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A COMPARATIVE STUDY OF SELECTED PHYSIOLOGICAL VARIABLES ON ATHLETICS & BOXING PLAYERS

ABSTRACT: - *The purpose of the study was to assess the selected physiological variables on intercollegiate level Athletes & Boxers. 60 male players were selected to conduct the study from intercollegiate competition, age ranging from 19-25 years. Selected physiological variables for the study were body mass index, basal Metabolic rate, fat percentage and lean body Mass. To calculator, BMI and BMR calculator software were used and also height, weight, age, gender and skin-fold Measurements were taken with help of instruments such as stadiometer, weighing machine and large skin fold caliper. Descriptive statistical analysis has been done by T-test and the significance of the result was seen on 0.05 levels. The t-test showed that significant difference was found for fat percentage among Athletes and Boxers, whereas no significant difference was found for BMR, BMI and Lean body mass among Athletes and Boxers. The study revealed that male Boxers have higher percentage of fat than male Athletes.*

KEY WORDS: - *Physiological variables, Athlete, Boxer, BMI, BMR.*

INTRODUCTION: - Physical Education plays an important role in promoting physical fitness, Character building and discipline among, youth child, player and official. Physical fitness is equally important for an athlete's as Boxers. The Body Mass index is heuristic proxy for human body fat based on an individual's weight and height. Actually BMI does not measure the percentage of Body fat but it is defined as the individual's body weight divided by the square of his or her height. Basal Metabolic Rate (BMR) and the closely related resting Metabolic rate (RMR) is the amount of daily energy expended by animals at rest. A person's body fat percentage is the total weight of the person's fat divided by the persons weight and consist of essential body fat is highly required for maintain human life and reproductive functions. The purpose to select the problem was to know and improvement in physical fitness and physiological conditions of intercollegiate level Athletes & Boxers.

SAMPLE & METHODOLOGY: - The purpose of the study was to assess the selected physiological variables on intercollegiate level Athletes & Boxers. For the said purpose 60 male players were selected to conduct the study from intercollegiate Competitions, age ranging from 19-25 years. Selected physiological variables for the study were BMI, BMR, fat percentage and lean Body Mass. Descriptive statistics such as Mean, standard deviation, range were used to assess the selected physiological variables of intercollegiate level Athletes & Boxers as well as compare the selected physiological variables among intercollegiate level Athletes & Boxers of Ahmedabad. Descriptive statistical analysis has been done by t-Test and the significance of the result was seen on 0.05 levels. To calculate the collected data SPSS version 16 and MS-Excel 2007 were used. The blood pressure of the subject was measured by using sphygmomanometer.

ANALYSIS AND DISCUSSION: - The Mean, standard deviation and the 't' values were calculated which were presented here from table 1 to 5.

TABLE-1 PHYSIOLOGICAL VARIABLES OF INTERCOLLEGIATE LEVEL ATHLETES & BOXERS.

PHYSIOLOGICAL VARIABLES	MEAN	S.D.	MAX.S.	MIN.S.	RANGE
21.29	2.16	27.85	16.82	11.03	
BMR(KCal)	1590	124.90	1929	1296	633
FAT %	19.68	1.68	24.28	16.41	7.87
LEAN BODY MASS (Kg)	48.47	6.40	65.87	34.80	31.07

(1) It is evident from table-1 for BMI Mean, S.D. and range were 21.29, 2.16 and 11.03. So we can say that all the subjects were normal and have ideal body weight on the basis of BMI. Normal BMI is between 18.5 to 24.9.

(2) Fat% Mean, S.D. and range were 19.68, 1.68 and 7.87 which was acceptable for sedentary athletes and not for elite sportsmen.

(3) For lean Body mass, Mean, S.D. and range were 48.47, 6.40 and 31.07 which means subjects have 48.47 kg of mass in their bones, muscles and other organs in average.

TABLE-2
COMARISION OF BASAL METABLIC RATE OF INTERCOLLEGIATE LEVEL ATHLETES & BOXERS.

BMR	MEAN	S.D.	SIGNIFICANT "t"	t-RATIO
ATHLETES	1576	112.1	2.00	0.838
BOXERS	1603	137.2	2.00	

*Significant at 0.05 level.

Table-2 revealed that the calculated value of t (0.838) was lower than the significant value of t (2.00) at 0.05 level of significant. So there was no significance difference between intercollegiate level athletes and boxers with respect to Basal Metabolic Rate.

TABLE-3
COMPARISION OF BODY MASS INDEX OF INTERCOLLEGIATE LEVEL ATHLETES & BOXERS.

BMR	MEAN	S.D.	SIGNIFICANT "t"	t-RATIO
ATHLETES	20.95	2.09	2.00	1.21
BOXERS	21.63	2.21	2.00	

*Significant at 0.05 level.

Table-3 revealed that the calculated value of t (1.21) was lower than significant value of (2.00) at 0.05 levels. So there was no significant difference found among intercollegiate level athletes and boxers in respect of Body mass Index.

TABLE-4
COMPARISION OF FAT PECENTAGE OF INTERCOLLEGIATE
LEVEL ATHLETES & BOXERS.

BMR	MEAN	S.D.	SIGNIFICANT "t"	t-RATIO
ATHLETES	20.15	1.38	2.00	2.261*
BOXERS	19.20	1.84	2.00	

* Significant at 0.05 level.

Table-4 revealed that the calculated value of t (2.261*) was higher that the significant value of t (2.00) at 0.05 level of significance. Here in table-4 significance difference was found among intercollegiate level athletes and boxers with respect to fat percentage.

TABLE-5
COMPARISION OF LEAN BODY MASS OF INTERCOLLEGIATE
LEVEL ATHLETES & BOXERS.

BMR	MEAN	S.D.	SIGNIFICANT "t"	t-RATIO
ATHLETES	47.49	5.72	2.00	1.189
BOXERS	49.45	6.98	2.00	

* Significant at 0.05 level.

Table-5 revealed that the calculated value of t (1.189) was lower than the significant value of t (2.00) at 0.05 level of significance. So there was no significant difference found among intercollegiate level athletes and boxers in respect of Lean Body Mass.

DISCUSSION OF FINDINGS: The result of the study was no significant difference among intercollegiate level athletes and boxers in respect of BMI, BMR and Lean Body Mass. whereas study revealed that there was a significant difference found among intercollegiate level athletes and boxers in respect of fat Percentage. The findings of the present study may also be attributed due to other factor such as dietary habits, geographical location, climatically condition and also due to other racial and ethnic factors and issues which requires further study to substantiate the finding taking into consideration the above factors which were not considered in the present study.

CONCLUSION: It can be concluded that the intercollegiate level athletes and boxers have ideal body weight on the basis of Body mass Index. Also they passed normal amount of Basal Metabolic rate. Players had 48.47 kg of mass in their bones, muscles and other organs in average. Intercollegiate level boxers have higher percentage of fat than intercollegiate level athletes. Finally, the result of the study revealed that there was no significant difference was found in Mean differences of BMI, BMR and Lean Body Mass, where as significant difference was found in mean difference of fat percentages among intercollegiate level athletes and boxers of Ahmedabad.

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