Research Article

Knowledge, attitude and practice (KAP) regarding carbonated drinks among medical students of C.U.Shah Medical College and Hospital of Surendranagar district

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Abstract

Background: These days youngsters are consuming more carbonated drinks, which contains high sugar and associated with various adverse health effects.

Objective: To study knowledge, attitude and practice (KAP) regarding consumption of carbonated drinks among medical students.

Materials and Methods: A cross sectional study was carried out to access the KAP of medical students about carbonated drinks. All medical students studying in C.U. Shah Medical College and Hospital situated in Surendranagar, Gujarat were included in the study. Self-structured pretested questionnaire was used for collection of data. Out of 500 students 354 students participated for the study.

Result: Out of all students, 282(79.66%) students revealed that they had started carbonated drinks at <15 years of age. Majority of students believed obesity (26.27%) as side effect associated with consumption of carbonated drinks followed by dental carries (20.06%) and bone decay (11.02%). Among all students 352 (99.44%) students having no knowledge about pesticides and 198 (56%) students experienced ill effects due to carbonated drinks.

Conclusion: To encounter the problems which are caused by consumption of carbonated drinks, focus on various aspects of primary prevention like Health education has to be done.

KEY WORDS: Carbonated drinks, knowledge, attitude, practice, obesity

Introduction

In today's world, consuming sparkling beverages has become a trend. As an undesirable increase in the ease of availability of these soft drinks, its consumption has drastically taken a leap over the past few years. Fluid consumption patterns of children are now more diverse compared to the past years, as carbonated soft drinks and fruit juices have replaced the consumption of water and milk.[1] These carbonated drinks consist of water, carbon dioxide, color, additives, and preservatives. In a tropical country like India, which has torrid summers, there is substantial market for aerated soft drinks. The per capita consumption of carbonated drinks in India is about 4 bottles per year, which is less compared to the other developing countries such as Pakistan, Bangladesh, Egypt, and extremely less compared to USA where it is 350 bottles.[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. Some of these health problems are obesity, diabetes, tooth decay, osteoporosis, nutritional deficiencies, heart disease, and many neurological disorders.[3,4] Hence, the present study has been undertaken to assess the knowledge, attitude and practice (KAP) of youngsters regarding health hazards of excess carbonated drinks consumption. Aims and objectives of the study were to evaluate KAP regarding consumption of carbonated drinks among medical students.

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Materials and Methods

Cross sectional study was carried out at C.U.Shah Medical College and Hospital (CUSMC), Surendranagar. The study subjects comprised of all medical students (M.B.B.S) at CUSMC. Out of 500 medical students 354 were selected and included in the study. Those who were not present on study day and did not want to participate were excluded from the study. A self-structured pre-tested questionnaire was used for the study. Ethical approval from the research committee has been taken. Each data collection forms were checked twice to overcome all errors. Data was analyzed by using statistical software SPSS 17.

Result

The study was conducted amongst the M.B.B.S students. A total of 354 students were included in the study. Out of which 179 were boys (50.56%) and 175 were girls (49.44%). Among them only 2 students (0.56%) were aware of normal range of pesticides percentage and only 5 students (1.41%) were aware of what actual pesticides percentage are in soft drinks.

Most of the students (98.59%) were having no knowledge of pesticides residue (Table 1).

About 44% students did not experience ill effects of consuming carbonated drinks while 56% experienced ill-effects of consuming carbonated beverages, among those hyperacidity 41% was the main ill effects they encounter after consuming carbonated drinks followed by belching 38%, nausea 11%, and sleep disturbance 10%.

Table 3 shows the knowledge about carbonated drinks. All the 354 (100%) students had heard about the carbonated drinks but only 39 (11.02%) of them could identify all the ingredients of carbonated drinks correctly. 255 (72%) students had knowledge regarding long term adverse effects due to carbonated drinks and 93 (26.2%) students answered obesity as a main health hazard followed by dental caries 71 (20%), bone decay 39 (11%), liver disease 34 (10%), and respiratory disease by 18 (5%).

Table 4 shows attitudes of students regarding carbonated drinks. Around 58 (16%) students were in favor of endorsing carbonated drinks for longer period. Nearly, 264 (74%) students reacted that they never tried to give up the addiction of consuming carbonated drinks. On the other hand around 317 (89%) students were in favor of drinking fruit juice if they had an option.

Table 1: Knowledge about Pesticides in carbonated drinks

Responses		No. (%)
Normal range of pesticides percentage in soft drinks	Yes	2 (0.56)
	No	352 (99.44)
Actual percentage of pesticides in soft drinks	Yes	5 (1.41)
	No	349 (98.59)

Table 2: Experience about ill effects

Responses		No. (%)
Experienced ill effect of consuming soft drinks	Yes	198 (55.93)
	No	156 (44.06)
Ill effects encounter after taking soft drinks	Belching	76 (21.47)
	Nausea	21 (5.93)
	Hyperacidity	81 (22.88)
	Sleep disturbance	20 (5.65)
	Not noted	156 (44.06)

Table 3: Knowledge about Carbonated drinks

Responses		No. (%)
Heard about carbonated drinks	Yes	354 (100)
	No	0 (0)
Knowledge of ingredients of carbonated drinks	Yes	39 (11.02)
	No	315 (88.98)
Knowledge about caloric value	Yes	40 (11.30)
	No	233 (65.82)
	Do not have complete Info	81 (22.88)
Aware of long term ill effects	Obesity	93 (26.27)
	Bone decay	39 (11.02)
	Dental caries	71 (20.06)
	Respiratory disease	18 (5.08)
	Liver disease	34 (9.60)
	Not aware	99 (27.97)
Prolonged Consumption	Good for Health	19 (5.37)
	Bad for Health	335 (94.63)

Table 4: Attitude about carbonated drinks

Responses		No. (%)
Like to recommend for prolong use	Yes	58 (16.38)
	No	293 (82.77)
Addicted to carbonated drinks	Yes	30 (8.47)
	No	324 (91.53)
Tried to quit/stop the habit of consumption	Yes	90 (25.42)
	No	264 (74.58)
What would you like to prefer	Fruit juice/ Homemade milk based drinks	317 (89.55)
	Carbonated drinks	37 (10.45)

Table 5 shows the practice of students about carbonated drinks. There were 173 (49%) students who had begun to drink carbonated drinks at the age 11–15 years and 160 (45%) students were considered that taste was the main influencing factor for starting followed by appeal to drink 47 (13%), easy access 39 (11%), media advertisement 37(10.5%), and peer pressure 35 (10%). Around 31 (9%) students were consuming carbonated drink daily, 86 (24%) twice or thrice weekly and 125 (35%) were those who consumed it very occasionally and 147 (42%) had answered that they consumed more than 200 ml of carbonated drink at a time. Thumbsup (18.5%) was the most consumed carbonated drink by the students followed by Sprite or 7up (18%) and Fanta or Mirinda (14%). The main reason to consume carbonated drinks by students were to satisfy thirst (35%) and to feel energized (18%).

Table 5: Practice about carbonated drinks

Responses		No. (%)
Age started to drink (Years)	<10	109 (30.79)
	11–15	173 (48.87)
	16–20	67 (18.93)
	>21	5 (1.41)
Influencing factor to start	Taste	160 (45.20)
	Media advertisement	37 (10.45)
	Family influence	18 (5.08)
	Easy access	39 (11.02)
	Peer pressure	35 (9.89)
	Appeal to drink	47 (13.28)
	Others	18 (5.08)
How often consuming	Daily	31 (8.76)
	Twice/ Thrice weekly	86 (24.29)
	Weekly	61 (17.23)
	Monthly	51 (14.41)
	Very occasionally	125 (35.31)
Average amount consumed at a time	100 ml	94 (26.55)
	200 ml	147 (41.53)
	500 ml	21 (5.93)
	Not fixed	92 (25.99)
Commonest carbonated drink consumed	Pepsi	31 (8.76)
	Sprite/ 7up	63 (17.80)
	Coke	46 (12.99)
	Limbca	19 (5.37)
	Fanta/ Mirinda	51 (14.41)
	Thumps up	64 (18.08)
	Mountain dew	12 (3.39)
	All	39 (11.02)
	Not specific	29 (8.19)
Reason to drink	Satisfy thirst	124 (35.03)
	Feel energies	65 (18.36)
	Others	58 (16.38)
	None	107 (30.23)

Discussion

A questionnaire study was done to collect most data and information from a large group in less time. In the study, it was found that only 1.5% medical students were aware of pesticides residue in carbonated drinks which was shocking, since the high percent of pesticides in soft drinks leads to major long term ill effects. Also, in this study it has been found that around 56% students felt change in oral environment or felt ill effects like belching or hyperacidity after consuming soft drinks. Similar observations were also found by Gupta et al.[5] Studies have shown that the frequent consumption of soft drinks can lead to change in body mass index[6,7] and increase the frequency of obesity in children.[8] It was seen in the study done by Kharde et al.[4] that 48% children had started having soft drinks at early age of <10 years, while in the present study it has been found that around 49% of the students had started consuming soft drinks between the age of 11 and 15 years, and among them the main influencing factor to start consuming was taste. Similar observations about taste as a main influencing factor among 52% students shown by Rai et al.[1] In this study, it has been found that average amount of soft drinks about 200 ml consumed by around 42% students, same figure was also seen in Jogdand et al.[9] They have also shown that around 86% students prefer fruit juice or homemade drinks over soft drinks, which was almost similar to the present study.[9] Now, prolonged consumption of these drinks is harmful for health but a study done by Kishor et al. [10] found that around 12% students think that prolonged consumption of these drinks is good for health, which was almost twice as per this study.

Conclusion

Almost every student drinks carbonated drinks but they were not aware of any pesticide residue in these drinks (98%). Many students showed ill effects of these drinks like belching (21%) and hyperacidity (23%) after consuming them. Most of the students were not aware of the ingredients and caloric value of these drinks (11%). It was found that majority of the students had started consuming carbonated drinks at an early age, and for them taste was the main influencing factor. Most of the students prefer fruit juice or homemade milk based drinks over carbonated drinks if they have an option, but due to easy availability they went for soft drinks. Majority of students gave the reason for consuming carbonated drinks was to satisfy thirst. Though majority (82%) of students said that they would not recommend carbonated drinks as a choice of soft drinks for prolonged use, nearly 17% said that they would advice others for its use. Equal number of boys and girls knew about the residual pesticides in carbonated drinks. There was no difference in the responses given by boys and girls regarding their attitude towards consumption of carbonated drinks namely recommending for prolonged use (19% boys and 19% girls),

addiction (8% boys and 10% girls) and wanting to quit (25% boys and 25% girls).

Recommendation: Though the study was conducted on medical students, it was found that knowledge regarding the ingredients, side effects, and pesticides residue was incomplete. So there is a dire need to improve the knowledge, attitude and practice regarding continuous, prolonged consumption of these drinks and it should be reiterated that students should spread the correct knowledge to others also.

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