

Physical Fitness Training Programmes On Breath Holding Capacity On Volleyball Players.

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Abstract

The breath holding capacity after inspiration and expiration were recorded before & after training. Before recording breath holding capacity the students should be instructed to stand erect with leg bended, after getting signal the student was inhale air through his nostrils. Then the nose would be locked or closed with nose clip. The total time of air holding capacity of the students was measured in seconds. The aim of the research was to determine the effects of physical fitness training programmes on Breath holding capacity on volleyball players. The 30 male volleyball players, participated in the study and their age ranged between 19-30 years. Training was given to the experimental groups. The data was collected through respondents in the form of different experimental tests. A training program was planned for 12 weeks, 5 days a week and 90 minutes. a day. The result reveals that there was significant effects of Physical fitness training programme was found in Breath holding capacity on Volleyball players

Introduction

Sports performance has been found to be related to some Physiological variables. Breath holding capacity after inspiration and expiration are among the variables which influence sports performance in addition to many other physiological variables (Singh, 2012; Singh 2012 a ; Singh 2012 b; Singh 2012c; Singh 2012 d; Singh 2012g; Singh S. K,V. Bhosle 2011). Breath holding capacity after inspiration and expiration has been found to be highly related or supportive to dominance and performance. During physical exercise a deeper breathing pattern is adopted to facilitate greater oxygen absorption. An additional reason for the adoption of a deeper breathing pattern is to strengthen the body's core. During the process of deep breathing, the thoracic diaphragm adopts a lower position in the core and this helps to generate intra-abdominal pressure which strengthens the lumbar spine (<http://hanslindgren.com/articles/diaphragm-function-for-core-stability>). Breathing (or respiration, or ventilation) is the process of moving air into and out of the lungs to facilitate gas exchange with the internal environment, mostly by bringing in oxygen and flushing out carbon dioxide. An athlete is a person who is trained to compete in a sport involving physical strength, speed or endurance. Physical training influences BHC. There are only few studies done on BHT of athletes particularly in India. All aerobic creatures need oxygen for cellular respiration, which uses the oxygen to break down foods for energy and produces carbon dioxide as a waste product. Breathing, or "external respiration", brings air into the lungs where gas exchange takes place in the alveoli through diffusion. The body's circulatory system transports these gases to and from the cells, where "cellular respiration" takes place. Breathing has other important functions. It provides a mechanism for speech, laughter and similar expressions of the emotions. It is also used for reflexes such as yawning, coughing and sneezing.

Methods

The breath holding capacity after inspiration was recorded before & after training. Before recording breath holding capacity after inspiration the students were instructed to stand erect with leg

bended, after getting signal the student inhale air through his nostrils. Then the nose was locked or closed with nose clip. The total time of air holding capacity after inspiration of the students was measured in seconds. In addition , The breath holding capacity after expiration was recorded before & after training. Before recording breath holding capacity after expiration the students were instructed to stand erect with leg bended, after getting signal the student exhale air through his nostrils. Then the nose was locked or closed with nose clip. The total time of air holding capacity after inspiration of the students was measured in seconds. Pre and post-test was taken on 30 Volleyball Players from various colleges, voluntary to participate in the Physical fitness training programmes. The age, height, weight, Breath holding capacity of all subjects were measured in physical education department laboratory. A training program was planned for 12 weeks, 5 days a week and 90 minutes. a day. Exercise that use large muscles groups that can be maintained continuously and are aerobic in nature. These exercises include walking, running, jogging, climbing, jumping row and cross country. The data was collected through respondents in 30 volleyball players from different colleges of Swami Ramanand Teerth Marathwada University volleyball players.

Results of the study

For the sake of t-ratio and methodical presentation of the results, following order has been adopted.

Table -1
Mean Scores and Standard Deviation of selected
Components of volleyball players.

Sr.No.	Components	Volleyball players	
		Mean	Standard Deviation
1.	Age (Year)	22.23	2.33
2.	Weight (Kg)	65.03	7.23
3.	Height (Cm)	175.87	14.12
4.	Competition in one year	7.09	2.33

Table 1 shows the mean (S.Ds.) age of volleyball players was 22.23 (2.33). Their weight was 65.03 (7.23) Kg. and their height was 175.87 (14.12) cm.

Figure -1

Shows Mean Scores and Standard Deviation of selected Components of Volleyball players

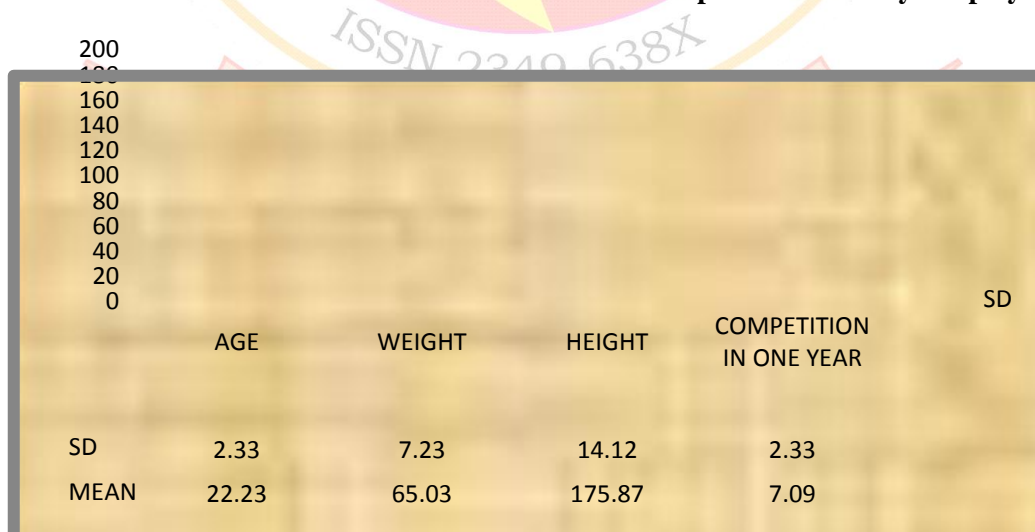


Table -2
Mean score standard deviation and t-ratio of BHC (Inhale) in pre and post-test of Volleyball Players.

Physiological Variable	Test	Number	Mean	S.D.	t-ratio
BHC (Inhale)	Pre Test	30	40.45	16.98	3.89*
	Post Test	30	54.90	17.67	

* Significant at 0.05 level.

Table- 2 Shows that mean scores, standard deviation and t-ratio of **BHC (Inhale)** in pre and post-test of Volleyball Players

Figure-2
Illustrates Mean Scores and Standard Deviations of BHC (Inhale) of Pre and Post-Test of Volleyball Players.

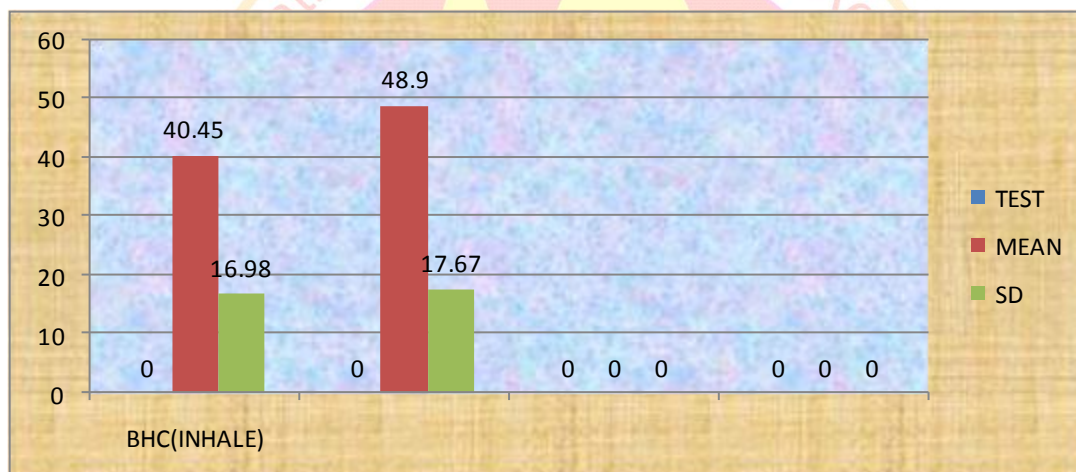


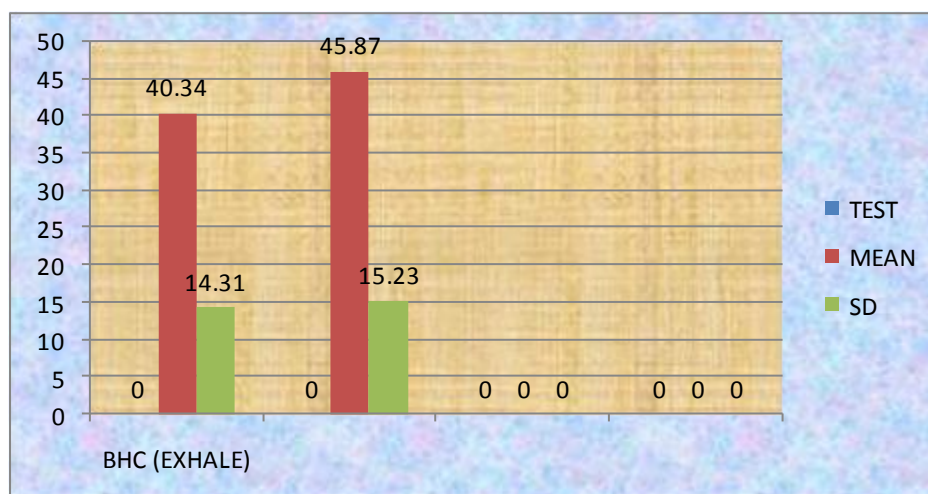
Table-3
Mean score standard deviation and t-ratio BHC (Exhale) in pre and post-test of Volleyball Players.

Variable	Test	Number	Mean	S.D.	t-ratio
BHC (Exhale)	Pre Test	30	40.34	14.31	3.43*
	Post Test	30	55.87	15.23	

Significant at .05 level.

Table- 3 Shows that mean scores, standard deviation and t-ratio of **BHC (Inhale)** in pre and post-test of Volleyball Players

Figure-5
Illustrates the Mean Scores and Standard Deviations of BHC (Exhale) of Pre and Post-Test of Volleyball Players.



Discussion

With regards to selected physiological variable in **BHC (Inhale)** in pre and post-test of Volleyball Players they have obtain the mean value of 40.45 and 54.90 respectively which are given in the Table -2 shows that significant effects of Physical fitness training programme was found in BHC (Inhale) ($t=p<0.05$) on Volleyball players. That means Physical fitness training programme was effective for increasing BHC (Inhale) among Volleyball players. With regards to selected physiological variable in **BHC (Exhale)** in pre and post-test of Volleyball Players they have obtain the mean value of 40.34 and 55.87 respectively which are given in the Table -3 shows that significant effects of Physical fitness training programme was found in BHC (Inhale) ($t=p<.05$) on Volleyball players. That means Physical fitness training programme was effective for increasing BHC (Inhale) among Volleyball players. . An athlete is a person who is trained to compete in a sport involving physical strength, speed or endurance. Physical training influences BHC. There are only few studies done on BHT of athletes particularly in India. All aerobic creatures need oxygen for cellular respiration, which uses the oxygen to break down foods for energy and produces carbon dioxide as a waste product. Breathing, or "external respiration", brings air into the lungs where gas exchange takes place in the alveolithrough diffusion. The body's circulatory system transports these gases to and from the cells, where "cellular respiration" takes place. Breathing has other important functions. It provides a mechanism for speech, laughter and similar expressions of the emotions. It is also used for reflexes such as yawning, coughing and sneezing.

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