



## A Study on Perception Regarding Carbonated Drinks in 14-16 Yrs Age Group Students

### KEYWORDS

Carbonated drinks, perception, school children

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### ABSTRACT

**Introduction:** The consumption of carbonated drinks in youngsters is increasing in alarming proportions. They are often not aware of the health hazards of the excess consumption. There is a growing concern in the medical and scientific communities about the harmful effects associated with carbonated soft drinks. Soft drinks have been around for over a hundred years, but many of their deleterious health effects have not been studied or known. Hence the present study has been undertaken to assess the awareness and attitude regarding health hazards of excess carbonated drinks consumption among school children.

**Materials and methods:** This cross-sectional study was carried out in an International school in Guntur (A.P.). The study subjects comprised of school students in the age group 14-16 years. A total of 144 school students of age group 14-16 were included in the study. A self administered pretested questionnaire was used to collect the relevant details.

**Results:** 93.75 % students had heard about carbonated drinks. 78.47 % students had read about ill effects of carbonated drinks. 69% of the students reported that their parents also have carbonated drinks. 29% of them consumed as their film heroes consumed a particular brand. According to students, most common ill effect of consumption of carbonated drink were teeth and bone disease (40.97%), respiratory disease(26.39%), belching(24.31%) and diarrhoeal disease(21.53%).

**Conclusion:** The knowledge of the students regarding the illeffects of the consumption of carbonated drinks is not convincing one. The attitudes of the students are relatively better but their practices are neither preventive nor health promoting. Thus, it is recommended that a holistic approach should be incorporated to combat the problems associated with the consumption of carbonated drinks. There is a need of Behavioural Change (BCC) for youngsters.

### Introduction

Young children are often influenced by media and often do things under its influence. The consumption of carbonated drinks in youngsters is increasing in alarming proportions. They are often not aware of the health hazards of the excess consumption. 1. A soft drink is a beverage, often carbonated, that does not contain alcohol like colas, iced tea, lemonade, squash and fruit punch etc. Hot chocolate, hot tea, coffee, milk, tap water, and milkshakes are not carbonated drinks. Many carbonated soft drinks are optionally available in versions sweetened with sugars or with non-caloric sweeteners. 2 Scientific studies have shown how as few as one or two soft drinks a day can increase one's risk for numerous health problems. 3. Some of these health problems are obesity, diabetes, tooth decay, osteoporosis, nutritional deficiencies, heart disease, and many neurological disorders. 4 When one consumes carbonated beverages instead of milk, juice and water, body will not get some of the nourishment as per the needs. There is a growing

concern in the medical and scientific communities about the harmful effects associated with carbonated soft drinks. Soft drinks have been around for over a hundred years, but many of their deleterious health effects have not been studied or known. 3 Hence the present study has been undertaken to assess the awareness and attitude regarding health hazards of excess carbonated drinks consumption among school children.

### Materials and Methods

This cross-sectional study was carried out in an International

school in Guntur(A.P.). The study subjects comprised of school students in the age group 14-16 years. A total of 144 school students of age group 14-16 were included in the study. The study period was from July 2011 to December 2011. A self administered pretested questionnaire was used to collect the relevant details. Data was collected after obtaining informed consent. Care was also taken to ensure privacy and confidentiality of the interview. The study had been approved by the ethical and research committee of the institute. At the end of the study health education was given for the same and the response was collected regarding the carbonated drinks. The data was collected and analysed using proportions.

### Results

The study was conducted amongst the school students. A total of 144 students were included in the study. Out of which 89 were boys (61.81%) and 55 were girls (38.19%). 93.75 % students had heard about carbonated drinks. 78.47 % students had read about ill effects of carbonated drinks. Most of the students had read them in books and newspapers (77.78%) and the remaining had heard from their friends, teachers and parents. 69% of the students reported that their parents also have carbonated drinks. 29% of them consumed as their film heroes consumed a particular brand. According to students, most common ill effect of consumption of carbonated drink were teeth and bone disease (40.97%), respiratory disease(26.39%), belching(24.31%) and diarrhoeal disease(21.53%). 13% of the students had BMI more than 25 (obese) and 57% had BMI between 23 to 25 (overweight). About 21.53% of the students were in favour of recommending carbonated drinks

for long period of consumption. They recommended these drinks because they thought that the adverse effects are seen after consuming for a very long time. Some students also thought it was quite a cool thing to have a coke or a pepsi. However majority of the students(60.42%) were in favour of consuming fruit juice if given an option between carbonated drinks and fruit juice. As far as the practice of frequent consumption of the carbonated drinks by the students is concerned, most of the students (42.36%) consume 200- 350 ml of the carbonated drinks at a time. Maximum of the students consume Coke (43.75%), Pepsi (36.11%). After health education activities and explaining them the effects, 78% boys decided to drink non carbonated drinks like fruit juices, lassi etc and all the girls decided to quit carbonated drinks.

### Discussion

A common problem that is associated with consumption of a large number of soft drinks is the increased acid levels throughout the body. All soft drinks are very acidic, but dark colas such as Coke and Pepsi are much more acidic. William Frazier states, "in order to neutralize a glass of cola, it takes 32 glasses of high pH alkaline water."<sup>4</sup> Prolonged increased acid levels will cause erosion of the gastric lining, which is very painful and disrupts proper digestion. In the present study, dental caries was found in a 32.85% of the students. Similar observations were also found by Kishore et al.<sup>5</sup> Dental cavities are often associated with carbonated beverage. This association is important because the amount of sugars that are consumed is important in forming caries, which is when a cavity affects only the enamel, the outer protective layer of a tooth. <sup>4</sup> Soft drinks, even though they contain a large number of calories, have little nutritional benefit and are known as "empty calories". Soft drinks are composed mostly filtered water with diet colas containing close to a hundred percent water. Most of the calories in soft drinks are from refined sugars, and there are no other nutritionally beneficial components in soft drinks. The relationship between soft drink consumption and body weight is so strong that researchers calculate that for each additional soda consumed, the risk of obesity increases 1.6 times.<sup>3</sup> This is also seen in the present study that 17% of them were obese. A very serious effect of soft drinks on people's health is the correlation between soft drink consumption and the increased risk of bone fractures and osteoporosis. The large amounts of sugar, bubbles caused by carbon dioxide, and phosphoric acid that are found in soft drinks remove nutritious minerals from bones allowing the bones to become weak and increasing risk for them to break. This is done by the phosphoric acid disrupting the calcium-phosphorous ratio, which dissolves calcium from the bones. Many people consume soft drinks instead of necessary beverages like milk, so their bodies are not receiving enough nutrients, especially calcium.<sup>3</sup>

Adolescents who consume soft drinks display a risk of bone fractures three to four-fold higher than those who do not."<sup>3</sup> The important thing to remember is that over consumption of soft drinks should be avoided because of their numerous harmful effects such as: obesity,

osteoporosis, nutritional deficiencies, and tooth decay. It is important to be aware of the harmful effects of such deleterious beverages.<sup>4</sup>

The liquid fruits can be used as a natural alternative to synthetic beverages. The sugar content is more harmful from the long-term aspects than the pesticide residues in

these carbonated drinks.

### Conclusion

The knowledge of the students regarding the illeffects of the consumption of carbonated drinks is not convincing one. The attitudes of the students are relatively better but their practices are neither preventive nor health promoting. Thus, it is recommended that a holistic approach should be incorporated to combat the problems associated with the consumption of carbonated drinks. There is a need of Behavioural Change (BCC) for youngsters. IEC activities must be done in schools and colleges and young minds should be properly educated regarding the ill effects of such practices if consumed for a prolonged time and in large quantities. Longitudinal studies are recommended to find out the degree of association between the amount consumed and the ill effects.

**Acknowledgements:** We would like to thank the study participants for their co-operation.

**Table 1: Knowledge of the students regarding the carbonated drinks**

Knowledge	No(%)
Ever heard about carbonated drinks	
Yes	135(93.75%)
No	9(6.25%)
Ever read about ill –effects of carbonated drinks	
Yes	113(78.47%)
No	31(21.53%)
Ill effects associated with consumption of carbonated drinks	
Teeth and bone disease	59(40.97%)
Respiratory disease	38(26.39%)
Diarrhoeal disease	31(21.53%)
Belching	35(24.31%)
Gastritis	29(20.14%)
Not aware	14(9.72%)

**Table 2: Attitude of students regarding consumption of carbonated drinks**

Response	No(%)
Would like to recommend carbonated drinks for prolonged consumption	
Yes	31(21.53%)
No	113(78.47%)
Would like to prefer-	
Fruit juice	87(60.42%)
Fruity/Maza/Slice	38(26.39%)
Carbonated drinks	19(13.19%)

**Table 3: Practice of the students regarding consumption of carbonated drinks**

Response	No (%)
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Frequently consume carbonated drinks	
Yes	71(49.31%)
No	73(50.69%)
Average amount of carbonated drinks consume at a time	
< 200 ml	34(23.61%)
200-350 ml	61(42.36%)
350-500 ml	23(15.97%)
500 ml	26(18.06%)
Commonest Carbonated drinks consumed	
Coke	63(43.75%)
Pepsi	52(36.11%)
Not specific	29(20.14%)

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