

Awareness on Detrimental Effects of Soft Drinks Consumption among College Students in Tirunelveli District

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Abstract

Soft drinks are fashionable non-alcoholic beverages consumed by college students worldwide. Due to urbanization, dietary habits, changing climate conditions and increasing population will contribute to growth of soft drink industries in the forthcoming years. Regular consumption of such sugar-sweetened beverages in, the long run, leads to weight gain and adverse effects on our cardio metabolic health. This study was carried out to find out the awareness on detrimental effects of soft drink consumption among college students. Survey method was adopted by the investigators to conduct this study. The investigators used simple random sampling technique for selecting the sample. The sample consists of randomly selected 300 college students in Tirunelveli District. The tool used in the study was Detrimental Effects of Soft Drinks Awareness Scale prepared and validated by Maria Saroja, M & Michael Jeya Priya, E. (2019). The statistical technique used for the data analyzing were Mean, SD, 't'- test and χ^2 . The investigators found that i) there is significant difference between male and female, nuclear and joint family in their awareness on the detrimental effects of soft drinks consumption ii) there is no significant difference between rural and urban, social media users and social media non-users in their awareness on the detrimental effects of soft drinks consumption iii) there is no significant association between college students in their awareness on the detrimental effects of soft drinks consumption with reference to the following background variables such as father's educational qualification and mother's educational qualification.

Keywords: Cardio metabolic health, non-alcoholic beverages, dietary habits

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I. INTRODUCTION

In today's world, consuming sparkling beverages has become a trend. Soft drinks are non - alcoholic beverages that made up of carbon dioxide, artificial sweeteners, flavours, colours, acidification agents, chemical preservatives and emulsifiers in addition to other various functional agents (Ashurst, P, 2005). Even though they have serious impact on human health soft drinks are the most consumable drinks worldwide even though they have serious impact on human health. It affects many body systems such as locomotors system, circulatory, gastro intestinal

system, reproductive system and central nervous system (Hamad, M.N.2019). Despite nutritional information being available on soft drink, both the young and old people continue to intake may liters of soft drinks (Grimm et al, 2004; Denney- Wilson et al, 2009). The soft drinks consumption habits of family members increase due to fizzy taste, attractive colours, easy availability in the markets and low price compare to natural drinks and consumption habits of parents and friends (Hattersley et al, 2009). Consumption of acidic foods such as soft drinks in children is the major cause of dental erosion in children (May.J and Waterhouse,

7823

P.2003). According to World Health Organization (WHO) 2015 the intake of free sugars, a single can of sugar – sweetened soda contains about the upper limit of the recommended 25-50 grams per day. The adolescents who consume energy drinks and soft drinks are at unusually high risk of alcohol abuse. (Kassem, N.O, Lee. J.W.2004). The caffeine components present in the soft drinks which triggers the excitation of the reticular systems with in the brain. Excess excitation of the reticular system leads to insomnia, psychomotor agitation and headaches (Wierzejska, R.2012). In younger generation soft drink intake is associated with lower intakes of milk, which is rich in calcium and other nutrients this may increase the risk of several medical problems (Vartanian, L.R., Schwartz, M.B.,& Brownell, K.D.2007). Soft drink – induced demineralization of dental enamel has increased sharply over the last decades and is a major cause of tooth decay in the younger age group (Xavier, R., Sreeramanan, S., Diwakar, A., Sivagnanam, G., & Sethuraman, K.R.2007). The healthy life style of younger generation is probably jeopardized through indiscriminate consumption of soft drinks. The aim of the present study is to know about the awareness on detrimental effects of soft drinks consumption among college students in Tirunelveli Districts.

II. SIGNIFICANCE OF THE STUDY

Soft drink consumption has become a highly visible and controversial public health and public policy issue. Soft drinks are viewed by many countries as a major contributor to obesity related health problems particularly among children. Riesenhuber et al (2006) reported that caffeine in energy drinks promotes natriuresis. It also acts as a diuretic agent, resulting in greater fluid losses. Another study revealed that high intakes of caffeine reduces insulin sensitivity (Bichler A, Swenson A, and Harris MA,2006) and raises the mean arterial blood pressure level of the body a strong biological plausibility supports the relationship. High levels of soft drink consumption have been linked to a range of other ill- health consequences including type 2

diabetes dental caries, metabolic syndrome, and osteoporosis. Adequate consumption of energy dense foods has led to the displacement of essential nutrients from the diet (Grimm, Harnack & Story, 2004). Ashrust (2005) also stated that soft drinks are an essential source of hydration since they are more readily absorbed than water and hence can replace salt energy quickly and are rapid thirst quenching. According to Heshmat (2011), One third of teenagers drink at least three cans of soda a day and on the average adolescents get about 11% of their calories from soft drinks which corresponds to about 15 teaspoons of sugar. Soft drinks are usually made up of natural or artificial sweeteners if the amount of sugar and caffeine represented in these beverages is beyond that of nutritional value of the average intake of human beings and make cause detrimental effect of human health (Clauson et a. 2008). The progressive flobalization of the food supply by the various foreign companies and the increase in food intake, such as packed snacks , carbonated soft drinks and fast food, typically form a significant part of daily life (Xavier, R., Sreeramanan, S., Diwakar, A., Sivagnanam, G., & Sethuraman, K.R.2007). The lack of awareness concerning the ill health cause due to the soft drink consumption among college students. So the present study focuses on the awareness on detrimental effects of soft drinks consumption among college students in Tirunelveli districts.

III. OBJECTIVES OF THE STUDY

- To find out the level of awareness on detrimental effects of soft drinks consumption among college students.
- To find whether there is any significant difference between college students in their awareness on detrimental effects of soft drinks consumption with reference to the following background variables.

(i) Gender (ii) Type of family (iii) Location of College (iv) Social media usage

- To find whether there is any significant association among college students in their awareness on detrimental effects of soft drinks consumption with reference to the following background variables

(i) Father’s educational qualification (ii) Mother’s educational qualification

Hypotheses of the Study

- Awareness on detrimental effects of soft drinks consumption among college students are moderate.
- There is no significant difference between college students in their awareness on detrimental effects of soft drinks consumption with reference to the following background variables

(i) Gender (ii) Type of family (iii) Location of College (iv) Social media usage

- There is no significant association among college students in their awareness on detrimental effects of soft drinks consumption with reference to the following background variables

(i) Father’s Educational Qualification (ii) Mother’s Educational Qualification

Population

The population includes college students of Tirunelveli.

Sample

The investigators used simple random sampling technique and randomly selected 300 college students in Tirunelveli District.

Statistical techniques used in the present study

Detrimental Effects of Soft Drink Consumption Awareness Scale was developed by Maria Saroja, M and Michael Jeya Priya, E (2019) Mean, standard deviation ‘t’ and χ^2 test were the statistical techniques used for carrying out the analysis of data.

Data Analysis and Interpretation

Table.1

Showing the level of awareness on detrimental effects of soft drinks consumption among college students in Tirunelveli District

Variable	Low		Average		High	
	N	%	N	%	N	%
Detrimental effects of soft drinks awareness	59	19.67	153	51.00	8	29.33

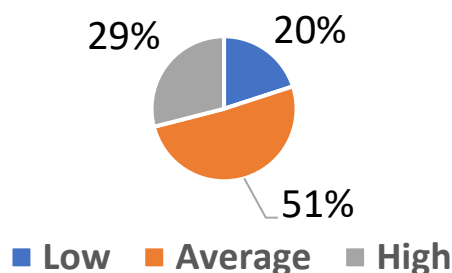


Figure.1. Showing the percentage level of awareness on detrimental effects of soft drinks consumption among college students in Tirunelveli District

Interpretation of table-1

It is revealed from the above table that 19.67% of degree students have low, 51% of them have average and 29.33% of them have high awareness on the detrimental effects of soft drinks consumption among college students.

Table.2

Difference between male and female college students in their awareness on detrimental effects of soft drink consumption

Background variables	Categories	N	Mean	SD	Calculated ‘t’ value	R
Gender	Male	154	35.38	6.83	4.16	S
	Female	146	38.47	6.03		

Interpretation of table – 2

There is significant difference between male and female college students in their awareness on

the detrimental effects of soft drinks consumption. In the present study, the mean of detrimental effects of soft drink consumption awareness scale value of female students (38.47) is greater than of male students (35.38). This may be due to the fact girls are very much aware of the changing life style. They read many books regarding the dietary food habits. They are aware of fake marketing publicities done by the celebrities and other TV artist about the soft drinks. They read the nutritive labels present in the soft drinks bottle and avoid it compared to male students. They prefer natural drinks such as tender coconut, sugarcane juice and fresh fruits and vegetable juice. They participate in various competitions on nutritious food cooking and fireless cooking compared to male students. Due to the quality of time spend by them with their mother's at home help them to increase the interest in natural food materials. This result supported by the study conducted by Kim.K., Jeon E.M., Shim, S.B., & Seo, H.J(2015). In their study. Effects of awareness and knowledge of energy drinks on consumption patterns among college students they showed that there was a significant gender – based difference in awareness of energy drinks – 56.5% (78/139) of the males and 78.9% (71/90) of the females had negative awareness.

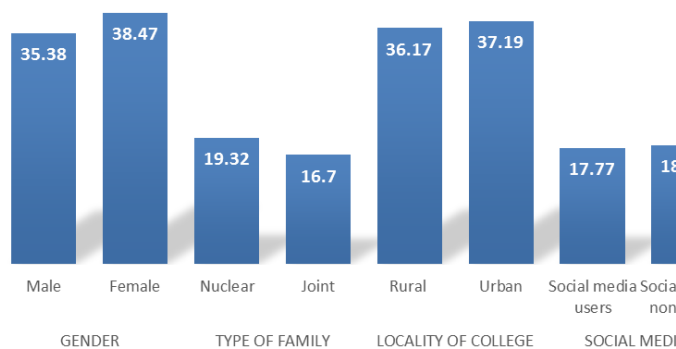


Figure.2. Showing the mean difference in awareness on the detrimental effects of soft drink consumption among college students in Tirunelveli District

Table-3

Difference between nuclear and joint family college students in their awareness on detrimental effects of soft drink consumption.

Background variables	Categories	N	Mean	SD	Calculated 't' value	R
Gender	Male	15	35.3	6.8	4.16	S
	Female	4	8	3		
		14	38.4	6.0		
		6	7	3		

Interpretation of table – 3

There is significant difference between nuclear and joint family college students in their awareness on detrimental effects of soft drinks consumption. In the present study, the mean of detrimental effects of soft drink consumption awareness scale value of joint family students (19.32) is greater than that of nuclear family students (16.70). This may due to the fact that in joint family system grandparents always advice their grand children about the health benefits of local natural drinks. They always advice their ward to avoid foods packed junk foods and beverages. Since they believe that natural drink will help to leads us healthy and happy life compare to artificial sweetened beverages. Their knowledge towards human physiology, homemade medicines and health eating habits always encourage the youngster to avoid unhealthy drinks. Joint family system to members of the family system always use the natural resources available in their local area. In this joint family system the members of the family always teach their wards and grandchildren to prefer natural drinks to overcome many health disorders and always make them to enjoy healthy life. Their knowledge on the homemade medicines train their children to choose health fibre content foods. This result support by the study conducted by Vignesh, G & Kavith, M (2015). In their study on consumer awareness about health hazards in consumption of

soft drinks in Dindigal. They showed that among 200 consumers, 85 (42.5%) of the consumers are belonging to joint family, 115 (57.5%) consumers are belongs to nuclear family. The maximum 115 (5735%) consumers are in the of nuclear family. It shows that maximum nuclear families are utilizing soft drink.

Table-4

Difference between rural and urban college students in their awareness on detrimental effects of soft drink consumption.

Background variables	Categories	N	Mean	SD	Calculated 't' value	R
Types of family	Nuclear	151	16.70	3.66	7.47	S
	Joint	149	19.32	2.28		

Interpretation of table-4

It is inferred from the above table that there is no significant difference between rural and urban college students in their awareness on detrimental effects of soft drink consumption. Hence the null hypothesis is accepted.

Table-5

Difference between social media users and social media non-users college students in their awareness on detrimental effects of soft drink consumption

Background variables	Categories	N	Mean	SD	Calculated 't' value	R
Social media	users	179	18.16	3.24	0.98	NS
	Non-users	121	17.77	3.44		

Interpretation of table-5

It is inferred from the above table that there is no significant difference between social media users and social media non-users college students in their awareness on detrimental effects of soft drink consumption. Hence the null hypothesis is accepted.

Table-6

Association among awareness on Detrimental effects of soft drink consumptions of college students and their father's educational qualification.

Background Variables	Category	Mean	SS	SSw	Calculated 'F' value	Table Value	Remark
Father's Education	Illiterate	18.05	27.64	3266.36	1.26	3.03	NS
	School	17.87					
	Degree	19.75					

(df=2,297)

Interpretation of table-6

It is inferred from the above table that there is no significant association among the awareness on detrimental effects of soft drinks consumption of college students and their father's educational qualification.

Table-7

Association among awareness on detrimental effects of soft drink consumptions of college students and their mother's educational qualification

Background Variables	Category	Mean	SS	SSw	Calculated 'F' value	Table Value	Remark
Mother's	Illiterate	18.01	47.42	3246.58	2.17	3.03	NS

Education	School	17.					
	Degree	19.					
		86					
		92					

(df=2,297)

Interpretation of table – 7

It is inferred from the above table that there is no significant association among the awareness on detrimental effects of soft drinks consumption of college students and their mother’s educational qualification

IV. CONCLUSION

The soft drink consumption has increased dramatically in the past decades with increasing in health problems in human beings. Soft drink is creeping day by day amongst college students without knowing their detrimental effects. Increased inclination to replace traditional meal with the high nutritional and calorie food is the responsible for the inception of major disease especially non – communicable disease in the younger generations. Heavy consumption of soft drinks is one among many risk factors for cancer. The threat of developing weak bones and increased risk for bone fractures becomes greater when milk is replaced by soda, especially cola – containing sodas. Changing life style with the addicted towards trendy culture continuous intake of soft drinks during the puberty stage may be one of the factors for the development of breast cancer, urinary stone disease, obesity, dental health etc. Cultural shift plays a major role in changing food habits. Acculturation plays a key role in attracting college students towards soft drinks. So it’s a time to change over collaboration among policy makers, health practitioners, parents and media will save the soul of a many younger generation from this hazard. Parents and faculty members should highlight the benefits of natural food especially fruits and vegetables to lead a healthy and happy life. The dietetic and other health professionals can arrange the healthful college food

environment by starting healthy canteen and prohibit the sale of low nutrient foods and beverages in the college campus. Nutrition education can be provided to engage college students in extra curricular activities especially in sports help them to get rid of unwanted eating habits and increase the awareness about their physical health.

REFERENCES

1. Andrew Hattersley, A., Jan Bruining, J., Julian Shield, J., Pal Njolstad., & Kim C Donaghue (2009). The diagnosis and management of monogenic diabetes in children and adolescents, *Pediatric Diabetes*, 10,1-2.
2. Anjum, B., Dhanda, S.K., & Nagra, S.(2012). Impact of celebrity endorsed advertisements on consumers, *Asia Pacific Journal of Marketing & Management Review*, I(2), 22-33.
3. Ashrust, P. (2005). *Chemistry and technology of soft drinks and juices* (2nd edn), Blackwell
4. Bidhler, A./, Swenson, & Harris, M.A.(2006). A combination of caffeine and taurine has no effect on short term memory but induces changes in heart rate and mean arterial blood pressure. *Amino Acids*, 31,471 – 476.
5. Clauson, K.A., Shelds, K.M., Mc Queen, C.E., & Persad, N. (2008). Safety issues associated with commercially available energy drinks. *Journal of the American Pharmacists Associations*, 48(3), 55-63.
6. Denny Wilson, E., Okely, A.D., Hady, L., Crawford, D., Dobbins, T. (2009). Influences on consumption of soft drinks and fast foods in adolescents, *Asia Pacific Journal of Clinical Nutrition*, 18(3),447-452.
7. Grimm,GC., Harnack, L., Story, M. (2004). Factors associated with soft drink consumption in school – aged children. *J Am Diet Assoc*, 104, 1244 – 1249.
8. Hamilton , H.A., Boak , A., Ilie, G., & Mann, R.E. (2015). Energy drink consumption and associations with demographic characteristics, drug use and injury among adolescents. *Can J Public Health* [Internet]. 104 (7), 496 -501.
9. [http:// www.ncbi.nlm.nih.gov/ pubmed / 24495828](http://www.ncbi.nlm.nih.gov/pubmed/24495828)

10. Heshmat, S. (2011). Eating behavior and obesity : Behavioral economics strategies for health professionals, springer Publishing Company.
11. Kassem, N.O., J.W.(2004). Understanding soft drink consumption among male adolescents using the theory of planned behaviour. International journal of Behavioral Medicine, 27, 273- 296.
12. Kim, Y.J., Jeon, E. M., Shim, S.B., & Seo, H.J.(2015). Effects of awareness and knowledge of energy drinks on consumption patterns among college students. Korean Journal of Health Promotion, 15(1), 31-38.
13. May, J., & Waterhouse, P.(2003). Dental erosion and soft drinks : A qualitative assessment of knowledge, attitude and behaviour using focus groups of school children. A preliminary study. International Journal of Paediatric Dentistry, 13, 425 – 433.
13. Riesenhuber, A., Boehm, M., Posch, M., & Aufricht, C.(2006). Diuretic Potential of energy drinks. Amino Acids, 31, 81-83.
14. Vartanian, L.R., Schwartz, M.B., Brownell, K.D.(2007). Effects of soft drink consumption on nutrition and health : A systematic review and meta – analysis. Am J Public Health, 97, 667 – 675.
15. Vignesh, G., & Kavitha, M.(2015). A study on consumer awareness about health hazards in consumption of soft drinks in Dindigal. Intercontinental Journal of Marketing Research Review, 3(2), 74 – 83.
16. Wierzejska,R.(2012). Caffeine – common ingredient in a diet and its influence on human health.63, 141 -147.
17. Xavier, R., Sreeramanan,S., Diwakar,A., Sivagnanam,G.& Sethuraman, K.R.(2007). Soft drinks and hard facts : A health perspective. Assessment of Knowledge, Dietary Habits and Nutritional Status among Mansoura Universtiy Students. ASEAN Food Journal, 14(2), 69-81.