

Harmful Effects of Soft Drinks on Human Health

Faiza Ashraf^{1*} and Komal Saeed²

¹Department of Sociology, University of Management & Technology, Lahore, Pakistan

²Government College Women University, Sialkot, Pakistan

Abstract

The current study is intended to examine the Harmful effects of soft drinks on human health. Soft drink has become a highly noticeable as well as scorching public health issue especially in under developing countries such as Pakistan, India. So the examination is required by the way that the excessive use of soft drinks in daily life means large no of disease such as Obesity, Diabetes, body weight, heart disease, stomach problem, infertility, bone health, teeth disorders among children and aged persons. There is no nutritional ingredients include in soft drinks, only detrimental ingredients. Soft drinks are full of sugar, a large amount of caffeine included in soft drinks and they fill the stomach and take the place of good nutrients. In this paper we also checked the effect of the soft drinks on health of the people, and check that which soft drink is most appropriate for the health of the people. Mostly people drinks soft drink for refreshment and less number of people drink the soft drink for taste etc. The methodology adopted for this study is quantitative. In this study, the association between soft drinks and human health is examined. The survey research method using questionnaire is implemented for the data collection and analyzed using statistical package for social sciences (SPSS). Data were analyzed quantitatively. A sample of 100 people was taken from retail stores in convenience stores Restaurants, whole sale shops. Because the use of soft drinks is increasing day by day there is an interest how it influences on public health. Convenient sampling technique was used to collect the data. The association between soft drinks and human health was checked by using Chi-square test.

Keywords: Obesity; Human health; Soft drinks; Body weight, Heart disease; Teeth disorder

Introduction

Soft drinks are a part of our life wherever we go soft drinks available. Soft drinks have many health problems. Soft drinks has far more serious health issues are turned into many type of diseases such as Obesity, Diabetes, body weight, heart disease, stomach problem, cancer, liver damage, infertility, bone health, teeth disorders among children and aged persons. mainly, soft drink created many problems in today's children and youngsters lives due to these diseases like, sugar, kidney failures, Metabolism level decreases, Obesity, bone damage and reproduction problems but a recent study showed that these soft drinks affects our brain functions. It also affects the whole body system of all ages of people. Especially it affects the women menstrual circle system, reproductive system, circulatory system, diabetes; simply it affects all the body structures. A menstrual cycle that's too long (35 days or more) is the main cause of Infertility in women because of soda drinks and junk food. Numerous studies have shown the negative health effects of drinking soda on your waist line and your teeth [1].

Mosab Nouraldein Mohammed Hamad (2019) conducted a study on Harmful Effects of Soft Drinks. He said soft drink and its effects on human health is the most visible and important issue for discussion in today's world. Media have directly affected the Youth and children. Media has become one of the trendiest sources of communication. He also claimed that Extensive and attractive use of advertisements of different soft drinks brands and inadequate awareness toward its hazardous effects on community health. He said people faced Renal and heart diseases and dental problems represent a larger population. Because of low income, More than 70% people of Sudanese cannot afford their treatment in well-established hospitals with well-equipped laboratories and modern radiological diagnostic methods which is usually not in all districts of the country. We need policy implementation for all type of soft drink brands. Because of strong policy implementation we will save the soul of a lot of children, young and elder people from being dead by excessive drinking those harmful

slow killer drinks Sudanese local natural drinks are very healthy, cheap and easy to obtain in contrast to soft drinks which are costly and harmful [2].

Large amounts of sugar, artificial sweetener, and food colors in soft drinks are turned into obesity and increase chances of diabetes. Soft drinks have a higher risk of cancer disease and liver damage problem. Overall, in soft drinks the sugar content is high which a problem towards diabetes is. The biggest issue with soft drinks is that each one includes some type of acid that is bad for our stomach and teeth [3]. Recently Punjab Food Authority is banning of the soft drink in educational institutions of Pakistan. It is a universally approved fact that soft drinks are extremely harmful for every person; especially children of growing age. The Punjab Food Authority took the action to ban the drinks because it claims that "carbonated drinks are injurious to health, affecting the physical growth of children". Sindh Institute of Urology and Transplantation (SIUT) Civil Hospital, Head Dr Adeeb Rizvi suggested that "instead of soft drinks, it is better to use fresh juices because fizzy drinks can be a cause of some health hazards including, diarrhea, gastroenteritis, dehydration, renal problems and even cancer" [4].

"The Punjab Food Authority's recent move to ban the sale of carbonated beverages in and around schools should be welcomed. Fizzy drinks have a magnetic effect on youngsters who are attracted to their sugary flavors and neon colors [5]. However, the effects these drinks have on young bodies can be highly negative. In fact, some countries,

***Corresponding author:** Faiza Ashraf, Department of Sociology, University of Management & Technology, Lahore, Pakistan, Tel: 03054266474; E-mail: jheomdus@gmail.com

Received July 27, 2021; **Accepted** August 23, 2021; **Published** August 30, 2021

Citation: Ashraf F and Saeed K (2021) Harmful Effects of Soft Drinks on Human Health. *Occup Med Health Aff* 9:365.

Copyright: © 2021 Ashraf F, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

on the advice of experts, have considered slapping a ‘fat tax’ on sugary drinks as a way to fight high obesity rates. Justifying its decision, the PFA took the action as it says “carbonated drinks [are] ... Injurious to health, affecting (the) physical growth of children” (Dawn news report 2017 banning cold drinks) Table 1 [6].

Objective of the study

To investigated association between soft drinks and human health.

Research question

What is the relationship between soft drinks and human health?

Research methodology

The Methodology (depending upon the nature of the study) adopted for this study is Quantitative.

Purpose of the study

In this paper we also checked the effect of the soft drinks on health of the people, and check that which soft drink is most appropriate for the health of the people. Mostly people drinks soft drink for refreshment and less number of people drink the soft drink for taste etc. We are considering the canned juice, fruit juice, coke and sprite etc. we are not considering water and alcoholic drinks [7].

Target population

All type of restaurant, soft drink shops, and retail stores.

Sampled population

Soft drinks samples were purchased from retail stores in convenience stores Restaurants, whole sale markets.

Sample size

A sample of 100 people was taken from different people in Sialkot.

Sampling technique

Convenient sampling technique is used to choose the respondent’s.

Statistical methods

There are two type of methods are used in this paper.

1. Descriptive statistics
2. Chi-square test

Research instruments

The self-administered and well-developed questionnaire was used as e method of inquiry from the respondents.

Data analysis: Data analysis is presented in Table 2 and Figure 1.

Results

From the above table and charts we can observe that 36% people choose coke as a soft drink and 58% people chooses the fruit juice as a soft drink and 6% people specifies other soft drinks, 27% people consume soft drink more than one day and 47% people consume soft drink few times a week and 24% people consume soft drink only on special occasions and 2% people never consume soft drink, 49% people agree with the health concern of consuming too much soft drinks, 27% people strongly agree with the health concern of consuming too much soft drinks, 21% people disagree with the health concern of consuming too much soft drinks and 3% people strongly disagree with the health concern of consuming too much soft drinks, 27% people prefer the caffeine and 13% people prefer the ginseng and 56% people prefer the sugar and 4% people prefer other ingredients. 59% people purchase from convenience stores and 25% people purchase from the restaurants and 10% people purchase from the clubs and 6% people purchase from other places.64% people prefer commercials and 20% people prefer the web advertising and 10% people prefer the print advertising and 6% people prefer the other specify advertising for the most effective advertising. 36% people choose for the taste and 12% people choose for the health and 6% people choose for the price and 46% people choose soft drink for at any occasion for refreshment. 38% people choose the fruit juice and 19% people choose the sprite and 36% people choose for the cola and 6% people choose the tea or coffee and 1% people specify other in club and pub. 69% people are satisfied and 23% people are strongly satisfied and 7% people are unsatisfied and 1% people are unsatisfied with their soft drinks, 64% people are agree and 17% people are strongly agree and 17% people are not agree and 2% people are strongly disagree that think the packaging affects the ingredients of soft drink products. 63% people are agree and 23% are strongly agree and 10% are not agree and 4% people are strongly disagree to read the ingredients list on the back of the soft drinks. 27% people are extremely health conscious and 28% people are very health conscious and 29% people are somewhat health conscious and 16% people are not at all health conscious. 52% people are agree and 11% people are strongly agree and 32% people are not agree for this and 5% people are strongly disagree to think so called diet drinks are healthier than the usual soft drink. 70% people are agreed and 24% people are strongly agreed and 5% people are disagreeing and 1% people are strongly disagreeing. 20% people are drink for taste and 2% people are drink for caffeine and 75% people are drink for refreshment and 3% people say that I do not think as.

Chi-Square testing

The Chi-square test of independence also known as the pearson Chi- Square test, or simply the Chi-Square) is one of the most useful

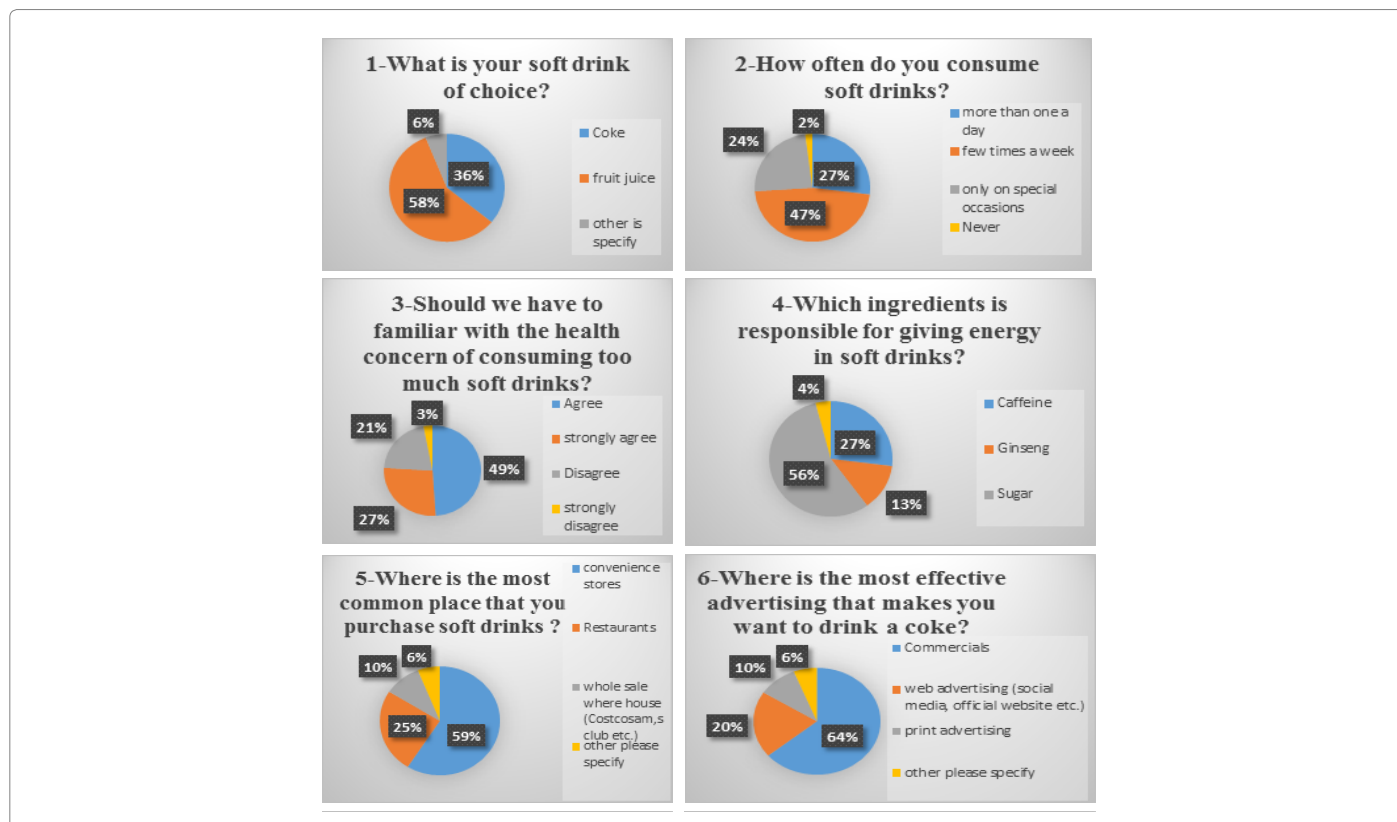
Soda/juice	Pesticide percentage
Nestle juice	7.20%
Coke	9.40%
7up	12.50%
Mirinda bottle	20.70%
Pepsi	10.90%
Sprite	5.30%
Frooti	24.50%
Maza juice	19.30%
Fanta	29.10%

Table 1: Pesticide Percentage in cold drinks released from Pakistan Medical association recently.

	Frequency	Mean	Minimum	Maximum	Std.deviation
1-What is your soft drink of choice?					
Coke	36	1.76	1	4	0.74
fruit juice	58				
other is specify	6				
Total	100				
2-How often do you consume soft drinks?					
more than one a day	27	2.01	1	4	0.772
few times a week	47				
only on special occasions	24				
Never	2				
Total	100				
3-Should we have to familiar with the health concern of consuming too much soft drink?					
Agree	49	1.78	1	4	0.883
strongly agree	27				
Disagree	21				
strongly disagree	3				
Total	100				
4-Which ingredients are responsible for giving energy in soft drinks?					
Caffeine	27	2.37	1	4	0.928
Ginseng	13				
Sugar	56				
other please specify	4				
Total	100				
5-Where is the most common place that you purchase soft drink?					
convenience stores	59	1.63	1	4	0.895
Restaurants	25				
whole sale where house (Costcosam,s club etc.)	10				
other please specify	6				
Total	100				
6-Where is the most effective advertising that makes you want to drink a coke?					
Commercials	64	1.58	1	4	0.901
web advertising (social media, official website etc.)	20				
print advertising	10				
other please specify	6				
Total	100				
7-When choosing a soft drink at any occasion your main consideration is ?					
Taste	36	2.62	1	4	1.376
Health	12				
Price	6				
Refreshment	46				
Total	100				
8-Which drink do you usually choose in a club or a pub?					
fruit juice(any variety)	38	2.13	1	4	1.031
Sprite	19				
Cola	36				
tea or coffee	6				
other please specify	1				
Total	100				
9-How satisfied are you with your choices of soft drink?					
Satisfied	69	1.4	1	4	0.667
strongly satisfied	23				
Unsatisfied	7				
strongly unsatisfied	1				
Total	100				
10-Do you think that the packaging affects the ingredients of soft drink products?					
Agree	64	1.57	1	4	0.844
strongly agree	17				
Disagree	17				
strongly disagree	2				
Total	100				
11-You have to read the ingredients list on the back of the soft drink?					

Agree	63	1.55	1	4	0.833
strongly agree	23				
Disagree	10				
strongly disagree	4				
Total	100				
12-How health conscious are you?					
Extremely	27	2.34	1	4	1.047
Very	28				
some what	29				
not at all	16				
Total	100				
13-You think so called diet soft drinks are healthier than the usual soft drink?					
Agree	52	1.9	1	4	1.02
strongly agree	11				
Disagree	32				
strongly disagree	5				
Total	100				
14-Are you happy with your choices of soft drink?					
Agree	70	1.37	1	4	0.63
strongly agree	24				
Disagree	5				
strongly disagree	1				
Total	100				
15-why do you drink soft drink?					
Taste	20	2.61	1	4	0.84
Caffeine	2				
Refreshment	75				
I do not drink	3				
Total	100				

Table 2: We can observe that the table has representing people's choice of the drinks.



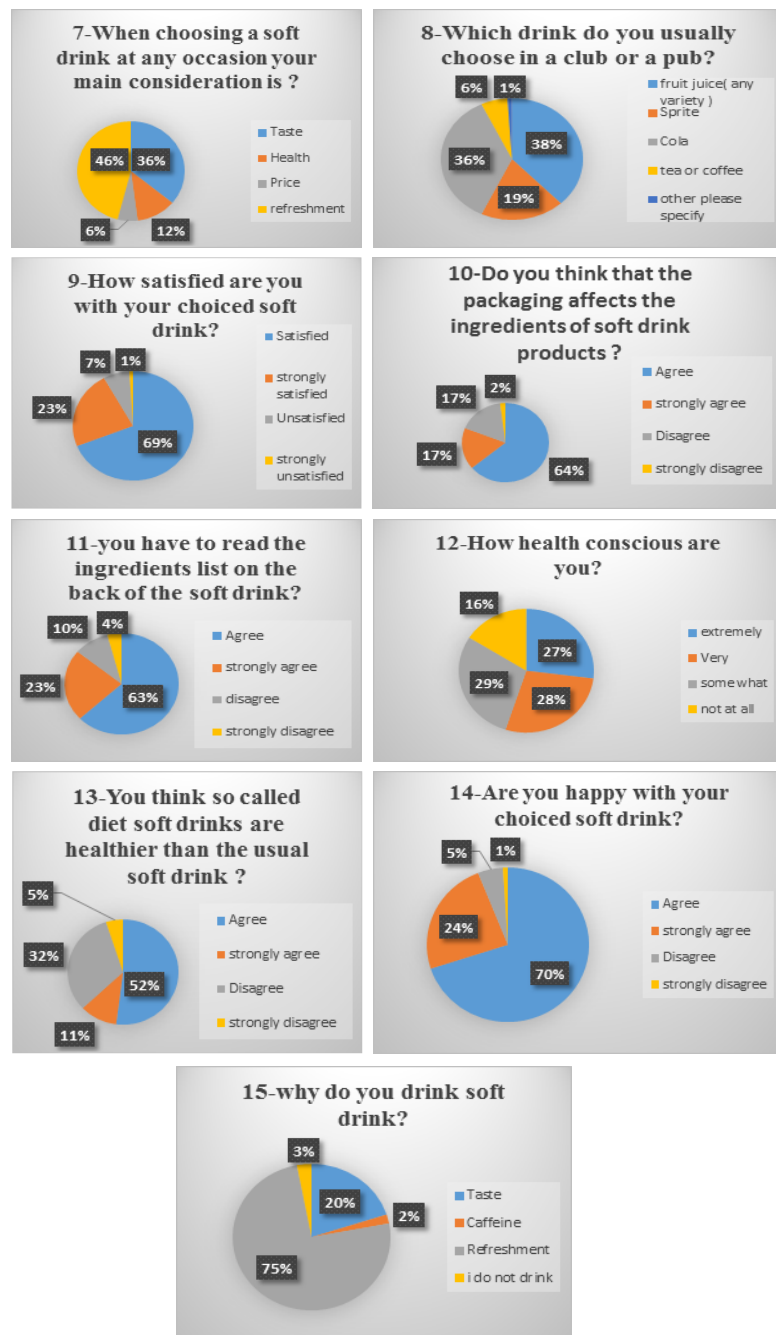


Figure 1: Statistical methods and data analysis is presented in the figure.

statistics for testing hypothesis when the variables are nominal or ordinal. The Chi-square statistics is testing relationship between categorical variables. The null hypothesis of the chi-Square test is that no relationship exists between the categorical variables in the population; they are independent.

The formula for calculating a chi-square is where: O observed value.

E expected value

Hypothesis and testing:

Hypothesis#1

Null Hypothesis:

There is no association between choices of soft drinks and why do you drink soft drinks.

Alternative Hypothesis:

There is association between choices of soft drinks and why do you drink soft drinks (Table 3).

Level of Significant:

$\alpha = 0.05$

Test Statistic:

χ^2 -Test is used.

$$\chi^2 = \sum \left(\frac{(o_i - e_i)^2}{e_i} \right) \text{ where } \chi^2 \sim \chi^2_{(r-1)(c-1)}$$

Interpretation

From the provided evidence all the p-value is less than α so we reject H_0 . And only one p-value is greater than α so we do 'not reject H_0 . We conclude that there is association between all the questions but only one question that has no association.

Conclusion

Everything has two aspects positive or negative. Soft drinks have also positive effects as well as negative effects on health. The most important thing in every person's life is to live a healthy and happy life. The excessive use of soft drinks in daily life not only destroys physical health but also produces dangerous disease such as cancer, liver damage, kidney fail, obesity etc. on the other hand some mafia like fake brands companies are playing with human health and they sale fake soft drinks in markets and people have no idea that how dangerous these fake soft drinks for human health. Punjab Food Authority is also playing a very important role in stopping this fake mafia that is playing with human lives. But we also need to be vigilant to care for ourselves from these toxic drinks. We can do this by knowing how to detect these drinks. There are some features that these fake drinks have in common. From our study we observe that mostly people prefer the fruit juice as a soft drink. Only few people prefer the cold drinks as a soft drink. More people consumes the soft drink drinks more than in a week People drinks the soft drinks for refreshment, for taste, for health and some

for price. People are satisfied with their soft drink. People choose coke, Pepsi, and sprite and fruit juice as a soft drink pubs and clubs. Most people purchase their soft drinks from retailer stores and restaurants. From the hypothesis testing we conclude that, no relationship between the choice of soft drink and why we drink soft drink. From our whole study we observed that people drinks the fruit juice as compare to cold drinks. These sodas are produced using synthetic concoctions that are very hazardous for wellbeing. They contain unfiltered water, modern colors to give shading and other exceptionally unsafe synthetic compounds for human wellbeing. To stop theses monsters that are playing with human health the need is to take some serious steps from the government of Pakistan. Government of Pakistan should impose ban on fake soft drinks that are bad for human health. Educate people about the heavy soda drinks.

References

1. Bray GA (2010) Soft drink consumption and obesity: it is all about fructose. *Current opinion in lipidology* 21: 51-57.
2. Nouraldein M, Hamad M (2019) Harmful Effects of Soft Drinks.
3. Hu FB, Malik VS (2010) Sugar-sweetened beverages and risk of obesity and type 2 diabetes: epidemiologic evidence. *Physio Beha* 1001: 47-54.
4. Ibrar A, Jaffery SS, Muniba F, Abdullah W, Ans AH (2018) Sugar Beverages and Dietary Sodas Impact on Brain Health: A Mini Literature Review. *Cureus* 10.
5. Malik VS, Popkin BM, Bray GA, Després JP, Hu FB (2010) Sugar-sweetened beverages, obesity, type 2 diabetes mellitus, and cardiovascular disease risk. *Circulation* 121: 1356-1364.
6. Vartanian ILR, Schwartz MB, Brownell KD (2007) Effects of Soft Drink Consumption on Nutrition and Health: A Systematic Review and Meta-Analysis. *Am J Pub Health* 4: 667-676.
7. www.eldoradodental.com/soft-drinks-and-oral-health/