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Comparative study of peak expiratory flow rate of archery players participated in all India inter university archery competition

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Abstract

The purpose of this study was to investigate the Peak Expiratory Flow Rate of different bow archery player participated in All India Inter University Archery Competition which is held at Kurukshetra. In this competition three type of player on the basis of bow came to participated. The Indian bow archer, Compound bow archer and Recover bow archer were participated in that competition. The peak expiratory flow rate measured by Wrights peak flow meter. The data were collected from 62 Indian bow archer, 56 Recover bow archer and 42 Compound bow archer. The age group of all the archer was 18 to 25 year.

The result indicates that all the archery player had a higher value of peak expiratory flow rate, means higher value of lung function compared to normal person. Among the three type of player chosen for this study, the peak expiratory flow rate of Compound bow archer is higher than the other type.

Keywords: Peak expiratory flow rate, archery player.

1. Introduction

Exercise in the form of sports, it performed regularly have a beneficial effects on the various system of the body. These systems are benefited by such exercise as the flow of blood is increased to the various organs there by delivering more nutrients, thus improving their functioning. Special attention is being given to the vital organs of the body like heart, brain, and lungs to know the effect of these organs when they go through fitness test has been a subject of discussion in the past. Irrefutable evidence now exists to show that regular physical activity shows the rate of decline of most of the physiological parameters that was associate with health and fitness. Viz muscles strength, aerobic capacity, reaction time and joint flexibility.

In the present study we have concentrated on the effect of long term stress in the form of exercises and sports men are known to have power and high degree of endurance accompanied by greater flexibility of the joint.

Previous studies in this field have shown that sports person have higher value of lung volume in comparison to their control counterparts are not engaged in any kind of regular physical exercise.

The aim of this study is not to confirm this fact but the idea was to establish a relationship between the ability of exercise performed and the different equipment used in the particular archery game.

2. Method and Material

For this study we chose the archery player which are participated in All India Interuniversity Archery competition which was held at Kurukshetra University Kurukshetra between 24/11/2014 to 27/11/2014. In that competition three type of archery player came to participated from various university Viz Indian bow archer, Recover bow archer and Compound bow archer the idea is that, for choosing this game, sports is same having same age group and same level of competition but the equipment is different so the different equipment has any effect on Peak Expiratory flow rate was seen.

For this study 160 archery player were selected out of that 62 player were Indian bow, 56 player were from Recover bow and 42 player from Compound bow having a age group 18 to 25 year. They were all from the different University from India.

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All subject were called for recording their Peak Expiratory flow rate between 10 to 11 a.m. In the morning at the time of competition. The peak expiratory flow rate was measured by Wrights peak flow meter. All the subject were maid familiar to the equipment and the objective of the study they were taught its uses and reading were recorded. Three reading of all the subject were taken at the best out of three were taken in to account. Also age, weight and heights was recording. In this archery sports this competitor given 60 to 90 minutes

training and coaching in the morning and 2 hours in the evening. There approximate training and coaching of archery is three to four hours in a day for six days in a week. All players had firstly selected for the University team. Then they come to participated in All India Inter University Archery Competition the subject chosen for this study were residents of different parts of India but they were playing same game archery but with different archery bow.

Table I: Showing physical characteristics of Archery player with different bow.

Player with different bow	Age (Yrs) Mean \pm SD	Heights(Cm) Mean \pm SD	Weight (Kg.) Mean \pm SD
Indian bow Archer	23 \pm 1.8	160.5 \pm 11.3	61.7 \pm 7.2
Recover bow Archer	22 \pm 2.5	176.7 \pm 7.2	68.2 \pm 8.1
Compound bow Archer	21 \pm 4.6	163.3 \pm 8.4	58.4 \pm 6.8

Table II: Showing Pak Expiratory Flow Rate different bow archery players.

Player with different bow	PEFR (Lit./ min.) Mean	SD
Indian bow Archer	492.5	32.95
Recover bow Archer	496.43	37.55
Compound bow Archer	508.33	30.28

3. Result

The result of this study have been summarized in Table II. The peak expiratory flow rate of all the subject has been given. It is very well evident that all the archery player had a higher value of lung volumes. It is compared to lungs value of the normal person.

Comparison of peak expiratory flow rate values among the archery sport person of different bow can very well be made. It is evident that archery player with compound bow have a peak Expiratory flow rate mean is 508.5 SD is 30.28.

The mean Peak Expiratory flow rate of Recover bow archer is 496.5 SD is 37.5 and the peak Expiratory flow rate of Indian bow archer mean is 492.5 SD is 37.55 and the Peak Expiratory flow rate of Indian bow archer mean is 492.5,SD is 32.95.

4. Discussion

The results discussed above indicates that all the archer having different bow have a different Peak Expiratory flow rate.

The peak expiratory flow rate of compound bow archer is higher than the Indian bow archer and Recover bow archer and also a normal men.

The peak Expiratory flow rate of Indian bow archer is less than recover bow archer and compound bow archer but higher than normal men.

5. Conclusion

This study on the basis of result conclude that same sports, having same age group, same level but difference in archery equipment have a different Peak Expiratory flow rate of the archery player.

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