

A Study of Relationship of Physical Activity with Scholastic Performance & Body Mass Index in Children Between 12-18 Years

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Background

Physical activity and Sports are generally promoted for their positive effect on children's health. In addition to the positive physical & mental health impact of physical activity there is a strong belief that regular participation in physical activity is linked to enhancement of brain function & cognition. Regular participation in sport activities may improve children's classroom behavior & increase the odds of better concentration on classroom teachings. Participation can help students to set goals, manage time & build self-esteem. Thus, these students are determined to do better in life than those students who do not undergo any Physical activity.

The time a student devotes to his physical activity is inversely proportional to his Body Mass Index (BMI), a reliable indicator to classify an individual as healthy or otherwise. In our country, due to the increased syllabus & academic pressure, supplemented by pressure from parents, many students now prefer to study in their play time hours. This has resulted in increased obesity with increased BMI.

Aims & Objectives

To study the effect of physical activity on scholastic performance and BMI in school going children of age group 12-18 years by:

- (i) Assessing the correlation between the duration of physical activity with scholastic performance & Body Mass Index
- (ii) Assessing the association between the duration of physical activity with scholastic performance & Body Mass Index

Material & Methods

- I. *Type of study:* Prospective, descriptive, analytical study involving interview and questionnaire
- II. *Study period & Sample size:* The study period for the research was of three months duration during which students were selected on consecutive availability in selected schools.

A sample size of 400 was considered to be adequate based on a correlation coefficient $r=0.22$ ($\alpha=0.05$ and power of 0.8) in the pilot study

A Performa of questions was prepared to assess the Physical Activity, Academic Performance & BMI of the students. The average of academic performance of the preceding two years was considered for the purpose of the study. Obtained data was analyzed with appropriate statistical methods.

Criteria for selection were only the Age of the students. Children with any acute/chronic illness or disability were excluded from the study.

Results:

The study conducted on 400 children in the age group 12-18 years showed a positive effect of sports on children's scholastic performance & their Body Mass Index.

The correlation of physical activity & scholastic performance was +0.47 & the correlation with BMI was +0.67.

The study concluded that there was a definite association of physical activity with scholastic performance & BMI showing that the students who put in more hours of physical activity daily were found to have better average & also had a healthy BMI

Conclusions

This study was unique as it aimed to look at the relationship between Physical Activity with Scholastic Performance & Body Mass Index, particularly in view of the paucity of data from our country. We made a recommendation promoting physical activity in school going children after the results showed a significant relationship. The Study will help to promote the necessity of sports & physical exercise for the benefits of academic performance & Child Health of School children. This would be a positive step in promoting overall healthy physical and mental development of a child, the effects of which are likely to continue into adulthood.