

Effect on shoulder strength and abdominal strength of school students after different durations of warming up

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Abstract

The aim of the study was to analyze the effect of shoulder strength and abdominal strength of school students after different durations of warming up. For the purpose of this study 20 school students were selected for this study. The schedule of different durations of warming up was prepared by researcher which included 15 minutes, 20 minutes and 25 minutes warming-up exercises on different days of week just after warming up the data was collected by administering pull ups for shoulder strength and bent knee sit-ups for abdominal strength. The level of significance was set at 0.05 level to check the shoulder strength and abdominal strength of subjects. The one way ANOVA was applied as statistical procedure. There was no significant effect found on shoulder strength and abdominal strength of school students after different durations of warming up.

Keywords: Shoulder Strength, Abdominal Strength and Warming Up

1. Introduction

Warming up is a preparatory phase that most athletes do, or should, under go at the beginning of an exercise session or event. This will consist of light stretching, limbering and warming muscles, getting the blood to flow around the body, limbering joints and stretching the muscles and of the connective tissue. Cooling down on the other hand consists of similar light exercises practiced at the end of the work out or event, which gradually returns the body to its resting state, helping to reduce soreness and fatigue following the work out by draining lactic acid which builds up after a workout and helping to return hormone levels to normal (which will help with relaxation and put less stress on the immune system). Lightly massaging or stretching the muscle can also help aid recovery of the micro tears that will occur during any training. This means that your body will be able to maximize on the 'anabolic window' that follows any training routine which will in turn mean you. To make your warm-up effective, you need to do movements that increase your heart rate and breathing slightly increases the temperature of your muscles. A good indication is warming up to the point where you have raised a light sweat resistance training. This means that your body will be able to maximize on the 'anabolic window that follows If you are exercising at a higher level than for general fitness or have particular sporting goal in mind you may need a longer warm-up, and one that is designed especially for you. To begin your warm-up, do five minute of light (low intensity) physical activity such as walking jogging on the sport or cycling. Pump your arms or make large but controlled circular movements with your arms to help warm the muscles of your upper body.

Strength is the ability or the whole body with the greatest possible velocity. To overcome resistance or to act again resistance. Strength is not only product of the muscles but also of the nerves system which control and regulates the muscular contraction. Muscular strength is the amount of force a muscle can produce e.g. the bench press, leg press, or bicep curl to rest muscular strength.

2. Objectives of the study

1. The first objective of the study was to analyze the effect on shoulder strength of school students after different durations of warming up.
2. The second objective of the study was to analyze the effect on abdominal strength of school students after different durations of warming up.

3. Methodology

For this study twenty male students Vidya Sagar School Indore were randomly selected. The age of the subjects was ranged from 14 to 16 years. The subjects were assigned to a single group and repeated measure single group design is used to analyse the effect on shoulder strength and abdominal strength after different durations of warming up on school students. The schedule for warming up was prepared by researcher which included 15 minutes of general arming up exercises on first day of the week. After the warm up the, pull-ups and bent knee sit-up tests were conducted on the subjects for analyzing the shoulder strength and abdominal strength. One day rest was given to the subjects and after that on third day of the week. The warming up duration was increased by 20 minutes and warm up was given to the subjects. Just after the warm up the data of pull-ups and bent knee sit-ups was collected. The fourth day of week the subjects were given rest and on the fifth day of the week the duration of warming up exercises was increased by again 5 minutes was done by subjects. Again just after the 25 minutes of warm up the pull-ups and bent knee sit-up tests were administered on the subjects for analysing the shoulder and abdominal strength.

4. Findings of the study

In order to find out the effect on shoulder strength and abdominal strength of school students after different durations of warming up, one way analysis of variance on data of pull-ups and bent knee sit-ups for shoulder strength and abdominal strength 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 abdominal strength of school students

Source of Variance	df	Sum of squares	Mean some of squares	F – Ratio
Between Group	2	76.233	38.117	0.815
Within Group	57	2665.500	46.763	

tab $F_{0.05}(2, 57) = 3.17$

Table indicates that the calculated value is 0.815 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 abdominal strength of school students. The graphical represent of the abdominal strength performance for different durations of warming up is presented below

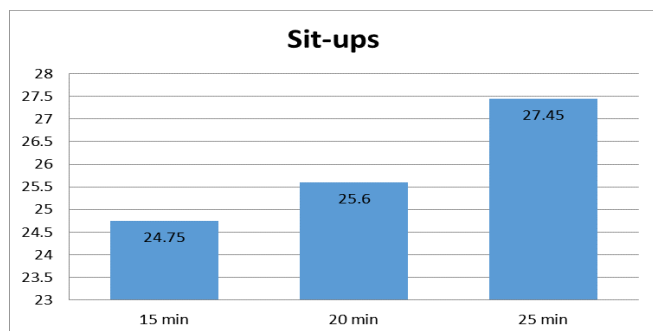


Fig 1: The graphical representation of different durations of warming up on abdominal strength of school students.

Table 2: Significance difference between the different durations of warming up mean on shoulder strength of school students

Source of Variance	df	Sum of squares	Mean some of squares	F – Ratio
Between Group	2	10.033	5.017	0.885
Within Group	57	322.983	5.666	

tab $F_{0.05}(2, 57) = 3.17$

Table indicates that the calculated value is 0.885 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 shoulder strength of school students. The graphical represent of the shoulder strength performance after different durations of warming up is presented below.

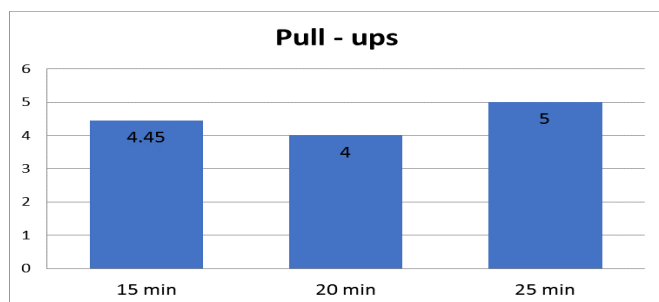


Fig 2: The graphical representation of different durations of warming up on Shoulder strength of school students.

5. Conclusion of the study

The findings of the present study clearly indicated that there

was no significant difference found in shoulder strength (pull-ups) and abdominal strength (bent knee sit-ups) of school students after the test was administered consequently for three days proceeded by after 15 minutes warm up on the first day 20 minutes warm up on the third day and 25 minutes warm up on the fifth day of the week.

The findings of the study was found in significant it might be because mostly young children involves in playing and physical activities in their daily routine therefore the effect of warming up may not be significantly affected for shoulder strength and abdominal strength. The results might be found insignificant because the students were not involved in regular conditioning programme. That might be more relevant for performance enhancement of shoulder strength and abdominal strength, rather than change in duration of warming up.

6. References

1. www.pubmed.com
2. www.Executiveresults.et.al/importance-of-warming-up
3. Dr. Bains Jadish. *et al.* “Essentials of physical education” (Third editions) Kalyani publishes, New Delhi, India, 277-278
4. Vishwejan U *et al.* Sports Training Khel Sahitya Kenderra, New Delhi, India, 2010, 70-82