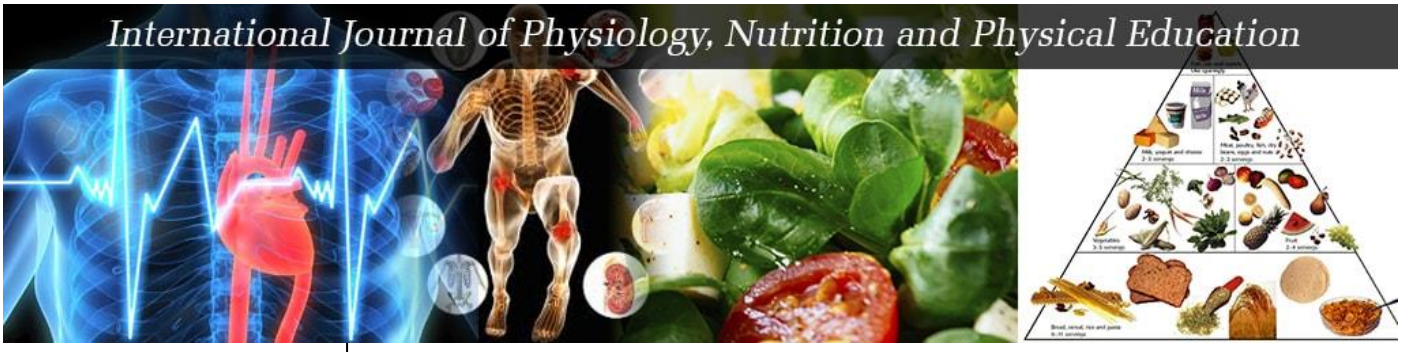

ISSN: 2456-0057
IJPNPE 2023; 8(2): 329-331

www.journalofsports.com
Received: 10-07-2023
Accepted: 18-08-2023

Chandrashekara HN
Principal, St. Joseph's Institutions Campus, Jayalakshmipuram, Mysore, Karnataka, India

Corresponding Author:
Chandrashekara HN
Principal, St. Joseph's Institutions Campus, Jayalakshmipuram, Mysore, Karnataka, India

The relationship between lung capacity and general endurance of Mysore district male cricket players

Chandrashekara HN

Abstract
The main purpose of the present investigation was to find out the relationship between lung capacity and general endurance of Mysore City Male Cricket Players only. In the present chapter selection of variables, collection of data and design of the study have been presented. For the purpose of the present study was delimited to Mysore City Male Cricket Players only. The sample size for the study was eighty five (N= 85) cricket players. The subject's age was ranging between 18-25 years. The data was collected during the competitions of Sri Gopalaswamy Memorial Inter-Club cricket tournament during the year 2021-22. Only Vital capacity and General endurance variables were considered for the study. On the basis of the interpretation of the data the following appropriate conclusion are drawn from the study: Although those against the test make a good point, the necessity of Vital capacity and General endurance in cricket cannot be undermined. A player who is unfit despite having the necessary skills would find it hard to give an outstanding performance hence proving why the general endurance continues to be significant in cricket.

Keywords: Lung capacity, general endurance, cricket

Introduction
Sports are individual activities relating and revitalizing in nature and meant to provide opportunities to the individual to make the ''fullest'' the most intelligent use of leisure time. Sports is an important in both ways, when one's body works better, his mind works better, his brain and his body are interrelated. Sports allow you to blow of tension, to forget your problems for a while, and to go out and have a good time no matter what other pressures one may be under in his life.

Today's many sports are played by the peoples in the world, but cricket is one of the most popular sports. Cricket is a national sport that connects the people of India in a unique way. In the early years Cricket was considered as a battle between bat and ball and obviously fitness and type of Body was not given due importance. With the introduction of One day Cricket recently, the game has gone through drastic changes and the physical demand made the Cricketers focus on the body have which also increased dramatically, depending upon the version of the game played and role played by the player in the team.

The yo-yo test is one of the most important tests used in Cricket to evaluate the players' fitness and endurance performance. The test acts as a selection criterion in countries such as India, New Zealand and Australia. For instance to make it into the national cricket team of India, the players must attain a cut off fitness level of the Yo-yo test which is set at 16.1. A Danish scientist and football coach, Dr. Jens Bangsbo, invented the yo-yo test in the 1990's. Its purpose was to evaluate the players overall fitness capacity.

Martials and Methods
The main purpose of the present investigation was to find out the Relationship between lung capacity and general endurance of Mysore City Male Cricket Players only. In the present chapter selection of variables, collection of data and design of the study have been presented. For the purpose of the present study was delimited to Mysore City Male Cricket Players only. The sample size for the study was eighty five (N= 85) cricket players. The subject's age was ranging between 18-25 years.

The data was collected during the competitions of Sri Gopalaswamy Memorial Inter-Club cricket tournament during the year 2021-22. Only Vital capacity and General endurance variables were considered for the study.

Analysis of data and result of the study

To facilitate the Relationship of lung capacity and endurance level of Mysore male cricket Players, eighty five (N-85) Male Players Were Selected who represented state and national level Tournaments. The selected subjects were investigated and the data were collected as explained in the chapter Methodology. The collected data were tabulated accordingly and the data were analyzed. To compare the Relationship of lung capacity and endurance level of Male cricket Players of Mysore, Pearson's Correlation has been used by using the SPSS Application.

Table 1: Classification of yo-yo endurance test of cricket players

		Frequency	Percent
Valid	Elite	8	9.4
	Excellent	23	27.1
	Good	43	50.6
	Average	11	12.9
	Total	85	100

Grades: Out of 85 subjects 8 cricketers obtained elite grade in 23 obtained excellent grade majority of them (43 subjects) of them obtained good grade and remaining 11 of them obtained average grade.

Table 2: Frequency difference between different grades of yo-yo test

	Grades
Chi-Square	35.612
df	3
Asymp. Sig.	.000

Chi-Square test revealed significant frequency difference between different grade (Chi-square = 35.612; P =.001) revealing that majority of subjects obtained good grade and few of them got elite and average grade.

Table 3: Correlation between lung capacity levels and distance covered in yo-yo test

		Lung Cap	Levels	Distance
Lung Cap	Pearson Correlation	1	.759**	.767**
	Sig. (2-tailed)		.000	.000
	N	85	85	85
Levels	Pearson Correlation	.759**	1	.940**
	Sig. (2-tailed)	.000		.000
	N	85	85	85
Distance	Pearson Correlation	.767**	.940**	1
	Sig. (2-tailed)	.000	.000	
	N	85	85	85

**. Correlation is significant at the 0.01 level (2-tailed).

Lung capacity scores were significantly positively related to levels (r =.759; P =.001) and with the distance (r =.767; P =. 001). In other words as the scores in lung capacity increased, scores in levels and distance also increased linearly and significantly. Scores on levels and distance are also related significantly and positively (r =.940; P =.001) higher the levels more was the distance and vice versa.

Table 4: Descriptive statistics of grade lung capacity and levels

		N	Mean	Std. Deviation	Minimum	Minimum
lung cap	Elite	8	5056.2500	482.13624	4350.00	5600.00
	Excellent	23	4508.6957	395.90293	4000.00	5200.00
	Good	43	3788.3721	578.67225	3000.00	5100.00
	Average	11	3090.9091	526.69639	2300.00	3800.00
	Total	85	4012.3529	754.30928	2300.00	5600.00
levels	Elite	8	20.3375	.15059	20.10	20.60
	Excellent	23	19.0783	.40447	18.30	19.50
	Good	43	17.7186	.45735	17.00	18.60
	Average	11	15.5091	.41341	15.00	16.60
	Total	85	18.0471	1.36352	15.00	20.60

Lung capacity

Cricketers with elite, excellent, good and average grades had a mean lung capacity scores are 5056.25, 4508.69, 3788.37 and 3090.90 respectively. One way ANOVA revealed a significant difference between lung capacity scores of cricketers with different grades.

Table 5: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
lung_cap	Between Groups	25880804.087	3	8626934.696	31.888	.000
	Within Groups	21913725.325	81	270539.819		
	Total	47794529.412	84			
levels	Between Groups	141.920	3	47.307	268.861	.000
	Within Groups	14.252	81	.176		
	Total	156.172	84			

(F = 31.888; P =.001) from the mean it is clear that has the grades increased lung capacity scores of the cricketers have also increased. However no significant difference was observed in the lung capacity scores of cricketers with excellent and elite grade as revealed by Scheffe's Post Hoc Test.

Levels

As in earlier in levels also one - way anova revealed a significance mean difference between cricketers with various grades (F = 268.861; P = 001) the mean level scores of cricketers with the elite, excellent, good and average grades are 20.34,19.08, 17.72 and 15.51 respectively. As the grades increase scores on levels also increase significantly, which is further confirmed by scheffe's Post Hoc test.

Conclusion

On the basis of the interpretation of the data the following appropriate conclusion are drawn from the study: Although those against the test make a good point, the necessity of Vital capacity and General endurance in cricket cannot be undermined. A player who is unfit despite having the necessary skills would find it hard to give an outstanding performance hence proving why the general endurance continues to be significant in cricket.

References

1. Bhowmik A, Bera A. Correlation between cardiovascular endurance and peak expiratory flow rate of university players International Journal of Physiology, Nutrition and Physical Education. 2018;3(2):1148-1149.
2. Bangsbo J, Iaia FM, Krustrup P. The Yo-Yo intermittent recovery test: a useful tool for evaluation of physical performance in intermittent sports. Sports. Med. 2008;38:37-51.
3. Krustrup P, Mohr M, Amstrup T, *et al*. The yo-yo intermittent recovery test: physiological response, reliability, and validity. Med Sci. Sports Exerc. 2003;35(4):697-705.
4. Kreitz K, Borowski M. 05/07/2018· eCollection, Authors Boris Schmitz 1, Carina Pfeifer 1, Andreas Faldum 2, Stefan-Martin Brand; c2018. p. 1.
5. Grgic J, Mikulic P, Oppici L. DOI: 10.1007/s40279-019-01143-4. Authors Jozo Grgic 1, Luca Oppici 2, 3, 4, Pavle Mikulic 5, Jens Bangsbo 6, Peter Krustrup 7, 8, Zeljko Pedisic. 2019;49(10):1547-1557.
6. Pickering C, Kiely J, Suraci B, Collins D. Institute of Coaching and Performance, School of Sport & Wellbeing, University of Central Lancashire, Preston, 28/11/2018
7. Brian Mac grew up near Detroit. He graduated from the Architecture School at the University of Detroit in 1988 and for the next five years worked for a preservationist firm, Quinn Evans Architects in Ann Arbor.
8. Jung DI, Chow C, Wu A. The Role of Transformational Leadership in Enhancing Organizational Innovation Hypotheses and Some Preliminary Findings; c2003.
9. Millet GP, Jaouen B, Borrani F, Candau R. Effects of concurrent endurance and strength training on running economy and VO2 kinetics. Medicine & Science in Sports & Exercise. 2002 Aug 1;34(8):1351-1359.
10. Hickson, *et al*. Potential for strength and endurance training to amplify endurance performance apply physio; c1988.
11. Schmitz B, Pfeifer C, Kreitz K, Borowski M, Faldum A, Brand SM. Normative Yo-Yo Intermittent Recovery Level 1 and Yo-Yo Intermittent Endurance Level 1 test values of boys aged 9-16 years. J Sci. Med. Sport. 2019;22(9):1030-1037. DOI: 10.1016/j.jsams.2019.05.016.
12. Atkins SJ. Performance of the Yo-Yo intermittent recovery; c2006.
13. Buchheit M, Rabbani A. The 30-15 intermittent fitness test versus the yo-yo intermittent recovery test level 1: relationship and sensitivity to training. Int J Sports Physiol Perform. 2014;9(3):522-524. DOI: 10.1123/IJSPP.2012-0335
14. Castagna C, Impellizzeri FM, Rampinini E, D'Ottavio S, Manzi V. The Yo-Yo intermittent recovery test in basketball players. J Sci. Med. Sport. 2008;11(2):202-208. DOI: 10.1016/j.jsams.2007.02.013