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Attentiveness regarding injurious effects of excess intake of Fizzy drinks (Diet drinks can lead to Alzheimer's disease & Dementia)

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ABSTRACT

Objective: The main objective of our survey was to aware people about diet drinks which they take for the purpose of decreasing weight which can severely damage brain & lead to Alzheimer's. **Methodology:** We took a small survey in which we ask peoples about different questions related to their daily intake of fizzy drinks. We took 100 people in which some of them were male but most of them were females and asked some questions regarding Alzheimer's disease & the amount of their daily intake of fizzy drinks. **Results:** Our major task was also to aware people about the Alzheimer's disease, its symptomatic treatment & risk factors that can cause dementia. We aware them about the amount of artificial sweetener present in the fizzy drinks and the hazardous effect of it towards our brain. We also aware them about the addition of artificial sweeteners [Aspartame] in the diet fizzy drinks that can lead to further diseases like diabetes, liver damage & heart diseases etc. **Conclusion:** Study reveals that the awareness alone cannot influence the attitude of people, but there must be some strategies or reinforcement are needed to improve the daily diet of peoples.

Key words: fizzy drinks, Alzheimer's disease, Dementia, Awareness, Survey

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INTRODUCTION

Alzheimer is a neurological disorder in which death of brain cells occur through which it effects person's ability to memorize or to think and behave. After the death of brain cell in its outer layer known as cortex it causes the shrinkage of cortex which causes the enlargement of brain spaces. As the hippocampus also included in cortex so the shrinkage of cortex in Alzheimer effect the memory, language & intelligence and judgment behavior of a person. [1] In 1906, Dr. Alois Alzheimer found the shrinkage in & around the nerve cells of the brain in one of his patients suffering from memory loss and behavioral changes. [2] It occurs in brain after the formation of plaque having beta amyloid. [3] Its symptoms often mistaken by normally aging & the condition becomes worsens such that it interfere in our daily routine. Headache, insomnia can also be included in its symptoms. It is a form of Dementia [memory loss] having no proper treatment but the severity of this condition can be slower by treating its symptoms & by maintaining proper diet & daily exercise. [4] Over the past 100 years the number of Alzheimer's patients have being increasing. Many studies had been occurred to find out the causes of alarming increase in the cases of Alzheimer's in which most of the studies shows that it can be due to increase in uptake of fizzy drinks. They claim that fizzy drinks contain an ingredient like Aspartame [which can cause behavioral & neurological disturbance] and other artificial sweeteners which usually constricts blood vessels causing dementia. [5] [8] Aspartame consists of its breakdown products that are phenylalanine, diketopiperazine [a carcinogen], methanol & aspartic acid in which phenylalanine causes severe alteration in the production of neurotransmitters as it can cross the blood brain barrier, while aspartic acid act as an excitatory neurotransmitter in CNS and methanol is converted into formate which give rise to diketopiperazine, formaldehyde and highly toxin derivative or it can either be excreted out from the body. [6][9]Peoples who drink fizzy drinks everyday are 2.89 times most likely to develop Alzheimer's diseases than those who avoid it. [7][10]

METHODOLOGY

We took a small survey in which we ask peoples about different questions related to their daily intake of fizzy drinks & about their daily routine to memorize or to remember things, events etc. We took 100 people in which some of them were male but most of them were females and asked some questions regarding Alzheimer's disease & the amount of their daily intake of fizzy drinks.

Following are the list of some questions which we asked from the people during our survey:

1) How often do you consume fizzy drinks?
2) Do you know fizzy drinks contains artificial sweeteners(aspartame])including diet fizzy drinks who claims of no sugar?
3) Do you know that a normal fizzy drinks contains about 39g of sugar?
4) Do you know that regular intake of fizzy drinks can leads to diabetes, aging, liver damage & heart disease?
5) Do you know that Alzheimer can also cause due to hypertension, diabetes & depression?
6) Do you know that Alzheimer can lead to epilepsy & insomnia?
7) Alzheimer can also cause by over dosage of CNS related medicines. Do you take such medicines?
8) Do you know that the cure of Alzheimer is still not discovered & its treatment only slower its worsening conditions?

By asking above mention questions we aware people about the severity of the disease and the factors that can lead to Alzheimer's. We ask people about their consumption of fizzy drinks and aware them about the amount of artificial sweetener present in the fizzy drinks and the hazardous effect of it towards our brain. We also aware them about the addition of artificial sweeteners [Aspartame] in the diet fizzy drinks that can lead to further diseases like diabetes, liver damage & heart diseases etc.

RESULTS AND DISCUSSION

Total of 100 participants in which 69 were females and 31 were males, they responded on the awareness survey form, maximum study respondents were females and in the age group of 16-25. The results have been shown in the graphical presentation of observation column. The general purpose of this survey was to provide awareness regarding Alzheimer disease and dementia. As during the study, it was found that awareness among the participants regarded Alzheimer was 57% while 34% are unaware about this, we found that about 49% of the respondents consume fizzy drinks on monthly basis whereas 28% consume it on weekly and 10% on daily basis, 13% of the responded participants never consume fizzy drinks in their lives yet, about 80% of the respondents know that Alzheimer disease has no cure and its treatment are only to slow its worsening effects. The results of our survey showed that most of the people were aware of all the risk factors fizzy drinks can lead to and more than 40% people know that all of the risk factors are due to the high or regular intake of fizzy drinks.

It was observed that when participants were giving their answer, frequency of positive responses were higher in age group of 16-25, about 28% of the participants were facing symptoms of forgetting things after putting them on to their places. Hence the awareness given to 100 peoples which were the main purpose of this survey. Level of awareness regarding to the Alzheimer disease was high about 57% of responded participants. Fizzy drinks leads to Alzheimer and dementia in such a way that these drinks contain a specific ingredient or artificial sweeteners which are affecting the brain vessels causing constriction of vessels and disturbances in the memory and other functions of the brain and behavioral changes, the reason behind these memory loss and Alzheimer are under study and 1 cause is the high intake of fizzy drinks on daily basis although Alzheimer disease has no cure but its symptoms can be reduced by preventing the high intake of fizzy drinks and by maintaining proper diet and daily exercise.

Table 1: Gender and age description during survey

CHARACTERSTICS		**PERCENTAGE [%]**
GENDER	MALE	31.0%
	FEMALE	69.0%
AGE [YEARS]	Below 15	2.0%
	16 – 25	67.0%
	26 – 35	25.0%
	36 – 49	4.0%
	50 onwards	2.0%

We took 100 participants in which 31 were male and 69 were female. We took subjects of different age groups and the count is mentioned above. The major age group of our study was of 16 to 25 years. We then calculated the rate of consumption of fizzy drinks on the basis of gender and age group there is more quantity of females of different age groups consuming fizzy drinks on monthly basis.

CONCLUSION

The study showed that though there was a quite high awareness about Alzheimer disease among people and this awareness will increase significant knowledge about different diseases and their risk factors and causes by the intake of fizzy drinks, the study showed that the awareness alone cannot influence the attitude of people, but there should be some strategies or reinforcement are needed to improve the daily diet of peoples.

Table 2: Rate of consumption of fizzy drinks on the basis of gender and age group.

AGE	**DAILY**		**WEEKLY**		**MONTHLY**		**NEVER**	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Below 15	-	-	-	-	-	2.0%	-	-
16 – 25	1.0%	3.0%	8.0%	12.0%	7.0%	26.0%	-	9.0%
26 – 35	2.0%	-	3.0%	5.0%	5.0%	6.0%	1.0%	1.0%
36 – 49	-	-	-	-	-	1.0%	-	1.0%
50 or above	-	-	-	-	1.0%	-	-	1.0%

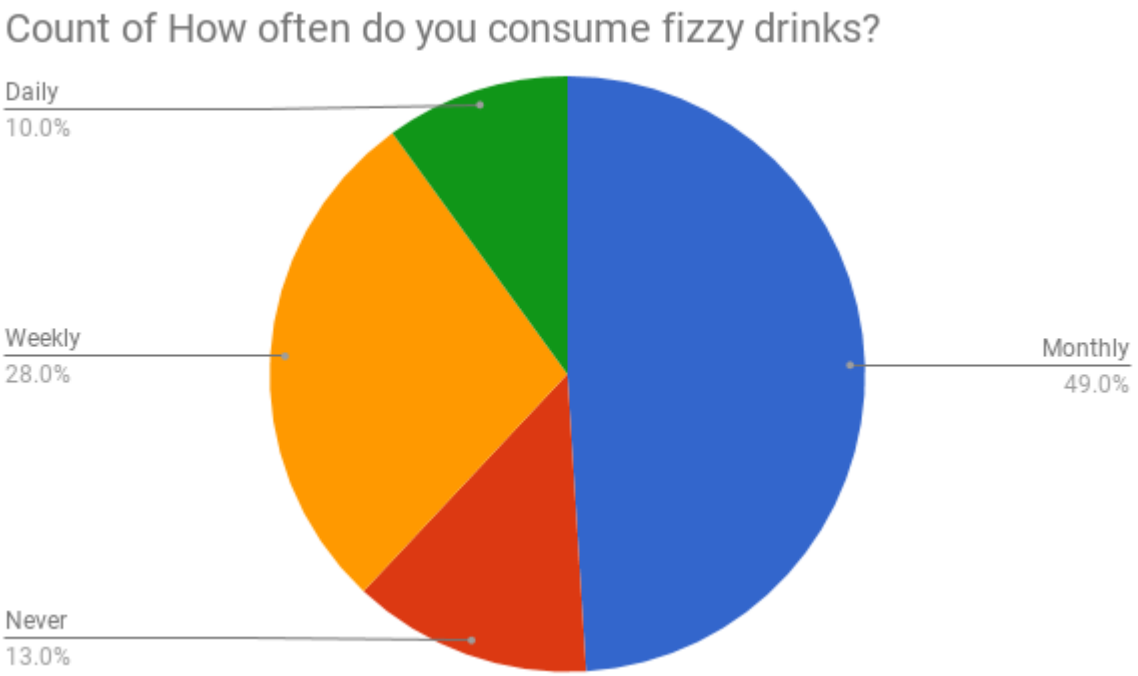

Figure 1: Percentages of People consume fizzy drinks

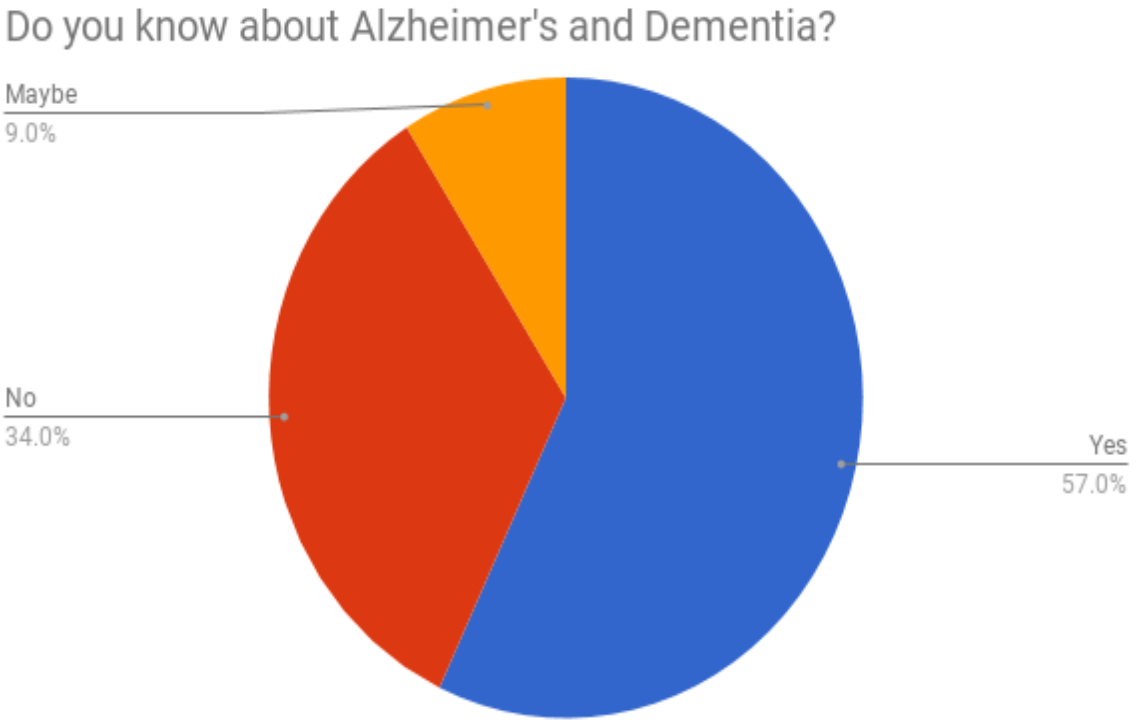

Figure 2: Awareness about Alzeihmer's and Dementia

Figure 3: Awareness about the risk factors leads by fizzy drinks intake

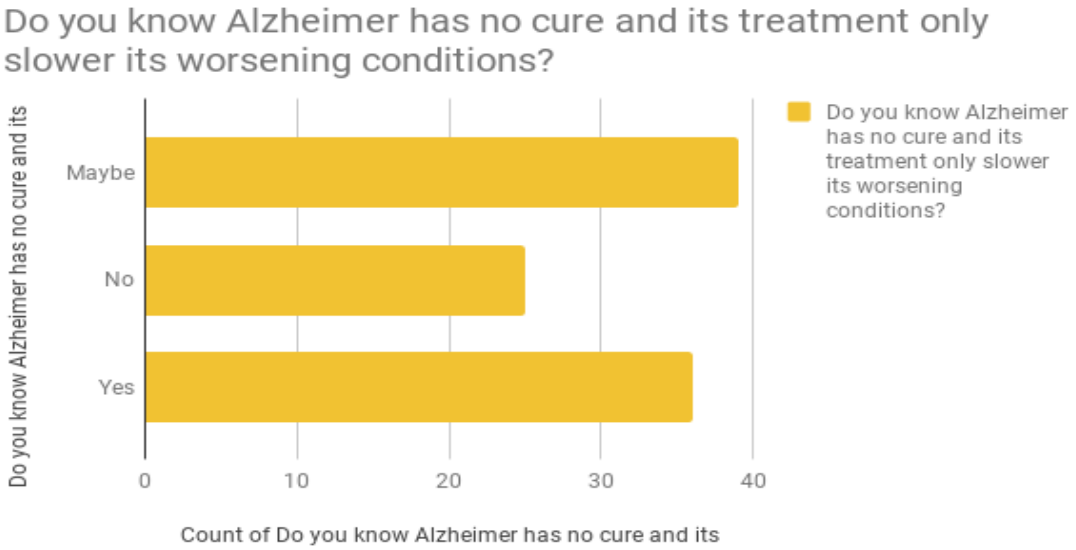

Figure 4: Awareness related to no cure of Alzheimer's disease

REFERENCES

1. Burns A, Iliffe S. Alzheimer's disease. BMJ. British medical journal [International ed.]. 2009;338[7692]:467-71.
2. Alzheimer A. On a peculiar disease of the cerebral cortex. Centralblatt für Nervenheilkunde Psychiatrie. 1907;30[1]:177-9.
3. Gauthier S, Scheltens P, Cummings J, editors. Alzheimer's Disease and Related Disorders. CRC Press; Sep 22. 2005 .
4. Li Z, Xiong Z, Manor LC, Cao H, Li T. Integrative computational evaluation of genetic markers for Alzheimer's disease. Saudi journal of biological sciences. 2018 Jul 1;25[5]:996-1002.
5. Humphries P, Pretorius E, Naude H. Direct and indirect cellular effects of aspartame on the brain. European journal of clinical nutrition. 2008 Apr;62[4]:451.
6. Centers for Disease Control [CDC. Evaluation of consumer complaints related to aspartame use. MMWR. Morbidity and mortality weekly report. 1984 Nov 2;33[43]:605.
7. Dean C. Everything Alzheimer's Book. Everything Books; Jul 122004
8. Hardy JA, Higgins GA. Alzheimer's disease: the amyloid cascade hypothesis. Science. 1992 Apr 10;256[5054]:184-6
9. Selkoe DJ. Alzheimer's disease is a synaptic failure. Science. 2002 Oct 25;298[5594]:789-91.
10. Nowak M, Pieczynski C, Colbert A, Atlas B. The Burden of Alzheimer's Disease. Avalere Health. Aug.2008.