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A Comparative Analysis on the Level of Body Composition Among Active and Inactive Girls

KEYWORDS: BMI, LBM , BODY FAT, ACTIVE AND INACTIVE GIRLS

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ABSTRACT *The purpose of the study was to compare the level of Body Composition of Active and Inactive girls (age16-20 years). Total sixty (60) subjects were taken for the study. They are divided into two groups such as Active and Inactive Groups. Thirty (30) Active and Thirty (30) Inactive girls were randomly selected for the study. To measure Body Composition of Active and Inactive girls Body Mass Index (BMI), Lean Body Mass and Percentage of Body Fat were measured. For statistical analysis and Interpretation of data't' test was conducted. It was observed that there was significant difference in Body Mass Index (BMI), Percentage of Body Fat and Lean Body Mass. Result showed that the Active girls have lower level of Body Mass Index and lower Percentage of Body Fat as compare to Inactive girls. On the other hand, Active Girls have higher level of Lean Body Mass than Inactive Girls.*

INTRODUCTION:-

Physical fitness has been of great significant in the lives of human beings from time immemorial. In the pre-historic times, Physical fitness was the key element of the survival of human beings. People during those times were confronted with the 3 hostile environment and only fit individuals could survive. Hence survival of fitness is the dictum. It has been considered as one of the most important aspects of human existence. Physical fitness is that state of body in which a person can carry his daily duties and responsibilities efficiently and with the energy left he can enjoy hobbies and other recreational activities and can meet the unusual. In other words Physical fitness can be defined as the state of body in which a person can do work for a longer duration without undue fatigue. Physical fitness not only a state of younger's but is the reality for all ages. Body Composition is the relative percentage of muscle, fat, bone and other tissues of which the body is composed. Various research studies revealed that Participation in physical activities and various games and sports helps in improving the Physical fitness by lowering Percentage of Body Fat and increasing the Lean Body Mass. Physical fitness is the product of physical exercises and exercise is very much related to health and wellbeing. But development of science and technology discouraging the human beings from doing vigorous activities as a result of which various physical and mental diseases are flourishing at a great speed throughout the world. The findings of the present study will encourage the youth of the nation to participate in Games and Sports. Active Girls were those boys who regularly used to go for physical activities willingly and participated in various matches and tournaments. On the Other hand, Inactive Girls were those girls who never used to take part in physical activities willingly and participated in various matches and tourname nts.

METHODOLOGY:-

Thirty (30) Active and Thirty (30) Inactive girls (age16-20 years) were randomly selected from Santal Bidroha Sardha Satabarshiki Mahavidyalaya, Goaltore, Paschim Medinipur, W.B Active students are those girls who regularly used to go for physical activities willingly and took part in various games and sports and also participated in matches and tournaments. On the other hand, Inactive Girls are those students who never used to take part in any physical activity willingly and regularly. To measure Body Composition of Active and Inactive girls Body Mass Index (BMI) and Percentage of Body Fat were measured. Height and Weight of the subjects were measured for calculation Body Mass Index (BMI = Weight in kg/Height in Metre2) and for measuring Percentage of Body Fat Skin fold Caliper was used. Skin fold measurements were taken from biceps, triceps, supra-iliac and sub-scapula. Percentage of Body Fat was recorded from norms chart. The data were analyzed by 't' ratio.

RESULTS AND DISCUSSION:-

Results of the study have been shown in Table -1, 2 and 3 respectively. Table-1 shows that the Mean, SD of Body Mass Index (KG/M^2) were 18.20 & 1.98 and 20.50 & 2.19 respectively. It was observed that there was significant difference in Body Mass Index between Active and Inactive Girls. Here calculated 't'-value (4.20) was more than the Table value at the significant of 0.01 Level. Table -2 shows that the Mean, SD of Body Fat Percentage of Active and Inactive Girls were 10.60 & 1.03 and 12.90 & 1.62 respectively. Here calculated 't' value (6.23) was more than the table value at the significant of 0.01 level. Table -3 shows that the Mean, SD of Lean Body Mass of Active and Inactive Girls were 25.50 & 2.187 and 22.30 & 1.696 respectively . Here calculated 't' value (6.67) was more than the table value at the significant of 0.01 Level. For statistical analysis and Interpretation of data't'-test was conducted. The results are presented in tabular form as given here under.

Table – 1: Mean, SD of BMI (KG/M2) and Comparison of t-test Between Means of Active and Inactive Girls.

Group	Mean	SD	MD	t-value	Remarks
Active Girls	18.20	1.98	2.30	4.20**	Significant
Inactive Girls	20.50	2.19			

*Significant at 0.01 level

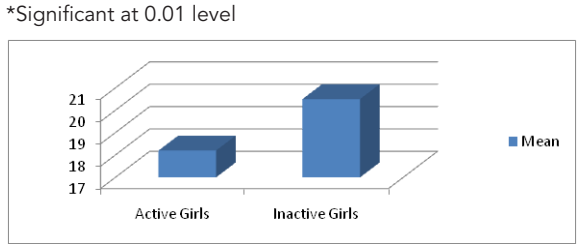

Fig. 1: Graphs Showing Body Mass Index of Active and Inactive Girls.

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Table -1 show that there were significant differences in Body Mass Index of Active and Inactive Girls. The Mean of Body Mass Index of Active and Inactive Girls were 18.20 and 20.50 respectively. 't' test was applied and t-value (4.20) appeared significant at 0.01 level of confidence. Table–1 was illustrated through graphical representation (Fig.1) for clear understanding of this study.

Table – 2: Mean, SD of Percent of Body Fat and Comparison of t-test Between Means of Active and Inactive Girls.

Group	Mean	SD	MD	t-value	Remarks
Active Girls	10.60	1.03	2.30	6.23**	Significant
Inactive Girls	12.90	1.62			

*Significant at 0.01 level

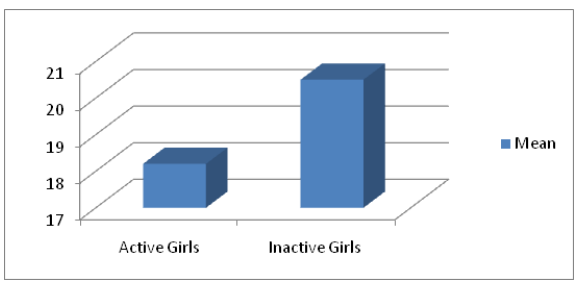

Fig. 2: Graphs Showing Percentage of Body Fat of Active and Inactive Girls.

Table-2 gives information regarding Percentage of Body Fat of Active and Inactive Girls. Table shows that there were significant differences in Percentage of Body Fat of Active and Inactive Girls. The Mean of Percentage of Body Fat of Active and Inactive Girls were 10.60 and 12.90 respectively. The't'-test was applied and t-value (6.23) appeared significant at 0.01 level of confidence. Graphical representation (Fig. 2) also indicates similar trend of this study.

Table – 3: Mean, SD of Lean Body Mass and Comparison of 't'-test Between Means of Active and Inactive Girls.

Group	Mean	SD	MD	t-value	Remarks
Active Girls	25.50	2.187	3.20	6.67**	Significant
Inactive Girls	22.30	1.696			

Significant at 0.01 Level

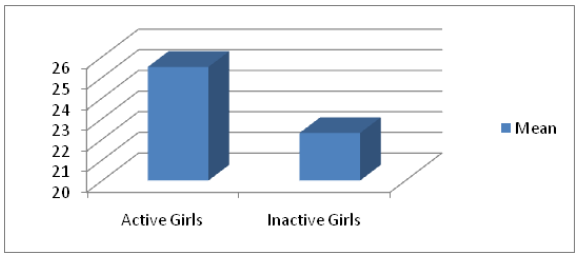

Fig. 3: Graphs Showing Lean Body Mass of Active and Inactive Girls.

Table-3 gives information regarding Lean Body Mass of Active and Inactive boys. Table shows that there were no significant differences in Lean Body Mass Active and Inactive girls. The Mean of Lean Body Mass of Active and Inactive girls were 25.50 and 22.30 respectively. 't' test was applied and t-value (6.67) appeared significant at 0.01 level of confidence. Graphical representation (Fig. 3) also indicates similar trend of this study.

CONCLUSION:-

Based on the result of the present study and within the limitation, the following conclusions may be drawn.

- The Active Girls have lower level of Body Mass Index than the Inactive Girls.
- The Active Girls have lower Percentage of Body Fat as compare to Inactive Girls.
- The Active Girls have higher level of Lean Body Mass than the Inactive Girls.

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