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Effect of different durations of warming up on agility of school students of Indore

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Abstract
The primary aim of the study was to analyze the effect of various durations of warming up on performance of agility of school students. For the purpose of this study 20 school students were selected as subject of the study. The data were collected by administrating shuttle run test for agility The shuttle run were administered consecutively on three days preceded 10 minutes warm up on the first day 15 minutes warm up on the second day and 20 minutes warm up on the third day. The level of significance was set at 0.05 level to check the fitness of subject. The one way ANOVA was applied as statistical procedure. There was no significant difference found between different durations of warming up on agility of school students.

Keywords: agility, shuttle run, warming up

Introduction
A warm up is intended to raise the body temperature and prepare a player physiologically and psychologically to compete in a competitive game. A warm up at this intensity has the effect of allowing an increase in the range of movement of the joints and improving aerobic performance. A warm up produces a 2 to 3 degree rise in body temperature that can last for 45 minutes. This increase in temperature leads to beneficial changes in body tissue. The heating effect allows muscles and tendons to become more extensible. This makes stretching muscles and tendons easier and more effective. Research has suggested that this decreases the incidence of muscle strains. There is an increase in blood flow, which means that there is an increase in oxygen to muscle tissue. There is an increase in the temperature of the blood, which changes the partial pressure of blood gases. This means that more oxygen leaves the blood and enters muscle tissue. The increase in temperature causes a rise in enzyme and metabolic activity. This improves the efficiency of muscle contraction.

Warming up before any exercise is a very important component of any kind of physical training. However, it is often neglected because sometimes people get too excited and enthusiastic and consider warm up exercises as a waste of time. Others consider warm up as boring while other would have done it they were not pressed for time. However, there are no shortcuts to any serious training and neglecting warm ups will keep the athlete from achieving optimum performance and may eventually lead to injury. After warming up and proceeding to the main workout, it is equally important to cool down. When a person suddenly stops exercising or lifting weights, blood gathers in the muscle and oxygen is blocked. When this happens a person runs the risk of having a heart attack. So cooling down should have the same importance as warming up. Exercise is good for the health. Everyone is encouraged to pump it up, just remember to all the necessary precautions not only to maximize the workout, but also to stay safe and healthy physical fitness is to the human body what fine-tuning is to an engine. It enables as to perform up to our potential.

Agility is the ability to change or quickly and accurately the direction of once body movement during physical, or The capacity of the individual as measured by the rate of changing his positions in pace.

Methodology
The objective of the study was to analyze the effect of different durations of warming up on agility of school students. For this study twenty male students from life line Higher Secondary School Indore were randomly selected from class 9^{th},10^{th},11^{th} students. The age of the subjects ranged from 14 to16 years. The subjects were assigned to a single group and repeated measure single group design is used to analyse the effect of warming up on school students. The shuttle run test item was administered consecutively on three days preceded 10 minutes warm up on the first day, 15 minutes warm up, on the second day and 20 minutes warm up on the third day. The statistical analysis of the data collected on shuttle run test was used for analysis of results.

Results and Findings
In order to find out the effect of different duration of warming up on agility of school students. One way analysis of variance on shuttle run test was applied. The findings of one way ANOVA were presented in the following table.

Table 1: Significance difference between the different durations of warming up mean on agility of school students.

Source of Variance	df	Sum of squares	Mean some of squares	F – Ratio
Between Group	2	0.380	0.190	0.387
Within Group	57	27.969	0.491	

Tab. F0. 05(2, 57) = 3.17

Table indicates that the calculated value is 0.387 and tabulated value of. 05 levels is 3.17. Hence it indicates that there was no significant difference between different durations of warming up on agility of school students. The graphical represent of the agility performance for various durations of warming up is presented below.

The graphical representation of different durations of warming up on agility of school students.

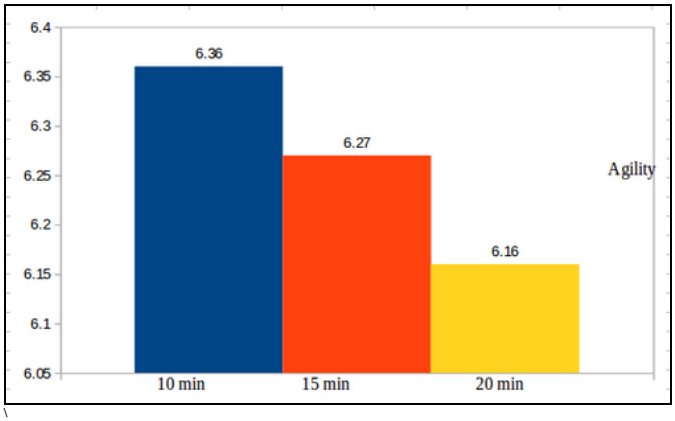

Fig 1

Conclusion of the study

The findings of the present study clearly indicated that there was no significant difference found in agility (shuttle run) of school students after the test was administered consequently for three days proceeded by after 10 minutes warm up on the first day, 15 minutes warm up on the second day and 20 minutes warm up on the third day respectively.

It might be because mostly young children involves in playing and physical activities in their daily routine therefore the effect of durations of warm up may not be significantly affected for agility. The results might be found insignificant because the regular conditioning programme might be more relevant for performance enhancement of agility rather than change in duration of warming up.

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