



# A Study on Consumer Profile and Preference for Virgin Coconut Oil in Bangalore City

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## Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

## Article Information

DOI: 10.9734/AJAEES/2023/v41i102147

## Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/105479>

Original Research Article

Received: 22/06/2023

Accepted: 28/08/2023

Published: 29/08/2023

## ABSTRACT

**Aim:** This research endeavors to examine the fundamental factors driving consumer preferences and actions concerning Virgin Coconut Oil (VCO) in Bangalore City. It seeks to assess the impact of demographic variables, health perspectives, and brand recognition on consumer choices and behavior toward VCO.

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**Study Design:** A quantitative, descriptive research design.

**Place and Duration of Study:** The research was carried out in Bangalore City, during June and July of 2023. The primary data were collected from a random sample of Sixty respondents.

**Methodology:** A diverse group of participants were surveyed, spanning different age groups, educational backgrounds, and occupations. The survey encompassed aspects such as age, gender, education, occupation, income, and family size. Conjoint analysis facilitated the measurement of attribute importance scores, providing insights into consumer preferences for factors including price, brand, and health benefits.

**Results:** Analysis of the collected data unveiled noteworthy trends. The majority of the respondents (61.7%) were males, and a significant proportion (43.3%) held master's degrees. Employed individuals constituted the largest occupation category (58%). Conjoint analysis revealed that health benefits held the highest importance score (39.979), followed by price (37.011) and brand (23.010).

**Conclusion:** This study accentuates the pronounced role of health benefits in driving consumer choices regarding VCO. The findings illuminated the demographics of VCO consumers in Bangalore City and emphasize the need for targeted marketing strategies aligned with health-conscious consumer preferences. Insights gained from this research can significantly guide product development and branding initiatives, fostering a competitive advantage in this potential market. Further exploration and validation of these predictors are warranted to enhance the efficacy of marketing strategies and cater effectively to the evolving consumer landscape.

*Keywords: Virgin coconut oil (VCO); consumer preference; health perception; brand recognition; market analysis; urban consumer.*

## 1. INTRODUCTION

The demand for unrefined, unprocessed, nutritious, and organic oil is expected to drive significant expansion in the worldwide edible oil market. Vegetable oils with reduced cholesterol, fat, and calorie content are projected to see strong growth in the coming years due to rising health consciousness among people all over the world. Additional key drivers of the expansion of the global edible oil market include a significant expansion of the retail network, rising crop yields, rising oil output, and expanding economies. Virgin coconut oil (VCO) consumption has drawn a lot of attention in recent years because of its possible health advantages and wide range of uses. This introduction provides a thorough review of the topic, highlighting the underlying problems, suggested fixes, and the justification for the study.

Due to its high nutrient profile and potential therapeutic capabilities, VCO has become a well-known option in an era characterized by rising health consciousness and a shift towards alternative therapies. VCO, which is extracted from fresh coconut meat, is rich in bioactive chemicals and medium-chain triglycerides (MCTs), which have been linked to a number of health benefits.

Consumer behavior in the food market, influenced by socio-demographics, income, and

education, is exemplified in a Kerala state study on Virgin Coconut Oil (VCO) awareness and consumption patterns among urban elites. The study revealed 82% awareness, 78% active usage, and successful awareness-to-action conversion. Respondents, mainly graduates (96%), with diverse occupations and incomes (Rs. 0.75-1.5 lakhs), allocated Rs. 325 monthly for VCO. Regional disparities in awareness and purchase frequency highlighted the need for targeted marketing strategies [1].

Virgin coconut oil (VCO) has rapidly gained popularity as a valuable product, necessitating marketers to understand potential consumer awareness and consumption behaviors for effective marketing planning. VCO, derived from fresh coconut milk or meat, is extracted through wet milling and pressing. Health advantages associated with VCO are widely recognized [2].

Analyzing consumer perceptions and utilization patterns is crucial for strategizing successful product positioning and marketing tactics, ensuring the originality of the study. Approximately 50% of coconut production is allocated for culinary and religious practices, while 35% is processed into copra, 11% for tender nuts, and a mere 2% for oil production, with a similar proportion used for seed purposes [3].

Despite the growing popularity of VCO, there existed a gap in our understanding of consumer behavior, preferences, and patterns of usage, particularly in urban settings like Bangalore. This study aimed to bridge this gap by delving into the intricate aspects of consumer preferences for VCO, shedding light on the factors influencing their choices and the implications for the market.

Through a meticulous analysis of consumer profiles and preferences, this research seeks to unravel the dynamics driving the consumption of VCO among different demographic segments. By examining factors such as age, gender, education, occupation, and income, the study intended to decipher the intricate web of influences that shaped consumers' decisions to embrace VCO. A concise review of existing literature underscored the significance of VCO as a health-promoting product. Prior studies have highlighted its potential effects on weight management, cardiovascular health, and even skincare. However, limited research has been conducted to explore the specific preferences and consumption patterns of urban consumers, especially in the context of Bangalore City.

This study narrowed its focus to Bangalore City, a vibrant urban landscape renowned for its cosmopolitan culture and diverse consumer preferences. By examining consumer profiles and preferences, the study intended to provide valuable insights to VCO manufacturers, marketers, and health practitioners. This research was motivated by the need for evidence-based strategies that aligned with consumer needs and aspirations.

In the ensuing section, the methodological framework, data collection, and analysis techniques employed to unravel the intricate tapestry of consumer preferences for VCO are presented. Through this exploration, it aspired to contribute to the body of knowledge surrounding VCO consumption, enriching the understanding of consumer behavior and informing strategic decisions in the realm of health and wellness products.

## **2. METHODOLOGY**

The study was conducted in Bangalore City due to its significance as a major urban center in Karnataka, India. A sample size of 60 consumers was surveyed. Data were collected using a well-structured questionnaire during July 2023, aligning with the reference period of the study.

Descriptive statistics analysis was applied to explore demographic characteristics like age, education, occupation, and income levels of the respondents.

### **2.1 Sampling and Sample Size**

To have a clear idea about the reliability of the sample size, the researcher reviewed Hardwick Research's [4] published resources on the subject. Following the approach used by Masoudi & Hejase [5], Hashem et al. [6], and El Takach et al. [7], and according to Hardwick, in the case of a population size of ~ 10,000, a confidence level of 95% [ $\alpha=5\%$ ], and seeking acceptable reliability of  $10\% \pm 2\%$ , the sample size would be between 50 and 75. Therefore, the resultant sample size being 60 herein would be about  $\pm 12.7\%$  at the 95% confidence level. Surveying with such a sample would mean that in 87.3 out of 100 repetitions of the survey, the results will not vary more than  $\pm 12.7\%$ . Such reliability would be acceptable in quantitative and exploratory research like this one.

### **2.2 Survey Design**

In this section, we provide a comprehensive overview of the survey design employed in our study to gather insights into consumer and retailer preferences for Virgin Coconut Oil in Bangalore city. The survey was meticulously crafted to collect data on various aspects while considering the preferences and perspectives of our target audience.

#### **2.2.1 Question types**

The survey consisted of a well-balanced mix of open-ended and close-ended questions to ensure a comprehensive understanding of the participants' viewpoints. Open-ended questions allowed respondents to express their opinions in their own words, while close-ended questions provided predefined response choices for ease of analysis. The survey presented respondents with hypothetical product profiles, each varying in attributes such as price, packaging, brand, and quality.

#### **2.2.2 Response choices**

For close-ended questions, participants were presented with a range of response choices designed to capture the diversity of their preferences and attitudes. Participants were asked to rank or rate their preferences for these

attributes, allowing us to quantify the relative importance of each attribute and predict consumer choices in real-world scenarios.

## 2.3 Data Analysis

### 2.3.1 Descriptive statistics

Hejase & Hejase [8] contend that giving data meaning leads to useful information. Furthermore, according to Hejase and Hejase [9], “descriptive statistics deals with describing a collection of data by condensing the amounts of data into simple representative numerical quantities or plots that can provide a better understanding of the collected data” (p. 272). Descriptive statistics included percentages and frequencies and the results were presented in tables for simplicity.

### 2.3.2 Conjoint analysis

Conjoint Analysis is a robust statistical technique. According to Qualtrics [10], it is a “market research approach for measuring the value that consumers place on features of a product or service” (para 1). In this research, it was utilized to understand consumer preferences for Virgin Coconut Oil attributes. This method helped to assess the influence of attributes such as price, brand, and health benefits on consumer choices.

## 3. RESULTS AND DISCUSSION

### 3.1 Findings Related to Demographic Features

#### 3.1.1 Gender

From Table 1, it is evident that the male respondents accounted for 61.70%, while the female respondents accounted for 38.30% of the total sample.

**Table 1. Gender of the sample respondents**

S. No	Gender	Number of respondents	In percent
1	Male	37	61.70
2	Female	23	38.30
<b>Total</b>		60	100.00

#### 3.1.2 Age

The distribution of respondents across age groups is highlighted in Table 2. The highest representation was in the age group of 36-45 years (36.70%), followed by 26-35 years (21.70%).

#### 3.1.3 Education

Table 3 demonstrates that the respondents were well-educated, with 43.30% holding Master's degrees and 36.70% having Bachelor's degrees.

#### 3.1.4 Annual Income

The distribution of respondents based on annual income is presented in Table 4. The majority of respondents (58.30%) reported an annual income between ₹6.00 lakhs and ₹18.00 lakhs.

#### 3.1.5 Occupation

As shown in Table 5, a significant proportion of respondents were employed (58%), followed by homemakers (16.70%) and self-employed individuals (11.70%).

#### 3.1.6 Family size

The details of the family size of the respondents are presented in Table 6. The majority of families (75%) consisted of 3 to 5 members, followed by families with fewer than 2 members (8.30%), and those with more than 6 members (16.70%).

**Table 2. Age of the sample respondents**

S. No	Age (in Years)	Number of respondents	In percent
1	18-25	4	6.70
2	26-35	13	21.70
3	36-45	22	36.70
4	46-55	14	23.30
5	56 and above	7	11.70
<b>Total</b>		60	100.00

**Table 3. Educational status of the sample respondents**

S. No	Educational Level	Number of respondents	In percent
1	Below high school	2	3.30
2	High school	4	6.70
3	Bachelor degree	22	36.70
4	Master degree	26	43.30
5	Doctoral Degree	6	10.00
<b>Total</b>		60	100.00

**Table 4. Annual income of the sample respondents**

S. No	Annual income (in Rs)	Number of respondents	In percent
1	Upto ₹6 Lakhs	2	3.30
2	₹6.00 lakhs - ₹12 lakhs	12	20.00
3	₹12 lakhs - ₹18 lakhs	21	35.00
4	Above ₹18 lakhs	25	41.70
<b>Total</b>		60	100.00

**Table 5. Occupational status of the sample respondents**

S. No	Occupational Status	Number of respondents	In percent
1	Employed	38	63.00
2	Self- Employed	7	11.70
3	Homemaker	10	16.70
4	Retired	5	8.30
<b>Total</b>		60	100.00

**Table 6. Family Size of the Sample Respondents**

S. No	Family Size	Number of respondents	In percent
1	Less than 2	5	8.30
2	3 to 5	45	75.00
3	More than 5	10	16.70
<b>Total</b>		60	100.00

### 3.2 Analysis of Consumer Preference for Virgin Coconut Oil

Conjoint analysis was employed to delve into the complex interplay of consumer preferences and decision factors concerning Virgin Coconut Oil. This analysis aimed to uncover the relative importance of key attributes - Price, Brand, and Health Benefits - and their impact on consumers' choices.

#### 3.2.1 Estimation of utility

Table 7 presents the utility estimates for each attribute level. It is evident that Health Benefits held the highest utility estimate across all levels, indicating that consumers heavily prioritized health-related attributes when making purchasing decisions. The attribute 'Specific benefits' within Health Benefits garnered the highest utility

estimate (2.523), followed by 'General benefits' (1.682) and 'Few benefits' (0.841). Brand recognition also played a significant role, with 'Highly Recognized' brands (0.525) being more preferred than 'Local' brands (0.350) and 'Unrecognized' brands (0.175). Interestingly, the utility estimates for different price ranges were relatively lower, with 'More than 651' (0.372) gaining slightly higher preference.

##### 3.2.1.1 Estimation of total utility

Table 8 displays the results of the conjoint analysis, highlighting the various combinations of attributes and their corresponding total utility values based on consumer preferences toward Virgin Coconut Oil (VCO). These preferences were ranked in descending order of total utility, providing insights into the factors that strongly influenced consumer choices.

**Table 7. Utility estimates for attribute levels**

S. No	Attribute	Level	Utility Estimate
1	Price (Rs/500ml)	Less than 400	0.124
		401 to 650	0.248
		More than 651	0.372
2	Brand	Unrecognized brand	0.175
		Local brand	0.350
		Highly Recognized	0.525
3	Health Benefits	Few benefits	0.841
		General benefits	1.682
		Specific benefits	2.523
	(Constant)		3.153

**Table 8. Consumer preferences for virgin coconut oil attributes**

S. No	Price (Rs/500ml)	Brand Preference	Health Benefits	Total Utility Value
1	More than 651	Highly Recognized	Specific benefits	6.573
2	401 to 650	Local brand	Specific benefits	6.274
3	More than 651	Unrecognized brand	Specific benefits	6.223
4	401 to 650	Unrecognized brand	Specific benefits	6.099
5	More than 651	Local brand	General benefits	5.557
6	401 to 650	Highly Recognized	General benefits	5.608
7	401 to 650	Unrecognized brand	General benefits	5.258
8	Less than 400	Highly Recognized	Few benefits	4.643
9	Less than 400	Local brand	Few benefits	4.468
10	Less than 400	Unrecognized brand	Few benefits	4.293

**Table 9. Importance values of attributes**

S. No	Attribute	Importance (in percent)
1	Health Benefits	39.979
2	Price	37.011
3	Brand	23.010

**Table 10. Correlation**

S. No.	Correlation	Value	Significance
1	Pearson's R	0.616	0.029

The Table 8 show cases the prioritization of attributes among consumers. Preferences with higher total utility values signify stronger preferences among consumers. Notably, preferences that included attributes like "More than 651" for Price, "Highly Recognized" for Brand Preference, and "Specific benefits" for Health Benefits tend to have the highest total utility values. These findings are pivotal for marketers, as they provided a clear understanding of the attributes that resonated most with consumers, aiding in the formulation of effective marketing strategies for Virgin Coconut Oil.

### 3.2.2 Importance of VCO attributes

The importance values, displayed in Table 9, underlined the relative significance of each attribute in consumers' decision-making processes. Health Benefits emerged as the most crucial factor (39.979%), followed by Price (37.011%) and Brand (23.010%). This reinforced the notion that consumers in Bangalore City placed a premium on the health-related advantages offered by Virgin Coconut Oil than Brand and Price.

### 3.2.3 Test of alignment of attributes

Correlation analysis was performed to study the strength of correlation between observed and estimated preferences. The Pearson correlation coefficient (R) of 0.616 indicates a positive correlation, suggesting that the estimated preferences align reasonably well with the actual observed preferences.

### 3.2.4 Factors influencing consumer preference for VCO

The outcomes of the conjoint analysis underscore the intricate relationship between consumer preferences and the attributes of Virgin Coconut Oil. The pronounced importance assigned to Health Benefits aligns with the growing health consciousness among consumers, emphasizing the integral role of wellness in purchasing decisions. Price and Brand recognition, though significant, seemed to be secondary influencers, suggesting that consumers in Bangalore City prioritized the health advantages of Virgin Coconut Oil over other considerations.

The observed positive correlation and limited reversals affirmed the reliability of the conjoint analysis results. The relative consistency in respondents' choices indicated the validity of the estimated utility values and reinforced the robustness of the findings.

In summary, the conjoint analysis provided valuable insights into the factors guiding consumer preferences for Virgin Coconut Oil in Bangalore City. This knowledge can empower marketers to tailor their strategies, focusing on health benefits while ensuring competitive pricing and brand recognition efforts.

## 4. CONCLUSION

This investigation into consumer preferences and behavior surrounding the purchase of Virgin Coconut Oil in Bangalore City has illuminated several critical insights. The study revealed that a significant proportion of consumers were health-conscious, valuing the health benefits offered by Virgin Coconut Oil. This attribute emerged as the most influential factor in their purchasing decisions, followed by brand recognition and price.

The findings also unveiled intriguing trends in demographic characteristics, with a majority of consumers falling within the age range of 26 to 55 years and possessing at least a bachelor's degree. The majority of respondents were employed or homemakers, representing stable-income households. Furthermore, the study shed light on the income of respondent consumers most of them falling under the income range of elite consumers with more than Rs.12 lakh annually.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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*Peer-review history:*  
*The peer review history for this paper can be accessed here:*  
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