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KAP STUDY ABOUT CARBONATED DRINKS CONSUMPTION AMONG MEDICAL COLLEGE STUDENTS IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Carbonated drink consumption has become a highly visible and controversial public health and public policy issue. The present study has been undertaken to assess the knowledge, attitude and practices (KAP) of students regarding health hazards of excess carbonated drinks consumption. Population comprised of 200 undergraduate medical college students and interns. A self administered questionnaire designed for the study was distributed among the students. The results showed that 95% of students are aware about the ingredients of carbonated water.194 (97%) of students are well aware about the ill effects associated with long term consumption of carbonated water and 110(55%) of students are ready to stop the consumption if suitable alternatives are available. Health education would be the best way to adopt healthy life style and to combat the problems associated with the consumption of carbonated drinks.

KEYWORDS: Carbonated Water, Dental Caries, Refreshment, Media Advertisement

INTRODUCTION

A soft drink is a beverage, often carbonated, that does not contain alcohol. Beverages like coke, sparkling water, iced tea, lemonade, squash, and fruit punch are among the most common types of soft drinks. Globally carbonated drinks are the third most consumed beverage. In India, according to government estimates soft drink marketed were 6540 million bottles in March 2001. Delhi market has the highest per capita consumption in the country with 50 bottles per annum (Kharde Al et al., 2013).

Carbonated drink consumption has become a highly visible and controversial public health and public policy issue. Scientific studies have shown how as few as one or two soft drinks a day can increase one's risk for numerous health problems There is a growing concern in the medical and scientific communities about the harmful effects associated with carbonated soft drinks. Carbonated drinks are viewed by many as a major contributor to obesity and related health problems. Some of the other health problems include diabetes, tooth decay, osteoporosis, nutritional deficiencies, heart disease, and many neurological disorders (Nylund J , 2012). The issue is not new. Carbonated drinks have been around for over a hundred years, but many of their deleterious heath effects have not been studied or known. Hence the present study has been undertaken to assess the knowledge, attitude and practices (KAP) of students regarding health hazards of excess carbonated drinks consumption.

MATERIALS AND METHODS

Setting

The present cross sectional study was carried out in Chennai Medical College Hospital, a tertiary care teaching Hospital, Tamil-Nadu, India

Subjects

Study Population comprised of 200 undergraduate medical college students and interns. The study was carried out after obtaining Institutional Ethical clearance. A self administered questionnaire designed for the study was distributed among the students who were present at the time of administration of questionnaire.

Questions regarding age of starting of carbonated drink consumption, factors influencing its consumption, amount of soft drinks consumed per day, knowledge about the various ingredients used, about its calorific value, associated ill effects, whether they would quit drinking carbonated drinks if they were offered any alternatives etc. They were told that the data being collected was anonymous, confidential and for research purpose only and that their participation was voluntary. Data analysis was carried out using SPSS v.16. Group mean and standard deviation (SD), frequency distributions and percentages were computed.

RESULTS

Table 1: Knowledge of Students Regarding Carbonated Water

Responses		Number (%)
Heard about carbonated water	YesNo	200 (100)-
in carbonated water	YesNo	190(95)10(5)
Aware about the ill effects of carbonated water	YesNo	194(97)6(3)

Of the 200 participants in the study, all of them are well known about carbonated water. Nearly 95% of students are aware about the ingredients of carbonated water.194 (97%) of students are well aware about the ill effects associated with long term consumption of carbonated water. Most common side effects include gastritis, dental problems, belching, sleep disturbances etc. Long term side effects include obesity, osteoporosis, diabetes mellitus etc.

Chart 1: Knowledge about ILL Effects of Carbonated Water

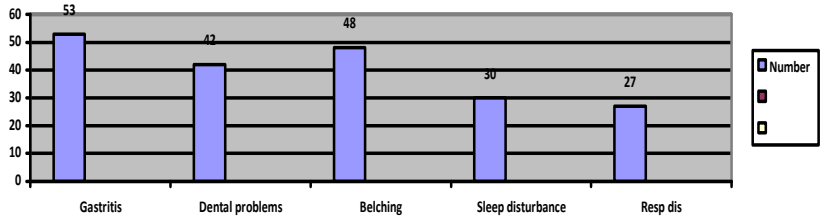


Table 2: Attitude of Students Regarding Carbonated Water

Responses		Number (%)
Would you like to stop/quit the habit of consumption	Yes No	110(55) 90(45)
Alternatives for carbonated water (n=110)	Butter milk Tender coconut Fruit juice Others	13(14.3) 32(35.2) 60(66) 5(5.5)

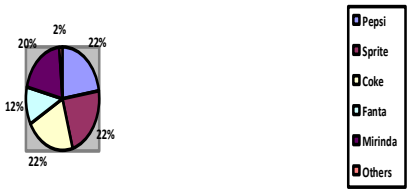
Nearly 110 (55%) of students have responded that they would like to stop the habit of consumption, 60 (66%) students prefer fruit juice, while 32(35.2%) of students prefer tender coconut, the rest needed other alternatives.

Table 3: Practice of Students Regarding Carbonated Water

Responses		Number (%)
Age started to drink	< 10 11-15 16-20 >21	28(14) 66(33) 106(53) -
Factors influencing to start	Media advertisement Easy access Taste Peer group Others	80(40) 63(31.5) 37(18.5) 15(7.5) 5(2.5)
Average amount consumed at a time	<200ml 200-350ml 350-500ml >500ml	17(8.5) 93(46.5) 87(43.5) 3(1.5)
Reason to drink carbonated water	Refreshment Feel energise Pleasure Others	98(49) 87(43.5) 12(6) 3(1.5)

Of the 200 students, 106(53%) of students have started consuming carbonated drinks at the age of 16-20, 66(33%) students at the age of 11-15,28 students less than 10 years of age. Regarding the factors influencing to start, media advertisement was the most common response by 80(40%) of students, 63(31.5%), 37(18.5%),15(7.5%) students have responded easy access, taste, peer group, are the other factors influencing carbonated water consumption. 87(43.5%) of students consume nearly 350-500ml per time, 93(46.5%) students consume 200-350ml/time,3(1.5%) students consume more than 500ml/time. The response given to drink carbonated water was mainly refreshment 98(49%), feel energise 87(43.5%), pleasure 12(6%) etc by the students. The main beverages consumed are pepsi, sprite, coke, fanta, mirinda etc

Chart 2: Types of Beverages Consumed by Students



DISCUSSIONS

The ingredients of carbonated drink are water, sugar or high fructose corn syrup, carbon dioxide, caffeine, acid viz. phosphoric acid, citric acid, and malic acid, colouring agent like caramel or betakerotin, preservatives like natrium benzoate, and potassium sorbate, antioxidant like ascorbic acid and some emulsifying and stabilizing agent like pectin, alginate, carraghen. It is a universally known fact that soft drinks, even though they contain a large number of calories, has little nutritional benefit.

The high sugar concentration of carbonated drink is associated with dental caries. When the bottle of a soft drink opened bubbles and fizz are immediately emitted out. This is due to phosphoric acid and carbon dioxide (CO_2). This leads

to gastric disturbances. 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 (Nylund J, 202 and Wyshak G et al., 1994).

Nearly 55% of students have answered that they are ready to stop the habit of consuming carbonated drinks except that if they have suitable alternatives like buttermilk, tender coconut, fruit juices etc.

The study conducted in Australia,(2010) among 8058 high school students nearly 52% of students are in the habit of consuming carbonated drinks, they were mainly children belonging to upper middle class. A study conducted in Nigeria, approx 66% of carbonated drinkers are between the ages of 13-35yrs old, with males being approx 65% of market (Abdulgafar O et al., 2014).

Students have started consumption of carbonated water mainly through media advertisement, availability in all shops, the appealing taste of soft drinks, peer pressure. The common soft drinks consumed are pepsi, sprite, coke, fanta, mirinda etc. Children have started watching television from the age of 5-6 years, and advertisement regarding carbonated drinks are telecasted once in every 15minutes which influence the users to start consuming carbonated drinks. Carbonated drinks are available in almost all places- hyper malls, super market, cinema show rooms etc, so whenever we feel tiring only these drinks are available rather than fresh fruit juices, tender coconut water etc. Adolescent period most students under their influence of peer groups start consuming carbonated water which adds to the fuel of soft drink consumption.

Most of the participants of the study consume 1 can/day while a few of them consume about 2-3 cans/day which is comparable to the study conducted in Nigeria (Abdulgafar O et al., 2014).

In this study most students consume Pepsi, Sprite & Coke which is comparable with the study conducted by Banumathy & Hemameena (2006) that most consumers prefer international brands like pepsi & coke because of its taste & refreshing ability. Most students consume carbonated drinks because of its refreshing ability & energise because small amount of caffeine added to these beverages increase their performance leading to freshness & energy.

The centre for Science and Environment had found pesticide residue of organophosphorus, organocholorine and synthetic pyrethroides in the soft drink. Ministry of Health & Family Welfare has to frame stringent rules and regulations regarding the contents in carbonated drinks.

CONCLUSIONS

Thus to conclude from the above responses from the students that media advertisement and other related factors have lead to carbonated drink consumption among students. Most of them are well aware about the side effects and are willing to stop the consumption of carbonated drinks if suitable alternatives are available. Health education would be the best way to adopt healthy life style and to combat the problems associated with the consumption of carbonated drinks.

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