

The Comparison of Vital Capacity of Below 16 Year Age Male Volleyball and Handball Players

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Abstract – The study intends to find out the lung capacity of high school volleyball and hand ball players boys below 16 years of age, in Mangalore Taluk of Karnataka state. Twenty volleyball players and twenty handball players, belonging to Mangalore Taluk served as subjects for this study proper orientation was provided to the subjects prior to the test administration. A spirometer was used to measure vital capacity of volleyball and hand ball players. There is slight difference in vital capacity between male volleyball and hand ball players at 0.05 level of significance.

Key words: Vital Capacity, Spirometer.

INTRODUCTION

Respiratory system is very essential to sports activities. Shortness of the breath is major limitation in most athletes, but in about a third muscle fatigue is an even greater problem. Although exercise does not improve lung function, training helps many athletes with lung diseases by strengthening lung muscles thus improving endurance and reducing breathlessness. Proper warm up and cool down may prevent or reduce the incidence of exercise and induced asthma.

The main function of the respiratory system is gas exchange, fast moving exercise causes your heart and breathing rates to increase delivering fresh oxygen to your blood stream and energy to muscles. Your lung capacity can be increased through regular aerobic workouts, but only to modest amount.

Regular aerobic exercise strengthens and tones the lungs and heart, enabling the pulmonary system to increase the maximum amount of oxygen that lung can handle, exercise can be makes muscle stronger and improves the range of motion in joints, assisting you in performing tasks that require physical activity.

The average person's lung capacity can be improved only 5% to 15% even with frequent intense aerobic workouts. According to Noakes everyone is born with a specific maximum lung capacity called Vo_2 maximum, which refers the rate of oxygen flow when your heart rate increases during aerobic exercise your oxygen consumption increases. This provides the necessary energy to your muscle for the

strengths activity. Maintaining a healthy weight, increasing the body efficiency, improving state of mind, energy system, practice skills, muscular endurance through physical exercises that engage large muscle groups in a sustained effort that raises your heart rate and increasing your breathing process. Lungs become more efficient in delivering oxygen to the blood removing carbon dioxide waste. The muscle support your lungs the diaphragm gets stronger.

It is observed that there are difference in vital capacity between volleyball and handball players. The researcher is coming from sports background and is very much interested to know any difference in lung capacity among the volleyball and handball players.

METHODOLOGY

The study intends to find out the lung capacity of high school volleyball and handball players boys below 16 years of age, in Mangalore Taluk. A systematic study and approach was made to collect the data.

A spirometer was used to measure vital capacity of volleyball and hand ball players. This was used to assess how well players' lungs work, by measuring air inhale and exhale. Twenty male volleyball and twenty male handball players, belonging to Mangalore Taluk served as subjects for this study proper orientation was provided to the subjects prior to the test administration.

Measurement of lung capacity by pulmonary function test was done under the supervision of doctors, Lab technician and investigator. Clear demonstration and explanation was given to the subject by the lab technician and investigator and they were well educated regarding the procedure and method that was to be followed prior to and during the administration of the test. To statistical analysis of the data 't' test is performed.

ANALYSIS AND FINDINGS

Means and standard deviations related with vital capacity for male volleyball players and hand ball players are shown.

	groups	N	Mean	SD	Std. Error Mean
Vital capacity	Male volleyball	20	88.6000	14.30642	3.19901
	Male handball	20	79.4000	11.07106	2.47556

Further 't' test was applied on the data to find out the difference in vital capacity of under 16 year male volleyball and handball players.

	t	df	Sig.(2-tailed)	Mean Difference
Vital capacity	2.274	38	.029	9.20000

Significant deference **0.05** level

There are significantly different between male volleyball and male handball players in terms of vital capacity (P= 0.029). In the other words, according to the mean of the two groups, male handball players have less vital capacity than male volleyball players.

DISCUSSION:

Under the limitation of the study it was concluded that the male volleyball players of below 16yrs age group are having more vital capacity than male handball players of below 16 years in Mangalore taluk of Karnataka state. It supports study of Atan et al (2012)

REFERENCE:

Atan et al (2012) Comparison of Respiratory Functions of Athletes Engaged in Different Sports Branches

Chahar (2013) A comparative study of vital capacity among different groups of sportsman

G A Fleck at al. (1992) Respiratory muscle training: a meta-analysis. Am respire Dis. 145: 533-539.

P W Wilson (1986), Assessment methods for physical activity and physical fitness in population studies: report of a N H L workshop. P N. I 11; 117-119.

S K Powers (1996), Adaptive strategies of respiratory muscles in response to endurance training Med Sci Sports Exec. 1996; P N.28 112-115.

W J Kraemer (1998) Resistance training and elite athletes; adaptations and programme considerations. 28; 110-113.

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