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# **A Study on Consumer Awareness, Preference and Buying Behavior for Cold Pressed Oil in Hyderabad, India**

**Srujana Kethavath<sup>1\*</sup>, Seema<sup>1</sup>, Radhika Pagadala<sup>1</sup> and Supriya<sup>1</sup>**

<sup>1</sup>*Jayashankar Telangana State Agricultural University Hyderabad, Telangana, India.*

## **Authors' contributions**

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

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## **ABSTRACT**

The interest in natural and organic food, including oils and fats, has grown in the last few years. The cold-pressed extraction concept was uniquely used to extract oils from oilseeds, and these cold pressed oils have a great significance in cosmetics, medicinal purposes and are also used in cooking. The usage of the cold pressed oil has increased in recent days. A study was conducted in Hyderabad city of Telangana state to investigate the consumer awareness level, preferences, buying behavior and opinion on cold pressed oils and their willingness to buy. The study included a sample of 90 consumers of cold pressed oil. Consumers were selected randomly from segmented areas. Percentages and factor analysis methods were used for analysis of the data collected. The study reported that respondents have a minimum awareness of cold pressed oils, whereas the consumers of cold pressed oil preferred health aspects as the main reason in purchasing it, price was the other main factor that influenced the purchase decision of the consumers. Educational level and income were directly linked to the buying behavior of the consumers as majority of the respondents were graduates who were residing in urban areas with an earning capacity of above 9 lakhs per annum. These attributes implied that literates and high-income respondents were

*\*Corresponding author: E-mail: srujanarathod@gmail.com;*

comparatively more aware of the health benefits of cold pressed oils and were also willing to pay a higher price. Product attributes, product appearance, good service offered and nutritional aspects are four factors which influence the consumers to purchase cold pressed oil.

**Keywords:** Cold pressed oil; consumer awareness; consumer preference, buying behavior.

## 1. INTRODUCTION

Oilseeds are rich sources of energy and nutrition. The fats and oils present in the oil seeds are useful as industrial raw material and food fats. The proteins present in some oilseeds and their cakes are edible to humans while the others are useful as animal feed. Oilseeds contain carbohydrates, vitamins, and minerals. Additionally, the vegetable oils are used as lubricants in cosmetics and as raw materials for various industrial products [1].

The country's varied agro-ecological conditions are favorable for the cultivation of nine annual oilseed crops, also including seven edible oilseeds (Sunflower, Rapeseed, Mustard, Sesame, Safflower, Niger, Groundnut, And Soybean) and two non-edible oilseeds (linseed and castor). Oilseeds cultivation across the country is on 24.50 million hectares, with a production of 31.45 million tons [2].

Different types of oils have been used for years like cold pressed oil, machine pressed oil. But, many are not aware of the differences between them. Knowledge about various forms of cold pressed oil and their methods of processing provide an understanding of how excellent it is compared to refined, blanched, and deodorized oils [3-5]. Though the oil is prepared from the same crop, the processing of the seeds has a lot of impact on the oil quality.

The growing concern about the clean and pollution-free environment in major cities such as Hyderabad is promoting the growth of the cold pressed oil market. Aware of well being, consumers are embracing healthy food habits. Consequently, foods containing essential nutrients and health benefits have achieved widespread recognition. The cold pressed oil market has been increasing over the last 3 years in Hyderabad city. The present study was undertaken to know the consumer awareness, preference, buying behavior and opinion towards the cold pressed oil in Hyderabad city with the following objectives.

- (i) To study the consumer's awareness and preferences towards the cold pressed oil.
- (ii) To examine the consumer's opinion on cold pressed oil.

## 2. MATERIALS AND METHODS

The study was confined to Hyderabad city as most of the cold pressed oil units are established here due to market expansion. A separate well-structured questionnaire was used to collect data from six zones of Hyderabad – Kompally (North); Kukatpally, Gachibowli, BHEL (North West); Secunderabad (East); Himayathnagar, Narayanguda (South East); Bandlaguda (South West); Khairatabad, Banjarahills, Ameerpet (West). 15 cold pressed oil consumers from each zone were identified using a random sampling method. Thus a total of 90 cold pressed oil consumers formed the basis for the study. The primary data included their socio economic characters, frequency of usage, consumer's opinion on cold pressed oil and their purchase behavior. The secondary data was collected from the websites, journals, magazines, and other government sources. The data was analyzed by using the appropriate statistical tools like the percentages and factor analysis.

### 2.1 Factor Analysis

Factors (viz., quality, taste, aroma, price, variety of product, packaging, appearance, service, availability, customary practice, health benefits, mineral value) influencing the preference of cold pressed oils was analyzed by the factor analysis. Factor analysis was done by using PCA analysis and rotated component matrix with KMO adequacy.

Factor analysis and principal component analysis (PCA) essentially are data reduction techniques. Factor analysis and PCA are techniques used when the researcher is interested in identifying the smaller number of factors underlying a large number of observed variables, variables that have a high correlation between them, and are largely independent of other subsets of variables are combined into factors [6].

### 3. RESULTS AND DISCUSSION

#### 3.1 Socio-Economic Characters of the Consumers

The socio-economic profile of the respondents interviewed for the study from Hyderabad city is presented in Table 1. This includes information regarding gender, age, qualification, family size, occupation, the annual income of the respondents.

It could be inferred from Table 1, that 52.22 percent were male respondents and 47.78 percent were a female respondent. With respect to the age group, data shows that the sample is dominated by the young category of respondents with the age group of 30-36 years as it contributes to 40.00 percent in the sample, while the least number of respondents are less than 24 years of age.

The family composition of the respondents indicates that 52.22 percent of the respondents have a family size of 4-5 members, 30.00 percent of respondents have a family size of more than 6 members. About 14.44 percent of respondents have a family size of 2-3, and only 3.33 percent of respondents have a family size of 1-2.

The literacy level of the sample respondents was analyzed and found that 42.22 percent of the respondents were graduates, 21.11 percent of respondents studied up to inter, 23.33 percent of respondents were postgraduates, 3.33 percent were Ph.D. level, and 10.00 percent of respondents studied up to SSC.

An analysis of the occupation of respondents revealed that 34.44 percent of the respondents owned business, 25.56 percent of the respondents were government officials, 27.78 percent of the respondents were working in private sector, and 12.22 percent were housewives.

From Table 1 it can be seen that majority of the respondents i.e. 34.44 percent have annual income of above 9 lakhs. 27.78 percent of the respondents have an annual income of 6-9 lakhs, 25.56 percent of the respondents have an income below 3-6 lakhs per annum, and 3.33 percent of the respondents have an annual income below 3 lakhs.

#### 3.2 Consumer Awareness towards the Cold Pressed Oils

The source of information for respondents about the availability of cold pressed oil in Hyderabad was examined and the findings are provided in Table 4, that the key factor influencing the purchase of cold pressed oil was one of the family members, which accounted for 36.67 percent. Followed by advertisements in newspaper, social media, etc., with 30.00 percent of respondents, accompanied by friends and relatives, passing by visits, and retailers with 24.44 percent, 3.33 percent, and 5.56 percent, respectively.

The information from Table 3 indicates that 45.56 percent of respondents want decrease in the costs in price efficiency, 23.33 percent of the respondents want a change in packaging and delivery, 21.11 percent of respondents want to see an improvement in market efficiency, 6.67 percent of respondents want an improvement in production technology, and 3.33 percent have mentioned that other factors such as service, etc., that need to be changed.

#### 3.3 Frequency of usage of the Cold Pressed Oil by the Consumers

The data with respect to the frequency of usage of cold pressed oil was collected presented in the Table 4. indicates that out of 90 respondent's 37.78 percent of the respondents use cold pressed oils every day and 24.44 percent use cold pressed oils twice a week, and 23.33 percent use cold pressed oils three times a week, 8.89 percent use cold pressed oils once a month, and 5.56 percent use cold pressed oils occasionally.

An effort was made to understand from the respondents the reasons for using the cold pressed oils. Various uses were listed including health related problems, cooking, professional usage including cosmetics, medicinal purposes, and massages for joint pains. Findings in Table 5 showed that cooking was the main purpose of which respondents purchased of cold pressed oils, which was indicated by 67.78 percent of the respondents. Followed by medicinal usage as indicated by 13.33 percent of the respondents, usage in cosmetics was indicated by 12.22 percent, and treatment for the joint pain was indicated by 6.67 percent of the respondents.

**Table 1. Socio-economic characters of the consumers**

S. No		Characters	Number	Percentages
1	Gender	Male	47	52.22
		Female	43	47.78
2	Age	Above 42	15	16.67
		36-42	29	32.22
		30-36	36	40.00
		24-30	8	8.89
		18-24	2	2.22
3	Qualification	PH.D.	3	3.33
		Postgraduate	21	23.33
		Graduate	38	42.22
		Inter	19	21.11
		S.S.C	9	10.00
4	Family size	Above 6	27	30.00
		4-5 P	47	52.22
		2-3 P	13	14.44
		1-2 P	3	3.33
5	Annual income	Above 9 lakhs	31	34.44
		6-9 Lakhs	37	41.11
		3-6 lakhs	19	21.11
		Below 3 lakhs	3	3.33
6	Occupation	Business	31	34.44
		Private employee	25	27.78
		Govt. employee	23	25.56
		Homemaker	11	12.22

**Table 2. Source of information about availability of cold pressed oils**

S. No	Source of information	Number of respondents	Percentage
1	Family members	33	36.67
2	Advertisements	27	30.00
3	Friends and relatives	22	24.44
4	Pass by visit	5	5.56
5	Retailers	3	3.33
	Total	90	100

**Table 3. Consumer's suggestion on cold pressed oil product**

S. No	Particulars	Number of respondents	Percentage
1	Improved Production technology	6	6.67
2	Better Packaging	21	23.33
3	Marketing efficiency	19	21.11
4	Price efficiency	41	45.56
5	Others	3	3.33
	Total	90	100.00

**Table 4. Purchasing frequency of cold pressed oil**

S. No	Frequency	Number of respondents	Percentage
1	Everyday	34	37.78
2	Twice a week	22	24.44
3	Thrice a week	21	23.33
4	Monthly once	8	8.89
5	Occasionally	5	5.56
	Total	90	100.00

**Table 5. Purpose of buying cold pressed oil**

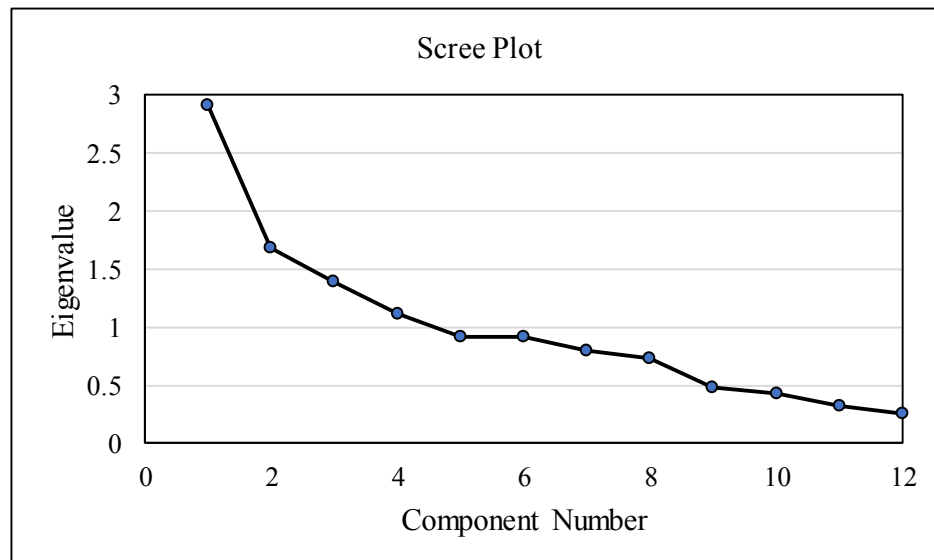
S. No	Purpose of buying	Number of respondents	Percentage
1	Cooking	61	67.78
2	Specialist use like cosmetics	11	12.22
3	Medicinal	12	13.33
4	Massage for joint pains	6	6.67
	Total	90	100.00

**Table 6. KMO and Bartlett's Test**

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</b>		.618
Bartlett's Test of Sphericity	Approx. Chi-square	227.430
	Df	66
	Sig.	.000

**Table 7. Consumers opinion about the cold pressed oil**

S.No	Opinion about The cold pressed oil	Component			
		Product Attributes	Product Appearance	Good Service Offered	Nutritional Aspects
1	Quality	.829			
2	Taste	.825			
3	Aroma	.809			
4	Price	.695			
5	Variety of product	.601			
6	Packaging		.882		
7	Appearance		.876		
8	Service			.746	
9	Availability			.685	
10	Customary practice			.571	
11	Health benefits				.939
12	Mineral value				.932

**Fig. 1. Cattell's scree plot showing the factors influencing the opinion for cold pressed oil**

### 3.4 Consumer's Opinion about the Cold Pressed Oil

Factor analysis was used to know the opinion of the consumers about the cold pressed oil they use. The first step is to check the adequacy of factor analysis with the help of the Kaiser-Mayer-Olkin (KMO) measure and Bartlett's test of sphericity (Table 6). The KMO measure was 0.618 which reveals that the factor extracted will account for a fair amount of variance. The Chi-square value for Bartlett's test was significant, thus, rejecting the null hypothesis of independence among the variables. Although it is possible to have as many factors as the number of variables, those factors with Eigenvalues greater than one were considered for determining the number of factors. Therefore, with the help of Cattell's scree plot number of factors was determined (Fig 1).

The correlation matrix of rotated factor loading is presented in Table 7 from the table, it could be observed that the quality, taste, and aroma. Price of the product, variety of product is addressed and were substantially loaded on the factor (component) 1, while packing, appearance, is loaded on factor 2; service, availability, customary practice was loaded on factor 3; health aspects, the mineral value was loaded on factor 4.

### 4. CONCLUSION

The trends in consumer awareness indicated that they were highly health conscious and thus preferred the cold-pressed oils over refined oils. Quality and the price were the main factors that influenced the purchase decision of the consumers. Educational level and income were directly linked to the buying behaviors as the majority of the respondents were graduates and people living in urban areas earning above 9 lakhs per annum. These attributes implied that literates and high-income respondents were comparatively more aware of the health aspects of cold pressed oils and were willing to pay a higher price. Product attributes, product appearance, good service offered, nutritional

aspects are the four factors influencing the opinion on the cold pressed oil.

### CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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