

IMPACT OF GREEN TEA ON INCREASING METABOLISM AND WEIGHT MANAGEMENT

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ABSTRACT

Obesity and weight management are growing public health concerns worldwide, leading to increased interest in natural remedies for metabolic enhancement. Green tea, rich in bioactive compounds such as catechins and caffeine, has been widely studied for its potential role in boosting metabolism and aiding weight loss. This study explores the impact of green tea on metabolism and weight management, focusing on consumer perceptions, benefits, and challenges associated with its consumption.

The research employs a survey-based methodology, gathering primary data from 100 respondents in Thoothukudi to analyze factors influencing green tea consumption, brand preference, and satisfaction levels. Statistical tools such as percentage analysis, ANOVA, and chi-square tests were applied to interpret the data. Findings indicate that green tea is predominantly consumed for weight management, metabolism enhancement, and relaxation. However, consumer preferences vary based on brand, frequency of intake, and taste preferences.

The study concludes that while green tea offers metabolic and weight management benefits, its effectiveness depends on consumption habits, lifestyle factors, and individual metabolic responses. Further research is recommended to determine optimal dosage and long-term impacts.

Keywords :Green tea, metabolism, weight management, catechins, consumer perception, health benefits.

INTRODUCTION

Obesity and overweight remain pressing global health challenges, driving interest in natural remedies for weight management. Green tea, made from the *Camellia sinensis* plant, has been widely recognized for its metabolism-boosting properties, primarily due to its rich content of catechins and caffeine. These compounds enhance thermogenesis, increase fat oxidation, and support energy expenditure, making green tea a popular choice for those looking to

manage their weight naturally.

With a history spanning over 4,000 years, green tea was first cultivated in ancient China and has since gained worldwide recognition for its health benefits. Beyond weight management, it is celebrated for its high antioxidant content, which contributes to overall well-being. This study explores the scientific evidence support in green tea's impact on metabolism and weight loss while also discussing practical considerations for its consumption. By examining its effectiveness and limitations, this research aims to provide valuable insight into how green tea can be incorporated into a healthy lifestyle.

STATEMENT OF PROBLEM:

At present, there are various beverages which consumers prefer, but green tea has become one of the most popular health drinks. People prefer green tea due to health, taste, habit, low calories etc. The purpose of the study is to identify and analysis the factors which influence the consumers" perception and their satisfaction towards green tea. The study also covers the problems faced by the consumers while using green tea. The study aims to evaluate the level of consumer satisfaction regarding green tea in Thoothukudi and to identify the key factors influencing this satisfaction. Although green tea is increasingly recognized as a health-promoting beverage, there is limited research on the specific determinants that drive consumer satisfaction in Thoothukudi.

REVIEW OF LITERATURE

Wang (2022) A study on Green tea and weight loss This systematic review and investigated the effects of green tea on weight loss. The results showed that green tea significantly reduced body weight and body fat. The review included 20 clinical trials and found that green tea resulted in significant weight loss. The authors conclude that green tea may be a useful adjunct to weight loss programs.

Zhang(2022) A study on Green tea catechism and weight loss This systematic review examined the effects of green tea catechism on weight loss. The results showed that green tea catechism significantly reduced body weight and body fat. The review included 15 clinical trials and found that green tea catechism resulted in significant weight loss.

OBJECTIVES

- To identify the brand preference of the green tea users.
- To find out the satisfaction level towards green tea.

RESEARCH METHODOLOGY

Sampling design	Non-probability sampling
Period of study	December2024-March2025
Data used	Primary and Secondary data
Test for analysis	Percentage analysis, Likert5.5scale, Descriptive analysis, One way ANOVA, One Sample T-Test, Independent sample T-Test, Chi-square, Garrett ranking

LIMITATION OF THE STUDY:

- The data collect for the research is fully on primary data given by respondents.
- Respondents could be biased sometimes when information is being extracted.
- Duetolackoftimeasamplesizeonly100 respondents are being included in this study.
- As we had only limited period for the study, we were able to collect only the most relevant information.
- Getting information from the respondents was very difficult because reliability and accuracy of the analysis depends on the respondent's openness and turns towards each question
- The study area is limited only to Thoothukudi District.

RESULT AND DISCUSSION:

Table 1:

TABLESHOWINGTHEPREFEREDGREENTEABRAND

PARTICULAR	NOOF.RESPONDENTS	PERCENTAGE
Lipton Green Tea	64	64
Tetley Green Tea	11	11
Twining's	5	5
Organic India	20	20
Total	100	100

Source: Primary data

INFERENCE

The above table shows that 64% of the respondents are usually consume Lipton green tea, 11% are consume Tetley green tea, 5% are consume twining's, and 20% are consume organic India. therefore, the majority i.e., 65% of the respondents are consuming Lipton green tea.

Table 2:

TABLE SHOWING THE RESPONDENTS OUTCOME AFTER CONSUMING GREEN TEA

PARTICULAR	NO OF RESPONDENTS	PERCENTAGE
Less than 1 month	37	37
1-3 months	34	34
Over 3 months	21	21
No results	8	8
Total	100	100

Source: Primary data

INFERENCE:

The above table shows that 37% of green tea users have noticed the result within 1 month, followed by 34% for 1-3 months, 21% for 3-5 months and 8% did not find any result.

Therefore, the majority i.e., 37% of the respondents are less than 1 month of green tea users.

Table 3:

GARRETT RANKING

The Garrett ranking technique is a method used to analyse and rank the importance of different factors or items based on the frequency of their occurrence or preference, converting these into numerical scores for easier comparison and analysis.

Formula

$$\text{Percent Position} = 100 * (R_{ij} - 0.5) / N_j$$

$$\text{Average Garrett Score} = \text{Total Garrett Score} / \text{Number of respondents}$$

**RANKING FACTORS INFLUENCE MORE TO PURCHASE
GREEN TEA RESPONSE TABLE**

FACTORS	RANK					
	I	II	III	IV	V	VI
Better taste	20	15	20	20	15	10
Lower price	35	26	14	10	8	7
More health benefits	27	33	12	7	6	5
Attracted towards the product	14	27	8	18	13	20
Influence by friends	43	6	23	7	12	9
Influence from social media advertisement	33	27	9	16	9	6

RANK TABLE

FACTORS	TOTAL	MEAN SCORE	RANK
Better taste	5270	52.70	V
Lower price	6006	60.06	I
More health benefits	5465	54.65	IV
Attracted towards the product	4980	49.80	VI
Influence by friends	5904	59.04	III
Influence from social media advertisement	5935	59.35	II

Source: Primary data

INFERENCE:

From this data 60.6mean score is ranked first as a most influential factor, followed by social media advertisement 59.35 mean score and it is ranked second, 59.04 as third for influencing Factors by friends,54.65is ranked fourth for health benefits to hold moderate importance ,52.70 is ranked fifth for better taste to reduce fat and finally49.80 is ranked sixth as it is less attracted towards the product.

This suggests that affordability, social influence, and health concerns drive consumer decisions more than taste or product appeal.

CHI-SQUARETEST:

A Chi-square test is a statistical test used to determine if there's a significant difference between observed results and expected results, especially when dealing with categorical data, helping to assess if observed frequencies differ significantly from expected frequencies. The χ^2 test is used to understand the accuracy of the variables used and to find out whether they are independent or dependent. It is applied to validate the result of the study.

$$X^2 = \sum (O-E)^2 / E$$

O- Observed frequency
E- Expected frequency

Expected frequency = Row total * Column total / Grand total

Null hypothesis(H₀): There is no significant relationship between locality and brand preferred for buying green tea.

Alternative hypothesis(H₁): There is a significant relationship between locality and brand preferred for buying green tea.

Table 4:

Preferred brand Locality	Lipton	Tetley	Twining	Organic	Total
Urban	46	9	3	11	69
Rural	10	1	0	7	18
Semi-urban	8	1	2	2	13
Total	64	11	5	20	100

Rows/columns	O	E	(O-E)	(O-E) ²	(O-E) ² /E
R1C1	46	44.16	2.16	4.66	0.10
R2C1	10	11.52	1.52	2.31	0.20
R3C1	8	8.32	0.32	0.10	0.01
R1C2	9	7.59	1.41	1.98	0.26
R2C2	1	1.98	0.98	0.96	0.48
R3C2	1	1.43	0.43	0.18	0.12
R1C3	3	3.45	0.45	0.20	0.05
R2C3	0	0.90	0.90	0.81	0.9
R3C3	2	0.65	1.35	1.82	2.8
R1C4	11	13.80	2.80	7.84	0.56
R2C4	7	3.60	3.40	11.56	3.21
R3C4	2	2.60	0.60	0.36	0.13
Total	100				8.84

Degree of freedom =(r-1)(c-1)

$$=(3-1)*(4-1)$$

$$=2* 3$$

$$=6$$

The above table indicates that 6 degrees of freedom is 12.5 the calculated value is 8.84, which is Greater than the calculated value thus the result is independent. Hence it is concluded that There is a significant relationship between locality and brand preferred for buying green tea. Therefore, the null hypothesis (H₀) is accepted.

SATISFACTION LEVEL OF GREEN TEA USERS

Null hypothesis(H₀):There is no significant difference between satisfaction level with the factors associated.

Alternative hypothesis(H1):There is a significant difference between satisfaction level with the factors associated.

Table 5:

Satisfaction level	Very satisfied	Satisfied	Neutral	Dis-satisfied	Very dissatisfied	Mean	Std. Deviation
Satisfied in the packing of green tea products.	30	48	20	2	-	4.0600	3.7600
Satisfied with the price of Green tea	24	42	24	6	4	.76303	1.01623
satisfied are you with the quality of green tea	24	38	27	8	3	4.0600	3.7600
I feel satisfied with a promotion of green tea product	28	32	31	8	1	.76303	1.01623
Satisfied with The taste of green tea.	28	39	28	5	-	4.0600	3.7600

Source: Primary data

INFERENCE

The table shows the satisfaction levels for different factors related to green tea products. The highest mean satisfaction scores are for packaging, quality, and taste, each with a mean of

4.06 and a standard deviation of 3.76, indicating higher satisfaction but also more variation in responses. Satisfaction with the price and promotion of green

tea has a lower mean of 3.76 with a standard deviation of 1.016, suggesting a slightly lower satisfaction level but more consistency in responses.

SUGGESTION:

- ✚ Increase awareness campaigns about the health benefits of green tea, particularly in rural areas where brand awareness is lower.
- ✚ Introduce more affordable options to attract price-sensitive consumers, as price is a major influencing factor in purchasing decisions.
- ✚ Promote organic green tea since 79% of respondents are willing to pay more for it.
- ✚ Target young adults (18-24) in marketing efforts, as they form the largest consumer group.
- ✚ Offer discounts and promotions on Lipton green tea, as it is the most preferred brand(64%).
- ✚ Expand the availability of tea bags since 68% of respondents prefer this form over loose leaf or bottled options.
- ✚ Introduce more flavored varieties of green tea, as 51% of consumers prefer flavored options over unflavored.
- ✚ Educate consumers on the best times to drink green tea for maximum benefits, as most(47%) prefer consuming it in the morning.
- ✚ Leverage social media and influencers to promote green tea, as social influence is a key factor in purchasing decisions.
- ✚ Improve product packaging and presentation, as packaging ranks highest in customer satisfaction.
- ✚ Develop trial packs for new consumers to sample different green tea flavours and brands before committing to a purchase.
- ✚ Enhance marketing strategies by emphasizing green tea's role in weight management, as 37% consume it for this reason.

CONCLUSION

A study on green tea consumption reveals that it's predominantly consumed by 18-24- year-old females for weight management, metabolism boosting, and relaxation. While most consumers prefer tea bags and flavoured variants, price is the most influential factor in purchasing decisions. The study suggests that green tea brands should focus on competitive pricing, product innovation, and enhanced marketing to attract more consumers and leverage the growing awareness of health and wellness.

To further capitalize on the growing demand for green tea, brands can

emphasize the scientifically-backed benefits of green tea, such as its high antioxidant content and ability to aid in weight loss. Utilizing social media influencers, customer testimonials ,and educational content can also help increase brand awareness and drive sales. Moreover, offering organic and sustainable options can appeal to the growing number of environmentally-conscious consumers. By adapting to these trends and preferences, green tea brands can stay competitive and continue to thrive in the health and wellness market.