



Two-Year follow-up of school-based intervention on obese and overweight children: An observational study

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Abstract

Objective: To evaluate the two-year outcome of a school-based health promotion on weight status in the schoolchildren of District Srinagar.

A two year follow up study of the obese and overweight schoolchildren of the urban district Srinagar (J&K) was done to look for health promotion effects and changes in the students, conducted from March 2017 to April 2019. A total of 30 schools, 22 private and 8 government schools were visited for the follow up of 58(9.1%) obese and 89(13.9%) overweight children. During the follow up period the obese and overweight children were questioned about the changes in their dietary habits, physical activity, computer and television hours and additional risk factors. Special attention was given to the following of the health promotion/advises given at the time of diagnosis of their conditions two years ago. Seven children, 5 obese and 2 overweight were lost to the follow up in the first year of the study. Among 87 overweight children 11 had become obese and among 53 obese children 3 had become normal for their BMI. Among the 89 overweight children, 9(10.1%) were found to have retained normal BMI. 11 (12.3%) overweight children had become obese. Total number of obese had risen to 61. (Table2) The health promotion had not brought desirable changes in the dietary behavior and physical activity of the schoolchildren. The study found the persistence of obesity and the increase in number of obese in the overweight children. Type of school and role of teachers signified the behavioral changes. The increase in number of obese was more in private than government schools. Junk food being the most important factor.

Keywords: obesity, overweight, BMI, Srinagar

Introduction

Overweight and obesity are major public health problems, with prevention of childhood overweight providing a mandate of action [1]. However, data to support a particular strategy to prevent overweight are currently lacking. School health programs have the potential to influence the health of nearly all children within existing institutional structures. It has been suggested that one third of the health objectives for the nations can be significantly influenced by school health programs [2]. This is in line with data of controlled trials

conducted in school settings showing feasibility, safety, and effectiveness of cardiovascular health promotion [3]. In contrast, most school-based trials came out with only minor or no effects on mean BMI; the effectiveness of obesity prevention programs varies and is currently not well established [4]. However, some trials were successful and have shown that a reduction in television time, increases in physical activity, reduced consumption of sugar-sweetened beverages, and increased fruit and vegetable intake may add to the prevention of overweight [5]

Table 1

Obese	Frequency	Percent
YES	58	9.1
NO	580	90.9
Total	638	100
Obesity Status	Frequency	Percent
Normal (-2SD to -3SD)	379	59.4
Overweight (≥1SD to <2SD)	89	13.95
Obese (≥2SD)	58	9.09
Total	638	100

Table 2: Among the 89 overweight children, 9(10.1%) were found to have retained normal BMI. 11 (12.3%) overweight children had become obese. Total number of obese had risen to 61.

Overweight to Obese	Obese to normal BMI	Overweight to normal	No. of obese risen to
n=11(12.3%)	n=3(5.1%)	9(10.1%)	n=61

Results

The study has found that among the 89 overweight children, 9(10.1%) were found to have retained normal BMI. 11 (12.3%) overweight children had become obese. Total number of obese had risen to 61. The rate of lost to follow up was not high as compared to other similar studies. But the

fact that health promotion had no desirable effects on the outcome of the obesity was worrisome. Overweight children had more chances of regaining normal BMI than the obese. The dietary habits of obese and overweight had no significant effects of the health promotion on the affected children.

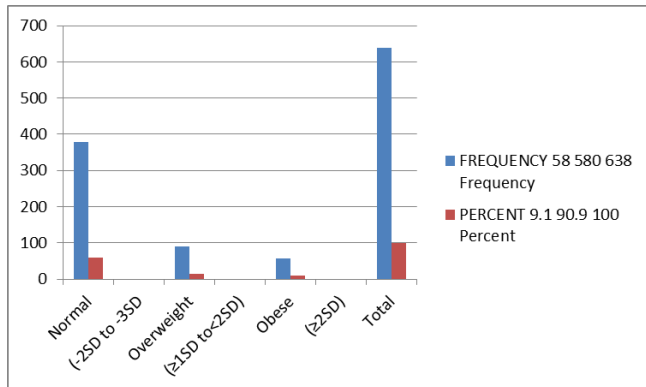


Fig 1

Discussion

In the present study, 9.15% (n=58) of 638 were classified as obese, 89 (13.9%) as overweight subjects, Kitani *et al.* performed a follow-up study over a mean of 16.6 y, and reported that 32.2% of males and 41.0% of females were obese in adulthood. Our findings are in contrast with this study possibly due to different criteria used and the different countries of the study the small differences in the recovery rates of the questionnaires in the study by Kotani *et al.* and our study may have contributed to the different results. In the present study, among total 638 participants 379 (59.6%) were normal for BMI for age, 41(6.43%) came out to be severely thin, 71 (11.13%) as thin, 89 (13.9%) as overweight and 58(9.15%) as. Among 87 overweight children 11 had become obese and among 53 obese children 3 had become normal for their BMI. Among the 89 overweight children, 9(10.1%) were found to have retained normal BMI. 11 (12.3%) overweight children had become obese. Total number of obese had risen to 61. Power *et al.* reported that 54 and 57% of extremely overweight boys and girls, respectively, whose BMI was above the 98th percentile at the age of 11 were obese at the age of 33. Many other previous studies have reported that extremely overweight children tend to remain overweight. 9-12-14-15. The present study enrolled 58 obese children and 89 overweight children who had received the health education regarding obesity and weight reduction thereof two years ago at the time of the diagnosis of their conditions. 87 overweight children 11 had become obese and among 53 obese children 3 had become normal for their BMI. Because the present study lacked a control group of obese children who were not treated, it cannot be established whether the observed improvements and apparent health benefits are caused by the treatment period per se.

Recommendations

Strict dietary restrictions and increased physical activity for >1 hour for at least 5 days a week, complete avoidance of junk foods and minimizing of stress level is recommended at the primary school level.

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