

**“KNOWLEDGE, ATTITUDE AND PRACTICES STUDY ON  
CONSUMER AWARENESS ON FOOD LABELLING”**



**DISSERTATION SUBMITTED**

*In Partial Fulfillment of the Requirement for the Award of the  
Degree of*

**MASTER'S PROGRAMME IN  
CLINICAL NUTRITION AND DIETETICS**

**BY**

**TIJI GEORGE**

**(Register No: SM19MCN013)**

**DEPARTMENT OF CLINICAL NUTRITION AND DIETETICS**

**WOMEN'S STUDY CENTRE**

**ST. TERESA'S COLLEGE**

**(AUTONOMOUS) ERNAKULAM**

**APRIL 2021**

**CERTIFIED AS BONAFIDE RESERCH WORK**

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**Signature of Internal**

**Signature of External**

## **DECLARATION**

I hereby declare that the thesis entitled "**KNOWLEDGE, ATTITUDE AND PRACTICES STUDY ON CONSUMER AWARENESS ON FOOD LABELLING**" submitted in partial fulfillment of the requirement for the award of the Degree of **Master's Programme in Clinical Nutrition and Dietetics** is a record of original research work done by me under the supervision and guidance of **Ms. Ani Thomas Thottan**, Head of the Department, Department of Clinical Nutrition and Dietetics, Women's Study Centre, St. Teresa's College (Autonomous), Ernakulam and that the thesis has not previously formed on the basis for the award of any degree work has not been submitted in part or full or any other degree/diploma/ fellowship or the similar titles to any candidate of any other University.

**Place:**

**NAME: TIJI GEORGE**

**Date:**

## **CERTIFICATE**

This is to certify that the dissertation entitled "**KNOWLEDGE, ATTITUDE AND PRACTICES STUDY ON CONSUMER AWARENESS ON FOOD LABELING**" **submitted** in partial fulfillment of the requirement for the award of the Degree of **Master's Programme in Clinical Nutrition and Dietetics** is a record of original research work done by **TIJI GEORGE** during the period of her study under my guidance and supervision.

**Signature of the HOD**

**Signature of the Research Guide**

**Mrs. Ani Thomas Thottan**

**Head of the Department**

**Department of Clinical Nutrition  
and Dietetics**

**Women's Study Centre**

**St. Teresa's College, Ernakulam**

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**TIJI GEORGE**  
**SM19MCN013**

## **ABSTRACT**

A food label is the information present on the food products which is most important and direct means of communicating information to the consumers during purchasing. It comprises of printed, symbolic or graphical information which is accompanied by food for the purpose of promoting its sale. The food label is one of the most important and direct means of communication of product information between buyers and sellers. It conveys the information regarding the product identity, nutritional facts, preparation methods and safety measures. Food labels are very important public health tool that is used to promote healthy diet. The study focused to assess the Knowledge, Attitude and Practices of the consumer towards the food labelling and to create awareness among the consumers regarding the food labelling.

A structured questionnaire was formulated in order to gather information regarding the Knowledge, Attitude and Practices towards the food labelling, 157 subjects both male and female from Hyderabad city were selected for the study. Through the questionnaire information such as demographic profile, knowledge, attitude and practices of consumer, factors affecting the purchase behaviour and awareness on food labelling were collected. The data obtained from the study were collected and tabulated. Chi-square and pearson correlation methods were used to interpret the results. Statistical data were analysed by using IBM SPSS software.

Consumers are minimally informed regarding the food labels. Majority of the respondents read the food labels before purchasing. Advertisement and price are the major factors that affect the consumers while purchasing. There is no association between gender and food label usage; and annual income and food label usage; but



there is an association between the occupation and food label usage.

An awareness video was circulated and data regarding the awareness was also collected and analyzed through questionnaire. Majority of the consumer are aware about all most all content present on the food labels after the awareness.

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# **INTRODUCTION**

## 1. INTRODUCTION

The food label is one of the most important and direct means of communication of product information between buyers and sellers. Food product labeling, is a policy tool for ensuring provision of nutrition and health information to consumers. (Kim s. et.al, 2001) Food label will describe the nutrient content of a food product and helps to guide the consumer on food selection. Nutrition labeling should not deliberately imply that a food which carries such labeling has necessarily any nutritional advantage over a food which is not so labeled. (Van den, 2002).

Food label comprises of printed, symbolic or graphical information which is accompanied by food for the purpose of promoting its sale. (Ababio et.al.2012). Product differentiation strategy by Food Company has gained importance in the recent past across the globe. Food label is a legal requirement which has to be fulfilled by food processing companies for the consumer's better health and safety. Hence, food labels play an important role by disseminating important nutrition information to consumers.

Food labels are very important public health tool which helps to maintain healthy diet. It is important as it contains information regarding calories, fat, vitamins and minerals present in that particular food product. It helps to make healthy choices of food which prevent the consumer from health problems and diseases such as obesity, diabetics, cardiovascular diseases and various types of cancers. Thus following the information provided on food labels can help the consumers to prevent from unnecessary food-borne illness, allergic reactions and other diseases.

There are several guidelines given by WHO and FAO for food labeling which aims on the principle that no food should be presented in a manner that it is false,



misleading or deceptive. The purposes of the guidelines are to ensure the effective nutrition labeling; to ensure the information provided in the labels are not false, misleading, deceptive or insignificant in any manner and to ensure that no nutritional claim are made without nutrition labeling. (WHO, FAO 2007)

According to the food safety and regulatory Authority of India (2011) the nutritional information is necessary on food label along with name, expiry date, manufacturing date and ingredients. The objective of this modification in food regulation is to protect consumer health and maintain consumer dietary quality in India. In order to make healthier choices, consumers must be capable to differentiate healthier products from less healthy. (FSSAI 2011).

**Contents of food labels:** (Fssai guideline on Labeling) (What is on food labels)

**Name of the food product:** The first FSSAI guidelines on labeling a food product is “Name of the food product”; as the name suggests, the name of the food product should be clear in format on the packaged food. Name of the food product includes the brand and common name of the product.

**List of Ingredients:** The elements which are used in preparation of the final food product are known as “List of Ingredients.” The manufacturer should mention all the ingredients fairly and should not cheat the consumer. The ingredients should be mentioned in decreasing order by weight.

**Nutritional Information:** Manufacturer should give the information regarding the nutrient content such as calories which is obtained from fats, saturated and trans fat, carbohydrates, protein, sugars, vitamins, dietary fibers, calcium and iron present in the food products.

**Declaration regarding Vegetarian or Non-Vegetarian:** According to the FSSAI Guidelines on Labeling of Food Products, the manufacturer on the label should mention whether the product is vegetarian or non-vegetarian. It can be easily identified by simply looking at the small sign present on the corner of the label. Green color indicates that the product is vegetarian and the red color indicates that the product is non-vegetarian.

**Nutrient Content Claims:** Words and phrases may be used to describe the amount of a nutrient in a food, but it does not give actual information about the quantity present. Some nutrient content claims that may be seen on a food product label include: “Low Fat,” “Sugar Free,” “Good Source of Calcium,” “Low Sodium,” or “Reduced Sodium.”

**Health Claims:** It describes how a food or food component relates to a disease or health related condition. Only health claims supported by scientific evidence are allowed on labels. Currently there are eight health claims that have been approved.

They include: ‘Calcium and osteoporosis’ ‘Fat and cancer’ ‘Saturated fat, cholesterol, and heart disease;’ ‘Fiber containing grain products, fruits, vegetables and cancer;’ ‘Fruits, vegetables, and grain products that contain fiber and heart disease;’ ‘Sodium and high blood pressure;’ ‘Fruits and vegetables and some cancers;’ ‘Folic acid and neural tube birth defects.’

**Declaration regarding Food Additives:** Food additives are substances which are added to the food products to preserve and enhance the flavor and improve its taste and appearance. So, it is very important to give a declaration regarding the additives added on the food label.

**Name and Address of the Manufacturer:** The name of the manufacturer and complete address of the place of the manufacturing such as street address, city, state and zip code should be mentioned. Without mentioning any of these, products can be considered fake in the market.

**Net Quantity:** Net Quantity means weight of the products; which is also is a mandatory component of FSSAI Guidelines on Labeling of Food Products. The weight of the product and the packaging weight are usually combined together and then mentioned in the Net Quantity. The metric measures usually used are ‘grams’ and ‘milliliters’.

**Code No./Lot No./Batch No:** A batch number or code number or lot number is a mark of recognition through which the food can be traced back to the manufacture and even the distribution. Therefore, the Code No./Lot No./Batch No should be definitely mentioned by the manufacturer according to FSSAI Guidelines on Labeling of Food Products.

**Date of Manufacture and Best Before & Use by Date:** The ‘date of manufacture’ refers to when the food product has been manufactured and ‘Best Before’ and ‘Use By Date’ refers to by what date and month should the food product be consumed.

**Country of Origin for Imported Food:** It means the nationality of imported goods and even refers to the area where such goods have grown up or have been produced, manufactured or processed. According to the FSSAI Guidelines on Labeling of Food Products, this also should be mentioned.

**Instructions for Use:** It usually instructs and guides the consumer on how to utilize the product. It is mandatory to mention the same on the food product according to FSSAI Guidelines on Labeling.

In many Indian markets, packaged foods were sold previously labeled only with the product name, manufacturer's name and address, amount of product in the package, its ingredients and date of expiry. However, today nutrient content declaration has been made mandatory on nearly all pre-packaged foods. As per the current regulation, information on the following nutrients has to be displayed per serving or 100 g/ml of food: energy (kcal); carbohydrate (g); total sugars (g); added sugar (g); total fat (g) including saturated fat (g); trans-fat (g); and cholesterol (mg). Therefore, consumers have more nutrition information due to expanded food labeling mandated by the Government of India. While there is no doubt that food labels will encourage healthy eating, there is increasing evidence from developed countries (where food labeling is more evolved) indicating that mere display of food labels cannot help consumers make informed choices. However, there are very few studies in India that have looked into consumer knowledge, perceptions and practices pertaining to the use of food labels for making food choices. A study conducted by the NIN, India on the current scenario of food labeling in the country concluded that food labeling regulations in India are on par with those of developed countries; however, the concept of displaying nutrition information in relation to RDA is not mandated. (Pradeepa et.al. 2016) (Vemula 2014)

Food labels play an important role in the health of the consumer. The information related to the nutrition content and health benefits which is mentioned on the food products is referred as "nutritional label" or "nutrition claim" or "health claim". In many studies it was found that there is an association between the nutrition labels and

a healthy diet which contribute to achievement of public health goals. It is found that consumers who read food labels while purchasing are more likely to have healthier food choices, to have a reduced fat, sodium, cholesterol and energy intake and increased intake of dietary fiber, iron and Vitamin – C intake. The WHO global strategy on diet, physical activity and health endorsed in May 2004 by the World Health Assembly, states that providing accurate, standardized and comprehensible information on the content of food items is conducive to consumers making healthy choices. (N Koen et.al. 2016) (Corinna Hawkes 2004).

The significance of the study is to access the consumer awareness on food labeling. Food labelling enables the consumers to make decision while purchasing and consuming the food products. It also ensures the provision of nutritional information to the consumers. In many studies it was found that consumers are not aware about the food labels. So this study focuses on the knowledge, attitude and practices of consumers towards the food labelling and give awareness on the food labelling.

**OBJECTIVES OF THE STUDY:**

1. To assess the knowledge, attitude and practices towards the food labeling among the consumers.
2. To identify the factors affecting purchase behavior of the consumer.
3. Awareness on the importance of food labels mentioned on food products.
4. To assess the impact of the awareness.

# **REVIEW OF LITERATURE**

## **2. REVIEW OF LITERATURE:**

The purpose of this review of literature is to gain greater understanding about food labelling. The following are the literatures reviewed for the work titled “KAP on consumer awareness on food labelling” and to get the basic foundation of the topic. The review of literature is grouped under four sub-headings:

### **2.1 Awareness about food labelling**

### **2.2 Purchasing Behaviour of consumers**

### **2.3 Factors influencing buying behaviour of food products**

### **2.4 Role of food labelling information**

#### **2.1 Awareness about food labelling**

A research study conducted by Food Safety of Ireland (FSAI) in 2009 concluded that one quarter of consumers (253/1,021) said that they always consult food labels when shopping for food, 27% (277/1,021) said they rarely or never consult them. The qualitative study revealed that consumers are least likely to consult labels on everyday products such as milk, pastas, juices and pre-packed fruits and vegetables. Nearly three quarters (74%; 759/1,021) of consumers said they found food labelling informative. The date of minimum durability i.e. best-before or use-by date was rated the most important piece of mandatory labelling information, with 81% (831/1,021) of all consumers scoring it as very important (score 9 & 10). The information on current labelling is likely to be sufficient, with nearly three quarters of consumers saying that they found food labels to be informative.

Sidiga Washi conducted a KAP study in Al-Ain, United Arab Emirates the study shows that production and expiry date on the food labels of the product is the mandatory thing. Special characteristics such as low calories and low cholesterols were given more attention. Study also tells that now- a- days consumers are more concerned about food additives. Least attention was given to the content of package.

A study was conducted by Sudershan R Vemula et.al; in 2012 reported that 45% of consumers buy pre-packed foods once weekly and about a fifth buy them every day. Taste, quality, convenience and ease of use are the main reasons for buying pre-packaged foods. Although 90% of consumers across the age groups read food labels, the majority (81%) looked only for the manufacturing date or expiry/best before date. Of those who read labels, only a third checked nutritional information and ingredients. Nutrient information on labels was not often read because most consumers either lacked nutrition knowledge or found the information too technical to understand.

Jiagen Song, Junxia Huang, et.al. in 2015 conducted a study on the understanding, attitude and use of nutrition label among consumers in China were the reports shows that the subjective understanding of nutrition labels was moderate but the objective understanding was varied. The attitude towards nutrition label was positive in participates who had a higher confidence and satisfaction of nutrition label. The most frequently reading of nutrition label food was milk, followed by infant food and the nutrient was protein, vitamin and fat. Participants of this study had a moderate understanding, positive attitude and higher frequent using nutrition label.



A study conducted by Simmaky, et.al, in 2015 concluded that a clear indication that label information is generally gender insensitive. It is indicated that about majority of the consumers are aware of the information provided on the food labels. The consumers have strong preference for price and brand of the product. Brand of the product is highly preferred by 15-25 age groups. Low income group highly consider price of the product during purchasing.

Virender Pal Kaur, et.al. conducted a study in three institutions of Uttar Pradesh which says that majority of the respondents were conscious about importance of information which was mentioned on the food label whereas few of them haven't given any importance to the information. 90% of the respondent gave importance to expiry date of the product followed by date of manufacturing 76.66%. Beside this nutritional information was considered as important by 56.66% across three institutions.

A study was conducted in Nagpur city among working and non-working women in which it tells that most of the respondents were the major consumers of the processed food among them. Major source of information for purchasing processed food was TV/Radio/Internet for both working and non-working women. Most of them considered brand image followed by price, convenience and other considerations. The major factor considered for reading the food label were for the health reasons and the main reason for not reading the food labels were the trust of the buyers on the brand and small font. (Mayura Kathane et.al., 2017)

A study conducted by Sachithanathan tells that within the high income group of the female subjects did not liked to purchase packaged food due to the reason that

they liked to purchase fresh food but within the low income group the males liked to purchase the packaged food. Majority of subjects of the average income group did not find any fungus or adulterants in the packaged food, while most of the subjects of the same group found adulterants and fungus in the packaged food. From the above result it is evident that education, sex and income level play an important part in purchasing attitude in the use of packaged food.

According to Ayodhya Uttamrao Dudhate commercial available foods were mostly purchased by family members in lawyer and businessman families followed by wives. While in doctors and professors family it was taken by their wives only. A very high percent doctors and professors were reading the information given on the food label in regard to safety and health hazards. More percent of doctors were aware of MRP, standard marks, manufacturing and expiry date. It also said that T.V., internet and newspaper were the sources for acquiring knowledge about information in the selected consumer.

Sejal Jain et.al., said that majority of the participants were aware about the food labels on pre-packed food items and they preferred food items with label. Most of the participants checked the food labels every time while purchase. Majority of people checked for the cost, instructions for use, ingredients, manufacture and expiry date. It also said that food labels with simple, attractive food labels with bigger letter font had helped them to utilise the products more.

Sushil Kumar et.al., conducted a study in Lucknow, Delhi and Knapur in which the result indicates that particular category of information is used more by the consumers while purchasing packaged food products. Consumers gave very high importance to information about food ingredients and nutritional contents of the

food. Information on serving size and short phrases has lower priority among these consumers. They also have very strong preference for brand and the taste of the product.

Manon Egnell, Zenobia Talati and et.al., conducted a study across 12 countries where participants were asked to rank three sets of labels. According to the consumers, Nutri-score emerged as the most efficient FoPL in conveying information on the nutritional quality of foods and thus helping consumers to discriminate between products. Moreover, it appeared to be clearly understood in diverse sociocultural contexts and even outweighed potential familiarity of consumers with other labels.

Majority of the consumers check or use food labels during purchasing the food products whereas other consumers will not check the food labels during the period of purchasing. Most of them understand the information present in the food label whereas some of the consumers do not understand the information present on the labels. Consumers agree that it is important to label the packaged or processed foods because it helps them to know more about the expiry date of the product, nutrient in the food etc. (Aryee PA et.al. 2019).

According to Ferdinand Dano consumers were interested in food labelling. The sources of the awareness for most of the consumers were through the internet whereas more than half of the consumers get information from family and friends. The study points out that the result can be dangerous from the consumers' point of view as the internet and social networks represent the main source of information for large groups of consumers. The number of cases of misleading/deceptive labels on the market is due to broadcasting by the media..

## **2.2 Purchasing Behaviour of consumers**

According to K. Srinivasan instant food consumption had been increased due to the increased urbanization, time, convenience, lifestyle changes etc. The other reason for increased instant food consumption is ready availability and saving of the time. It also concluded that the major source of availability of instant food is from food zone and supermarkets.

A study conducted by Praveen Babu Chiruthoti said that consumers spend about 10-15 per cent of their total food expenditure on instant food per month. The influencers of the purchase decision taken by the consumers in buying instant foods are children and peer group. Among the quality parameters, respondents have given the order of preference of packaging, price, of availability nutritional value, preservatives, certification, ingredients and recipe presentation. It also said that majority of the consumers would change the preference for a particular brand in case of non – availability of the brand in a particular store.

Education level affects the purchasing behaviour of the consumers; they pay attention to the nutritional reliability, cost and convenience. Convenience criteria are mostly preferred by the consumers who shop food products on weekend rather than the consumers who always shops. (Nevin Sanlier et.al. 2010).

## **2.3 Factors influencing buying behaviour of food products**

According to Azzurra Annunziata et.al. the consumer consider nutrition as an important key that attributes in influencing their purchasing behaviour; but most of the consumers gave importance to other attributes of the products such as freshness, origin and brand. Also it is shown that the consumer chooses the food

product that is mainly conditioned by their wish of being in good physical shape or by any specific health problems. The factor that affects the respondents is their perception of the nutritional information on the food label i.e. clear vocabulary, correct format, the second factor is the awareness degree with the various information on the label.

In a study it is said that the buying behaviour were not only of their own choice it depended on the choice of other members in their family. The factors that influenced the choice of their food were brand name and price. The origin of the food was also considered. Regional food was strongly preferred and the price of the regional food doesn't affect their buying behaviour. (Martina Chalupova, et.al., 2015).

According to B.E.S. Bandara et.al. major reason for examining the food label among consumer were to know whether the food is suitable for the vegetarians, to avoid disease related to food, religious reasons and to check whether the food is grown organically or not. Also, majority of the consumers check food label to know about the expiry date, nutritional composition and most of the consumer consider food label as a legal requirement. It also stated that food label information can affect the purchasing behaviour of the consumer. The study also depicted that name of the food product was the mandatory labelling information among the consumers. Food safeties, environmental protection, origin of the food and brand reputation are the other factors that are affecting the purchasing behaviour of the consumers.

Factor which play an important role in understanding and usage of the nutritional labels are age, sex, education level, marital status, income, family size, children in

family, special dietary status, awareness on nutritional labels, body mass index, residential area and health consciousness. There should be a format in following the nutritional labelling which will be easy to the consumer to understand. (Gautam Donga et.al. 2018)

Beatriz Franco-Arellano conducted a study which said that the differences between different FOP labelling system were used to assess healthier food products. It concluded FOP labelling could be more useful than nutrition claims for consumers when assessing and purchasing products, particularly among consumers who do not use or understand the nutritional facts table.

#### **2.4 Role of food labelling information:**

Labels play an important role in delivering information about the quality of the food product to the consumers. The study also tells that labels may reduce information misalignments between consumers and producers, with regards to traceability. Communication plays a crucial role in respect to credence attributes, aimed at reducing uncertainty and increase confidence by improving consumers' ability to understand the quality of foodstuff. (Altamore.L, et.al.).

Gaia Claudia Viviana Viola et.al. in a study it is concluded that majority of the people read food label before purchasing it. The basic information the consumer know would be enough to allow them to make healthier choices while purchasing the food products. Most of the consumers had confused and unclear idea about some information that is present on the food label. The study suggested that efforts should be done first on educational front to increase the knowledge about the nutrition and their relationship between diet and health status.

# **METHODOLOGY**

### **3. METHODOLOGY:**

The present study was undertaken to study titled “Knowledge, Attitude and Practice of the consumers regarding food labels and making them aware about food labels. This chapter presents the research tools and techniques followed in conducting study. It gives the details of research design, sampling procedure, instruments and methods used for collection of data, and analytical procedures followed for interpretation of the data.

The content of this chapter is discussed under the following sub headings:

#### **3.1 Selection of Sample**

#### **3.2 Selection of Locality**

#### **3.3 Selection of Tool**

##### **3.3.1 Formulation of Questionnaire**

##### **3.3.2 Collection of Data**

#### **3.4 Intervention:**

##### **3.4.1 Development of Awareness tool among the subjects**

##### **3.4.2 Evaluation of intervention tool**

#### **3.5 Data Analysis**

#### **3.1. Selection of Subjects:**

The total samples selected for the study was 157 consumers aged between 20-55 years old were selected.



“A sample design is a definite plan for obtaining a sample from a given population. It refers to the technique or the procedure the researcher would adopt in selecting items for the sample. Sample size refers to the number of items to be selected from the population to constitute a sample. The size of sample should neither be excessively large, nor too small”. “Sampling is the process of obtaining information about an entire population by examining only a part of it”. (Kothari 2014)

#### **Inclusion Criteria:**

- Samples for the survey was selected based on random sampling and the email and WhatsApp credentials were collected for better connectivity.
- Both male and female
- Age group between 20-55 years.

### **3.2. Selection of Locality:**

Data pertaining to the stay has been collected from individuals residing in different cities of Hyderabad. This area was considered for the study because the purchasing of packed food products has been increasing among the people residing in the city.

### **3.3. Selection of Tool**

#### **3.3.1. Formulation of Questionnaire**

In order to fulfill the objectives of the study data was collected through a well-structured questionnaire to assess the Knowledge, Attitude and Practice of the consumer regarding the food label. The questions framed were mostly close ended questions.

“A questionnaire is a list of questions given out in a desired sequence. A questionnaire can be (a) Open-ended, allowing the respondents to use their own words to answer any questions. (b) Closed-ended, asking the respondents to tick one among the response categories indicated in the questionnaire”. (Mukherjee, 2019).

The questionnaire was categorized into various sections such as Personal/General information, Knowledge based questions, Attitude based questions and Practice based questions (i.e. KAP).

KAP study is the study that measures the Knowledge, Attitude and Practices of the community. It serves as an educational diagnosis in the community. The purpose of KAP study is that it helps in exploring the changes in Knowledge, Attitude and Practice of the community. It helps in the collection of information regarding what is known to them, what they believe and what they do or follow towards that particular topic.

The first part of the questionnaire includes personal/general information of the respondents such as name, age, gender, e-mail, occupation, family size and annual income.

The next part of questionnaire is Knowledge based. It helps to elicit the knowledge of the consumer i.e. what they know about the food labeling. Questions are directed towards knowledge on food labeling, efficacy of facts presented on food labels, what are the common particular in food labeling?

Next part of questionnaire includes Attitude based. It helps to elicit the attitude of the consumer i.e. believes towards the food labeling. Questions such as the information provided was satisfactory, are they aware about rights and many more.

The last part of the questionnaire is Practice based. It helps to elicit the practice of the consumer i.e. what do they follow while purchasing. Questions such as do you read food labels, do you look for ISI mark, vegetarian marks while purchasing and many other questions were framed.

The questionnaire was prepared in Google form considering ease of connecting to individuals scattered through different cities.

### **3.3.2 Collection of Data**

The study includes collection of data from both primary and secondary sources. The primary sources of information for the study were collected directly from the consumers through questionnaires. The data was collected by circulating the questionnaire through Google form in the social media platform such as WhatsApp and e-mail. Information from the respondents regarding their knowledge, attitude and practice about the food labeling were assessed through this method. A valid, reliable, authentic and true to their knowledge responses were collected from the respondents.

The secondary sources of the information were collected from various journals, articles, related studies and websites to obtain this study.

### **3.4. Intervention**

#### **3.4.1. Development of Awareness Tool:**

Awareness was created among the subjects through a video related to food labels. This imparted knowledge on food labeling, claims, logos and other important parts of food label such as nutritional fact, storage instruction and other information related to food labeling. The video clearly explains about various aspects of the food labeling. The video was circulated via e-mail and whatsapp of the respondents.

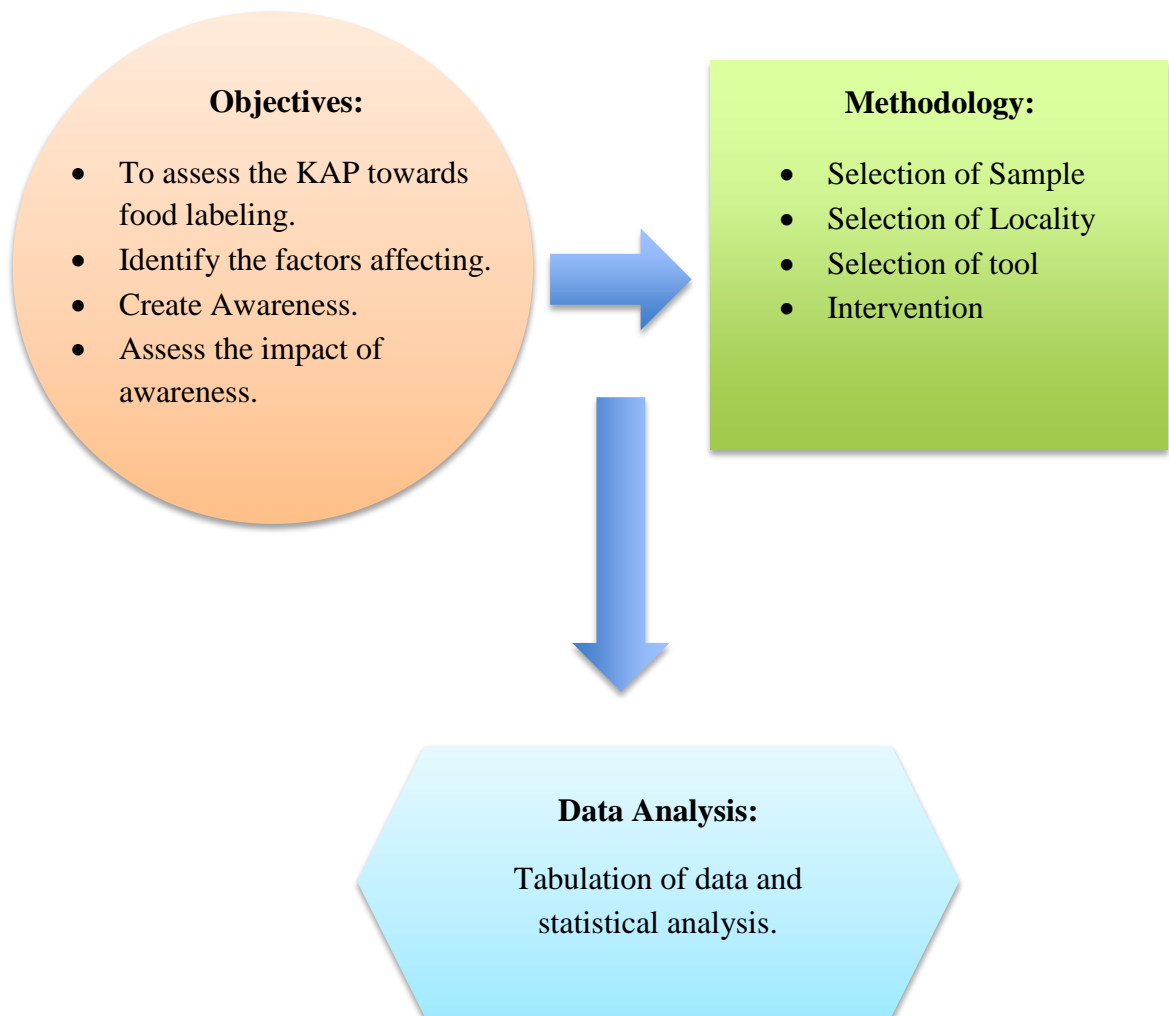
### **3.4.2. Evaluation of intervention tool:**

A separate questionnaire to analyze the impact of the video was framed and circulated to the respondents. The responses were collected and data was analyzed to evaluate the effectiveness of the intervention tool developed.

### **3.5. Data Analysis:**

Statistical analysis was done and all the data were tabulated. In order to interpret the data, statistical methods such as Chi-square independent sample test; and Pearson correlation coefficient were used. Chi-square test was done to check the significance of hypotheses. Pearson correlation was done to analyze the correlation between the selected variables. The graph is generated by using excel sheet and the statistical data was analyzed by using IBM SPSS to get accurate data.

### Structural Representation of the Study



**Figure 3.1 Structural Representation of the Study**

# **RESULT AND DISCUSSION**

#### 4. RESULT AND DISCUSSION

The result and discussion found out during the study entitled “**KNOWLEDGE, ATTITUDE AND PRACTICES STUDY ON CONSUMER AWARENESS ON FOOD LABELLING**” has been discussed in this chapter. Overall, 157 respondents have participated in the survey related to consumers. The data collected regarding their demographics, Impact of awareness conducted, knowledge, attitude and practise-based questions about consumer awareness on food labelling etc. using a structured questionnaire.

##### 4.1 DEMOGRAPHIC PROFILE

**Table 4.1 Demographic Profile**

<b>Demographics</b>	<b>Variables</b>	<b>No. of subjects (n=157)</b>	<b>Percentage</b>
Age	below 30	134	85.35
	30 – 40	11	7.01
	above 40	12	7.64
Gender	Female	52	33.12
	Male	105	66.88
Family Size	1-2 members	7	4.46
	2-4 members	116	73.89
	4-6 members	31	19.75
	Above 6 members	3	1.91
Annual Income	Below 1 lakhs	33	21.02
	1 - 2 lakhs	73	46.50
	2 - 3 lakhs	36	22.93
	Above 3 lakh	15	9.55

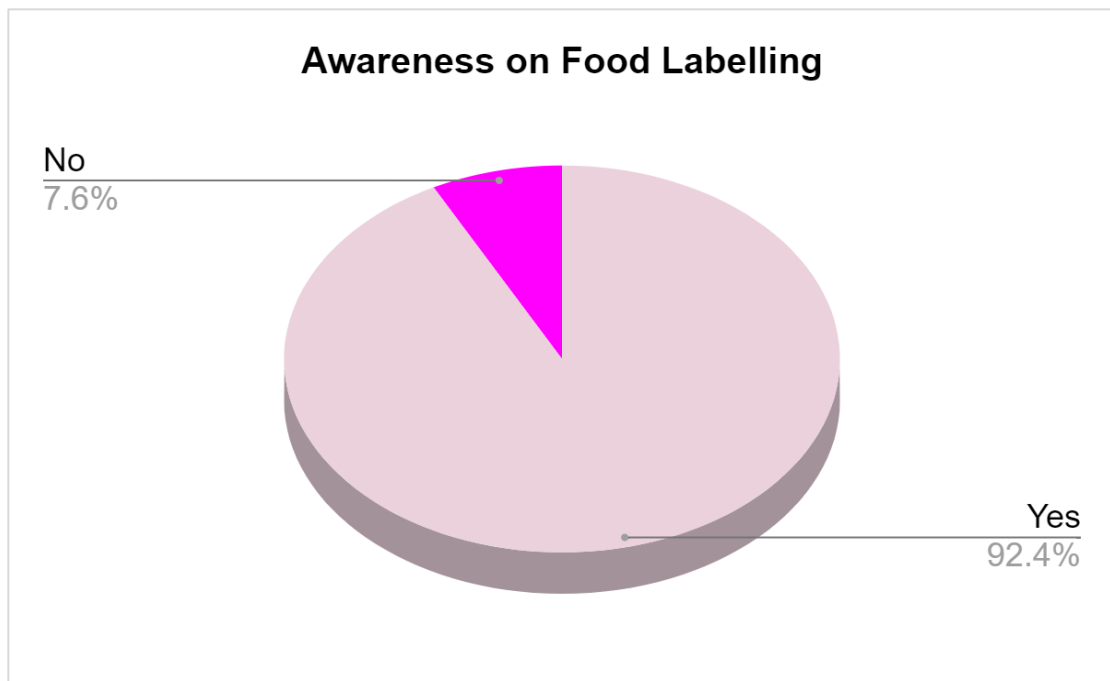
From the above table, it is understood that majority (85.35 %) of the respondents are of the age of below 30, 7.01 % and 7.64 % of the respondents belong to the age group 30-40 and above 40 respectively. While 33.12 % of respondents are

female and 66.88 % are male. 73.89 % of respondents are from a family consist of 2-4 members, 19.75 % of participants have 4-6 family members and 1.91 % have above 6 family members. Of the total respondents, 46.50 % have an annual income of 1-2 lakhs, 22.93 % have 2-3 lakhs income, 21.02 % have income below 1 lakhs and 9.55 % have income above 3 lakhs.

#### 4.2 Knowledge:

**Table 4.2.1 Awareness on Food labeling**

Variables	No. of Subjects (n=157)	Percentage
Yes	145	92.4
No	12	7.6



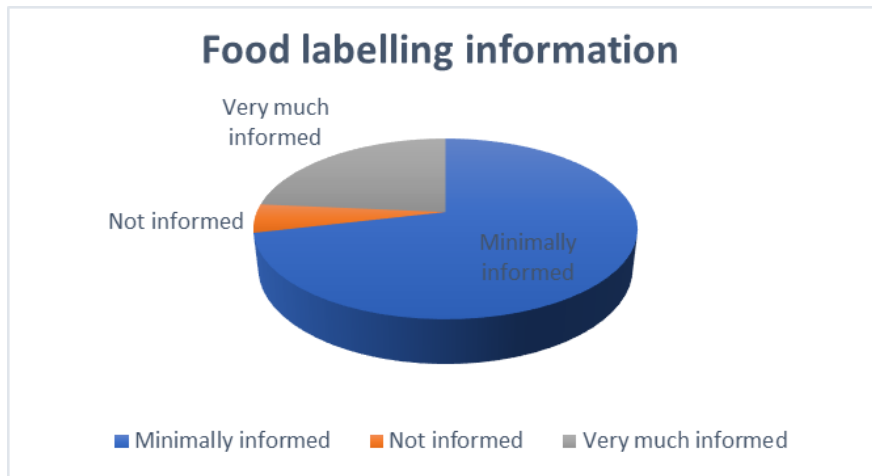
**Figure 4.2.1 Awareness on food labeling**

From the above graph, 92.4% of the consumers know about the food labelling and 7.6% of the consumers do not know about the food labelling



**Table 4.2.2 Awareness on food labelling information**

<b>Variables</b>	<b>No. of subjects(n=157)</b>	<b>Percentage</b>
Minimally informed	112	71.3
Not informed	8	5.1
Very much informed	37	23.6

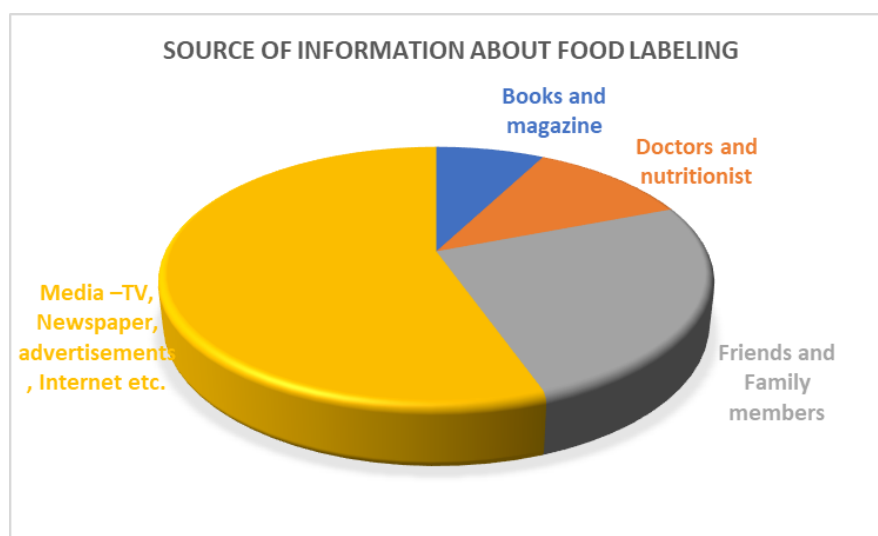


**Figure 4.2.2 Awareness on Food labelling information**

From the above table, it can be observed that 71.3 % of the consumers are minimally informed about food labelling information, 23.6 % are very much informed and 5.3 % are not informed about food labelling information.

**Table 4.2.3 Source of information about food labeling**

<b>Variables</b>	<b>No. of subjects (n=157)</b>	<b>Percentage</b>
Books and magazine	12	7.6
Doctors and nutritionist	18	11.5
Friends and Family members	40	25.5
Media –TV, Newspaper, advertisements, Internet etc.	87	55.4

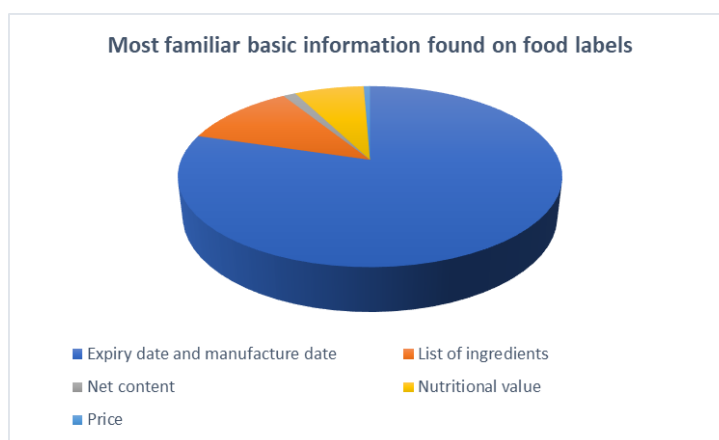


**Figure 4.2.3 Source of information about food labelling**

From the above graph, the source of information about food labelling for the majority of the participants is media's like TV, newspaper, advertisement, internet etc., 25.5 % got aware of this from friends and family members, 11.5 % got the information from doctors and nutritionist and 7.6% respondents got aware about this from books and magazines.

**Table 4.2.4 Most Familiar basic information found on food labels**

<b>Variables</b>	<b>No. of subjects (n=157)</b>	<b>Percentage</b>
Expiry date and manufacture date	125	79.6
List of ingredients	18	11.5
Net content	2	1.3
Nutritional value	11	7.0
Price	1	0.6

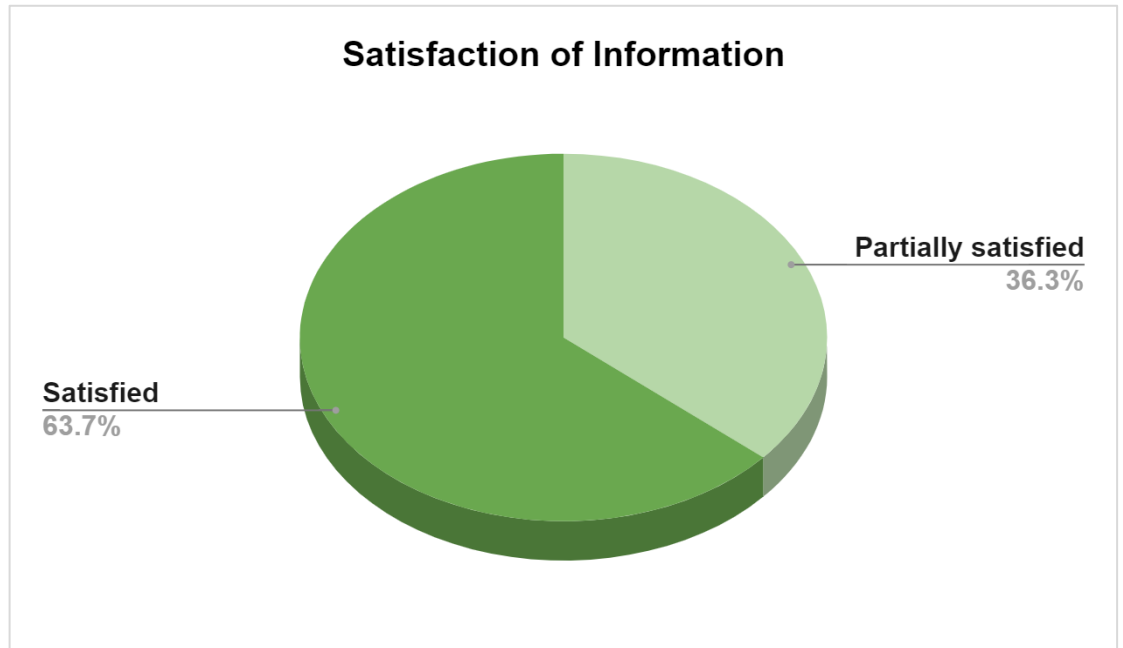


**Figure 4.2.4 Most familiar basic information found on food labels**

From the above graph, 79.6 % of consumers are most familiar with the expiry date and manufacture date found on food labels, 11.5% are more familiar with the list of ingredients, 7 % are most familiar with nutritional value and 1.3% is familiar with net content.

**Table 4.2.5 Satisfaction of Information**

<b>Variables</b>	<b>No. of subjects(n=157)</b>	<b>Percentage</b>
Satisfied	100	63.7
Partially Satisfied	57	36.3
Not satisfied	0	0

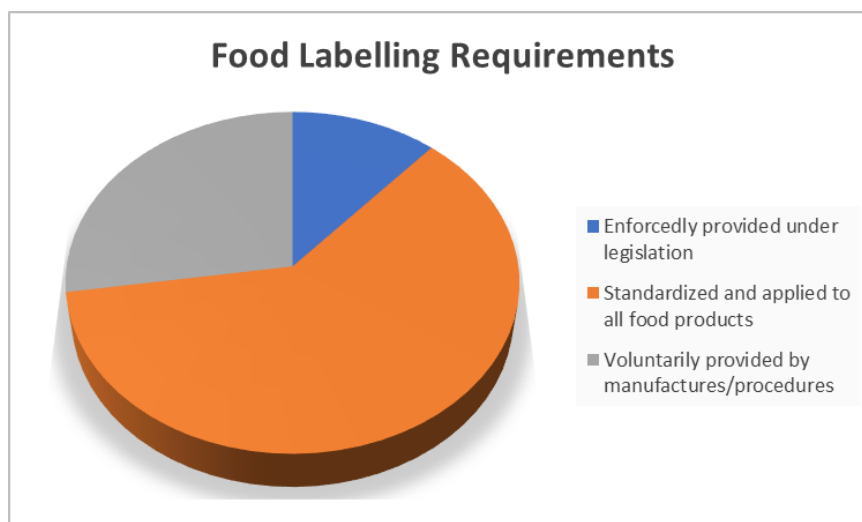


**Figure 4.2.5 Satisfaction of Information**

From the above graph, 63.7% of the consumers are satisfied with the information provided on the food labels.

**Table 4.2.6 Food labelling requirements**

<b>Variables</b>	<b>No. of subjects (n=157)</b>	<b>Percentage</b>
Enforcedly provided under legislation	18	11.5
Standardized and applied to all food products	96	61.1
Voluntarily provided by manufactures/procedures	43	27.4

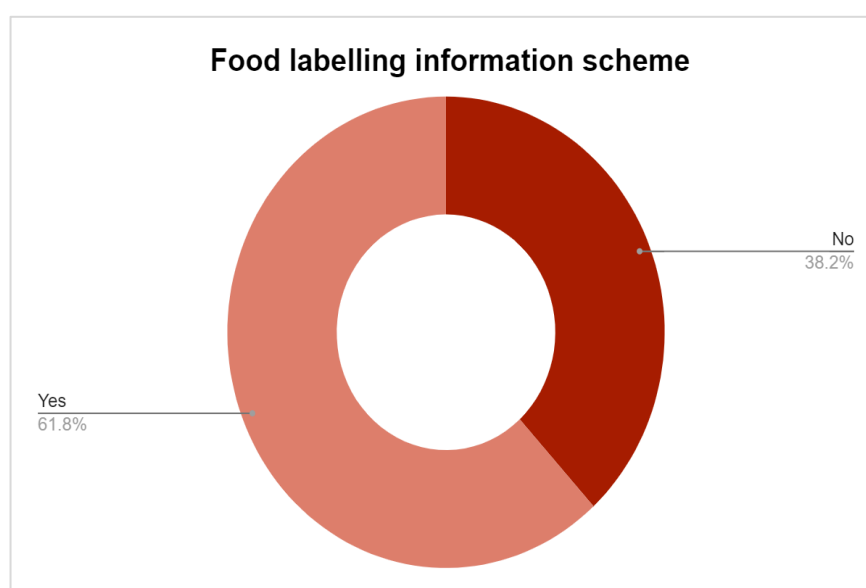


**Figure 4.2.6 Food labelling requirements**

From the above graph, the majority of the customers says food labelling should be standardized and applied to all food products. Also, 27.4% of the consumers say food labels are voluntarily provided by the manufactures/procedures. Also, 11.5% of the consumers say food labels enforcedly provided under legislation.

**Table 4.2.7 Awareness on food labelling information scheme**

Variables	No. of subjects (n=157)	Percentage
Yes	97	61.8
No	60	38.2

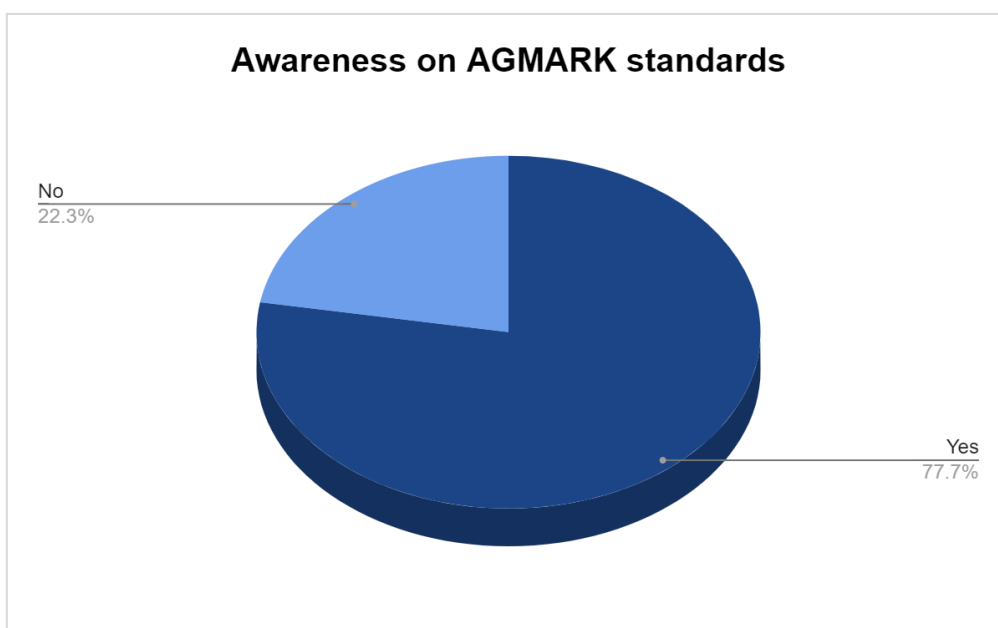


**Figure 4.7 Food information scheme**

From the above graph, 61.8% of the consumers are had heard about the food label scheme but 38.2% of the consumers haven't heard about the food label scheme.

**Table 4.2.8 Awareness on AGMARK standard**

<b>Variables</b>	<b>No. of subjects (n=157)</b>	<b>Percentage</b>
Yes	122	77.7
No	35	22.3

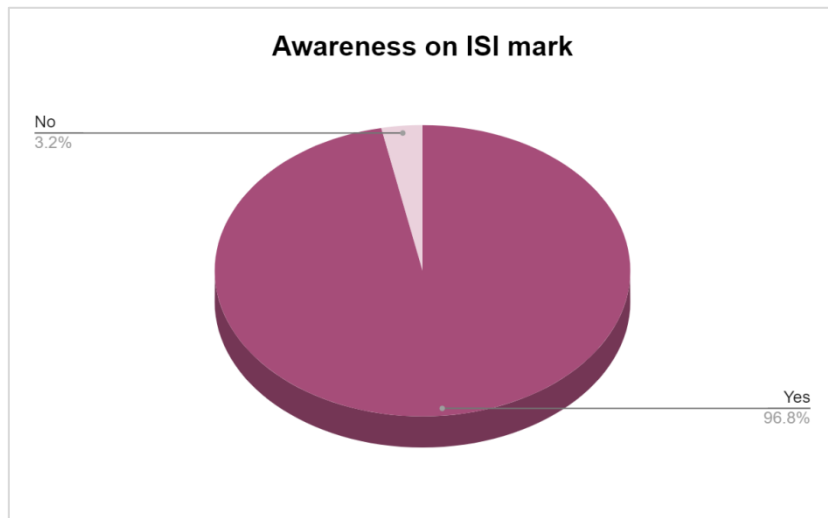


**Figure 4.2.8 Awareness on AGMARK standards**

From the above graph, majority 77.7% of the consumers know about the AGMARK standard. Also 22.3% of the consumers do not know about AGMARK standard.

**Table 4.2.9 Awareness on ISI mark**

<b>Variables</b>	<b>No. of subjects (n=157)</b>	<b>Percentage</b>
Yes	152	96.8
No	5	3.2

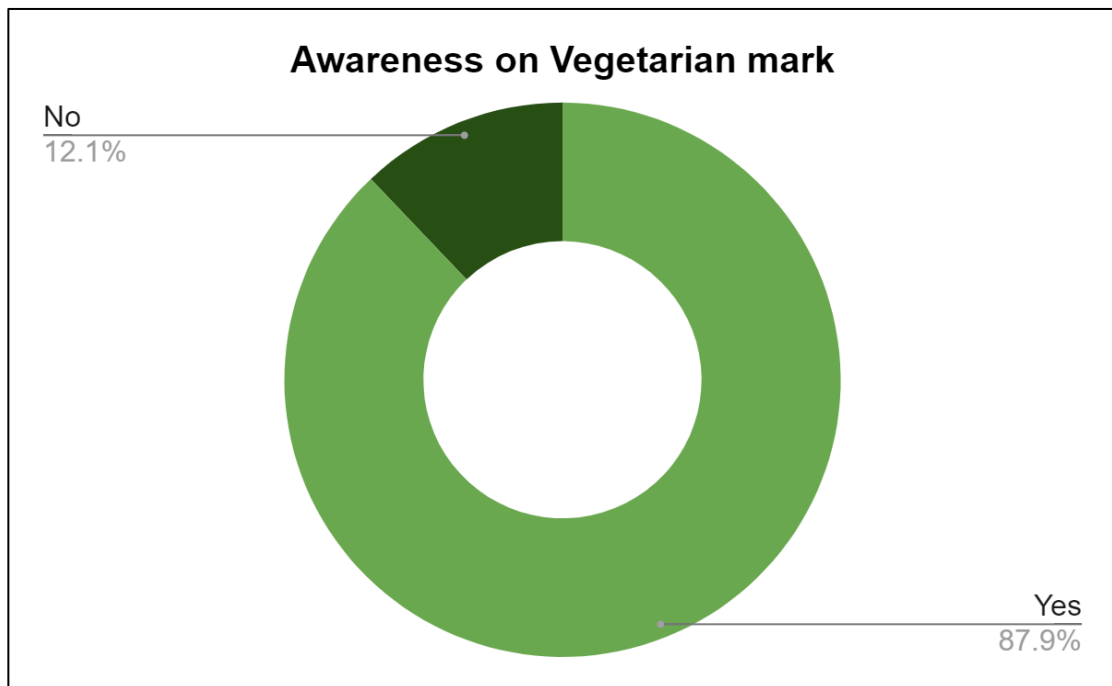


**Figure 4.2.9 Awareness on ISI mark**

From the above graph, majority 96.8% of the consumers know about the ISI mark. 3.2% of the consumer does not know about ISI mark.

**Table 4.2.10 Awareness on Vegetarian mark**

Variables	No. of subjects (n=157)	Percentage
Yes	138	87.9
No	19	12.1

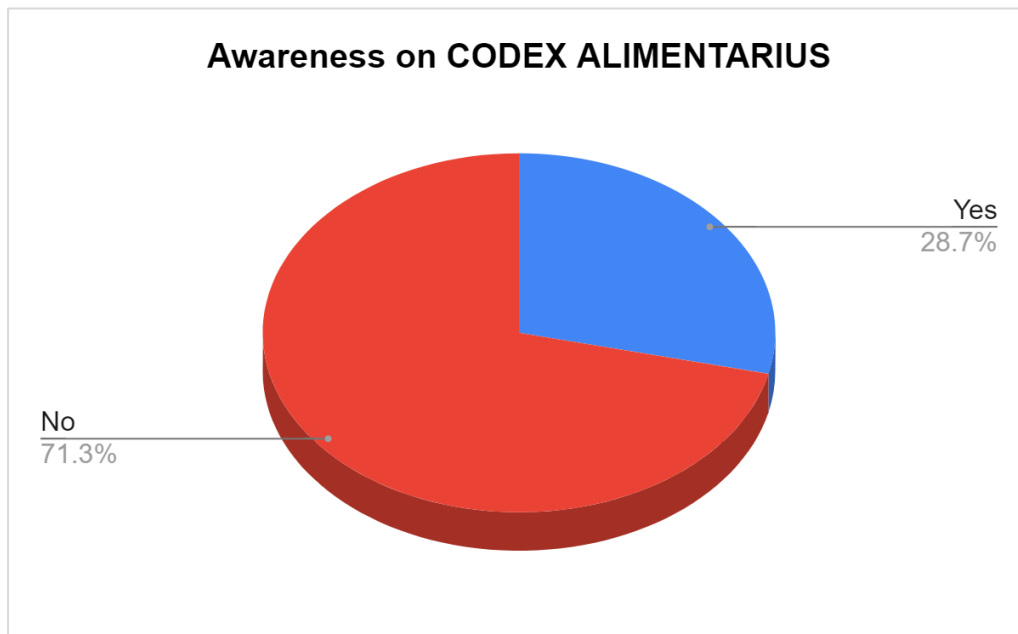


**Figure 4.2.10 Awareness on Vegetarian mark**

From the above graph, majority 87.9% of the consumers know about the vegetarian mark. 12.1% of the consumer does not know about vegetarian mark.

**Table 4.2.11 Awareness on Codex Alimentarius**

Variables	No. of subjects (n=157)	Percentage
Yes	45	28.7
No	112	71.3



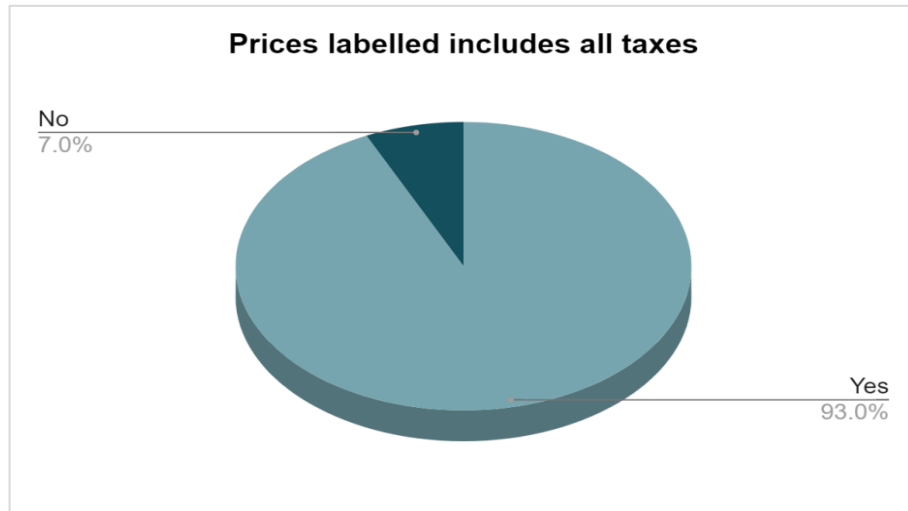
**Figure 4.2..11 Awareness on Codex Alimentarius**

From the above graph, majority 71.3% of the consumers do not know about CODEX ALIMENTARIUS. 28.7% of the consumer knows about CODEX ALIMENTARIUS.



**Table 4.2.12 Awareness that price includes all taxes**

<b>Variables</b>	<b>No. of subjects (n=157)</b>	<b>Percentage</b>
Yes	146	93
No	11	7



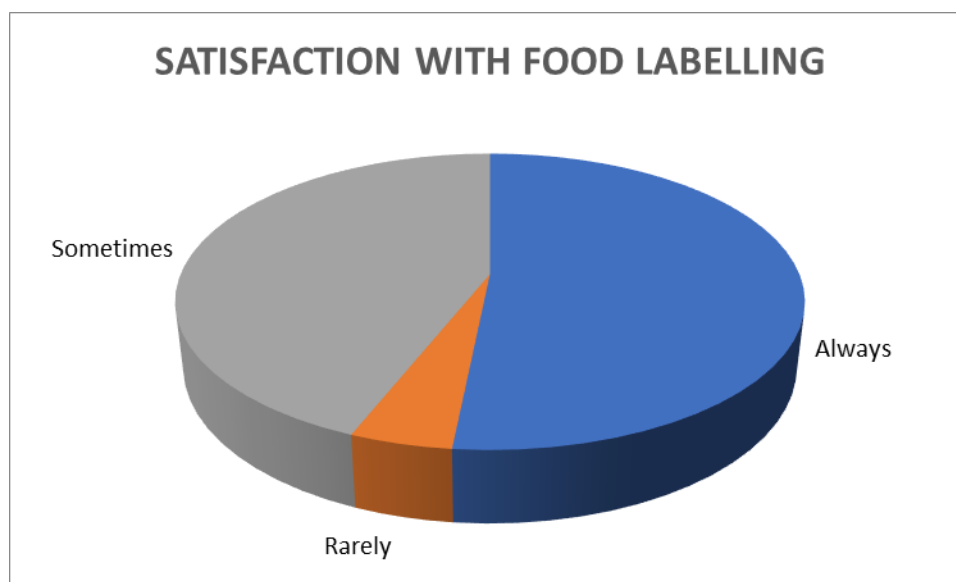
**Figure 4.2.12 Price labelled includes all taxes**

From the above graph, majority 93% of the consumers knows the fact that price include all taxes. 7% of the consumers do not know the fact that price include all taxes.

### 4.3 Attitude

**Table 4.3.1 Satisfaction with food labelling**

<b>Variables</b>	<b>No. of subjects (n=157)</b>	<b>Percentage</b>
Always	81	51.6
Rarely	7	4.5
Sometimes	69	43.9



**Figure 4.3.1 Satisfaction with food labelling**

From above graph, 51.6 % of the consumers are always satisfied with food labelling, 43.9 % are sometimes satisfied and 4.5% are rarely satisfied with food labelling.

**Table 4.3.2 Attitude towards the food labelling among the consumers.**

Variables	Always	Never	Rarely	Sometimes
Food nutrition labels helps with food choices	20	67	30	40
Willing to pay a higher price for any product or service provided you get value for your money	113	0	9	35
If some important information is not available in the label still buy	6	70	34	47
Look for details of label for all types of packed foods	44	2	14	97



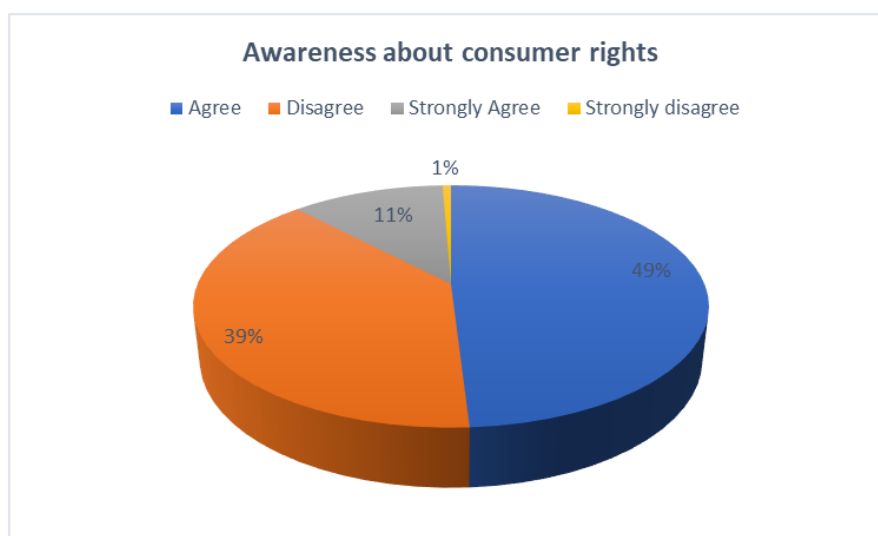
**Figure 4.3.2 Attitude towards the food labelling among the consumers**

From the above graph, food nutrition labels always help with food choices for 20 consumers, never helped for 67 consumers, rarely helped for 30 consumers and sometimes helped for 40 consumers. 113 consumers are always willing to pay a higher price for any product or service provided you get value for your money, 9 consumers rarely pay a higher price for any product or service provided you get value for your money, 35 consumers are sometimes willing to pay a higher price for any

product or service provided you get value for your money. No consumer is not willing to pay a higher price for any product or service provided you get value for your money. 6 consumers always buy products even If some important information is not available on the label, 70 consumers never buy products If some important information is not available in the label, 34 consumers rarely buy products If some important information is not available in the label and 47 consumers sometimes buy products If some important information is not available in the label. 44 consumers always look for details of the label for all types of packed foods, 2 consumers never look for details of the label for all types of packed foods, 14 consumers rarely look for details of the label for all types of packed foods and 97 consumers sometimes look for details of the label for all types of packed foods.

**Table 4.3.3 Awareness about consumer rights**

<b>Variables</b>	<b>No. of subjects (n=157)</b>	<b>Percentage</b>
Agree	77	49.0
Disagree	61	39.0
Strongly Agree	17	11.0
Strongly disagree	2	1.0

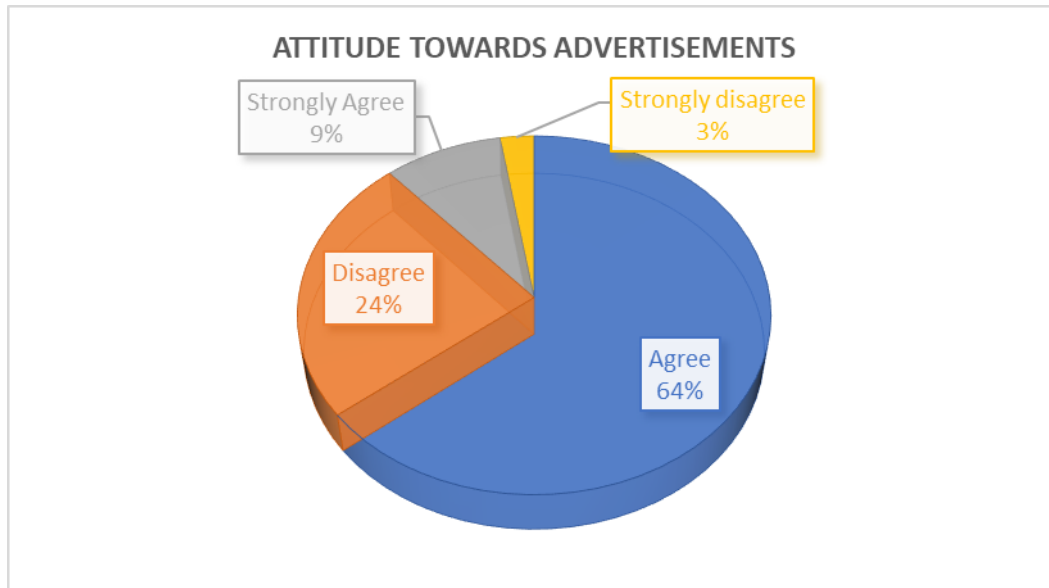


**Figure 4.3.3 Awareness about consumer rights**

From the above diagram, 60% consumers are aware about consumer rights while 40% are not aware of consumer rights.

**Table 4.3.4 Attitude towards advertisements**

Variables	No. of subjects (n=157)	Percentage
Agree	101	64.3
Disagree	38	24.2
Strongly Agree	14	8.9
Strongly disagree	4	2.5



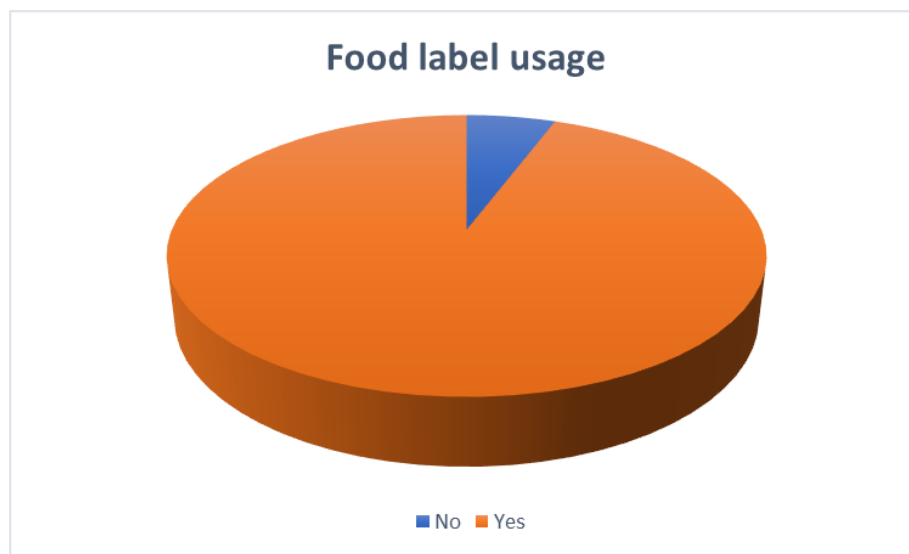
**Figure 4.3.4 Attitude towards advertisement**

From the above diagram, only 3% of the consumers strongly agree with advertisements mislead your informed food choices, 73% of consumers agree that advertisements mislead your informed food choices while 24% of consumers disagree with advertisements mislead your informed food choices. Also, only 3% of the participants strongly disagree with advertisements mislead your informed food choices.

#### 4.4 Practices:

**Table 4.4.1 Food label usage**

<b>Variable</b>	<b>No. of subjects(n=157)</b>	<b>Percentage</b>
No	9	5.7
Yes	148	94.3

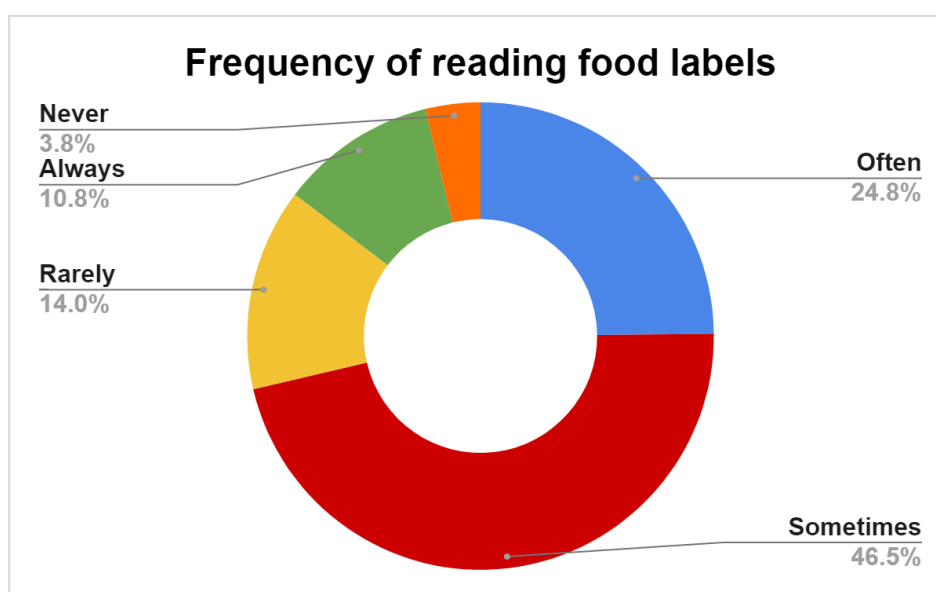


**Figure 4.4.1 Food label usage**

From the above figure we can see that 94.3% of the respondents read the food label before they purchase a product. Only few percentages of the consumers don't read the food label before they purchase a product.

**Table 4.4.2 Frequency of reading food labels**

<b>Variable</b>	<b>No. of subjects (n=157)</b>	<b>Percentage</b>
Never	6	3.8
Rarely	22	14.0
Sometimes	73	46.5
Often	39	24.8
Always	17	10.8

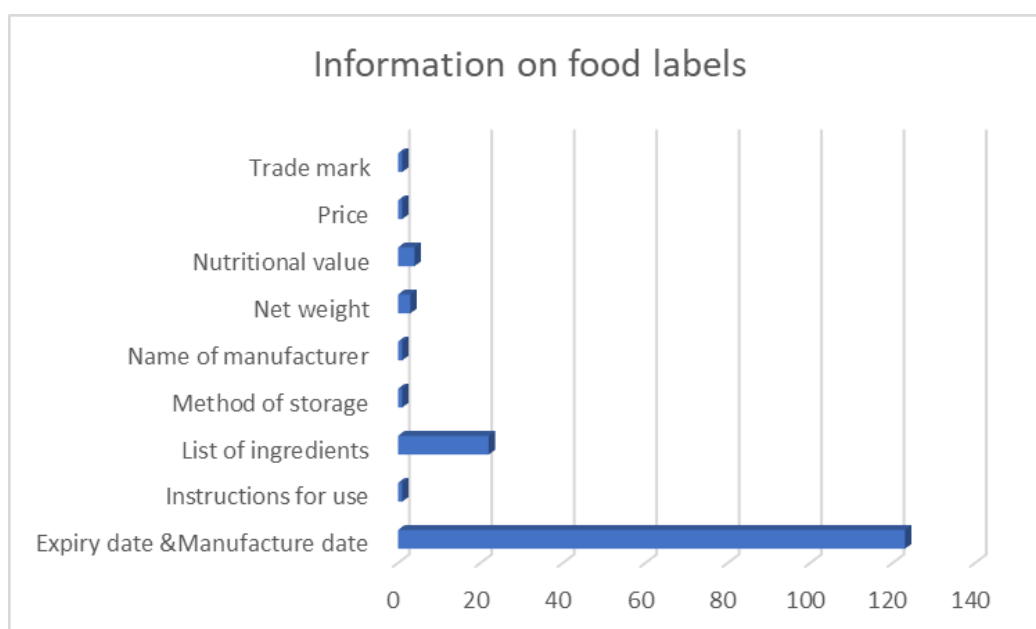


**Figure 4.4.2 Frequency of reading food labels**

The majority 46.5% respondents sometimes read food labels while first purchase of prepackaged food. 24.8% of the consumers used to often read food labels while purchasing prepackaged food; 14.0% of the consumers rarely used to read food label; 10.8% consumers always used to read food label and 3.8% of consumers never used to read food labels while the first purchase of prepackaged food.

**Table 4.4.3 Information first sees on food label**

<b>Variable</b>	<b>No. of subjects (n=157)</b>	<b>Percentage</b>
Expiry date & Manufacture date	123	78.3
Instructions for use	1	0.6
List of ingredients	22	14.0
Method of storage	1	0.6
Name of manufacturer	1	0.6
Net weight	3	1.9
Nutritional value	4	2.5
Price	1	0.6
Trade mark	1	0.6



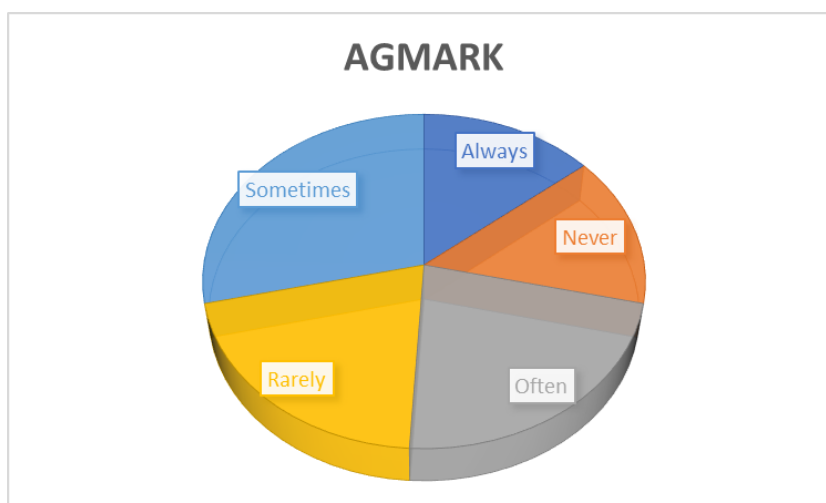
**Figure 4.4.3 Information on food labels**

The majority of the respondents (78.3%) says, they first seek information about expiry date and manufacture date on a food label before deciding to purchase or eat a particular food. Also, 14% of the respondents say they first seek information about the list of ingredients on the food label before deciding to purchase or eat a particular food.



**Table 4.4.4 Where Consumer Looks for AGMARK standard before purchasing**

<b>Variable</b>	<b>No. of subjects(n=157)</b>	<b>Percentage</b>
Always	22	14.0
Never	23	14.6
Often	35	22.3
Rarely	32	20.4
Sometimes	45	28.7

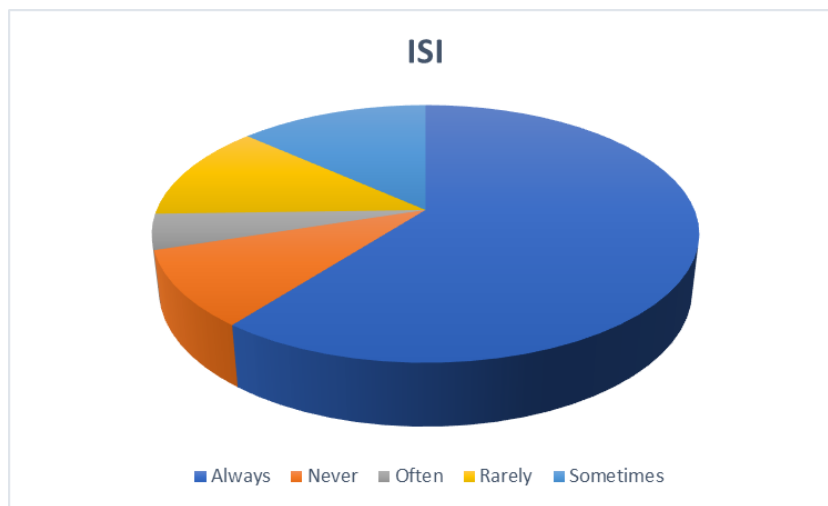


**Figure 4.4.4 Looks for AGMARK before purchasing**

The majority of the consumers(28.7%) sometimes look agmark standard before purchasing food products. Also, 14% of them always looks, 14% of them never looks,22.3% of them often looks and 20.4%of them rarely looks agmark standard before purchasing food products.

**Table 4.4.5 Looks for ISI before purchasing**

<b>Variable</b>	<b>No. of subjects (n=157)</b>	<b>Percentage</b>
Always	95	60.5
Never	15	9.6
Often	7	4.5
Rarely	19	12.1
Sometimes	21	13.4

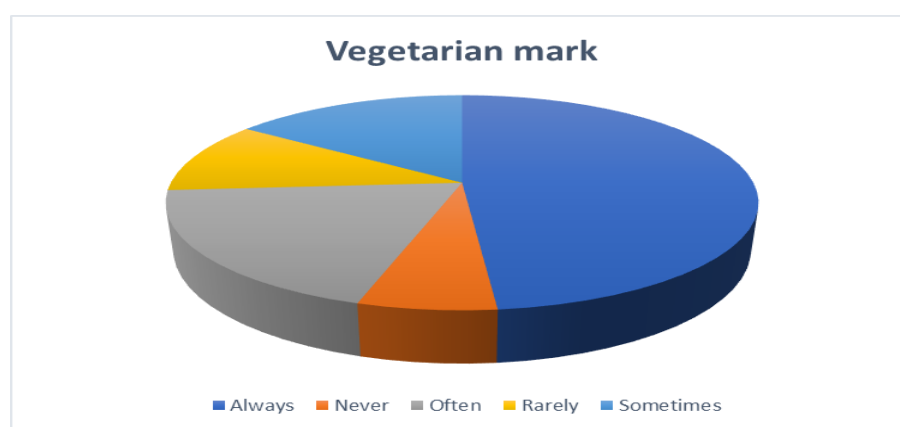


**Figure 4.4.5 Looks for ISI before purchasing**

The majority of the consumers (60.5%) always look ISI Mark before purchasing food products. 13.4% of the consumers sometimes used to look for ISI Mark rarely; 12.1% of the consumers rarely used to look for ISI Mark; 9.6% consumers never look for ISI Mark; 4.5% of consumers used to often look for ISI Mark before purchasing food products.

**Table 4.4.6 Looks for vegetarian mark before purchasing**

<b>Variable</b>	<b>No. of subjects (n=157)</b>	<b>Percentage</b>
Always	76	48.4
Never	10	6.4
Often	30	19.1
Rarely	17	10.8
Sometimes	24	15.3



**Figure 4.4.6 Looks for vegetarian mark before purchase**

The majority 48.4% respondents are always looks vegetarian mark before they purchase food products. 19.1% of the consumers used to often look for vegetarian mark; 15.3% of the consumers sometimes used to look for vegetarian mark; 10.8% consumers used to look rarely for vegetarian mark; 6.4% of consumers never used to look for vegetarian mark before purchasing food products.

## 4.5 Testing for Hypothesis

### Statistical analysis of gender and food labels usage

Here we want to test the null hypothesis is that there is no association between gender and food label usage. For that, we use Chi-square independent sample test.

**Table 4.5.1 Gender \* Food labels usage**

		Food labels usage					Total
		Always	Never	Often	Rarely	Sometimes	
Gender	Female	7	3	13	7	22	52
	Male	10	3	26	15	51	105
Total		17	6	39	22	73	157

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.581 <sup>a</sup>	4	.812
Likelihood Ratio	1.523	4	.823
N of Valid Cases	157		
a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 1.99.			

Since p- value is  $0.812 > 0.05$  it is concluded that there is no association between gender and food label usage.

## Statistical analysis of annual income and food labels usage

Here we want to test the null hypothesis is that there is no association between annual income and food label usage. For that, we use Chi-square independent sample test.

**Table 4.5.2 Annual income \* Food labels usage**

		Food labels usage				Total
		Always	Often	Rarely	Sometimes	
Annual Income	1-2 lakhs	4	17	10	42	73
	2 - 3 lakhs	3	11	7	15	36
	above 3 lakhs	4	5	2	4	15
	Below 1 lakh	6	6	9	12	33
Total		17	39	28	73	157

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.489	9	0.07834
N of Valid Cases	157		

Since p- value is  $0.0784 > 0.05$  we conclude that there is no association between annual income and food label usage.

### Statistical analysis of occupation and food labels usage

Here we want to test the null hypothesis is that there is no association between occupation and food label usage. For that, we use Chi-square independent sample test.

**Table 4.5.3 Occupation \* Food labels usage**

		Food labels usage					Total
		Always	Never	Often	Rarely	Sometimes	
Occupation	Employee	7	1	25	11	45	89
	Student	10	5	14	11	28	68
Total		17	6	39	22	73	157

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	29.23	5	0.0134
N of Valid Cases	157		

Since p- value is  $0.0134 < 0.05$  we conclude that there is association between occupation and food label usage.

### Correlation between consumer knowledge and consumer characteristics

Here we want to test the null hypothesis there is no correlation between consumer knowledge and consumer characteristics. For the we use Pearson correlation coefficient.

**Table 4.5.4 Correlation between consumer knowledge and consumer characteristics**

		Correlations				
		Gender	value for money	Search for organic food	Search for quality	Search for Vegetarian
Knowledge about food labeling	Pearson Correlation	-0.070	-0.028	0.145	.305**	0.150
	Sig. (2-tailed)	0.383	0.728	0.071	0.001	0.061
	N	157	157	157	157	157

\*\* . Correlation is significant at the 0.01 level (2-tailed).

No significant correlation was found between the food label knowledge and value for money, search for organic food, search for vegetarian foods, or gender. It is found, however, a significant positive correlation ( $p$  value=0.001 , $r$ =0.305) between search for quality and food label knowledge. This indicates that a knowledge about food labelling increases with search for quality products or services.

#### **Gender wise satisfaction towards food labelling**

Here we want to test the null hypothesis is that there is no significant gender difference in satisfaction towards food labelling. For that, we use Independent sample t-test.

**Table 4.5.5 Gender wise satisfaction towards food labelling**

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
Satisfaction	Male	105	2.58	.533	.052
	Female	52	2.25	.622	.086

Independent Samples Test							
	t-test for Equality of Means						
	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Satisfaction	3.460	155	0.001	0.331	0.096	0.142	0.520

Since p- value is  $0.001 < 0.05$  it is concluded that there is significant gender difference in satisfaction towards food labelling. By comparing gender wise mean satisfaction, Male consumers have higher satisfaction towards food labelling than females.

#### **Gender difference in importance of nutrition information on food labels when making food choices**

Here we want to test the null hypothesis is that male and female consumers have same importance of nutrition information on food labels when making food choices. For that, we use Independent sample t-test.

**Table 4.5.6 Gender difference in importance of nutrition information on food labels when making food choices**

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
Importance	Male	105	2.80	.488	.048
	Female	52	2.38	.661	.092



Independent Samples Test							
	t-test for Equality of Means						
	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Importance	4.443	155	0.001	0.415	0.093	0.231	0.600

Since p- value is  $0.001 < 0.05$  it is concluded that male and female consumers have different importance of nutrition information on food labels when making food choices. Also, male population give higher importance of nutrition information on food labels when making food choices than females.

#### **Annual income differences in satisfaction towards food labelling.**

Here we want to test the null hypothesis is that different income level groups have same satisfaction towards food labelling. For that, we use One way ANOVA.

**Table 4.5.7 Annual income differences in satisfaction towards food labelling.**

Descriptive				
Satisfaction				
	N	Mean	Std. Deviation	Std. Error
below 1 lakh	33	2.39	0.659	0.115
1-2 lakh	73	2.52	0.603	0.071
2-3 lakh	36	2.50	0.507	0.085
above 3 lakh	15	2.33	0.488	0.126
Total	157	2.47	0.584	0.047

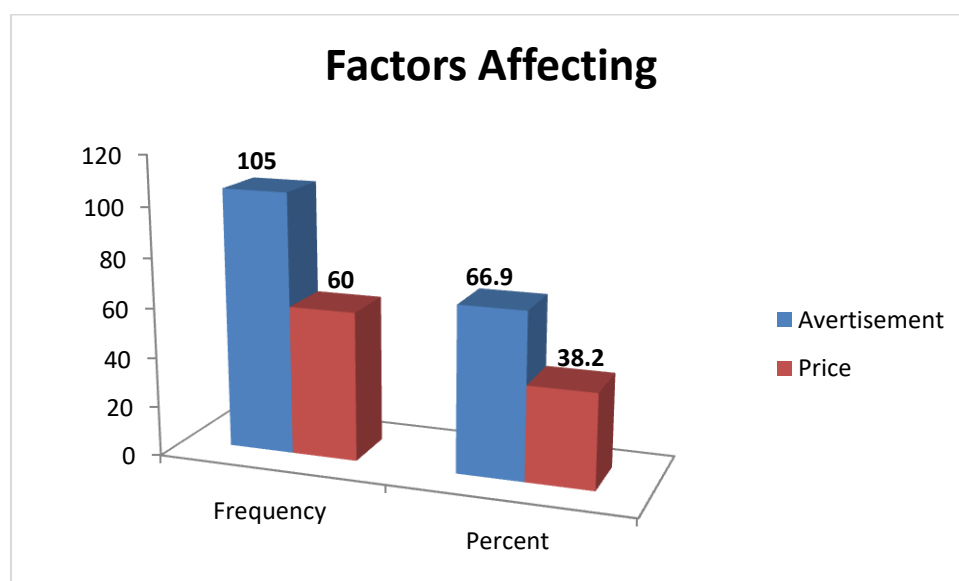
ANOVA					
Satisfaction					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	0.690	3	0.230	0.671	0.571
Within Groups	52.431	153	0.343		
Total	53.121	156			

Since p- value is  $0.571 > 0.05$  it is concluded that different income level groups have same satisfaction towards food labelling.

#### 4.6 Factors Affecting The Purchase Behavior

**Table 4.6 Factors Affecting Purchase Behaviour**

Variables	No. of subjects (n=157)	Percent age
Advertisement	105	66.9
Price	60	38.2



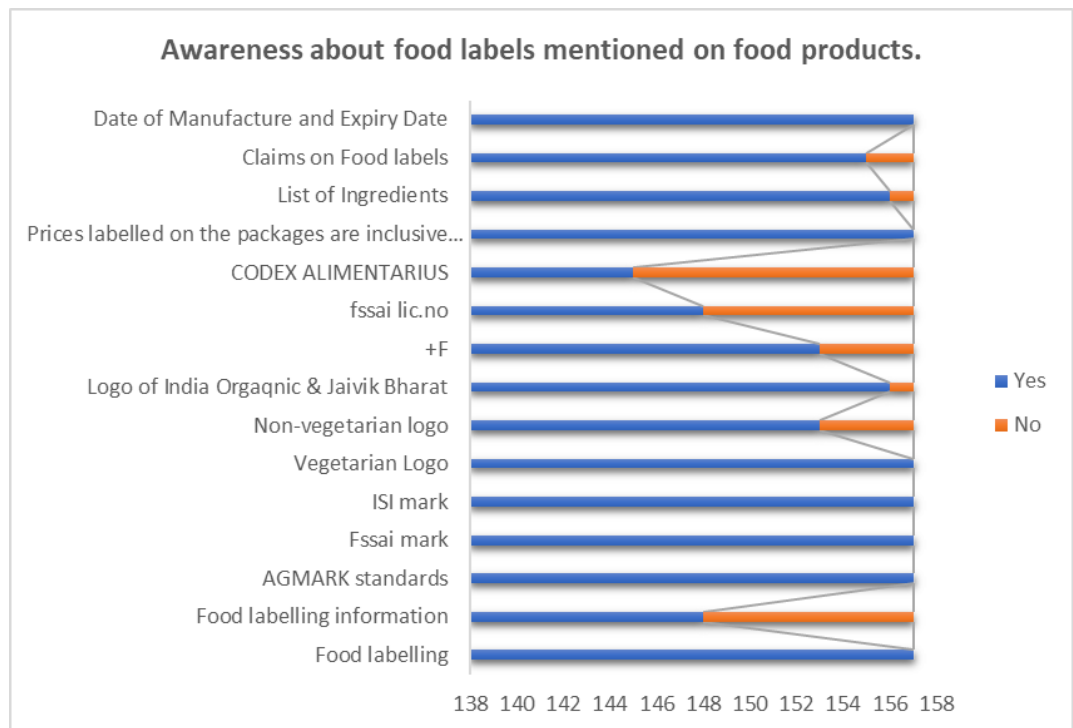
**Figure 4.6 Factors affecting food purchasing**

From the above graph, 66.9% of consumers are advertisement conscious and 38.2% of the consumers depend on the price while purchasing.

#### **4.7 Awareness about food labels mentioned on food products after the intervention tool**

**Table 4.7 Awareness about food labels mentioned on food products after the intervention tool**

<b>Variables</b>	<b>Yes</b>	<b>No</b>
Food labeling	157	0
Food labelling information	148	9
AGMARK standards	157	0
Fssai mark	157	0
ISI mark	157	0
Vegetarian Logo	157	0
Non-vegetarian logo	153	4
Logo of India Organic & Jaivik Bharat	156	1
+F	153	4
fssai lic.no	148	9
CODEX ALIMENTARIUS	145	12
Prices labelled on the packages are inclusive of all taxes	157	0
List of Ingredients	156	1
Claims on Food labels	155	2
Date of Manufacture and Expiry Date	157	0



**Figure 4.7 Awareness on food labels mentioned on food products after the intervention tool**

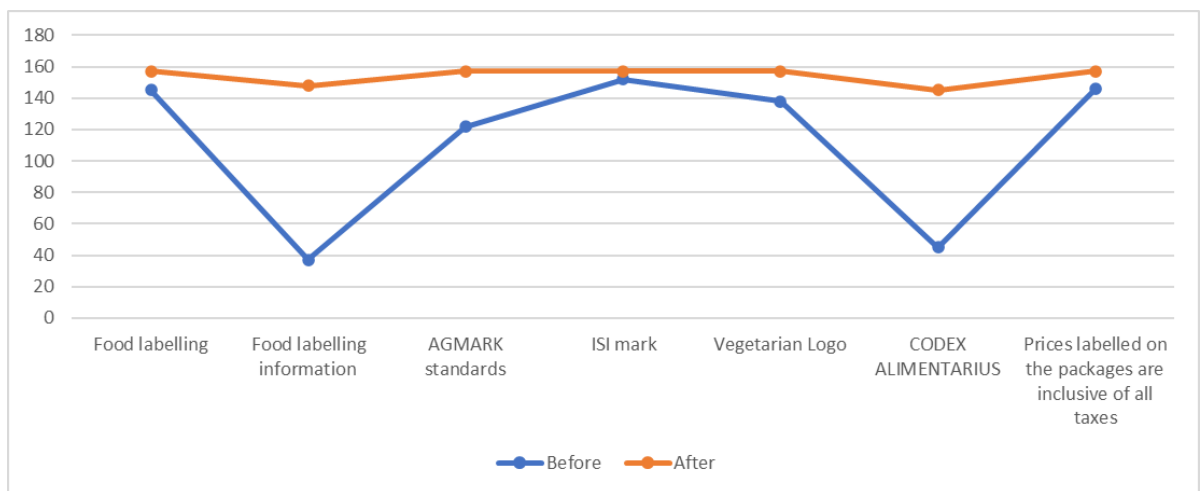
From the above graph, it can be seen that all respondents of the study are aware of Food labeling, AGMARK standards, Fssai mark, ISI mark, Vegetarian logo, prices labelled on the packages are inclusive of all taxes and date of Manufacture and expiry Date. A very small percentage the respondents are unaware of the Logo of India organic & Jaivik Bharat, the List of Ingredients, aware of the claims on food labels, +F and the non-vegetarian logo. Also a small percentage of participants do not know about fssai lic.no and CODEX ALIMENTARIUS.

#### 4.8 Comparison of awareness on food labeling before and after the intervention tool

Table explains about the Comparison of Data

**Table 4.8. Comparison of awareness on food labels before and after intervention tool**

Variables	Before	After
Food labeling	145	157
Food labelling information	37	148
AGMARK standards	122	157
ISI mark	152	157
Vegetarian Logo	138	157
CODEX ALIMENTARIUS	45	145
Prices labelled on the packages are inclusive of all taxes	146	157



**Figure 4.8. Comparison of awareness on food labelling before and after the intervention tool**

From the above graph it is understood that all the respondents (i.e. 157 respondents) are aware about the food labeling after the awareness. Before the awareness it was 37 respondents and after the awareness 148 respondents those are aware about the food labeling information. 157 respondents are aware about AGMARK and ISI mark after the awareness whereas before it was only 152 and 138 respondents respectively. 145

respondents are aware about the CODEX ALIMENTARUS whereas before it was only 45 respondents. After the awareness all the respondents are aware about the price labeled on the packages are inclusive of all taxes.

# **SUMMARY AND CONCLUSION**

## 5. SUMMARY AND CONCLUSION

The study entitled “**KNOWLEDGE, ATTITUDE AND PRACTICES ON CONSUMER AWARENESS ON FOOD LABELLING**” with the objectives to assess the knowledge, attitude and practices towards the food labeling among the consumers, to identify the factors affecting purchase behavior of the consumer, to create awareness on the importance of food labels mentioned on food products and To assess the impact of the awareness. The result of the current study summarizes as follows:

- ❖ The current study was carried out among 157 consumers of both the gender from the city of Hyderabad.
- ❖ The demographic profile of the consumers shows that 85.35% of them are below 30 years of old, 7.01% of them are in between 30-40 years old and 7.64 of them are above 40 years old. Regarding the gender 66.88% of the consumers are male whereas 33.12% of the consumers were female. Regarding the annual income 46.50% of the respondents an annual income of 1-2 lakhs, 22.93 % have 2-3 lakhs income, 21.02 % have income below 1 lakhs and 9.55 % have income above 3 lakhs. All of the respondents were from Hyderabad.
- ❖ Knowledge based questionnaire provides the information regarding the knowledge of the consumer regarding the food label. It is observed that 92.4% of the respondents know about the labeling but 7.6% of them have no knowledge about food labels. It is also observed that 71.3 % of the consumers are minimally informed about food labeling information, 23.6 % are very much informed and 5.3 % are not informed about food labeling information.
- ❖ The sources of information about food labeling for the majority of the participants i.e. 55.4% were media’s like TV, newspaper, advertisement, internet etc., 25.5 %



got aware of this from friends and family members, 11.5 % got the information from doctors and nutritionist and 7.6% respondents got aware about this from books and magazines.

- ❖ Majority of the consumers 79.6 % are most familiar with the expiry date and manufacture date found on food labels, 11.5% are more familiar with the list of ingredients, 7 % are most familiar with nutritional value and 1.3% is familiar with net content.
- ❖ The majority of the consumers say food labeling should be standardized and applied to all food products. Also, 27.4% of the consumers say food labels are voluntarily provided by the manufactures/procedures. Also, 11.5% of the consumers say food labels enforcedly provided under legislation.
- ❖ 63.7% of the consumer respondent that information provided on the food labels was satisfying whereas 36.3% of the consumer were partially satisfied. 61.8% of them know about food label scheme and 38.2% of them are not aware about the food label scheme.
- ❖ Regarding the AGMARK standard 77.7% of the consumers are aware but 22.3% of them are not aware about the AGMARK standard. Majority of the consumers are aware about the ISI marks and vegetarian marks.
- ❖ Majority of the consumer i.e. 71.3% are not aware about the CCODEX ALIMENTARIUS whereas 28.7% of the consumers are aware about this. Regarding the fact that price includes all taxes 93% of the consumers are aware.
- ❖ Attitude based questions are used to elect the attitude of the consumer towards the food label. 51.6 % of the consumers are always satisfied with food labelling, 43.9 % are sometimes satisfied and 4.5% are rarely satisfied with food labelling.

- ❖ Food nutrition labels always help with food choices for 20 consumers, never helped for 67 consumers, rarely helped for 30 consumers and sometimes helped for 40 consumers.
- ❖ Regarding the paying of higher price 113 consumers are always willing to pay a higher price for any product or service provided you get value for your money. 35 consumers are sometimes willing to pay a higher price for any product or service provided you get value for your money.
- ❖ 70 consumers never buy products if some important information is not available in the label, 34 consumers rarely buy products if some important information is not available in the label and 47 consumers sometimes buy products if some important information is not available in the label.
- ❖ 44 consumers always look for details of the label for all types of packed foods, 14 consumers rarely look for details of the label for all types of packed foods and 97 consumers sometimes look for details of the label for all types of packed foods. 60% consumers are aware about consumer rights while 40% are not aware of consumer rights.
- ❖ Regarding the advertisement misleading the food choice 73 % of consumers agree that advertisements mislead food choices while 24% of consumers disagree with advertisements mislead food choices.
- ❖ Practices based questionnaires helps to elicit the practice of the consumer. 94.3% of the respondents read the food label before they purchase a product.
- ❖ The majority of the respondents (78.3%) say, they first seek information about expiry date and manufacture date on a food label before deciding to purchase or eat a particular food. Also, 14% of the respondents say they first seek information

about the list of ingredients on the food label before deciding to purchase or eat a particular food.

- ❖ The majority of the consumers 28.7% sometimes look for AGMARK standard before purchasing food products. Also, 14% of them always look, and 20.4% of them rarely look for AGMARK standard before purchasing food products.
- ❖ The majority of the consumers i.e. 60.5% always look for ISI Mark before purchasing food products. The majority 48.4% respondents will always look for vegetarian mark before they purchase food products.
- ❖ By using Chi-square test it is concluded that there is no association between gender and food label usage and it is also concluded that there is no association between annual income and food label usage.
- ❖ Chi-square test concluded that there is an association between the occupation and food label usage.
- ❖ No significant correlation was found between the food label knowledge and value for money, search for organic food, search for vegetarian foods, or gender. It is found that a significant positive correlation between search for quality and food label knowledge. This indicates that a knowledge about food labelling increases with search for quality products or services.
- ❖ From the study it is also concluded that there is significant gender difference in satisfaction towards food labelling. By comparing gender wise mean satisfaction, Male consumers have higher satisfaction towards food labelling than females.
- ❖ It is also concluded that male and female consumers have different importance of nutrition information on food labels when making food choices. Also, male population give higher importance of nutrition information on food labels when making food choices than females.

- ❖ From the study it is observed that the factors affecting the purchasing behaviour are 66.9% of consumers are advertisement conscious and 38.2% of the consumers depend on the price while purchasing.
- ❖ The study also concludes that all the respondents (i.e. 157 respondents) are aware about the food labeling after the awareness. Before it was 37 respondents and after the awareness 148 respondents are aware about the food labeling information. 157 respondents are aware about AGMARK and ISI mark after the awareness whereas before it was only 152 and 138 respondents respectively. 145 respondents are aware about the CODEX ALIMENTARUS whereas before it was only 45 respondents. After the awareness all the respondents are aware about the price labeled on the packages are inclusive of all taxes.

## CONCLUSION

The present study was conducted to assess the Knowledge, Attitude and Practices on Consumer Awareness on Food Labeling. The main findings of the study indicate that the level of awareness of food label among the consumers is minimally informed. From the study it was found that 94.3% consumers read the food label before they purchase a food product. While purchasing the majority i.e. 78.3% of the respondents first seek the information about the expiry date and manufacture date on the food label and 14% of the respondents seek the information about the ingredient on the food before purchasing. Majority of the consumers look into the AGMARK and ISI standards before they purchase the food product. Advertisement and price are the major factors that affect the purchasing behavior of the consumer. The study also concluded that there is no association between gender and food label usage; and annual income and food label usage; but there is an association between the occupation and food label usage. The study also concluded that the awareness on food labeling among the consumer has improved their knowledge.

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# **APPENDIX - I**

**QUESTIONNAIRE TO ASSESS KNOWLEDGE, ATTITUDE AND PRACTICES ON CONSUMER AWARENESS ON FOOD LABELLING**

**4.1 Socio- Demographic Details**

**Name:**

**Age:**

**Gender:**

**City:**

**Occupation:**

**Family Size:**

**Annual Income:**

**E-mail id:**

**4.2 Knowledge Based Questions:**

1. Do you know about food labelling?
  - a) Yes
  - b) No
  
2. How well are you informed about food labelling information?
  - a) Very much informed
  - b) Minimally informed
  - c) Not informed
  
3. What made you know about food labelling?
  - a) Media –TV, Newspaper, advertisements, Internet etc.
  - b) Friends and Family members

- c) Doctors and nutritionist
  - d) Books and magazine
4. Which of the following terms are you most familiar with in relation to the basic information found on food labels?
- a) Expiry date and manufacture date
  - b) List of ingredients
  - c) Method of storage
  - d) Nutritional value
  - e) Net content
  - f) Price
  - g) Country of origin
5. The information provided is satisfying?
- a) Satisfied
  - b) Partially satisfied
  - c) Not satisfied
6. Food labelling should be?
- a) Enforcedly provided under legislation
  - b) Voluntarily provided by manufactures/procedures
  - c) Standardized and applied to all food products
7. Have you heard about the food labelling information scheme?
- a) Yes
  - b) No
8. Do you know about agmark standards?
- a) Yes
  - b) No

9. Do you know about ISI mark?

a) Yes

b) No

10. Do you know about vegetarian mark?

a) Yes

b) No

11. Do you know about CODEX ALIMENTARIUS?

a) Yes

b) No

12. Are you aware of the fact that the prices labelled on the packages are inclusive of all taxes?

a) Yes

b) No

**4.3 Attitude Based Questions:**

1. Do you think the information provided is satisfying for you?

a) Always

b) Sometimes

c) Rarely

d) Never

2. Do you agree that reading the food nutrition labels can help you make informed food choices?

a) Always

b) Sometimes

c) Rarely

d) Never

3. Are you willing to pay a higher price for any product or service provided you get value for your money?

a) Always

b) Sometimes

c) Rarely

d) Never

4. Do you think the information needed to become a well-informed consumer is readily available?

a) Strongly Agree

b) Agree

c) Disagree

d) Strongly disagree

5. Do you think that you are aware of your rights?

a) Strongly Agree

b) Agree

c) Disagree

d) Strongly disagree

6. Do you think that manufacturers make efforts to design and develop products to suit to the need of the consumer?

a) Strongly Agree

b) Agree

c) Disagree



d) Strongly disagree

7. Do you think that advertisements mislead your informed food choices?

a) Strongly Agree

b) Agree

c) Disagree

d) Strongly disagree

8. Do you think manufactures are responsible for any complaints of consumers?

a) Strongly Agree

b) Agree

c) Disagree

d) Strongly disagree

9. If some important information is not available in the label, would you still buy the same?

e) Always

f) Sometimes

g) Rarely

h) Never

10. Would you look for details of label for all types of packed foods?

a) Always

b) Sometimes

c) Rarely

d) Never

#### 4.4 Practice Based Questions:

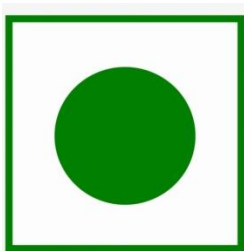
1. Do you read food labeling information before purchasing prepackaged foods?
  - a) Yes
  - b) No
  
2. If yes, how frequently do you read food labels when you first purchase a prepackaged food product?
  - a) Never
  - b) Rarely
  - c) Sometimes
  - d) Often
  - e) Always
  
3. What information do you first seek on food label before deciding to purchase or eat a particular food?
  - a) Expiry date & Manufacture date
  - b) List of ingredients
  - c) Method of storage
  - d) Nutritional value
  - e) Net
  - f) Instructions for use
  - g) Price
  - h) Trade mark
  - i) Name of manufacturer
  - j) Country of origin

4. Do you see the agmark standard before you buy food?
  - a) Never
  - b) Rarely
  - c) Sometimes
  - d) Often
  - e) Always
  
5. Do you see ISI mark before you purchase food?
  - a) Never
  - b) Rarely
  - c) Sometimes
  - d) Often
  - e) Always
  
6. Do you see the vegetarian mark before you purchase the food?
  - a) Never
  - b) Rarely
  - c) Sometimes
  - d) Often
  - e) Always

# **APPENDIX - II**

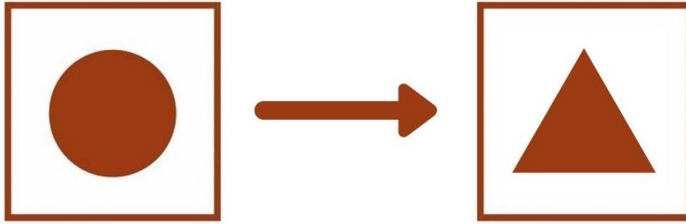
## QUESTIONNAIRE TO ASSESS IMPACT OF AWARENESS CONDUCTED

1. Do you know about food labeling?
  - a) Yes
  - b) No
2. How well are you informed about food labeling information?
  - a) Yes
  - b) No
3. Do you know about AGMARK standards?
  - a) Yes
  - b) No
4. Do you know about fssai mark?
  - a) Yes
  - b) No
5. Do you know about ISI mark?
  - a) Yes
  - b) No
6. This logo is about?



- a) Vegetarian
- b) Non-vegetarian

7. This logo is about?



- a) Vegetarian
- b) Non-vegetarian

8. Do you know what logo is this?



- a) Yes
- b) No

9. Do you know about +F?

- a) Yes
- b) No

10. Do you know about fssai lic.no?

- a) Yes
- b) No

11. Do you know about CODEX ALIMENTARIUS?

a) Yes

b) No

12. Are you aware of the fact that the prices labeled on the packages are inclusive of all taxes?

a) Yes

b) No

13. Do you know about List of Ingredients?

a) Yes

b) No

14. Do you know about claims on Food labels?

a) Yes

b) No

15. Do you know about Date of Manufacture and Expiry Date?

a) Yes

b) No

# **APPENDIX - III**



## Examples of Food Labels

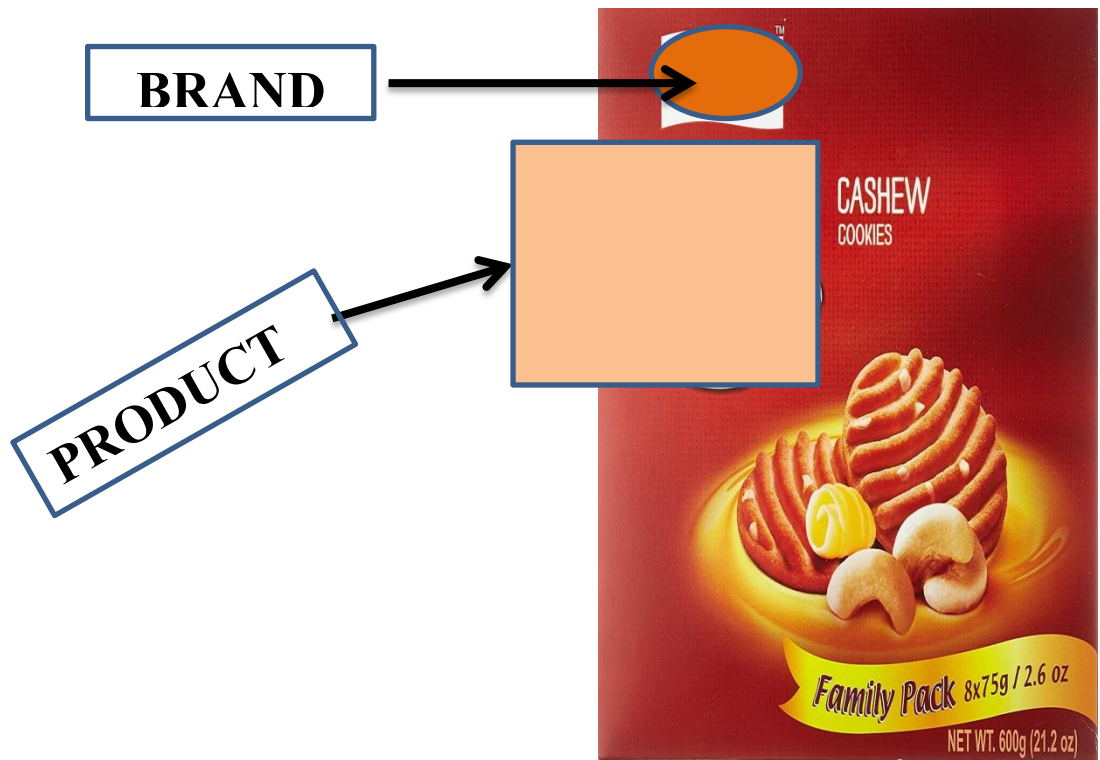


Figure 1 Food Product Name

Sample label for  
Macaroni & Cheese

<b>Nutrition Facts</b>			
Serving Size 1 cup (228g)			
Servings Per Container 2			
Amount Per Serving			
<b>Calories</b> 250	Calories from Fat 110		
% Daily Value*			
<b>Total Fat</b> 12g	18%		
Saturated Fat 3g	15%		
Trans Fat 3g			
<b>Cholesterol</b> 30mg	10%		
<b>Sodium</b> 470mg	20%		
<b>Total Carbohydrate</b> 31g	10%		
Dietary Fiber 0g	0%		
Sugars 5g			
<b>Protein</b> 5g			
Vitamin A	4%		
Vitamin C	2%		
Calcium	20%		
Iron	4%		
* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.			
	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

① **Start Here** →

② **Check Calories**

③ **Limit these Nutrients**

④ **Get Enough of these Nutrients**

⑤ **Footnote**

⑥ **Quick Guide to % DV**

- 5% or less is Low
- 20% or more is High

Figure 2 Nutrition Fact Table

### Non-Veg

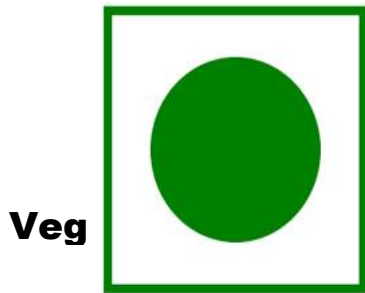
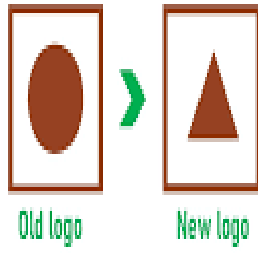


Figure 3 Logos on Food products