

Abstract

Introduction

Increase in prevalence of overweight and obesity globally during the past few decades has resulted in serious complications in adult life causing increased risk of premature illnesses and deaths. Non-communicable diseases play a major role in premature mortality and morbidity where overweight and obesity becoming a significant risk factor. The rising prevalence of obesity in children and adolescent has been linked to excess energy intake and reduce physical activity among this age group. The consumption of Sugar Sweetened Beverages (SSB) is associated with obesity, dental caries, diabetes and heart disease according to most of the studies done in western countries. The general objective of the study was to determine the prevalence and factors associated with SSB consumption among grade 10 school children in Education Division of Panadura. To determine the Prevalence of consumption of SSB, to describe the reasons for consumption of SSB, to assess the knowledge about the health impact of SSB consumption and to describe the lifestyle factors associated with SSB consumption among grade 10 school children are the four specific objectives.

Methodology

A Cross sectional analytical study was done in the Schools having grade 10 classes in the Panadura Educational Division. School children in Grade 10 in their 15th year of age studying in government schools in Education Division of Panadura was selected as the study population to represent the group of adolescents. For the purpose of calculating the sample size the prevalence is considered as 50% allowing the maximum sample size. The sample size was calculated according to the formula described by Lwanga and Lameshow in 1991. The calculated sample size was 384. Cluster sampling method used to identify the individual sampling units. To minimize the error due to clustering the calculated sample size multiplied by the design effect (D) was taken as 1.5. The sample size was 576 and to compensate for the non-response rate of 10% another 58 was added to the sample. The final sample size was 634. Multistage stratified cluster sampling was used to select the required number of clusters. Primary sampling unit was a classroom. Cluster size was 30. Altogether 22 clusters were required to have the adequate sample size. Self-administered questionnaire was developed as the study instrument and included the variables like socio demographic information, information about the

awareness of health impact of SSB consumption, lifestyle factors of the students and information as to why they use SSB. SSBs are glycemic index high liquids that contain added sugar, naturally derived caloric sweeteners, high fructose corn syrup or fruit juice concentrations. Fruit drinks, sports drinks, energy drinks, sweetened water, sweetened milk, coffee and even tea beverages are categorized under SSB. The dependent variable SSB consumption was defined as use of SSB once or more for a given day. Prevalence of SSB consumption was determined and where necessary the statistical significance was assessed using the Chi square test. Statistical significance was assessed at $p < 0.05$ level. Administrative clearance was obtained from the Ministry of Education and from the Divisional Education Director, Panadura prior to the commencement of the study. Minimum ethical issues were identified. Informed written consent was taken from the parents or the guardian before collecting the data.

Results

The sample consisted of all grade 10 students in the age of 14 years 162 (27%) 15 years 417 (69.5%) and 16 years 21 (3.5%). There were 319 (53.2%) female students and 281 (46.8%) male students. Majority of students were Sinhalese 513 (85.5%) and were Buddhist 494 (82.3%). Although 289 (48.2%) students engage in sports in school only 178 (29.7%) were members of any sport team who regularly do sports. Almost half 287 (47.8%) of the students do not engage in sports or any type of physical activity in their schools. Almost half ($n=298$, 49.7%) of the students buy beverages from the school canteen during school time. More than three quarter ($n=496$, 82.7%) of the students buy beverages from outside the school. Out of the total sample 550 (91.7%) students usually get pocket money. The favorite drink of the total sample was carbonated drinks or soft drinks ($n=212$, 35.3%). 162 (27%) students liked milk and milk products while 77 (12.8%) students liked drinking water. Only 7(1.2%) students consumed carbonated soft drinks daily. Milk and milk products with added sugar were daily consumed by 16%($n=96$) students while tea, coffee, milk tea with added sugar were consumed by 75% of the students. The number of students who daily consumed any types of SSBs was 80%. Only 55.7% ($n=334$) students knew that "Frequent consumption of SSBs can result overweight and obesity

Conclusions

The study showed a high prevalence (80% daily consumption) of consumption of SSBs. Daily prevalence (1.2%) of soft drinks are much lower than sweetened milk product consumption. Therefore, the NCD burden due to consumption of sweetened milk products is relatively higher than from soft drink consumption. Knowledge on health effects of SSB were lacking among students.

Recommendations

Both health and education sectors should act in collaboration to improve the knowledge and the health status of the adolescents. The findings of the study emphasize the importance of extending the color coding and taxation to milk and milk products. State revenues collected from tax can be used to implement programmes like media campaign, provide facilities for physical activity and to provide healthier foods in schools to prevent NCDs and NCD risk factors and to reduce the NCD burden of the country.

Key words: Sugar sweetened beverages, Non communicable disease, Adolescents