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HEALTH DRINKS CONSUMPTION PATTERN OF DIABETES PEOPLE IN MADURAI DISTRICT

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Abstract

In the Stone Age period, people invented fire and used it for cooking food. Before that, they consumed raw vegetables, fruits, seeds, and animal flesh. They used mud pot utensils for cooking. With the progression of civilization, they began using stoves and aluminium utensils. After some time, gas stoves were invented, followed by induction stoves. Pressure cookers and certain plastic-based cooking appliances, such as microwave ovens, were also adopted.

Apart from cooking food at home, people started purchasing food from hotels and fast-food outlets. Chinese food items also became popular. Changes in food habits, cooking styles, and cooking utensils have impacted people's health. Excessive intake of protein, carbohydrates, artificial flavoring agents, food coloring, and aroma-enhancing substances has led to life-threatening diseases.

Among these diseases, diabetes is a major concern, affecting around 60% of the population in India. To regulate blood sugar levels, diabetic individuals avoid sweets, confectionery, and carbohydrate-rich vegetables. Proper medication, a controlled diet, and regular exercise are essential for managing diabetes. Tiredness and hunger are the two main challenges faced by diabetic patients.

Recognizing this, many food industries have taken steps to cater to diabetic individuals. The market for health drinks targeting diabetic consumers generates an annual turnover of Rs. 1.2 crores in India.

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Keywords: Diabetes, Carbohydrates

1. Introduction

Good health is a universal aspiration, as emphasized by the proverb "Health is Wealth." In earlier times, people lived in harmony with nature, consuming nutritious food and engaging in physically demanding activities. However, societal, cultural, and technological transformations have significantly altered food habits and lifestyles. The preference for hotel dining, fast food, and ready-to-eat products has become widespread, contributing to an imbalance in nutrition.

Similarly, technological advancements have led to the invention of numerous machines designed to reduce human effort. Devices such as two-wheelers, mixers, grinders, and washing machines have minimized physical labor and saved time. However, this shift has disrupted the balance between calorie intake and energy expenditure, leading to a rise in lifestyle diseases such as cholesterol issues, high blood pressure, heart disease, and diabetes. Irregular eating patterns, chronic stress, and a sedentary lifestyle are key contributors to these health concerns.

This study focuses on individuals affected by diabetes, a condition that has become increasingly prevalent. Research suggests that diabetes is not merely a disease but a metabolic disorder caused by the insufficient secretion of insulin in the body. If left untreated, it can lead to severe health complications. Managing diabetes requires a combination of

proper diet and medication. Studies highlight that excessive carbohydrate consumption is harmful to diabetic individuals.

Historically, diabetes was considered a condition affecting the wealthy. However, in recent decades, it has become common among people of all socioeconomic backgrounds, including newborns. Early symptoms of diabetes include excessive thirst, hunger, fatigue, and frequent urination.

Rajan (2015) reported that in India, 48.72% of people suffer from Type I diabetes, while 33.62% are affected by Type II diabetes. To manage the condition, people turn to Ayurvedic, Unani, Allopathy, and Homeopathy treatments, all of which aim to regulate insulin secretion.

According to Devi and Sukumari (2018), there has been a significant increase in the number of patients opting for Siddha medicine to manage diabetes. As Siddha treatments have minimal side effects, they are gaining popularity. However, challenges remain, including limited availability of Siddha hospitals and inadequate access to Siddha medicines. Another concern is misleading hospital advertisements that fail to provide accurate information about available facilities.

Kanan (2020) emphasized that walking is one of the most effective natural remedies for diabetes. Stress levels also play a crucial role in overall health, as conditions like hypertension, frustration, and anxiety contribute to ailments such as headaches, body pain, and heart disease. Adopting stress management techniques and coping strategies can help mitigate these issues. Many individuals incorporate laughter therapy into their daily walks as a means of enhancing mental and physical well-being.

This study aims to explore the impact of lifestyle changes on diabetes and examine effective strategies for managing the condition through diet, medicine, and physical activity.

2. Significance of the study

Diabetes has become one of the most common diseases in recent times. On one hand, pharmaceutical companies have developed various medications to manage the condition, while on the other, the food industry has introduced health drinks specifically formulated for diabetic patients. These health drinks are made using pulses, grams, and cereals as key ingredients, ensuring a low carbohydrate content to suit diabetic dietary needs.

To combat fatigue and boost energy levels, many individuals consume these health drinks. While some do so based on medical advice from doctors, others rely on recommendations from neighbors or peers. Given the growing popularity of these products, this study aims to analyze the consumption patterns of diabetic health drinks in the Madurai district.

3 Scope of the study

The present study focuses on the socio-economic profile of the respondents and their usage patterns of health drinks. However, it does not examine the history of health drink companies, their strategic approaches, or their financial performance. Instead, the study primarily analyzes the impact of health drink consumption among diabetic patients.

4 Research Objective

The objectives of the study are as follows:

- To analyze the socio-economic profile of the respondents.
- To identify the sources of awareness regarding the consumption of health drinks for diabetes.
- To examine the impact of health drink consumption among diabetic patients.
- To provide suggestions and recommendations based on the study's findings.

5 Research Methodology

The present study is descriptive in nature. The primary data has been gathered from 250 respondents who are taking medicine for diabetes. A well-structured questionnaire has been used prepared and interview schedule method has been adopted for the collection of primary data. The details of the diabetes people are obtained in the multi-specialty hospitals situated in Madurai. The researcher went to those hospitals and approached the people who are coming to the hospital for diabetes checkup. Vadamalayan hospital, Meenakshi mission hospital, Velammal hospital, Kidney centre, Adhitya hospital and Vikram hospital in Madurai district are the areas of the study. Cronbach Alpha test has been used to examine the validity of the questionnaire. The Cronbach alpha test value is 0.914 which indicate that the responses given by the respondents to the questionnaire is excellent. Percentage analysis and Garrett’s ranking technique has been used to analyse the primary data.

6 Results and discussion

In this section, socio-economic profile of the respondents and consumption pattern of the respondents towards health drinks for diabetes people are studied. The socio-economic variables such as age, gender, years of taking medicine for diabetes and nature of medicine taken for diabetes are taken into account.

Socio-Economic Profile		No. of Respondents	Percentage
Age (in years)	Below 30	12	4.8
	30-40	37	14.8
	40-50	82	32.8
	50-60	64	25.6
	Above 60	55	22
Gender	Male	154	61.6
	Female	96	38.4
Years of taking medicine for diabetes	Below 10	58	23.2
	10-20	165	66
	Above 20	27	10.8
Nature of Medicine taken for diabetes	Tablets	148	59.2
	Insulin injection	102	40.8

Source: Primary data **Table 1**. Socio-Economic Profile of the Respondents

1. Out of 250 respondents, 82 (32.8%) belong to the age group of 40-50 years, 64 (25.6%) are in the age group of 50-60 years, 55 (22%) come under the age group of above 60 years, 37 (14.8%) are in the age group of 30-40 years and 12 (4.8%) belong to the age group of below 30 years.
2. Out of 250 respondents, 154 (61.6%) are male and the remaining 96 (38.4%) are female.
3. Out of 250 respondents, 165 (66%) have taken medicine for diabetes for 10-20 years, 58 (23.2%) have taken medicine for diabetes for below 10 years and 27 (10.8%) have taken medicine for diabetes for above 20 years.
4. Out of 250 respondents, 148 (59.2%) have taken tables and 102 (40.8%) have put insulin injection for diabetes.

Source	No. of Respondents	Percentage
Doctors	27	10.8
Friends	84	33.6
Relatives	68	27.2
Advertisements	71	28.4
Total	250	100

Source: Primary data **Table 2.** Source of Awareness about Health Drinks for Diabetes

Out of 250 respondents, 84 (33.6%) have gathered awareness from friends, 71 (28.4%) have obtained awareness from advertisements, 68 (27.2%) have acquired awareness from relatives and 27 (10.8%) have received awareness from doctors about health drinks for diabetes.

Years of Consumption of health drinks for Diabetes	No. of Respondents	Percentage
Below 3 years	77	30.8
3-6 years	88	35.2
6-9 years	73	29.2
Above 9 years	12	4.8
Total	**250**	**100.00**

Source: Primary data **Table 3.** Years of Consuming Health Drinks for Diabetes

It is clear from Table 3 that out of 250 respondents, 88 (35.2%) have consumed health drinks for 3-6 years, 77 (30.8%) have consumed health drinks for below 3 years, 73 (29.2%) have consumed health drinks for 6-9 years and 12 (4.8%) have consumed health drinks for above 9 years.

Preference of Health Drinks for Diabetes	No. of Respondents	Percentage
Kapiva Dia Free	12	4.8
Horlicks Diabetes Plus	14	5.6
Patanjali Nutrela Diabetic Care	33	13.2
Nestle Resource Diabetic Vanila Powder	27	10.8
Tata Pro	28	11.2
Protinex	50	20
Dr. Reddy's Celevida	41	16.4
Ensure Diabetes Care	18	7.2
D Protein	27	10.8
Total	**250**	**100**

Source: Primary data **Table 4.** Preference of Health Drinks for Diabetes

It is interesting to note that out of 250 respondents, 50 (20%) have used Protinex, 41 (16.4%) have drunk Dr. Reddy's Celevida, 33 (13.2%) have preferred Patanjali Nutrela Diabetic Care, 28 (11.2%) have preferred Tata Pro, 27 (10.8%) have used Nestle Resource Diabetic Vanila Powder and other 27 (10.8%) have used D Protein, 18 (7.2%) have preferred Ensure Diabetes Care, 14 (5.6%) have used Horlicks Diabetes Plus and 12 (4.8%) have drunk Kapiva Dia Free health drink.

Impact	Ranks				Total
	I	II	III	IV	
Recover from tiredness	52	64	78	56	**250**

Reduce hunger	96	61	81	12	**250**
Bring freshness	33	62	80	75	**250**
Control sugar level	69	63	11	107	**250**
Total	**250**	**250**	**250**	**250**	

Source: Primary data **Table 5.** Impact of Using Health Drinks for Diabetes

Garrett's ranking technique has been applied to analyse the impact of using health drinks for diabetes. The Garrett's ranking test calculations are shown in Table 6.

Ranks	Calculation	Garrett's Score
I	100 (1-0.5)/4 = 12.5	73
II	100 (2-0.5)/4 = 37.5	57
III	100 (3 -0.5)/4 = 62.5	44
IV	100 (4 -0.5)/4 = 87.5	27

Source: Primary data **Table 6.** Garrett's Ranking Test Calculations

The Garrett's ranking test results are given in Table 7.

Impact	Ranks				Total score	Mean score	Rank
	I	II	III	IV			
Recover from tiredness	3796	3648	3432	1512	12388	49.552	II
Reduce hunger	**7008**	**3477**	**3564**	**324**	**14373**	**57.492**	**I**
Bring freshness	2409	3534	3520	2025	11488	45.952	IV
Control sugar level	5037	3591	484	2889	12001	48.004	III

Source: Primary data **Table 7.** Impact of Using Health Drinks for Diabetes

Most of the respondents gave I rank to the statement 'Reduce hunger' with the mean score of 57.492 followed by 'Recover from tiredness' (49.552.) The statements 'Control sugar level' (48.004) and 'Bring freshness' (45.952) got third and fourth ranks respectively.

F test has been employed to examine the extent of relationship between socio-economic profile of the respondents and impact of using health drinks for diabetes. The null hypothesis framed is that there is no significant relationship between socio-economic profile of the respondents and impact of using health drinks for diabetes.

Particulars		Sum of Squares	Df	Mean Square	F	Sig.
Age	Between Groups	.642	1	.642	4.628	.033
	Within Groups	30.940	249	.139		
	Total	31.582	250			

Gender	Between Groups	21.673	1	21.673	14.095	.000
	Within Groups	342.887	249	1.538		
	Total	364.560	250			
Years of taking medicine for diabetes	Between Groups	4.253	1	4.253	5.125	.025
	Within Groups	185.062	249	.830		
	Total	189.316	250			
Nature of medicine taken for diabetes	Between Groups	.624	1	.624	2.933	.088
	Within Groups	47.438	249	.213		
	Total	48.062	250			

Source: Primary data **Table 8.** Socio-Economic Profile of the Respondents and Impact of Using Health Drinks for Diabetes

Regarding age and impact of using health drinks for diabetes, the calculated value of F test is 4.628 which is significant as its p value is less than 0.05 (0.033<0.05).

Regarding gender and impact of using health drinks for diabetes, the calculated value of F test is 14.095 which is significant as its p value is less than 0.05 (0.000<0.05).

Regarding years of taking medicine for diabetes and impact of using health drinks for diabetes, the calculated value of F test is 5.125 which is significant as its p value is less than 0.05 (0.025<0.05).

Regarding nature of medicine taken for diabetes and impact of using health drinks for diabetes, the calculated value of F test is 2.933 which is not significant as its p value is more than 0.05 (0.088>0.05).

7 Suggestions

On the basis of findings of the study, some suggestions are given to diabetic patients and food industry.

Diabetic Patients

1. The diabetic people consume health drinks to reduce their hunger level caused by diabetes. Hence, they have to use the health drinks in the advice of the doctors. In case the diabetic people who are also have the problem of kidney issues, protein drink is not suitable to them. So, the advice of the doctors is essential for the consumption of any food drinks.
2. As there is no significant relationship between nature of medicine taken for diabetes and impact of using health drinks for diabetes, they have to check the ingredients used for manufacturing health drinks.

Food Industries

1. While preparing health drinks for diabetic patients, enough care should be given for its preparation and avoid adulteration.
2. The benefits of taking health drinks should not be exaggerated.

8 Conclusion

The adventure of human being is to lead the peaceful and wealthy life. It is possible only via health. A healthy life brings peace, wealth and prosperity. The major problem faced by the diabetic people is avoiding of some food products. It creates some type of intention to eat it while avoiding it. Sugar free tablets are available to them while adding coffee, milk or tea. Health drinks (sugar free) are the boon to the diabetic people to balance their metabolism. The proper consultation with physicians and proper diet system will enhance the patients of diabetic people. It is said that diabetic is not a disease but it is a symptom to regularize the food consumption.

9 References

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