

# Knowledge, Attitude and Practices Regarding Carbonated Beverages among the Population of Aljouf Province

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## ABSTRACT

**Objective:** To determine the level of carbonated drinks consumption and the level of knowledge about health effects of consumption of carbonated drinks among the population of Aljouf province.

**Materials and Method:** In this study 236 individuals belonging to the age group of 18–68 years were incorporated. A Self-Structured objective type questionnaire was prepared for collection of data and distributed to the individuals attending College of Dentistry, Aljouf University and other MOH centres of Sakaka city. The participants were instructed to mark the most appropriate correct answer from the given list of answers according to them, in order to assess their knowledge, attitude and practice regarding the consumption of carbonated beverage.

**Conclusion:** The health education and primordial prevention would be the best way to adopt healthy life style and combat the problems associated with the consumption of carbonated drinks.

**Keywords:** Carbonated beverages, Erosion, Knowledge, Attitude, Practice.

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## INTRODUCTION

A soft drink or a carbonated drink is a non-alcoholic drink that commonly contains water, a sweetener, corrosive and a flavoring ingredient.<sup>1</sup> The term “soft” is because of the absence of alcohol unlike hard drinks which means alcohol containing drinks. These refreshments can be sorted as water beverages; carbonates; dilutables, still and fruit drinks and functional beverages. Rates of soft drinks utilization are gradually expanding to wind up distinctly a silent wellbeing risk. Unwise utilization of these soft drinks is putting the youngsters' lives at hazard with roundabout unfriendly impacts. Carbonated beverages are more adverse than non-carbonated drinks since they are more acidic and might be frequently held in the oral cavity for a more extended time. Components that have a changing impact on the advancement of disintegration incorporate the quantity, type and quality of the corrosive level, buffering limit of the beverage and concentration of phosphate, calcium and fluoride in the beverages. Acidic carbonated refreshments convey much of air as carbon dioxide to the stomach, which can bring about distension along these lines, activating reflux. As the utilization of carbonated soft drinks enhances, there is an expanded term of oesophageal introduction to acid. Drinking of one can of soda everyday can prompt to 53.5 minutes of increased acid levels in the stomach. Thus, serious disturbances like chest pain or acid refluxes can result.<sup>2</sup>

Erosion of teeth is a condition where a chronic loss of dental hard tissue as a result of chemically etched away from the tooth surface by acid and/or chelation without microbial action.<sup>3</sup>

These acids can be from eating regimen through the ingestion of food and drinks, or from stomach acids when they invert course and go through the throat to the mouth.<sup>4,5</sup>

This prompts to a huge effect on patients' oral wellbeing by making loss of tooth structure, tooth hypersensitivity and changes in the aver all of tooth form. The pattern of erosion is identified by the frequency of exposure of tooth structure to acidic liquid. Enamel can be dissolved within 20 minutes of drinking of the soft drinks by the acid.<sup>6</sup> Numerous researches have confirmed a positive correlation between caries and tooth erosion and the drinking of soft drinks.<sup>7-10</sup>

Although multiple studies have been carried out globally related to soft drink consumption, research on this behalf in Saudi Arabia is seriously lacking. An exhaustive evaluation of the issue is fundamental to disentangle the more profound complexities of the issue. At exactly that point, can any intercessions be relied upon to be fruitful. With this background this study was undertaken in order to determine the level of soft drink consumption and the level of knowledge about health impacts of drinking of soft drinks among the population of Aljouf province.

## MATERIALS AND METHODS

This cross-sectional descriptive study was carried out among two hundred thirty six individuals belonging to the age group of 18–68 years. Approval was taken from the ethical and research committee of the institution. A Self-Structured objective type questionnaire was prepared for collection of data and distributed to the individuals attending College of Dentistry, Aljouf University and other MOH centres of Sakaka city. For the active involvement and cooperation of students the study aim and objectives were

explained to them and consent was taken for the same. The subjects were asked to mark the correct choice from the given list of answers, in order to evaluate their knowledge, attitude and practice regarding drinking of carbonated beverage. All the collected forms were cross checked for completeness and mistakes were rectified and corrected accordingly.

The data obtained was entered into Microsoft Excel and descriptive statistical analysis, in terms of frequency distribution and percentages were carried out.

**Table 1: Knowledge of the Students regarding the Carbonated Drinks (n=110)**

Questions	Responses	n (%)
Heard about carbonated drinks	Yes	236 (100)
	No	0
Knowledge about components of carbonate drink	Yes	92 (38.98)
	No	144 (61.01)
Knowledge of caloric values of the carbonate drink	Yes	64 (27.11)
	No	172 (72.88)
Knowledge of adverse effects of carbonate drinks	Yes	89 (37.71)
	No	147 (62.28)
Knowledge of adverse effects of carbonate drinks on teeth	Yes	62 (26.27)
	No	174 (73.72)

**Table 2: Attitude of the Students regarding the Carbonated Drinks (n=110)**

Questions	Responses	n (%)
Tried to quit the consumption of carbonate drinks	Yes	34 (14.40)
	No	202 (85.59)
If you were asked to, would you quit drinking the carbonate drinks	Yes	79 (33.47)
	No	157 (66.52)

**Table 3: Practice of the Students regarding the Carbonated Drinks (n=110)**

Questions	Responses	n (%)
Age started drinking of carbonate drinks (Years)	< 10	41 (17.37)
	11 – 15	92 (38.98)
	16 – 20	84 (35.59)
	> 21	19(8.05)
Factor influencing to initiate drinking of carbonate drinks	Taste	48 (20.33)
	Media Advertisement	61 (25.84)
	Easy availability	41 (17.37)
	Peer pressure (friends)	34 (14.40)
	Family influence	29 (12.28)
	Appeal of drink	23 (9.7)
Average quantity of drinking of carbonate drinks consumed each time	< 200 ml	21 (8.89)
	200 – 350 ml	98 (41.52)
	350 – 500 ml	74 (31.35)
	> 500 ml	43 (18.22)
Commonest carbonates drink consumed	Pepsi	72(30.50)
	Mirinda	59 (25.0)
	Coke	46 (19.49)
	Thumps up	13 (5.50)
	Non Specific	46 (19.49)
Reason to consume carbonate drinks	Satisfy thirst	102 (43.22)
	Feel energize	82 (34.74)
	Other	52 (22.03)
How often do you intake carbonate drinks	Daily	172 (72.88)
	Every alternate days	43 (18.22)
	Weekly	22 (9.3)
	Occasionally	8 (3.38)
Which is your mode of drinking of carbonate drinks	Bottle/Can	124 (52.54)
	Glass	58 (24.57)
	Straw	54 (22.88)

## RESULTS

Total of 236 people attending the College of Dentistry and other MOH centres of Sakaka city had participated in this study. Table 1 shows that, all the 236 (100%) participants heard about the carbonated drink but only of 92 (38.98%) of them were having the knowledge of the contents of carbonated drink. Approximately, 37.71% of the individuals were aware of the ill-effects of consuming carbonated beverages, but 72.88% of individuals were not aware of the calories intake by consumption of carbonated beverages. Out of 236 individuals only 62 (26.27%) had knowledge about ill effect of carbonated drink on the dentition. Around 34 (14.40%) participants responded that they tried to stop the habit of drinking carbonated drinks and 79 (33.47%) of the participants were unwilling to quit the habit (table 2). There were 92 (38.98%) participants who started drinking of carbonated drinks at the age of 11-15 years and 61 (25.84%) were considered that the media advertisement was the major influencing factor for starting the drinking of these drinks. Approximately, 72.78% of participants consumed carbonated beverages twice/day, while 18.82% daily, 9.3% consumed weekly and 3.38% of participants consumed beverages occasionally. About 52.54% of people consumed soft drinks by bottle/can, 24.57% by glass and 22.88% by using straw (Table 3).

## DISCUSSION

Consistent development and experimentations with food and drinks have created a plenty of changes in our staple eating regimen. Contemporary modifications incorporate change in the quality and amounts of drinks devoured, the way in which they are expended and their part in the eating routine.<sup>11</sup>

A questionnaire survey was adapted, as it permits gathering a considerable measure of data and information from a maximum number of subjects countless in a short time period.

Carbonated drinks are today's pattern or much better we can call them "fashion" particularly among the adolescent. The elements of soft drink are water, sugar or high fructose corn syrup, carbon dioxide, caffeine, acidic agents, colouring agents, emulsifying and stabilizing agents.<sup>12,13</sup>

There is the perfect environment for initiation of dental caries by association between exceptionally acidic pH of carbonated drinks and its sugar component. Since there is no sugar in diet soda drinks, subsequently, it can't deliver acid from this drink alone, however when consumed with high sugar refreshments, it can create acid leading to tooth erosion.<sup>14</sup>

In the present study all the participants (100%) had heard about carbonated beverages which was in accordance with the observations of Rai et al,<sup>13</sup> and Kharde et al, who observed that 98.57% and 100% of the samples were aware of carbonated beverages. Among 236 participants 38.98% were having the knowledge of the caloric value in the carbonated drinks, whereas Kharde et al.,<sup>15</sup> observed that only 5.5% of the participants were aware regarding the caloric value in the carbonated drinks.

In the present study 37.71% of individuals were aware about the ill effects of carbonated drinks, this observation was less in comparison to the findings of Gupta et al.,<sup>16</sup> and Kharde et al.,<sup>15</sup> who noted 54% and 72.7% of their participants having knowledge of ill effects. About 26.27% of the present samples were having the idea of bad effect of carbonated drinks on the teeth, this

finding was less than that of Rai et al., (98.57%)<sup>13</sup> and more than that of Kharde et al (10%).<sup>15</sup>

When asked about attempts to quit the consumption of carbonated drinks, 14.40% were responded positively but in the study by khaparde et al., 37.3% of participants were tried to stop this habit.<sup>15</sup> Seventy nine (33.47%) of the participants were ready to quit the consumption of carbonated drinks which was almost similar to the findings of Rai et al (30.28%).<sup>13</sup> In this study, majority of the population (38.98%) started the consumption of carbonated drinks between the age of 11-15 years this finding was not in accordance with Kharde et al.,<sup>15</sup> who observed that 48% of the samples started drinking of carbonated drinks when they were less than 10 years of age.

Media advertisement was the major influencing factor in the present study (25.84%) where as in the study by Kharde et al,<sup>15</sup> 33 (30%) of participants considered that taste was the main influencing factor.

Majority of this study population (41.52%) consumed 200-350 ml of the drinks, this observation was not consistent with the finding of Rai et al., who noted that 63.42% of population consuming around 100ml of the carbonated drinks. About 72.88% of the participants consuming carbonated drinks twice daily, Gupta et al,<sup>16</sup> noted that majority of their samples (58%) were drinking carbonated drinks twice daily and Rai et al.,<sup>13</sup> observed that 40.85% of the participants were drinking weekly. In this study 52.24% of the individuals were drinking the carbonated drinks directly from bottle/can, this finding was almost similar to Gupta et al (58%).<sup>16</sup>

## LIMITATIONS

The observations of this study can't be completely summed up to the entire populace in the nation since it has been restricted to one province. Additionally, the cross-sectional nature of the study did not permit assurance of causal impacts.

## CONCLUSION AND RECOMMENDATIONS

Understanding the commonness, components and conceivable ramifications of carbonated drink consumption is of general wellbeing significance as it will help in key mediation and administration of the issue. The present research has provided additional information on the soft drink consumption amongst the general population. The utilization of a more institutionalized and validated questionnaire will help in better evaluation of the part of elements and knowledge in soft drink consumption. Nevertheless, the following study recommends that, interventions must be initiated at the school level and at the home. Despite the fact that arbitration are vital at these levels; the social insurance part, government, media and the carbonated drinks industry too need to assume a part.

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