinting speed and acceleration.
It helps to understand the relationship between the uphill running, stride rate and speed.

Limitations
Certain factors climate, life style, diet and mood of the subjects during the training period.
The influence of various academic activity of the students could have discouraged or motivated the subjects during training and test period.

Delimitations
24 men and women football players are selected as subjects.
The age of subjects were 18 and 19. 8 weeks training were given

Methodology
Selection of subjects
50 school students of age 18, 19 were selected from wayanad district, kerala.

Selection of variables
Sprinting speed, stride and acceleration speed of the subjects were measured.

Training Table

Training	Uphill training
Freequency	3 days per week
Duration	8 weeks, 50 min per session
Intensity	80-90%
Exersice days	Monday, Wednesday and Friday

Training session usually begin with warm up exercises for 15 minutes before the training program begin. The training program was carried out for 20 minutes with a variety of exercises, the cool down activities were for 8 minutes and total time for active rest was 7 minutes. The intensity of each exercise started at 80% maximum heart rate and gradually increased to 100% of maximum heart rate before the end of the 8 weeks training. The training program was based on FITT principle.

Results and Discussion
The uphill training program was provided for two months with the frequency of 3days/week for 4
50 minutes per session. The selected physical fitness variables were measured two times: before or pre training test and after or post training test and the trainees were divided in to control and experimental groups randomly. The variables which were measuring for the study were such as speed, acceleration and stride rate. The data was analyzed through paired t-test. The results for each variable are discussed as follow: Table2. The pre and post training test results for the variables of speed, acceleration and stride rate of these female control and experimental groups (Mean ± SD).

Dependentn Variables	Group	Pre-test	Post test	Significance
Speed	Control Experimental	5.98 ± 0.09 6.00 ± 0.12	6.13 ± 0 .16 6.22 ± 0 .15	0.03 0.02
Acceleration	Control Experimental	1.19 ± 0.04 1.20 ± 0.05	1.25 ± 0.07 1.29 ± 0.06	0.03 0.03
Stride	Control Experimental	3.89 ± 0.21 3.92 ± 0.18	3.95± 0.34 4.48 ± 0.38	0.04 0.01

Significant and the data in the form of Mean ± SD (standard deviation). The data (Table 2) showed that there was significantly improvement in performance of female football plyers in wayanad.

Table 3: The pre and post training test results for the variables of speed, acceleration and stride rate of these male control and experimental groups (Mean ± SD)

Dependent variables	Group	Pre-test	Post test	Significance
Speed	Control Experimental	6.19 ± 0.39 6.61 ± 0.37	6.31 ± 0 .45 6.94 ± 0 .38	0.00 0.01
Acceleration	Control experimental	1.28 ± 0.16 1.41 ± 0.15	1.33 ± 0.20 1.61 ± 0.18	0.00 0.02
Stride	Control Experimental	4.41 ± 0.30 4.23 ± 0.22	4.60 ± 0.35 4.93 ± 0.25	0.30 0.05

Table 3 showed that the Mean ± SD results of each the variables (speed, acceleration and stride rate) among the male experimental and control groups. The pre and post training test mean values for speed was 6.19 m/s and 6.31 m/s, of these control groups and 6.61 m/s and 6.94 m/s of these experimental groups. This showed that before and after the delivery of two months training there was a significant difference in the speed of these male subjects same as the females.

Conclusions
Based on the major findings of the study, these points were stated as conclusion: Uphill training programs or exercises contribute to the improvement of speed, acceleration and stride rate among the football players. As a result this study found that there was progressive improvement in the selected physical fitness variables (speed, acceleration and stride rate) after two months of training periods.

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