



Consumer Behaviour Towards Rajma (*Phaseolus vulgaris*); A study of Solan Town

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Abstract : The present study entitled “Consumer Behaviour Towards Rajma (*Phaseolus vulgaris*); A study of Solan Town”. The study is conducted with the objective to study the variations in consumer behavior with demographic variables. The location for this present study was the Solan Town, Himachal Pradesh. The sample was collected from various consumers. The current study's sample size was capped at 100 participants. Study reveals that large number of respondents i.e., 91 percent consumes Rajma while 9 per cent of the respondents do not consume Rajma. consume Rajma due to taste and other medical issues. Rajma Chitra is the variety of Rajma mostly preferred by the respondent i.e., 31.86 percent. And more than half of the respondents (58.24) don't grow Rajma at home. The finding indicates that there is the need of Various campaigns should be organized for the consumers to tell them the benefits of homegrown Rajma and motivate them to grow Rajma in their kitchen gardens for self-consumption. The Low-Cost Production Method should be used for the production of Rajma so that the market price should be less. Consumers should have proper knowledge about the different varieties of the Rajma so that they can switch to different varieties accordingly.

Index Terms- Rajma, *Phaseolus vulgaris*, Solan Town, Consumer Behaviour.

INTRODUCTION

There are three types of Rajma that are mainly consumed in India: Chitra Rajma, Jammu Rajma, and Red Rajma. Chitra Rajma is basically grown in Himalayas.

In HP we consume various types of Rajma like Kinnaur Rajma, Kinnaur Rajma (Capsule), Organic Red Pencil Rajma, Rajma Chitra out of which Kinnaur Rajma (Capsule), Organic Red Pencil Rajma, Organic Red Rajma are sold and consumed in Solan.

Study of consumer behavior main focus is customer satisfaction because a customer is the only person with whose presence businesses actually exist. Consumer Behavior is very complex which keeps on changing constantly. It is affected by various internal like needs, wants and attitudes and external factors like social groups, culture and status.

1.1 Rajma

Rajma was first grown in Mexico. It is a part of *Leguminaceae* family, having botanical name *Phaseolus vulgaris*. Rajma is also called as kidney beans. It has become famous all over the world due to its health benefits and taste. It is termed as “King of Nutrition”. It is cultivated in both the seasons i.e., Rabi and Kharif in all over the India. Sowing season may vary from state to state. This crop grows well in tropical and temperate region receiving 60-150 cm of rainfall annually. Ideal temperature for better yield is 15 – 25 degrees Celsius. It grows on wide variety of soils. However, well drained loamy soils are best for its cultivation. Good soil moisture is required for the proper germination of seeds. pH should be 5.5 to 6.0 for better yield. Seed rate should be 40-50 kg/hac. There should be proper row to row and plant to plant spacing. Row to row spacing is about 30cm and plant to plant to spacing should be 10cm to 15cm. For proper absorption of moisture in the soil the seeds should be sown at the depth of 6cm to 7cm.

Brazil is top producer of kidney beans in the world. Kerala is the major producers of Rajma in India.

1.2 Consumer Behaviour

Consumer behavior is the study of individuals or groups and all the activities associated with the purchase and use of goods and services. Understanding consumer behavior is essential for a business to find success for its current products as well as new product launches. Every consumer has a different thought process and attitude towards buying a particular product.

Consumer behavior helps in designing the business policies and it means that all the business policies have designed taking into consideration the consumer preference so that product can be successful in the market. Studying of consumer behavior towards Rajma

is important in Solan town as it help marketers to understand the expectation of the consumers. They can understand the likes and dislikes of consumers.

Consumer behavior doesn't remain the same or constant in every situation it changes time to time. There are various factors which affects consumer behavior. As the change comes in these factors, consumer behavior also changes.

The Demographic factors which affect consumer behavior are: (1) age (2) sex (3) marital status (4) income (5) family background (6) education (7) occupation (8) family size (9) geographic factors.

The Social Factors include (1) Reference Groups (2) Relatives (3) Role in the society (4) Status in the society (5) Family Members. Whereas (1) Culture (2) Subculture (3) Social Class are included in the Cultural Factors.

Here an attempt has been made that how and to what extent these factors affects the behavior of consumers. It is quite necessary for the manufacturers to know the behavior of consumers. So, that they can increase their sales.

1.3 Solan as a Consumer Market

Solan is a city in district Solan, Himachal Pradesh. The Solan city is divided into 13 wards. The 3rd largest Municipal Corporation of Himachal Pradesh after Shimla and Dharamshala. The Solan Municipal Council has population 5,80,320 of which 3,08,754 are males while 2,71,566 are females.

1.4 Objective

- i) Main objectives of the research are:
- ii) To study the consumer behavior towards Rajma.
- iii) To study variations in consumer behavior with demographic variables.

REVIEW OF LITERATURE.

Scheinder (2002) in his study on the market and consumption of pulses in Europe noted that due to the diverse regional food customs and traditions, there are significant differences in how pulses are consumed across the various EU member states. Additionally, there are variations in grain legume availability and market prices. Pulses are primarily sold in canned form. The most popular pulse in the European Union is dry beans

Nagaraja (2004) studies consumer behavior in rural areas: a micro-level study on the purchasing behavior of rural consumers has shown that knowledge of one's own, neighboring, and family consumers has a significant impact on a person's purchase decisions. His own family members' immersions were exerting the most impact possible on his purchases. The fundamental and essential drivers of this purchasing behavior were, above all, the superiority of the various products and their accessibility. The feel, touch, and other aspects of any promotional campaign have an impact on consumers.

Porter (2004) pointed that firms can add value by giving customers reduced prices or special offers in order to outperform their competitors. Stage 4 refers to the judgments consumers make about what to buy after weighing the offers from various retailers.

Ramaswamy et al. (2005) did a study on consumer behavior toward quick food products in Madurai, Tamil Nadu, and came to the conclusion that customers form opinions about a brand based on a variety of product attributes, which affects the course of their decision-making. According to the study, 76 per cent of consumers place the most importance on the product's price, while the majority places the most importance on the product's quality (78 percent).

Backhaus et al. (2007) stated that since the buying choice corresponds to the actual transaction, it is one of the crucial stages. After identifying the need, looking for pertinent information, and weighing the options, the consumer decides whether or not to proceed.

Gupta (2009) conducted a study on the habits of Indian customers when it comes to buying food products in order to identify the variables influencing these habits. In India, individuals regard cleanliness, pesticide-free status, freshness, and a clean storefront as some of the aspects that are most important to them when choosing food products. The sale of food products is not significantly impacted by promotional offer.

Liao, Yu - Jui (2012) stated that external and internal variables are the two key influences on customer behavior. Cultural, societal, and personal variables are some of the subcategories of external factors. Social variables include reference groups, family, roles, and status, whereas cultural factors include culture and subculture. A personal aspect may be your age, your stage in life, your job, or your financial situation. self-concept and personality. as well as internal elements like Motivation. Perception. Memory and learning.

Sharma (2018) conducted a study on Indian consumers about buying food products. In India people focus on having fresh and organic food and fresh and organic food have been a perfect choice for Indian customers.

Rao (2020) did a study on Indian market and he found out that customers prefer locally and organic food grown nearby. They are willing to pay more for premium organic food and also, they are more conscious about their health.

METHODS AND MATERIALS

Research Methodology is the process of gathering and analyzing data for a study so that information can be obtained from it. It is a crucial phase because it directly affects the reliability of the findings. The main goal of this study is to know about consumer behavior towards the Rajma in Solan Town. Sampling methods used throughout the study, in order to achieve the specific goal of the current investigation have been discussed in this chapter.

3.1 Locale of Study

The location of the study area should be appropriate to achieve all the objectives of the result. The locale for this present study was the Solan Town, Himachal Pradesh. The sample was collected from various consumers.

3.2 Sample size

The current study's sample size was capped at 100 participants.

3.3 Data Collection

Data collection is a method of gathering and analyzing data from a variety of sources to acquire a thorough and precise picture of a subject of interest. It can be done by using both primary as well as secondary sources. By gathering data, one can analyze the results and predict future trends. A structured questionnaire was used to collect the data. The questionnaire was designed according to the objectives of the study.

Primary Data

Primary data are those which are collected afresh and for the first time, and thus happen to be original in the character (Kothari,2004). Primary data is more costly to obtain as compared to the secondary data, which is collected from published sources, but primary data is more current and relevant. Primary data and the opinion of the respondent have been collected by questionnaire.

Survey Instrument

The questionnaire consists of two parts i.e., “Part A” and “Part B”. The information in Part A consists of various demographic variables such as name, gender, age, marital status, and educational qualification. Part B was designed to know about the consumer behavior towards the Rajma.

Secondary Data

Secondary data is information that has already been gathered and is easily accessible from other sources. Such data is cheaper as compared to the primary data and when primary data cannot be accessed at all, the data may still be available. The secondary data for the present study was collected from books, research papers, articles, magazines, and websites.

3.4 Data Analysis

The critical evaluation of collected and grouped data is known as data analysis. It is the process of analyzing each piece of presented data by applying logical and analytical reasoning. According to the needs of the study, the information gathered from various sources was classified and tabulated. Below are the statistical metrics that were applied during the research.

Frequency

The quantity of occurrence of an event or value is referred to as its frequency.

OR

The number of times an event or value occurs is referred to as its frequency. It is basically used to find out the number of respondents in a particular cell.

Frequency= Sum of responses (in numbers)

Percentage

The proportion of something to the whole is measured by a percentage, which is frequently stated in terms of how many there are per 100. Using this method, you can compare two or more data series using a certain form of a ratio. The percentage method's formula is as follows:

Where,

$$P = \frac{X}{Y} \times 100$$

P=X/Y*100

X = Number of respondents falling in a specific category to be measured

Y = Total number of respondents

A chi-square test, written as X^2 (Pronounced as Ki-square). It is an important test amongst the several tests of significance developed by statisticians. It is a statistical measure used in the context of sampling analysis for comparing a variance to a theoretical variance. As a non-parametric test, it “can be used to determine if categorical data shows dependency or the two classifications are independent. It can also be used to make comparisons between theoretical populations and actual data when categories are used.

Thus, the chi square test is applicable in large number of problems. The test is, in fact, a technique through the use of which it is possible for all researchers to:

- i) Test the goodness of fit
- ii) Test the significance of association between two attributes
- iii) Test the homogeneity

The formula for chi square test is:

$$X^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Where,

O_i = Observed value (actual value)

E_i = Expected value

Finding the P-value

The Chi-Square test gives a P-value to help you know the correlation if any! \ P-value are calculated from the deviation between the observed value and a chosen reference value, given the probability distribution of the statistic, with a greater difference between the two values corresponding to a lower p-value.

P-value	Description	Hypothesis Interpretation
P-value ≤ 0.05	It indicates the null hypothesis is very unlikely.	Rejected
P-value > 0.05	It indicates the null hypothesis is very likely.	Accepted or it “fails to reject”.
P-value > 0.05	The P-value is near the cut-off. It is considered marginal	The hypothesis needs more attention.

RESULTS AND DISCUSSION

The present study entitled “Consumer Behaviour Towards Rajma: A Study of Solan Town” was conducted in Solan of Himachal Pradesh with 100 sample respondents. Both primary and secondary data were used for the study. The primary data were collected with questionnaire. The results obtained in the present investigation have been described below:

4.1 GENDER

Table 4.1 Gender of Respondent

Gender	Frequency	Percentage (%)
Male	39	39
Female	61	61
Total	100	100

Table 4.1 depicts the gender (male and female) of the respondents. From the table we can derive that 61 percent of the respondents were females and the rest 39 per cent were males. It can be identified from the results that majority of the respondents were females.

4.2 AGE OF RESPONDENT

Table 4.2 Respondent's Age

Age	Frequency	Percentage (%)
18-28 Years	27	27
28-38 Years	34	34
38-48 Years	31	31
Above 48 Years	8	8
Total	100	100

Table 4.2 shows the sample profile as per age group of respondents. It is seen that most of the respondents are in the age group of 28-38 Years i.e. 34 per cent. It is also seen that respondents are least (8%) in the group of more than 48 Years. From the figure we also concluded that 61 per cent of the respondents are young.

4.3 MARITAL STATUS

TABLE 4.3 MARITAL STATUS OF RESPONDENT

Marital Status	Frequency	Percentage (%)
Married	64	64
Unmarried	36	36
Total	100	100

Table 4.3 exhibits the demographic profile of sample with respect to marital status. The majority of the respondents are married i.e. 64 constitutes 64% of the sample while 36 respondents which constitutes 36% are unmarried.

4.4 EDUCATIONAL QUALIFICATION**Table 4.4 Educational Qualification of respondent**

Educational Qualification	Frequency	Percentage (%)
Matric	4	4
Higher Secondary	11	11
Graduation	59	59
Post-Graduation	26	26
Total	100	100

Table 4.4 shows the sample profile as per the educational qualification of the respondents. It is evident from the table that 4 per cent of the respondent are matriculate and 11 per cent are those who have done secondary education. 59 per cent of the respondents are graduate and 26 per cent of respondents are post graduate.

4.5 FAMILY SIZE

Table 4.5 Family Size of Respondent

Family size (number)	Frequency	Percentage (%)
1-5	55	55
6-10	41	41
11-15	4	4
Total	100	100

Table 4.5 shows the size of the family of the respondents. Table reveals that the majority of the respondents i.e. 55% had the family size of 1-5 people, followed by 41 percent having 6-10 people. Only 4 percent of the respondent had 6-10 people in their family and no one had the family size of more than 15 people.

4.6 OCCUPATION

Table 4.6 Occupation of Respondent

Occupation	Frequency	Percentage (%)
Private Employee	36	36
Government Servant	32	32
Businessman	5	5
Doctor	22	22
Other	5	5
Total	100	100

Table 4.6 explains about the occupation of the respondent. From the table we concluded that 36 per cent of the respondent are private employee whereas 32 percent of the respondent are government servant. 5 per cent of the respondent are engaged in their business and 22 per cent are doctor. Remaining 5 per cent of the respondent are belong to another category which includes student, teacher, housewife, lawyer etc.

4.7 ANNUAL FAMILY INCOME (IN RUPEES)

TABLE 4.7 ANNUAL FAMILY INCOME OF THE RESPONDENT

Family Income (Rupees)	Frequency	Percentage (%)
Up to 2 Lakhs	29	29
2-5 Lakhs	51	51
More than 5 Lakhs	30	30
Total	100	100

Table 4.7 tells us about the family income of the respondent. 29 per cent of the respondent having family income up to 2 lakhs, 51 percent of the respondent having family income up to 2-5 lakhs and 30 percent of the respondent have family income more than 5 lakhs.

4.8 CONSUMPTION OF RAJMA

Table 4.8 Rajma Consumption

Consumption	Frequency	Percentage (%)
Yes	91	91
No	9	9
Total	100	100

Table 4.8 summarizes about the consumption of Rajma or not by respondent. It concluded that 91 per cent of people consumes Rajma and 9 per cent of respondents do not consumes Rajma.

4.8.1 POSSIBLE REASONS FOR NOT CONSUMING RAJMA.

TABLE 4.8.1 POSSIBLE REASONS FOR NOT CONSUMING RAJMA

Possible reasons for not consuming Rajma	Frequency	Percentage (%)
Due To Taste	6	66.66
Other	3	33.33
Total	9	100

Table 4.8.1 depicts the reason why respondents don't consume Rajma. 33 percent of respondent don't consume Rajma due to taste and 67 per cent respondents have other reasons like various medical issues.

4.9 VARIETY OF RAJMA

Table 4.9 Variety of Rajma

Variety	Frequency	Percentage (%)
Kinnaur Rajma (Capsule)	20	21.97
Organic Red Pencil Rajma	18	19.7
Organic Red Rajma	24	26.3
Rajma Chitra	29	31.86
Total	91	100

Table 4.9 shows us the data related to the variety which is mostly preferred by the respondent. From the figure we can conclude that most of the respondent i.e., 31.8 per cent prefers the Rajma Chitra followed by the 26.3 per cent respondents that prefers Organic red Rajma. Remaining 21.9 and 19.7 per cent respondents prefers Kinnaur Rajma (Capsule) and Organic Red Pencil Rajma respectively.

4.10 NEW VARIETY ON DISCOUNT

Table 4.10 Will respondent buy new variety if available at discount?

	Frequency	Percentage (%) e
Yes	85	93.4
No	6	6.59
Total	91	100

Table 4.10 summarizes that if new variety available at discount, will respondent buy it or not? From the fig we concluded that 6.59 per cent of the respondent are not ready to buy the new variety whereas 93.4 per cent respondent are ready to buy new varieties at discount.

4.11 FACTORS INFLUENCING PURCHASE

Table 4.11 Factors Influencing Purchase

Marketing Element	Frequency	Percentage (%)
Price	30	32.96
Brand Name	22	24.17
Availability in store	22	24.17
Packaging	13	14.28
Promotion	4	4.39
Total	91	100

Table 4.11 tells us about the marketing element which strongly influences the respondent for purchasing Rajma. 32.96 per cent of the respondent get influenced by the price followed by 24.17 per cent respondent who get influenced by the brand name and availability in store. Whereas, 14.28 per cent respondent purchases Rajma by getting influenced from packaging and least per cent of respondent i.e. 4.39 per cent get influenced by promotion.

4.12 HOME GROWN

Table 4.12 Home Grown Rajma

	Frequency	Percentage (%)
Yes	38	41.75
No	53	58.24
Total	91	100

Figure 4.12 summarizes the data about the growing of Rajma at home or not. From the fig we concluded that 58 per cent of the respondent grow Rajma at home and 42 per cent of respondent do not grow Rajma at home.

4.13 RESPONDENT PREFERENCE

Table 4.13 Respondent Preference

AAF	Frequency	Percentage (%)
Homegrown Rajma	34	37.36
Purchase from market	57	62.63
Total	91	100

Table 4.13 tells us about the preference of the Rajma, i.e. home-grown Rajma and purchase from market. 37.36 percent of respondent prefers homegrown Rajma and remaining 62.63 percent of respondent purchases from market. Out of approx. 42 percent of respondent who grows Rajma at home, only 37.36 percent respondent prefers to eat home grown Rajma.

4.14 QUANTITY OF RAJMA CONSUMED

Table 4.14 Quantity of Rajma Consumed by Family per year

Quantity	Frequency	Percentage (%)
1-2kg	30	32.96
2-4kg	39	42.85
5-7kg	20	21.97
More than 7kg	2	2.19
Total	91	100

From the table 4.14 we can conclude that family of 32.96 percent of the respondent consume 1-2kg Rajma in a month and 42.85 percent of respondent consumes 2-4kg Rajma. 21.97 percent respondent consumes 5-7kg followed by 2.19 percent respondent who consumes more than 7kg.

4.15 AGE GROUP CONSUMING MORE RAJMA

Table 4.15 Age Group Consuming More Rajma

Age Group	Frequency	Percentage (%)
0-12 years	2	2.19
13-18 years	33	36.26
19-49 years	55	60.43
Above 49 years	1	1.09
Total	91	100

Table 4.15 depicts the age group which consume more Rajma. From the table we concluded that family member of the respondent in the age group between 1-12 years consume only 2.19 per cent of the Rajma. While the members between the 13-18 years consume 36.26 percent Rajma. Age group between 19-49 years consume most of Rajma, i.e. 60.43 percent and least Rajma is consumed by the people above the age of 49 i.e. 1.09 percent.

4.16NUMBEROFRECIPES**TABLE4.16NUMBEROFRECIPESKNOWNBYRESPONDENT**

NumberofRecipes	Frequency	Percentage (%)
1-2Recipes	38	41.75
3-4Recipes	42	46.15
5-6Recipes	11	12.08
Total	91	100

Table4.16summariesthedatarelatedtothenumberofrecipesknownbytherespondent. According to the table 41.75 per cent of respondent knows only 1-2 recipes ofRajmawhile46.15percentoftherespondentknow3-4recipes.5-6recipeswereknownby12.08per centand 0 respondent know recipe more than6.

4.17RECIPESOFRAJMA**Table4.17RecipesofRajmapreferredbyrespondent**

Recipes	Frequency	Percentage (%)
DryRajma	20	21.97
RajmaCurry	48	52.74
RajmaKebab	14	15.38
RajmaSalad	9	9.89
Total	91	100

Table 4.17 depicts the data about the recipe preferred by the respondent. Most of therespondentsi.e.52.74percentpreferstheRajmacurryfollowedbythe21.97percentrespondentwhoconsumesdryRajma.15.38percentof therespondentprefersRajmakebabandRajmasalad is least preferred by the respondent i.e.9.89 per cent.

4.18 NUTRITION BENEFIT**Table4.18 Total nutritionbenefitsforrespondent**

NutritionBenefit	Frequency	Percentage (%)
Proteins	40	43.95
Potassium	10	10.98
Vitamin K1	6	6.59
Carbohydrates	28	30.76
Iron	7	7.69
Total	91	100

Table4.18showsthenutritionbenefitsforwhichrespondentconsumestheRajma. 43.95 per cent respondent consumes Rajma for proteins followed by 30.76 per cent Rajma whoconsumes Rajma for carbohydrates. 10.98 per cent respondent consumes Rajma for potassiumand remaining 6.59 and 7.69 per cent of respondent consumes Rajma for vitamin K1 and ironrespectively.

4.19 AWARENESS ABOUT BAD EFFECTS OF RAJMA**Table 4.19 Bad effects of Rajma that respondents are aware of**

Bad effects	Frequency	Percentage (%)
Blocked Intestines	17	18.68
Abdominal Pain	24	26.37
Gas	48	52.74
Diarrhea	2	2.19
Total	91	100

Table 4.19 tells us about the bad effect of Rajma that our respondent is aware of. Nearly 18.68 per cent of the people are aware about the problem of blocked intestines and 26.37 per cent people have knowledge about the abdominal pain. Only 2.19 per cent of respondents are aware about the diarrhea whereas majority of people i.e. 52.74 percent are aware about the problem of gas.

4.20 INCIDENTS OF BAD EFFECTS OF RAJMA**Table 4.20 Incident of Bad Effect of Rajma**

Bad Effects	Frequency	Percentage
Blocked Intestines	13	14.28
Abdominal Pain	17	18.68
Gas	57	62.63
Diarrhea	4	4.39
Total	91	100

Table 4.20 summarizes the bad effects of Rajma that impacted the respondent's family. Family member of 14.28 per cent respondents are affected by the blocked intestines whereas the family members of 18.68 per cent respondents are affected by the problem of abdominal pain. 62.63 percent of the people are facing the problem of gas followed by only 4.39 percent people that having diarrhea due to Rajma consumption.

4.21 Number of Recipes Known and Family Size**Table 4.21 Number of Recipes Known with Family Size**

Family Size	1-2 Recipes	3-6 Recipes	Grand Total
1-5 people	30(21.71)	22(30.29)	52(100)
6-15 people	8(16.29)	31(22.71)	39(100)
Grand Total	38(41.7)	11(12.0)	91(100)

Note: Values in the brackets are Percentage

The chi-square statistic is 12.6665. The p-value is .000372. Significant at $p < .05$.

The chi-square statistic with Yates correction is 11.1839. The p-value is .000825. Significant at $p < .05$.

Impact of family size on the number of recipes known by the respondent can be seen in the Table 4.21. 57.6 per cent of the people in 1-5 family size know only 1-2 recipes. In case of family size with 6-10 people, most of them (62.85 per cent) knows 3-4 recipes. For 11-15 people family size 50 per cent knows 5-6 recipes. Thus, it can be said, as number of people increases in family, number of recipes known by respondent also increases.

4.22 AGE GROUP CONSUMING MORE RAJMA AND FAMILY ANNUAL INCOME

Table 4.22 Age group Consuming more Rajma with Family Annual Income

Family annual Income (In rupees)	0-12 years	13-18 years	19-49 years	Above 49 years	Grand Total
Upto 2 Lakhs	3(11.5)	-	1(3.84)	22(84.6)	26(100)
2-5 lakhs	13(27.65)	6(12.76)	2(4.25)	26(55.3)	47(100)
More Than 5 lakhs	1(5.55)	7(38.88)	1(5.55)	9(50)	18(100)
Grand Total	17	13	4	57	91(100)

Note: Values in the brackets are Percentage

$$X^2_{\text{calculated}} = 85.7$$

$$X^2_{\text{tabulated}} = 12.59$$

$$\text{Degree of freedom} = 6$$

As $X^2_{\text{calculated}}$ is greater than $X^2_{\text{tabulated}}$ we accept the alternate hypothesis which means that there is a difference in the age group consuming more Rajma as per the annual income.

Table 4.22 shows us the impact of annual income on the age group consuming more Rajma. In the family of respondents having annual income Up to 2 Lakhs, most of the Rajma are the people in the age group of 19-49 years (73.07 per cent). In case of family having 2-5 Lakhs annual income, most of the Rajma are consumed by the people in the age group of 13-18 years (51.0 per cent). For family having more than 5 Lakhs annual income, most of the Rajma is consumed by people in the age group of 19-49 years (83.33 per cent).

4.23 INCIDENTS OF BAD EFFECT OF RAJMA AND FAMILY ANNUAL INCOME

TABLE 4.23 INCIDENTS OF BAD EFFECT OF RAJMA WITH FAMILY ANNUAL INCOME

Family Annual Income (rupees)	Abdominal Pain	Blocked Intestines	Diarrhea	Gas	Grand Total
Up to 2 Lakhs	0	6 (23.07)	19 (73.07)	1	26
2-5 lakhs	2 (4.25)	24 (51.0)	21 (44.68)	0	47
More Than 5 lakhs	0	3 (16.66)	15 (83.33)	0	18
Grand Total	2	33	55	1	91

Note: Values in the brackets are Percentage

$$X^2_{\text{CALCULATED}} = 14.49$$

$$X^2_{\text{tabulated}} = 12.59$$

As $X^2_{\text{calculated}}$ is greater than $X^2_{\text{tabulated}}$ we accept the alternate hypothesis which means there is a difference between the incidents of bad effect of Rajma as per the annual income.

Impact of annual income on the incidents of bad effects of Rajma can be seen in the table. In the family of respondents having family income up to 2 lakhs, most of them (84.6 percent) suffer from gas problem. In case of family having 2-5 lakhs annual income, 55.3 percent people also suffers from gas. For families having more than 5 lakhs income, 50 percent of the people also suffers from gas.

4.24 RECIPES OF RAJMA PREFERRED AND FAMILY SIZE

TABLE 4.24 RECIPES OF RAJMA PREFERRED AND FAMILY SIZE

Family Size	Dry Rajma	Rajma Curry	Rajma Kebab	Rajma Salad	Grand Total
1-5 people	12 (23.0)	35 (67.30)	2 (3.84)	3 (5.76)	52
6-10 people	7 (20)	12 (34.2)	11 (31.1)	5 (14.28)	35
11-15 people	1 (0.04)	1 (0.04)	1 (0.04)	1 (0.04)	4
Grand Total	20	48	14	9	91

Note: Values in the brackets are Percentage

$$X^2_{\text{calculated}} = 17.5$$

$$X^2_{\text{tabulated}} = 12.59$$

$$\text{Degree of Freedom} = 6$$

As $X^2_{\text{calculated}}$ is greater than $X^2_{\text{tabulated}}$ we accept the alternate hypothesis which means there is a difference in recipes of Rajma preferred and family size.

Impact of family size on recipes preferred are shown in the table 4.24. 67.30 percent of people in 1-5 family size prefers Rajma curry and in family size with 6-10 people (34.2 percent) also prefers Rajma curry. In case of family size with 11-15 people, 0.04 percent members prefer all the recipes i.e. dry Rajma, Rajma curry, Rajma kebab, Rajma salad. Thus it can be said as more number of family member more they prefer Rajma curry.

4.25 HOMEGROWNRAJMAANDFAMILYSIZE**Table4.25HomegrownRajmaandfamilysize**

FamilySize	1-2Recipes	3-6Recipes	Grand Total
1-5people	30(21.71)	22(30.29)	52(100)
6-15people	8(16.29)	31(22.71)	39(100)
Grand Total	38(41.7)	11(12.0)	91(100)

Note: Values in thebrackets arePercentage

The chi-square statistic is 12.6665. The p-value is .000372. Significant at $p < .05$.

The chi-square statistic with Yates correction is 11.1839. The p-value is .000825. Significant at $p < .05$.

4.26 RAJMA CONSUMPTION ANDEDUCATION**Table4.26Rajmaconsumptionandeducation**

Education	No	Yes	Grand Total
Matric	2(50)	2(50)	4
HigherSecondary	1(9.0)	10(90.90)	11
Graduation	5(8.47)	54(91.5)	59
Post-Graduation	1(4)	25(96.15)	26
Grand Total	9	91	100

Note: Values in thebrackets arePercentage

$$X^2_{\text{CALCULATED}} = 9.22$$

$$X^2_{\text{TABULATED}} = 7.81$$

$$\text{DEGREE OF FREEDOM} = 3$$

As $X^2_{\text{calculated}}$ is greater than $X^2_{\text{tabulated}}$ we accept the alternate hypothesis which means there is a difference between in the Rajma consumption and education.

Impact of education on the Rajma consumption can be seen in the table 4.25. Matriculaterespondents have 50-50 ratio in consumption and non-consumption of Rajma. In case of Higher Secondary education 90.90 per cent respondents consume Rajma. 91.5 per cent graduated respondents consumes Rajma. In case of post-graduation 96.15 per cent respondents consumes Rajma. Thus, it can be said as educational qualification of respondent increases, consumption rate also increases.

SUMMARY AND CONCLUSION

This study was implemented to know about the consumer behavior towards the Rajma in Solan Town with the objective to study the variations in consumer behavior with demographic variables. In this study, we interacted with 100 respondents, and data were analyzed with the help of the percentage method. Based on the analysis and studying of data, important conclusions are drawn.

5.1 The findings of the study are discussed below:

- About 61 percent of respondents were females in this study.
- We found that most of the respondents were between the age of 28-38 years.
- 59 percent of respondents had studied up to graduation.
- Most of the respondents had family incomes between 2-5 lakhs.
- 91 percent of respondents consume Rajma while the remaining 9 percent don't consume Rajma due to taste and other medical issues.
- Rajma Chitra is the variety of Rajma mostly preferred by the respondent i.e., 31.86 percent.
- More than half of the respondents (58.24) don't grow Rajma at home.
- 2-4 kg of Rajma were consumed last month by the family of maximum respondents (42.85%)
- Members between the age group of 19-49 years in a family of 60.43 per cent of respondents were likely to consume more Rajma.
- 46.15 per cent of the respondents know 3-5 recipes of Rajma.
- Rajma Curry was preferred by most of the respondents (52.74 percent)
- 43.95 per cent of respondents consume Rajma for proteins.
- Most of the family members of the respondents (62.63 percent) face the problem of gas by consuming Rajma.
- As the number of people increases in family, number of recipes known by them also increases.
- With increase in the educational qualification of respondent, consumption rate of Rajma also increases.
- As the family size increases, rate of growing of Rajma at home also increases.
- More the number of members in the family more of them will prefer Rajma curry.
- As the annual income of family increases, gas problem to the family member decreases.

5.2 From the above findings and analysis following suggestions could be given:

- Organize various campaigns for the consumers to tell them the benefits of homegrown Rajma and motivate them to grow Rajma in their kitchen gardens for self-consumption.
- The Low-Cost Production Method should be used for the production of Rajma so that the market price should be less.
- Consumers should have proper knowledge about the different varieties of the Rajma so that they can switch to different varieties accordingly.
- Rajma should be grown organically.
- Consumers should be aware of the harmful effects and nutritional benefits of the Rajma.

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