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Effect Of Aerobic Exercises And Yoga On Vital Capacity Among College Male Football Players

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ABSTRACT

The study was to examine the influence of aerobic exercises and yoga in vital capacity among college level male football players. Total recruited randomly N=36 (Thirty six) college level football players their age period ranged from 18 years to 25 years as per subject's school records from SR & BGNR Government Degree and PG College. The chosen football players was randomly recruited into four groups each group n=12 football players i.e. empirical groups I football players underwent aerobic exercises (AEG = 12), empirical group II football players yoga (YPG = 12) and control group football players (CGF = 12) . CGFwas practiced only their respective specialization game. The training period was fixed for 16- week's duration and four sessions in a week. The measurement of vital capacity scores was collected through Spiro meter instrument before and after the completion of specific training. The collected score's were analyzed through ANCOVA and level of significant was restricted at 0.05 levels. The study found that aerobic exercises and yoga program had positive significant impact to gain high level vital capacity of football players of two empirical group's players comparative to control group.

Keywords: – aerobic, yoga, vital, exercises and football

Introduction:

Yoga has its roots about 5000years BC as described in vedic philosophy and tantras. Patanjali great sage composed this path in his book 'Patanjali Yoga' Sutra. The yoga sutras serves as the basic text for an in-depth study of this great science. Patanjali called it astanga yoga i.e science having eight limbs yama, niyama, asana, paranayama, pratyahara, dharana, dhyan and samashi. According to research on yoga in education with children in Europe, were found that after practicing of two asana and one pranayama at the beginning and after the class, the children were more relaxed, focused, one point and tranquil than their counterparts in other class who were not practicing yoga were destructive, restless violent and distracted.

The main factor determining aerobic capacity is oxygen intake, oxygen uptake, and oxygen transport and energy reserve. Vital air capacity is the amount of air which and players can inhale and exhale with maximum effect, its capacity varies from 3500 cc. Due to exercise its capacity increase up to 5500.

Statement of the Research Problem:

To analyze the "influence of aerobic exercises and yoga in vital capacity among college level male football players".

Objectives of this research study

1. The primary objective of this research study is to evaluate the 16-weeks influence of aerobic exercises and yoga in vital capacity among college level male football players.
2. The secondary objective of this research are
   - To compare the selected training methods between aerobic exercises and yoga practice on vital capacity among college level male football players.
   - To judge the best suitable training program among selected treatments for enhancement of vital capacity of football players.

Research Hypothesis:

- There will be a significant improvement in score of vital capacity performance of empirical group's football players after the twelve weeks impact of aerobic exercises and yoga practice when compared with control group football players.
- The aerobic exercises will be more effective than the yoga practice program in increasing vital capacity of football players.

Methodology:

The study was to measure the influence of aerobic exercises and yoga in vital capacity among college level male football players. Total recruited randomly N=36 (Thirty six) college level football players their age period ranged from 18 years to 25 years as per subject's school records from SR & BGNR Government Degree and PG College. The chosen football players was randomly recruited into four groups each group n=12 football players i.e. empirical groups I football players underwent aerobic exercises (AEG = 12), empirical group II football players yoga (YPG = 12) and control group football players (CGF = 12) . CGFwas practiced only their respective specialization game. The training period was fixed for 16- week's duration and four sessions in a week. The measurement of vital capacity scores was collected through Spiro meter instrument before and after the completion of specific training. The collected score's were analyzed through ANCOVA and level of significant was restricted at 0.05 levels.

Table: I
Analysis of Covariance for Vital Capacity – Spiro meter Test (liters) of the AEG, YPG and CGF groups for Football players

Groups	AEG	YPG	CGF	SOV	Sum of squares	df	Mean Square	F' Ratio
Pre test mean	2.227	2.243	2.214	B	0.005	2	0.003	
SD	0.048	0.045	0.064	W	0.095	33	0.003	0.887^{NS}
Post test mean	2.381	2.353	2.210	B	0.201	2	0.101	
SD	0.045	0.026	0.039	W	0.0408	33	0.001	69.551*
Adjusted mean	2.382	2.350	2.214	B	0.186	2	0.093	
				W	0.043	32	0.001	68.766*
Mean difference	+0.154	+0.11	-0.004	-	-	-	-	-

Note: Table F-ratio value at 0.05 level of confidence for 2 and 33 (df) =2.82, 2 and 32 (df) =3.32 *Significant & NS: Not significant.

AEG: Aerobic exercises football players group.
YPG: Yoga practice football players group.
CGF: Control group football players group.

The above table-I shows that there is a significant difference on vital capacity performance among the four groups such as aerobic exercises (AEG), yoga practice (YPG), and control group football players (CGF). Since the 'F' value required being significant at 0.05 level for 2, 33 d/f and 3, 32 are 2.82, but the computation values of vital capacity performance post and adjusted posttest 'F' values are 69.551 and 68.766 respectively. Which are greater than the tabulated value, it shows that training is effective for positive changes in vital capacity performance. Since the obtained 'F' ratio is found significant.

TABLE: 2

THE SPRINT ABILITIES RESULTS OF SCHEFFE'S METHOD TEST MEAN DIFFERENCES BETWEEN AEG, YPG AND CGF GROUPS FOR FOOTBALL PLAYERS

AEG	YPG	CGF	MD	CI
2.382	2.350	-	0.032*	**0.030**
2.382	-	2.214	0.168*	
-	2.350	2.214	0.136*	

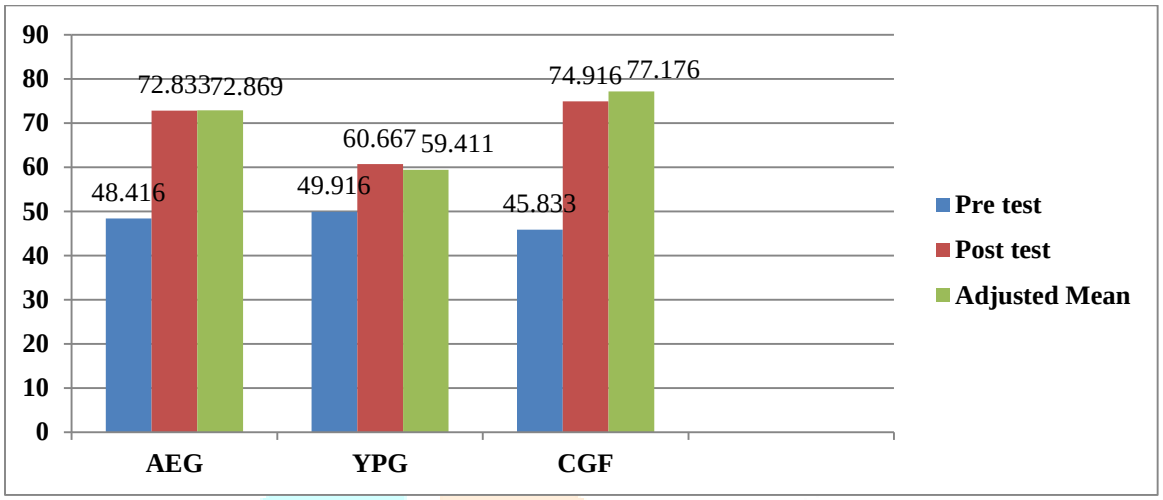
Note: * Significant & NS: No significant

AEG: Aerobic exercises football players group.
YPG: Yoga practice football players group.
CGF: Control group football players group.

In above table 2 presented the adjusted final mean variations between the aerobic exercises (AEG) and yoga practice (YPG), aerobic exercises (AEG) and control group football players (CGF) and yoga practice (YPG) and control group football players (CGF) are 0.032, 0.168 and 0.136. These computation adjusted final mean variations values are larger than calculated formula CI value 0.030. Hence investigator recorded significant variations resulted between aerobic exercises (AEG), yoga practice (YPG), and control group football players (CGF)

The prior, final and adjusted post scores results mean of the AEG, YPG and CGF football player groups for vital capacity – spiro meter test (kg) clearly represented in bar diagram figure: 1.

FIGURE: 1 THE VITAL CAPACITY PRE POST AND ADJUSTED POST TEST MEAN NUMBERS OF AEG, YPG AND CGF GROUPS FOR FOOTBALL PLAYERS PRESENTED IN BAR GRAPH



AEG: Aerobic exercises football players group.
YPG: Yoga practice football players group.
CGF: Control group football players group.

Discussion on Hypothesis:

- The first hypotheses stated that there will be significant improvement in score of vital capacity performance of empirical group's football players after the twelve weeks impact of aerobic exercise and yoga practice when compared with control group football players. The statistical analysis proved that aerobic exercise and yoga practice training program significantly improved the vital capacity performance of football players. Hence research first hypothesis accepted.
- The second hypotheses stated that aerobic exercise will be more effective than the yoga practice training program. The statistical analysis proved aerobic exercises is superior to yoga training method. Hence research second hypotheses accepted.

Discussion and Findings:

The impact of aerobic exercises and yoga practice are constructive for raising vital capacity performance of football players comparative with control group football players. The studies connected with vital capacity results are Davar and Parisa (2011) according to the results of this study, a six-week aerobic and anaerobic intermittent swimming had significant effect on VO2max and some lung volumes and capacities in student athletes. Luke et al., (2020) result found that aerobic training significantly increased the vital capacity. Sivaram and Bipin (2020) results showed that Meditation group was found to have greater impact on the group concerned than the Yogasana group and Control group in enhancing the performance of Vital Capacity. Sridar (2022) investigation indicate that eight weeks of asanas and pranayama practice can significantly improve vital capacity in college level handball players. Sivaprasad (2012) Practice of the yogasanas and pranayama practices is significantly effective in promoting vital capacity among football players.

Conclusions:

Tester determined that impact of aerobic exercises and yoga practice are constructive for raising vital capacity performance of football players comparative with control group football players. Hence an aerobic exercise is more constructive for vital capacity of football players comparative with yoga practice group football players.

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