

## Consumer Awareness About Honey and Honey Related Information

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**Abstract** The present investigation aimed at studying the consumer's preference for honey and the attributes influencing the consumers. The sampling was done in different localities of Bengaluru to get a diversification in the sample mainly based on region. Data were collected from various age groups, income groups and from both the sexes. Data were collected from consumers who visited the outlets selling honey using questionnaire. A total of 100 respondents, belonging to different fields such as, marketing, academicians, self employee, agriculture, housewife were interviewed while they were purchasing honey. The main aim of the study is to assess the extent of awareness on honey aspect by the consumers. In the present study, chi-square ( $\chi^2$ ) test was used to analyze if there was any association between various factors such as age, sex, occupation, education, BMI, type of family, income, food habit which might influence the sample consumers. Analysis of the consumer's responses revealed that nearly 37 per cent

of the respondents were partially aware of honey potentials and 63 per cent of the respondents were fully aware.

**Keywords** Consumer profile, Consumer preference, Extent of awareness, Honey facts.

### Introduction

Honey is the prime value added product of bee keeping both from a quantitative and an economic point of view. It is also the first bee product used by humankind in ancient times. The history of the use of honey is parallel to the history of man and in virtually every culture, evidence can be found of its use as a food source and as a symbol employed in religious, magic and therapeutic ceremonies, an appreciation and reverence it owes among other reasons to its unique position until very recently, as the only concentrated form of sugar available to man in most parts of the world [1].

Honey is defined as the natural sweet substance produced by honey bees from the nectar of blossoms and from secretions of living parts of plants, excretions of plant sucking insects on the living parts of plants which honey bees collect, transform and combine with specific substances of their own, store and leave in the honey comb to ripe and nature [2].

Honey is completely a natural product and raw honey can be used directly from the comb as taken

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from the beehive. Honey contains about 181 substances including sugars, proteins, moisture, vitamins, minerals, hydroxyl methyl furfural (HMF), enzymes, flavonoids, phenolic acids, volatile compounds [3]. However, the main constituents of honey are moisture, glucose (dextrose), fructose, maltose, sucrose, mineral matter and proteins [4]. Among various preservatives used, one which has received much interest is honey. Thus renewed interest in honey as a food preservation agent has led to the search for new antimicrobial honeys. Along with this property, honey is said to be possessing functional food attribute in the form of a prebiotic. It has been implicated as growth, activity and viability enhancer for commercial probiotic cultures in food formulations [5].

## Materials and Methods

Information regarding consumption and purchasing pattern of honey by the consumers was collected using a structured questionnaire developed and pre-tested. A convenient sampling method was adopted to select the respondents. The sampling was done in different localities of Bengaluru to get a diversification in the sample mainly based on region. Data was collected from various age groups, income groups and from both the sexes. Data was collected from consumers who visited the outlets selling honey using questionnaire. A total of 100 respondents, belonging to different fields such as, marketing, academicians, self employee, agriculture, housewife were interviewed while they were purchasing honey.

Data was collected regarding socio-economic characteristics like household size, age, income, education, expenditure, purchasing behavior, attributes influencing their purchase and mode of payment were collected by personally interviewing the respondents using a structured questionnaire which was pre-tested and redefined. The respondents were contacted individually and the objectives of the study were explained to them to ensure their cooperation and accuracy in their responses. Data were collected to assess the extent of awareness on honey aspect by the consumers. The obtained raw data were analyzed using appropriate statistical techniques and categorized into tables to draw meaningful inferences. The analytical

**Table 1.** Personal characteristics profile of consumers. (Respondents no : N=100).

Characteristics	Category	Respondents	
		N	%
Age (years)	Below 25	39	39.0
	25—35	32	32.0
	Above 35	29	29.0
Sex	Male	52	52.0
	Female	48	48.0
Occupational status	Private employee	49	49.0
	Govt employee	24	24.0
	Housewife	7	7.0
	Business	15	15.0
Educational level	Agriculture	5	5.0
	Up to secondary	9	9.0
	PUC	16	16.0
	Graduates	46	46.0
Body mass index (BMI)	Postgraduates	29	29.0
	Underweight	21	21.0
	Normal	62	62.0
	Obese	17	17.0

techniques employed in this study are explained below.

## Consumer's preference

Analysis of the consumer's responses revealed that nearly 37% of the respondents were partially aware of different aspects of honey and 63% of the respondents were fully aware of honey usage, benefits.

Awareness	Number	Percentage (%)
Partially	37	37
Fully	63	63
Total	100	100

## Results and Discussion

The socio-economic characteristics of the consumers are given in the Table 1. The distribution of the consumers according to the age group was analyzed according to which 39.0% of the respondent were in the age group of more or equal to 25 years of age, followed by 32.0% found in the age of 25—35 years. Further 29.0% of the respondents noticed were above 35 years of age. The result also indicates that majority of respondents (52.00%) were male as compared to remaining 48.0% were female respondents in the

**Table 2.** Socio-economic profiles of consumers.

Characteristics	Category	Respondents (N=100)	
		Number	Percent
Type of family	Nuclear	50	50.0
	Joint	50	50.0
Family income/month	Below Rs 10,000	43	43.0
	Rs 10,000–25,000	39	39.0
	Above Rs 25,000	18	18.0
Food habits	Vegetarian	22	22.0
	Non vegetarian	78	78.0
Duration of honey used	< 6 months	38	38.0
	6 months- 1 year	18	18.0
	1–5 years	22	22.0
	5–10 years	12	12.0
	>10 years	10	10.0

study group. Statistical analysis also showed significant association between the age group and gender with extent of awareness on honey. This reflects the fact that consumers of all age groups and both sexes covered under study are aware of honey.

The distribution of the sample according to the income group reveals that the highest number of consumers belonged to the middle income group ranging between Rs 10,000 to 25,000 per month. Statistical analysis also showed significant association between the income groups and extent of awareness about honey. This shows that market for honey is a niche market, catering exclusively to the consumers of middle income groups. This is due to the fact that the price for honey is comparatively higher which is prohibitively expensive for consumers, most of the times quality of honey is not guaranteed by the con-

sumers.

The distribution of the sample according to the literacy level, occupational groups and BMI status reveals that the highest number of consumers that is 68.9% of the respondents belonging to post-graduates, 70.0% of the respondents belonging to obese and 69.3% the respondents belonging to private employees found with full awareness on honey aspect. However statistical test showed non-significant association between income groups and extent of awareness on honey aspect. This is due to the fact that irrespective of their educational, occupational, and BMI status awareness of honey, may be due to its established usage from ancient days, as it is the first bee product used by humankind in ancient times. The history of the use of honey is parallel to the history of man and in virtually every culture evidence can be found of its use as a food source and as a symbol employed in religious, magic and therapeutic ceremonies [2].

It is observed that 38% of the respondents are using honey for less than 6 months and 22% of the respondents are using since 1—5 year ; 18% of the respondents are using honey for less than 1 year (Table 2). This indicates that majority of the consumers have started using honey only since from less than 6 months which indicates awareness about health benefits of honey is new to consumers. It is also observed that there is increase in the number of honey consumers over years, which indicates that awareness on honey is increasing. Concerns about health are prompting a growing number of consumers to change dietary habits.

**Table 3.** Association between age, gender and extent of awareness of honey facts. \*Significant at 5% level.

Characteristics	Category	Extent of awareness				Total		Chi-square value
		Partially No.	%	Fully No.	%			
Age (years)	Below 25	10	25.6	29	74.4	39	100.0	6.12*
	25—35	13	40.6	19	59.4	32	100.0	
	Above 35	14	48.3	15	81.7	29	100.0	
Gender	Male	24	46.2	28	53.8	52	100.0	3.89*
	Female	13	27.1	35	72.9	48	100.0	
Total		37	37.0	63	63.0	100	100.0	

**Table 4.** Association between occupation, educational level and extent of awareness of honey facts. NS: Non-significant at 5% level.

Characteristic	Category	Extent of awareness				Total		Chi-square value
		Partially No.	%	Fully No.	%			
Occupation	Private	15	30.6	34	69.4	49	100.0	2.81 NS
	Govt	12	50.0	12	50.0	24	100.0	
	Housewife	3	42.8	4	57.2	7	100.0	
	Self employment	5	33.4	10	66.6	15	100.0	
	Agriculture	2	40.0	3	60.0	5	100.0	
Educational level	Up to secondary	4	44.5	5	55.5	9	100.0	1.91NS
	Puc	8	50.0	8	50.0	16	100.0	
	Graduates	16	34.7	30	65.3	46	100.0	
	Postgraduates	9	31.1	20	68.9	29	100.0	
Total		37	37.0	63	63.0	100	100.0	

The association between age and extent of awareness on honey is shown in Table 3. Result shows that 74.4% of the respondents with less than 25 years of age were full aware of honey and its application as compared to 59.4% of 25—35 years were fully aware of honey and its uses. However majority of the respondents (81.7%) were found to be fully aware of honey and its usage belonged to the age above 35 years. However, the chi-square test established the significant association between age and extent of awareness on honey aspect at 5% level ( $\chi^2 = 6.12^*$ ).

The association existed between gender and extent of awareness on honey is given in Table 3. It is evident from the result that 72.9% of the female respondents were full aware of honey facts as compared to 53.8% of the male respondent. However, the chi-square test established the significant

association between gender and extent of awareness on honey aspect at 5% level ( $\chi^2 = 3.89^*$ ).

The association between occupational status and extent of awareness on honey is presented in Table 4. It was observed from the findings that majority of the private employees (69.4%) were full aware of honey facts followed by self employees (66.6%), agriculturist (60.0%), housewives (57.2%) and government employees (50.0%). However, the chi-square test established non-significant association between occupational status and extent of awareness on honey facts at 5% level ( $\chi^2 = 2.81\text{NS}$ ).

The association between educational level and extent awareness on honey facts is indicated in Table 4. It is evident from the result that 68.9% of the respondents belonging to post graduates were full aware of honey facts as compared to graduates

**Table 5.** Association between BMI, type of family, family income and extent of awareness of honey facts.\*Significant, NS: Non-significant at 5% level.

Characteristic	Category	Extent of awareness				Total		Chi-square value
		Partially No.	%	Fully No.	%			
Body mass index (BMI)	Underweight	6	37.5	10	62.5	16	100.0	0.06NS
	Normal	21	36.8	36	63.1	57	100.0	
	Obese	10	37.0	19	70.3	27	100.0	
Type of family	Nuclear	24	48.0	26	52.0	50	100.0	5.17*
	Joint	13	26.0	37	74.0	50	100.0	
Family income/month	Below Rs 10,000	18	41.8	25	58.2	43	100.0	6.34*
	Rs 10,000–25,000	9	23.1	30	76.9	39	100.0	
	Above Rs 25,000	10	55.6	8	44.4	18	100.0	
Total		37	37.0	63	63.0	100	100.0	

(63.5%) respondents, followed by up to secondary (55.5%) and PUC respondents (50.0%). However, the chi-square test established non-significant association between educational level and extent of awareness on honey facts at 5% level ( $\chi^2 = 1.91$  NS).

The association between body mass index and extent of awareness on honey potentials is shown in Table 5. It is evident from the result that 63.2% of the respondents belonging to normal BMI were full aware of honey and its usage as compared to 62.5% of the respondents belonging to underweight. However the majority of the respondents found to be fully aware of honey facts belonging to obese (70.0%). However, the chi-square test established non-significant association between body mass index and extent of awareness on honey aspect at 5% level (chi-square = 0.06 NS).

The association between type of family and extent of awareness on honey facts is depicted in Table 5. It is evident from the result that the majority of the respondent (74.0%) belonging to joint family were full aware of honey facts as compared to 52% of the respondents belonging to nuclear family. However the chi-square test established the significant association between type of family and extent of awareness on honey facts at 5% level (chi-square = 5.17\*).

The association between family income level and extent of awareness on honey facts is given in Table 5. It was observed from the findings that 58.2% of the respondents belonging to family income level less than Rs 10,000 were full aware of honey facts as compared to 44.4% of the respondents belonging to family income level more than Rs 25,000. However the majority of the respondents (76.9%) found to be full aware of honey facts belonging to family income level between Rs 10,000 to 25,000. However, the chi-square test established the significant association between

family income level and extent of awareness on honey facts at 5% level ( $\chi^2 = 6.34^*$ ).

## Conclusion

Analysis of the consumer's responses revealed that nearly 37% of the respondents were partially aware of honey facts and 63% of the respondents were fully aware. The distribution of the consumers according to the age group was analyzed according to which 39.0% of the respondent were in the age of more or equal to 25 years of age, followed by 32.0% found in the age of 25—35 years. The distribution of the sample according to the income group reveals that the highest number of consumers belonged to the middle income group ranging between Rs 10,000 to 25,000 per month. The distribution of the sample according to the literacy level, occupational groups and BMI status reveals that the highest number of consumers that is 68.9% of the respondents belonging to postgraduates, 70.0 per cent of the respondents belonging to obese and 69.4% the respondents belonging to private employees found with full awareness on honey aspect.

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