STUDY ON CONSUMER AWARENESS REGARDING FOOD LABEL

BY

Ms. AYODHYA UTTAMRAO DUDHATE

B.Sc. (Hons.) Home Science

DISSERTATION

Submitted To

The Vasantrao Naik Marathwada Krishi Vidayapeeth, Parbhani

In Partial Fulfillment of the Requirement

for the Degree of

MASTER OF SCIENCE
(HOME SCIENCE)

IN

FOODS AND NUTRITION

DEPARTMENT OF FOODS AND NUTRITION
COLLEGE OF HOME SCIENCE
VASANTRAO NAIK MARATHWADA KRISHI VIDYAPEETH
PARBHANI - 431 402 (M.S.) INDIA

2017

CANDIDATE'S DECLARATION

I, hereby declare that this dissertation or part there of

has not been submitted by me to any

other University or Institute for a

degree or diploma

Place: Parbhani

Date: 31/ 05/ 2017 **(Ayodhya Uttamrao Dudhate)**

CERTIFICATE - I

This is to certify that **Miss. Ayodhya Uttamrao Dudhate** has satisfactorily prosecuted her course of research for a period of not less than two semesters and that her dissertation entitled,**"Study on Consumer Awareness Regarding Food Label "** submitted by her is the result of original research work and is of sufficiently high standard to warrant it's presentation to the examination.

I also certify that, the dissertation or part of there has not been previously submitted by her for the award of degree of any University.

Place: Parbhani
Date: 31/ 05/ 2017

Dr. Nalwade Vijaya M.
Research Guide
Professor and Head
Dept. of Foods and Nutrition
College of Home Science
V.N.M.K.V., Parbhani.

CERTIFICATE-II

This is to certify that the dissertation entitled "**Study On Consumer Awareness Regarding Food Label**" submitted by **Miss. Ayodhya Uttamrao Dudhate** to the Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani in partial fulfillment of the requirement for the degree of **Master of Science** (Home Science) in the subject of '**Foods and Nutrition'** has been approved by the Student's Advisory Committee after oral examination in collaboration with the External Member.

(External Member)

Dr. Nalwade Vijaya
Research guide
Professor and Head
Dept. of Foods and Nutrition
College of Home Science

Members of Advisory Committee

Head
Professor and Head
Department of Foods and Nutrition
College of Home Science
V.N.M.K.V., Parbhani

Dr. Asha Arya
Professor (CAS),
Dept. of Foods And Nutrition
College of Home Science
V.N.M.K.V., Parbhani

Dr. Khan T. N.
Professor (CAS),
Department of Foods and Nutrition
College of Home Science
V.N.M.K.V., Parbhani

Dr. Madhuri Kulkarni
Professor (CAS),
Dept. of Family Resource Management
College of Home Science
V.N.M.K.V., Parbhani

Associate Dean and Principal
College of Home Science
V.N.M.K.V., Parbhani

ACKNOWLEDGEMENT

I have immense pleasure in expressing my deep sense of gratitude, indebtedness and sincere thanks to Dr. Vijaya Nalwade, Professor and Head, Dept. of Foods and Nutrition, College of Home Science, Vasantrao Naik Marathawada Krishi Vidyapeeth, Parbhani, for the inspiring and scholastic guidance, constructive critical suggestions, sustained interest and constant encouragement during the course of the work report in this thesis. I must admit that without her hand of co-operation and parentally guidance, it was not possible for me to work on this project. I am very much proud of her to be as my advisor.

I wish to express my sincere thanks to Prof. Vishala Patnam, Associate Dean and Principal, College of Home Science, Vasantrao Naik Marathawada Krishi Vidyapeeth, Parbhani, for her encouragement and providing facilities to undertake the present investigation.

I am sincerely thankful to the advisory committee members; Dr. Asha Arya, Professor (CAS), Dept. of Foods and Nutrition; Dr. Khan T.N., Professor (CAS), Dept. of Foods and Nutrition ; Dr. Madhuri Kulkarni, professor (CAS), Dept. of Family Resource Management, College of Home Science, VNMKV, Parbhani for their co-operation and valuable suggestions during the period of this project.

I am indebted for the inspiring words and aspiration of my beloved parents Mr. Uttamrao Dudhate and Mrs. Prayag Dudhate and my beloved brothers Eknath and my beloved sister Mrs. Asha Telbhare whose contribution since the onset of my academic career can never be

expressed. I humbly extend my hearty thanks to my family members for providing me psychological and moral encouragement during my research work.

My heartful thanks to Mr. Amar Kadam and Dr. Rajesh Mokashe for their co-operation while doing the survey.

I express my deepest gratitude to the all selected respondents of Parbhani city included in this study for their valuable cooperation and contribution for allowing me to carry out research study.

My whole hearted thanks to my all friends Miss Megha, Dipali and Aruna and my all seniors Ashwini, Jayashree and Rupali and my beloved juniors for the moral support extended to me till the completion of my dissertation work.

I am grateful to Arjun Tak, Akshay Tak (Gajraj Computers) who carried out the difficult task of typing the revised manuscript, not only swiftly and accurately, but cheerfully.

Thanks to all those well-wishers who helped me knowingly or unknowingly in this study.

Place: Parbhani **(Ayodhya Uttamrao Dudhate)**

Date: 31/ 05/ 2017

CONTENTS

LIST OF TABLES

LIST OF FIGURES

Introduction

CHAPTER - I

INTRODUCTION

Labelling is any written, electronic or graphic communications on the packaging or on a separate but associated label. Basic objectives of labelling are brand identification, providing the information of product and promotion.

Food label comprises of printed, symbolic or graphical information which is accompanied by food (Asiamah, 2006). The food label is one of the most important and direct means of communication of product information between buyers and sellers. Food product labelling, as policy tool for ensuring provision of nutrition and health information to consumers. Product differentiation strategy by food company has gained importance in the recent past across the globe (Kim *et al*., 2000 and Marks, 1984). Food label is a legal requirement which has to be fulfilled by food processing companies for the consumer's better health and safety (Ababio *et al*., 2012). Hence, food labels play an important role by disseminating important nutrition information to consumers.

According to the food safety and regularity Authority of Indian (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 ones.

According to Bassarir and Sherif, (2012) food label is an instrument which is used to inform consumer about food safety and nutrients best for his/her health. Also food label direct consumer in pre-purchase and post-purchase decision making (Van der Merwe *et al*., 2014). It is a community-based approach providing information to consumers about the

nutrient content of a food in order to make food selection environment more favourable to healthy choices.

Food labels information assists consumers to better understand the nutritional value of food and enables them to compare the nutritional value of similar food products and to make healthy informed food choices based on the relevant nutrition information (AL Tamimi and Company, 2004). Also Food labelling encourages the food manufactures to improve the nutrient profile of their products beside; the trade can formulate the relevant marketing strategies to attract potential consumers. This will result in benefiting situation for both consumers and manufacturing (AMEinfor.com 2008). On the whole the food labelling policies have a dual purpose; to protect consumers and to ensure fair marketing. An effective food label play multidimensional role like, providing nutritional information (Grunert and wills, 2007, and Mackison *et al*., 2010), control food related allergies (Voordous *et al*., 2009) and expiry date provide food safety (Sanlier and Karakus, 2010).

Therefore nutrition label is an important component of food labelling. Nutrition claim means any representation which states, suggests or implies that a food has particular nutritional properties. Nutrition information present in numeric or non-numeric format. Numeric format present nutrition information quantitatively and non-numeric format convey information in return form or graphically such as logs, symbols and colours coding (Cowburn and Stockley, 2005 and Moubach, 2010). It guides consumer to select better and healthy food choices for themselves and their families (Charlton *et al*., 2004 and Jones and Richrdson, 2007) and also enables them to compare the nutritional values of similar food product in order to make healthier informed food choice. The principle reason for nutrition labelling is that the consumers have a right to know what is in the purchased food, so that consumers can take better decisions for their own well-being and for their family also (Rotfeld and Taylor, 2009).

Food label gives the sense of trust and confidence in the cleanliness, healthiness and safeness in consuming the food products. The need for manufacturers to provide information on specific nutrients in food products could help to minimize under and over-nutrition in consumers since the information has potential to guide them to be familiar with the nutritional content of the foods that they eat.

Health claims describe a relationship between a food, food component or dietary supplement ingredient, and reducing risk of a disease or health related condition. Consumers also have more nutrition information due to expanded food labelling mandated by the government.

According to FSSAI, “Health claims” means “any representation that states, suggests or implies that a relationship exists between a food or a constituent of that food health and include nutrition claims which describe the physiological role of the nutrient in growth, development and normal functions of the body. Other functional claims concerning specific beneficial effect of the consumption of food or its constituents, in the context of the total diet, on normal functions or biological activities of the body and such claims relate to a positive contribution to health or disease, risk reduction claim relating to the consumption of a food constituents, in the context of the total diet, to the reduced risk of developing a disease or health related condition”. Some of the authorized nutrition claims are “free of fat/ saturated fat/cholesterol/ sodium/salt/sugars and calories”, “very low in sodium”, “ high or good source of calcium”, etc. (Food Safety and Standard Regulations, 2011).

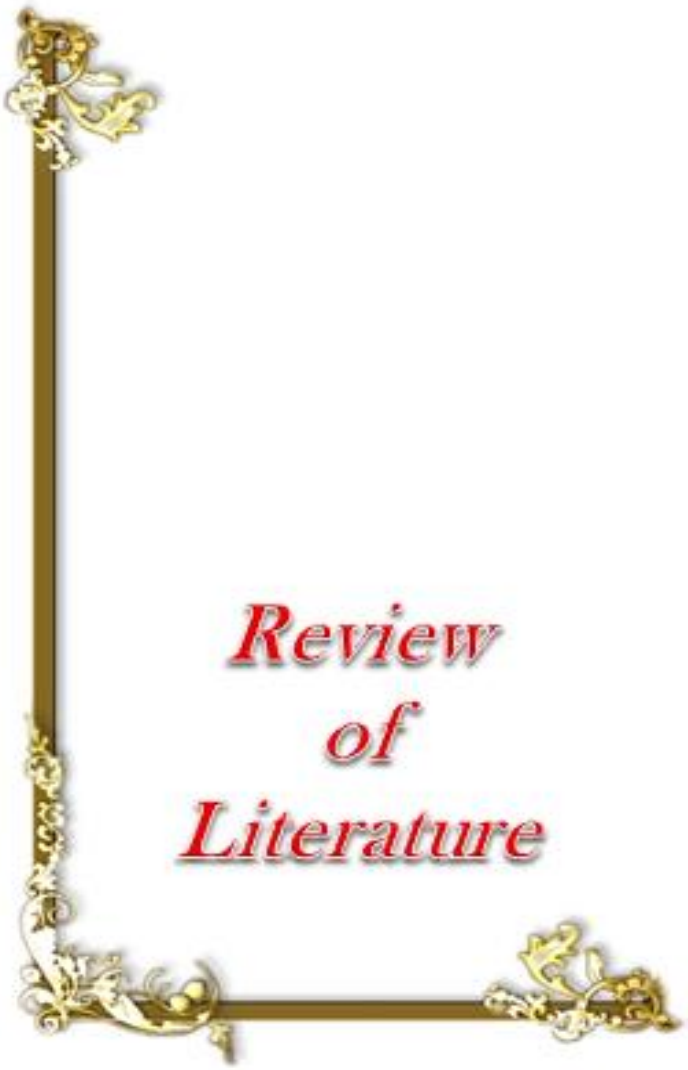
Some consumers look at food label because of health consciousness (Prathiraja and Ariyawadana, 2003). Some researchers have noticed that consumer understanding and usage of food label improved the dietary quality (Jordan Lin *et al.*, 2004) reduced the intake of energy, fat, sugars and saturated fat, cholesterol and sodium and tended to increase intake of fiber, iron and vitamin C (Neuhouser *et al.*, 1999 and Ollberding *et al*., 2010 and Temple and Fraser, 2013). It has been observed that higher income, middle

age consumer and female are more concern in consulting nutritional food label while purchasing food (Campos *et al.*, 2011).

The information available in regard to study on consumer awareness regarding food label is very meager therefore the present study is under taken with following objectives.

Objectives

1. To find out the prevailing food purchasing practices among selected consumers
2. To study the type of information used by consumers while buying the food products
3. To assess the awareness of the consumers regarding nutrient information given on food label
4. To study the consumers awareness about health claims disclosed on food label


Review
of
Literature

CHAPTER - II

REVIEW OF LITERATURE

Several studies reported in the literature on consumer awareness regarding food label are reviewed here under various heads.

2. Studies on the prevailing food purchasing practices among selected consumers
3. Studies on the type of information used by consumers while buying the food products
4. Studies on the awareness of the consumers regarding nutrient content and health claims disclosed on food label

2.1 Studies on the prevailing food purchasing practices among selected consumer

Swamy *et al*., (2012) studied buying behaviour of consumers towards instant food products. A study was conducted in Hyderabad city of Andhra Pradesh state, India. A total 180 consumers were selected from three different areas of Hyderabad. Results showed that, all the respondents were aware of pickles and sambar masala but only 56.67 per cent of the respondents were aware of dosa/idli mix. Whereas ready availability and save time of preparation were the reasons for consuming instant food products. The average monthly expenditure on instant food products was found to be highest in higher income groups. The average per capita purchase and per capita expenditure on instant food products had positive relationship with income of households. High price and poor taste were the reasons for not preferring particular brand of the product, whereas best quality, retailers influence and ready availability were considered by preferring particular brand of products by the consumers.

Vijayabaskar and Sundaram (2012) studied purchasing attitude towards ready-to-eat / cook products by health conscious consumers in southern Indian with respect to tier-I cities. Online survey was conducted

among 200 consumers from Chennai, Bangalore, Cochin and Hyderabad. The results showed that the health benefit and content of ingredients were the major forms which had impact on decision making of consumers in going for healthy Ready-to eat products. Most of the consumers feel these products were come with different key ingredients which normally reduce the weight and keep them fit.

Sandberg and Chysochou (2013) studied consumer response to food labels in Denmark. Online response from 427 consumers was collected. The results showed that 55.9 per cent do so most of the time read food labels, 30.9 per cent rarely read food labels , 9.3 per cent always read labels and only 4 per cent stated that they never pay attention to labels. Most cases awareness had positively influence on consumers' perception of food labels. Most food labels were well understood. Also it was found that the most promoted food labels in Denmark were the ones that participants' declared to have seen before, to better understand, trust more and find more useful. On the other hand, thee food labels that are related to European Unions scheme of geographical indications and traditional specialties were recognized by few respondents and also scored low in in useful, trustworthiness and perceived understanding. In, general it was found that the actual understanding of most labels was high.

Shekhar and Raveendran (2013) studied by 220 young semi urban consumers' responses towards nutritional labeling of Kannur district of Kerala state, India. It's information content and the importance of the functional characteristics of these labels as perceived by young consumers in making informed purchase decisions through personal interviews using a structured questionnaire. Factor analysis was performed to identify the underlying dimentions among a set of nutritional labeling parameters using principle component analysis. Based on factor analysis, ten factors emerged. Regression analysis and't' test indicated that, out of ten factors namely 'nutritional belief', 'storage instruction and information overload and exercise and nutrition' were significant. Also these factors were mainly inclined outside

the purview of nutritional labeling had less influence in purchase decisions as far as young consumers were considered. On the whole findings of the study gave practical insights on food labeling issues for the food processors and policy makers.

A case study on labeling regulations of prepackaged food product (Biscuits) was conducted by Anjum *et al*., (2014). Survey was conducted on 100 consumers belonging to different categories. It was an investigation of the nutritional value of biscuits in the Indian market as claimed on the packaging material and it was also study on the effect of packaging on consumer's buying behavior. Results revealed that most of the companies were aware of FSSAI regulation and were maintaining the Acid Insoluble Ash and Acidity of Extracted Fat Level in their Products. Beside there for the awareness of consumers the companies also provide some voluntary details on their products like FSSAI license number etc. On the whole it was found that most of the customers were not aware of the mandatory and voluntary labeling.

A study was conducted on exploration into Indian's perception of food products of nutritional labeling by Shekhar and Raveendran (2014). A total 220 students were selected from various schools and colleges from Kannur district of Kerala state, India. To examined the student's perception towards nutritional labeling. The findings revealed that perception on nutritional labeling of packed food products did not significantly vary across age and sex of the respondents.

2.2 Studies on the type of information used by consumers while buying the food products

Quality standard labeling information on meat packs demanded by consumers and relationships with purchasing motives was studied by Silva and Sandika (2011). Data was collected through structured questionnaire by personal interview from selected 100 consumers. Results showed that among the respondents, 90 per cent purchased meat and stated that they purchase; raw meat (25.8 kg) and processed meat (2.16 kg), average per annum. There were

significant correlations between the quantity of meat purchased and the factors such as occupation, gender, religion, income, education, market information sources, income and education of the family members. Results argued that personnel income and their knowledge background significantly motivated for meat products purchasing based on nutritional view. Seventy seven percent of the respondents perceived that food safety information on food labels were very important and 72 per cent expressed that this information helped them on decision making at purchasing of meat products. Results they also reported that Gender, individual's education, family member's education, interpersonal and mass media found to affect consumers' total awareness and adoption toward food certificate logo on meat packs. Overall, women, especially mothers, with higher levels of education are most likely to read food certificate logos. Results showed that men were less concerned about food safety issues than that of women while purchasing. More than half of respondents, claimed to be always or sometime they (61 %) read food quality standards (SLS) logo in meat when they do purchasing. Around 21per cent read always or sometime food safety systems (ISO) whereas 22.2 per cent sometime seek food safety systems (HACCP) in meat items respectively.

Understanding and use of nutrition information on food labels by consumers was studied by Jain *et al*., (2013). A total 70 female consumers >18 years of age were selected from 14 grocery shops/retail outlets/ shopping complexes/malls of Ajmer city of Rajasthan. Results showed that nutritional labels had a fair amount of influence in majority of the respondents on their buying decision. Most of the respondents considered taste as 'neither most important nor not important' as a factor governing their food purchasing. The association of food price with food purchasing did not point towards a clear trend. On the other hand, nutritional claims like low calories from fat and saturated fat, low cholesterol, low sodium and high fiber were most popular and had major impact on the food purchasing behaviour of the customers. On the whole, Nutritional labeling formats helped the consumers to make healthier choices. Nutrition labels are only one of many approaches that will be required

to address chronic diseases at a population level. However, for this approach to be effective, consumers must be able to easily identify and understand information on product labels. Voluntary industry labeling should be subjected to greater scrutiny to ensure that the labels enhance rather than reduce consumers' understanding of nutrition information.

Singh *et al*., (2013) studied consumer use and understanding of nutrition labels. Seven hundred twenty one branded foods selected from various local super /hyper stores were examined for the same. Mandatory compliance for five basic nutrients as per FSSA was met for energy (100%) followed by carbohydrate (99%), protein (95%), fat (87%) and least for sugars (76%). Thirty five per cent of packaged foods had either one or more quality symbols. The most commonly found quality symbols were FPO (29%) and HACCP (5%). Nutrition claims were found in 28 per cent of the products, out of which fat (19%) and cholesterol (9%) related were the most common. Seventy two per cent of the products had one or more allergic component in the ingredients list, but only 12 per cent of the products substantiated it with allergen caution/claim. The consumer awareness survey showed that 32 per cent of the subjects did not understand the food labels. The most difficult to comprehend information on food labels were nutrients in international units and percent daily value (29%). Therefore, there was a need to ensure appropriate labeling of foods and raise consumer awareness for healthy food selection.

Consumer awareness and usage of nutrition information while purchasing and consuming food products was studied by Tanjo and Themba (2013). A total 150 consumers was randomly selected from Gaborone, the city of Botswana. The results showed that the level of nutrition information awareness among consumers in Botswana was relatively high and that most consumers used such information to inform their purchases. The results also indicated that in Botswana nutrition information awareness does not significantly differ according to demographic characteristics of users. It is

apparent from findings that awareness of nutrition information does not differ according to demographic characteristics of consumers. With the exception of the findings relating to family size. Typically those most likely to use nutrition information while purchasing food products were older highly educated females who were in well-paying jobs. The results further indicated that lack of knowledge was the main factor that prevents consumers from using nutrition information followed by lack of interest and lack of knowledge. Also it was noticed that consumers mostly use nutrition information when comparing products and when buying food products for the first time. Majority (78%) of the respondents were aware of nutrition information on food products. Also those who claim to use the information to inform purchases were also in the majority 88 per cent.

Vemula *et al*., (2013) analysed the use of food label information by urban consumers in India. A cross-sectional study was conducted among supermarket shoppers. Both quantitative and qualitative research methods were used for data collection. Survey was conducted in New Delhi and Hyderabad metro-cities from north and south India. A total 1832 consumers were selected from different age groups, namely adolescent (10-19), adult (20-59 years) and elderly (≥60 years) consumers. Results showed that, a higher proportion of men shopped for pre-packaged foods than women. Almost all consumers were literate (99%) and majority (60.8%) of them were graduates. About 97.5 per cent of adolescents were students and 13.4 per cent of the adults were employed. Over 44 per cent of the consumers reported that they perched pre-packaged food every fortnight. Some of adolescents' girls and women mentioned that they did see the ingredients list as they were concerned about high-fat and high-sugar foods. Brand name (85%) was the aspect most commonly checked by consumers, followed by date of expiry/best before date (80%). The least checked was the list of ingredients (20%) and less than (40%) of the consumers across the age groups reported that they checked nutrition information on the food labels. It was observed that a significantly higher number of respondents with higher education were checking quality symbols

and nutrition information in all the categories of pre-packaged foods than their counterparts with school education. However, women, girl and elderly consumers who were concerned about fat, sugar or salt intake were checking the nutrition facts. Also a significantly greater number of consumers with higher education qualifications were checking the nutrition information as well as quality symbols.

Affram and Darkwa (2015) studied consumers' knowledge, understanding and use of food label information. Data was collected from the capital city of Ho Muncipal district in the Volta Region of Ghana. A total 200 consumers between 18 and 65 years from each of the three largest grocery stores in Ho used for the study. Results indicated that high awareness ($p<0.05$) and frequency in food label reading was noticed among participants but this did not necessarily influence their purchase of food. Insufficient knowledge, time constraints and small font sizes were reported by participants as the main factors that prevented them from reading and using food label. Although sex ($P<0.89$) did not influence participants' reasons for reading label, at $P<0.01$. Younger consumers read labels to compare the products; older ones did so out of curiosity and for special dietary Needs.

Talagala and Arambepola (2016) assessed the use of food labels by adolescents to make healthier choices on snacks. A cross sectional study was conducted in 2012 among 542 grade 12 students in Sri Lanka. Based on total scores obtained for the three practices, 'satisfactory (score $\geq 75^{th}$ percentile mark) and 'unsatisfactory (score $\geq 75^{th}$ percentile mark) label users were identified using SPSS. The results showed that, majority (74.5%) was frequent (always or most often) label readers with female predominance ($p<o.o5$). Over 74 per cent paid attention frequently to the brand name (75%), price (85%) and nutrition panel (81%). Over 64 per cent were able to select the better food label when given a choice between two snacks. Although some did it for reasons such as attractive label (63%). The majority had good knowledge on interpreting labels. Although not statistically significant, unsatisfactory label use was higher among males (73%), purchasing power (70.4%) and unhealthy

snacking behaviour (73%). In contrast, among the marketing strategies, identifying known brands (73.2%) and imported products (75.8%) as good products were significantly associated with unsatisfactory label (p<o.o5). On the whole despite having good knowledge and positive attitudes, food label use is unsatisfactory among adolescents. Skill in reading labels should be addressed in the school canteen policy in Sri Lanka.

2.3 Studies on the awareness of the consumers regarding nutrient content and health claims disclosed on food label

Factors affecting consumers' purchasing behaviour towards local foods in Greece was studied by Koutroulou and Tsourgiannis (2011). A total 100 customers were randomly selected in the prefecture of Xanthi. It was found that the consumers were influenced in their buying decisions by the attractiveness of the packing of the product, the appearance of the product generally. On the other hand they were not interested in production methods, the price of the product neither in protection of the environment nor in the nutrition value of the product. Results also indicated that there was a significant association between the adoption of buying behaviour and the factors that influence them to choose local products. Besides, there results, topicality of products, taste, production methods, environmental impact, quality, price, health safety, attractiveness of packing, curiosity and prestige support were the factors which influenced on purchasing behaviour of consumers. These consumers were interested to buy local products. However, they pay attention to the ingredients of the product as well as to its price. However, the environmental consequences of the product as well as the nutrition value of the product were also factors that affect consumers buying behavior. The certification of the product regarding its origin had a positive impact on these consumers purchase decisions.

Kumar and Ali (2011) assessed consumer awareness and usage of food labels and influence on food buying behavior. A survey was conducted among 373 consumers in Lucknow, Delhi and Kanpur major cities of India. A total of 373 responses were collected: 36 per cent from Kanpur, 35 per cent

from Delhi and remaining 29 per cent from Lucknow. It was found that Indian consumers in these three cities were fairly aware of the information provided on the food labels; though the level of awareness about different types of information varies. The Results indicated that majority of the respondents (64%) were males. Out of 373 respondents 32 per cent buy packaged food more than once a week, 12 per cent at least once a week and other 16 per cent once a month. The results indicated that the Indian consumers surveyed in three cities a per cent (64%) gave importance to information about food ingredients and nutritional contents of food. The majority of the people i.e. 46 per cent always check nutrition panel information.

A study was carried out on factors affecting impulse buying behavior of 50 consumers at superstores in Bangladesh by Tinne (2011). It was observed that females (73.7%) purchase more impulsively than males (58.1%). In case of age group, 26 to 45^{+} were mostly impulse buyers. The respondent, who does business (92.3%), was mostly impulse buyers. In perspective of time, people who spend more time in superstores were mostly impulse buyers. The results indicated that pricing strategies, store characteristics, situational factors and promotional activities mostly influence the impulse buying behavior of consumers at superstores in Bangladesh. In case of pricing factor, it was noticed that products with reduced price was bought as impulse purchase. Also income level of consumers affects impulse purchase positively. Results also indicated that situational factors such as popularity (brand) of product, comments of reference group and requirements of products in festival seasons influence impulse buying. On the whole, it was found that specific brand offer, advertisement of product in print and visual media or any sort of promotion of products in superstores that initiate impulse buying behavior of consumers at superstores.

Consumer awareness of food labelling in United Arab Emirates (UAE) was assessed by Basarir and Sherif (2012). Results indicated that near about 90 per cent respondents read the information provided on food labels. In

addition to that, more than half of them would like to see labeled food items on stores' shelves. Among the attributes written on the labels, the three most important that were checked by respondents were expiration date, list of ingredients and country of origin. The biotechnology information, food storage and handling instructions, whereas the organic certification were read rarely by the respondents. Furthermore, the older, more educated, and those have more children under age of 18 read food labels more frequently. On the other hand, most of the respondents want the food items to be labeled mandatorily in UAE. Reading food labels was 98.8 per cent. Based on the marginal effects, female respondents are reading the food labels more frequently than the males.

Mahdavi *et al*., (2012) studied knowledge, attitude and practice between medical and non-medical science students about food labeling. Three hundred thirty two students aged 18-25 yr. from five different academic majors in Tabriz, Iran were selected for study. They were asked to complete an approved questionnaire containing 15 questions. The chi-square test was applied to examine the differences across various major groups. Results showed that 89.2 per cent of the students believed that food labels had effect on nutritional awareness 77.4 per cent were agreed with the usefulness of the food labels and 79.2 per cent did not feel that nutrition claims on food label were truthful. For 84 per cent of students, the expiry dates and storage conditions information were the most important informational cues to appear on the food labels. From 47.6 per cent of students who reported the use of nutrition facts label in their often or always shopping; only 32.3 per cent used the information on labels to fit the food into their daily diet. Surprising fatty acids were the least noteworthy items (1.9%) on nutrition facts labels. Regarding students' major, there was significant difference in their knowledge, attitude and practice about truth of the nutrition claims, using food labels and importance of health claims ($p<0.05$). Food labels were more useful tools for students and had an effect on their nutritional awareness. Designing and implementation of the educational programs in order to increase the level of knowledge about food labels is suggested.

A study was conducted on empirical determination of consumers reaction to nutritional labeling of pre-packaged food products by Oghojafor *et al*., (2012). A total 280 respondents were selected from ten localities of Lagos mainland on Nigeria. Result indicated that 88.8 per cent respondents personally buy packaged food products for personal consumption while 11.2 per cent do not buy. Awareness of consumers in regard to nutritional labeling on packaged food products it was found that, about 83.6 per cent of respondents were affirmative about their awareness of this information while 6 per cent were not aware and 10.4 per cent were neutral as they had no idea. Consumer awareness toward nutritional label showed that 80.8 per cent consumers read nutrition claim, 13.2 per cent do not read, and 6 per cent do not had idea whether they read or not. Nutrition information on packaged food labels, 66 per cent they understand these information and 16 per cent do not understand while 18 per cent do not have idea. On the effect of nutritional information on purchase choice 75.6 per cent concur that information on labels influence their purchase decisions and 19.6 per cent reported that nutrition information on packaged food products do not influence their buying decisions. Results also indicated that 82.8 per cent respondents agree and strongly agree that they were able to relate the effect of nutrition information on their health, 73.6 per cent respondents consciously search for nutrition information prior to purchase of food products, 65.6 per cent respondents trust that the nutrition information on food labels were authentic. On the whole, consumers consciously search for nutrition information, which significantly influence their purchase decision of these kinds of products.

Osei *et al*., (2012) studied consumers' use and understanding of food label information and effect on their purchasing decision in Ghana; a case study of Kumasi Metropolis. Two hundred fifty consumers who were conveniently selected from five different sub-metros in the metropolis. Results suggested that the sample was gender sensitive (57.6% male) with a modal aged group between 15 and 30 years (60.8%) who had never been married (54.0%), with a greater number who had tertiary education (36.4%) and earning

low income between GH¢50-499(61.6%). About 79.6 per cent of the respondents recounted accessing food label information before purchase and they read the information occasionally (29.6%) during initial purchase (37.2%). A positive relationship was observed between male, youthful (31-45) consumers and understanding of food label information. Majority of the respondent said advertisement (31.6%) and price (31.2%) other than food label (10.0%) were the central stimuli to purchase a canned food product. About 79.6% (n=199) of the respondents, recounted accessing food label information occasionally (29.6%) during initial purchase (37.2%). Highly educated, male consumers were those more likely to use various types of food label information than others.

A study was carried out on social determinants of food purchasing practices, who chooses price-before-health, taste-before-price or organic foods in Australia by Ward *et al*., (2012). Data was gathered from a national computer assisted telephone survey of 1109 randomly sampled house-holders and analyzed using multiple logistic regression analysis. In regard to prevalence of the Food Purchasing Practices (FPP), it was found that majority of respondents stated that they pay more for food if it tasted better (88%). Forty seven per cent consider price before health and nutritional qualities of food buying organic. In case of people having full time employment it was noticed that they prefer organic food as compared to people who also having part time job. It may be due to economical status. There was an association in purchasing of organic food with work status of people. Results revealed that, females, older people and more educated people were more likely to consider the health and nutritional quality of food before its price. However, findings revealed that the heterogeneous nature of men, younger people and people with lower educational qualifications were more likely to use price-before-health as a food purchasing decision. It showed that men were particularly price-sensitive, being less willing to pay for price-before- taste and more willing to consider price-before-health. More importantly were findings which suggested that higher income individuals were willing to spend more for healthier food,

whether it was for image or health, whereas men, younger people and lower educated individuals were more likely to consider price before health.

Washi (2012) assessed awareness of food labeling among consumers in groceries in Al-Ain, United Arab Emirates. A total 1200 consumers (men and women) were interviewed while shopping at various food grocery stores in Al-Ain, UAE to assess their knowledge, attitudes and practices. Results of Consumers' response showed that 89.5 per cent consumers had a general awareness for reading the food label ; however, they read basic information like production and expiry dates. Result showed that, increased consumption of prepackaged foods and inadequate awareness on use of food labeling information. More than half (58.8%) would like to see all information (manufactory; expiry dates and validity dates; nutritive value of food in addition to health claims and health warning).This study was an educative health and nutrition implications to help consumers make an informed choice when buying prepackaged foods.

Wojcicki and Heyman (2012) studied adolescent nutritional awareness and use of food labels. Results revealed that significant differences in frequency based on race/ethnicity were found for all awareness of nutrition programs and use of nutrition facts label among those surveyed. Non-Hispanic whites had the highest frequency of awareness of the Food Guide Pyramid and 5-A-Day Health Program, while other Hispanics had the highest awareness of Dietary Guidelines for Americans. Mexican Americans had the lowest awareness of all three programs. Race and ethnic background were associated with significant differences in nutrition awareness and label reading behaviors. Non-Hispanic white adolescents were more likely to check calories from fat, trans fat, saturated fats, the serving size information, and the nutrition facts label. Other Hispanics were more likely to check sugars, fiber, and carbohydrates, sodium and the ingredient list. Non-Hispanic African-Americans were least likely to check any of the fat information (calories from fat, total fat, trans fats and saturated fat) compared with the other racial/ethnic

groups. Statistically significant differences between ethnic/racial groups were found for awareness of the Food Pyramid, the use of health claims on the food package and checking trans fats. Specifically, Mexican-American adolescents had the lowest awareness of nutrition programs, and African-American adolescents were the least likely to check fat information on the nutrition facts label.

Aryee (2013) assessed awareness and use of nutrition labels on pre-packaged foods among consumers in ACCRA. This was cross sectional survey with 403 adult shoppers at the two supermarkets. Convenient sampling was used to recruit participants into the study. Structured pre-coded questionnaires were used to interview participants on socio demographic, health characteristics and awareness and use of food and nutrition labels. Results showed that majority (82%) of respondents were aware that some prepackaged foods carried food labels with nutrition information. The components of food labels which were most likely to be used were the expiration date (26.9%) and nutrition label information (19.6%). About 25 per cent of the respondents reported not using nutrition labels. Among those who used nutrition information most likely to be used were fats (16.4%) and sugar (16.1%) and cholesterol (14%). There were no associations between history of health conditions and special diet status of participants and nutrition label awareness and use. Education employment status, income and marital status were positively associated with nutrition label use. The result of this study provide useful information that can inform future public education efforts to promote use of nutrition labels for sound choices.

A study was conducted by Kumar *et al*., (2013) on consumer awareness, safety perceptions and practices about food preservatives and flavouring agents used in packed / canned food from south India. A cross-sectional study was conducted in January 2012. Sample size of 126 was computed using the formula for infinite population. People who bought packed food items in malls were approached and requested to fill a pre-tested semi-

structured questionnaire. The questionnaire explored awareness, safety perception and practices of Food Preservatives (FPs) and Flavouring Agents (Fas). Result showed that majority of the people were aware about presence of 'FPs' (91.7%) and 'FAs' (84.9%) though their knowledge was inadequate. Breakup of the study subjects according to level of awareness about FPs was as follows (%) : good (37.4), satisfactory (36) and poor (14). Distribution according to type of practices for FPs was as follows (%): favourable (14), unfavourable (86) and FAs(%): favourable (30.5), unfavourable (69.5). There was a gap between knowledge and practices. It conclusion, it was found that though there was the study participants are aware about the presence of FPs and FAs in the packed foods even though they lack the knowledge about the effects about the specific effects. Their practices are unfavourable. There is a need to carry out sustained long term campaign to change their food consumption pattern to reduce the impact on health.

Singh *et al*., (2013) assessed nutrition labeling compliance of branded processed packaged foods with Indian food laws (FSSAI. 2011 regulations). The study was conducted in supermarket (n=4) and grocery stores (n=5) of Vadodara. A total of 1,020 food products were purposively enlisted (only branded and labeled) to examine the food labels. The products were clustered into eight food groups and 29 food categories based on the function and ingredients. The Nutrition Facts Panel provides (NFP) "comprehensible quantitative nutrition information". Results revealed that the most informative and easy to interpret Nutrition Facts Panels (NFP) was displayed only in 8.4 per cent of the products. Majority of the products (64.1 %) displayed NFP as per 100g which does not have any reference values to compare unlike Daily Value (DV) per cent NFP. Compliance for five mandatory nutrients as per FSSAI (i.e. energy, carbohydrates, sugar, protein and fat) and ingredients list was poor in products among various food categories. Vegetarian and non-vegetarian symbols were found in all the products based on the kind of ingredients. Thus, processed foods in India market fail to comply with the food regulations and therefore initiatives should be taken by the government and

manufacturers to provide accurate and easy to understand information on food labels to enable consumers make healthy food choices.

Srivastava and Ali (2013) analyzed the nutritional information disclosure on labels of 20 Milk based malted health drinks in India. Labels/wrappers of these products were collected to record if the nutritional information such as energy, fat, cholesterol, carbohydrates, fibre, sugars, protein, vitamins, calcium, iron, sodium, minerals etc. has been indicated on the labels. Drinks were classified as regular, children and mothers health drink based on their segmentation. Results of the study clearly indicated that milk based malted health drinks manufacturers discloses the nutritional information on their food labels to facilitate the consumers in making informed choices as per their marketing/corporate strategy. It was found that every manufacturer used different marketing strategy for nutritional information disclosure. On the whole milk based malted food played important role in providing nutrition and health to the consumer and impact of the label was useful in distinguishing one product from another. While purchasing branded processed food products in supermarket.

Darkwa (2014) assessed knowledge of nutrition facts on food labels and their impact on food choices on consumers in Koforidua, Ghana. One hundred forty three customers randomly were selected from supermarket. Results showed that 65 per cent read the labels, 24 per cent did not look at the labels and 11 per cent examined every detail of the label and the product before placing it in the shopping basket. Respondents awareness of nutrition facts was from reading food labels (75%). 13.7 per cent obtained that knowledge from family members and friends, while 11.3 per cent acquired nutrition facts from the media. It was found that knowledge of nutrition labels had low to average impact on consumer food choices and thus purchases. Approximately half of the consumers who reported reading food labels did not do so regularly. Thus the relationship between the nutritional knowledge of these consumers and the understanding of food labeling showed that the nutritional label may not have

influenced their choice of food purchases much. Findings indicated awareness and knowledge of food labeling which may not always adequately impact on food choices, even though study respondents indicated high awareness and low to average reading of labels prior to purchasing food.

A study conducted on awareness and use of food labeling information among consumers in Bhubaneswar city by Priyadarshini (2014). One hundred twenty respondents from both genders (age group from 25-45 years) were randomly selected for the study. Retail outlets were visited in morning and afternoon to ensure better coverage of all types of consumers. A tool used for this study was a structured survey questionnaire method through face-to- face interview by the investigator. The results of the study indicated satisfactory level of awareness among the respondents about different types of information on the food labels displayed on packaged food products. Though the customer does look for information before buying of any product but majorly price and expire date was mostly seen. However, awareness need to be spread regarding checking of other type of information such as ingredients of products, health warnings, nutritional claims etc. among more number of consumers.

Bazhan *et al*., (2015) assessed the consumers' behaviors about the important information on the labels and their reasons for use and non-use. A cross-sectional study was conducted as point of purchase survey among 2123 shoppers in chain stores in Teharn, Iran. Data was collected using a structured questionnaire which contained 4 sections measuring respondents' background, knowledge, perception, and behaviors about information on food labels. Results showed that, most of the respondents were in the lowest quartile of knowledge score about information on food labels (44.2%). On the other majority of those in the highest quartile of knowledge score were young. The number of women in higher classification knowledge score was significantly higher compared to those in men. The majority of those in the highest quartile of knowledge score were employee and had higher education. Around 70 per

cent of the respondents believed that viewing the date mark on food packages ensures that the product is fresh. Also 57.8 per cent declared that mark on food packages is legible and 49.4 per cent stated that its location on food packages is suitable. For nutritional information on food labels, less than half the consumers believed that viewing it help purchasing a product with high nutritional value. Only 4.6 per cent of them paid attention to nutritional information. Most of the respondents (29.3%) found small print on food labels to be the main reason for not reading food labels information, followed by no interest (26.3%), do not understand (7.1%).

Latiff and Ayob (2015) assessed consumption awareness of Indian community towards food label in Klang, Selangor. The Theory of Planned Behaviour (TPB) was used to determine how beliefs, attitude, norms, intention and perceived behavior of Indian consumers can affect their awareness towards food labels. Three hundred Indian respondents were selected using stratified random sampling technique. The consumers 'awareness, attitude, subjective norms, perceived behavior control and purchasing intention were also identified using Likert scale in providing a quantitative measure for the constructed questions. SPSS software used to analyze all the data. Result revealed that the majority (72%) of Indian consumers was not aware of food labels and only 28 per cent of them were aware of the food labels. The results showed that most of them were aware of the importance of understanding food labels. The results reliability test showed that there was consistency in each factor, therefore TPB model can be recommended for studying the relationship of the Indian consumers awareness towards food labels. But most of the Indian community was less aware about the importance of food labels. This might be due to lack of knowledge and exposure on the benefits of using food labels as an indicator in buying food products. However, the minority of Indian consumers that concerns about food labels seems to have a strong belief in their religion and health consciousness.

Madhvapaty and Gupta (2015) studied food product labeling for products aimed at children. A total 100 respondents each; mothers with at least

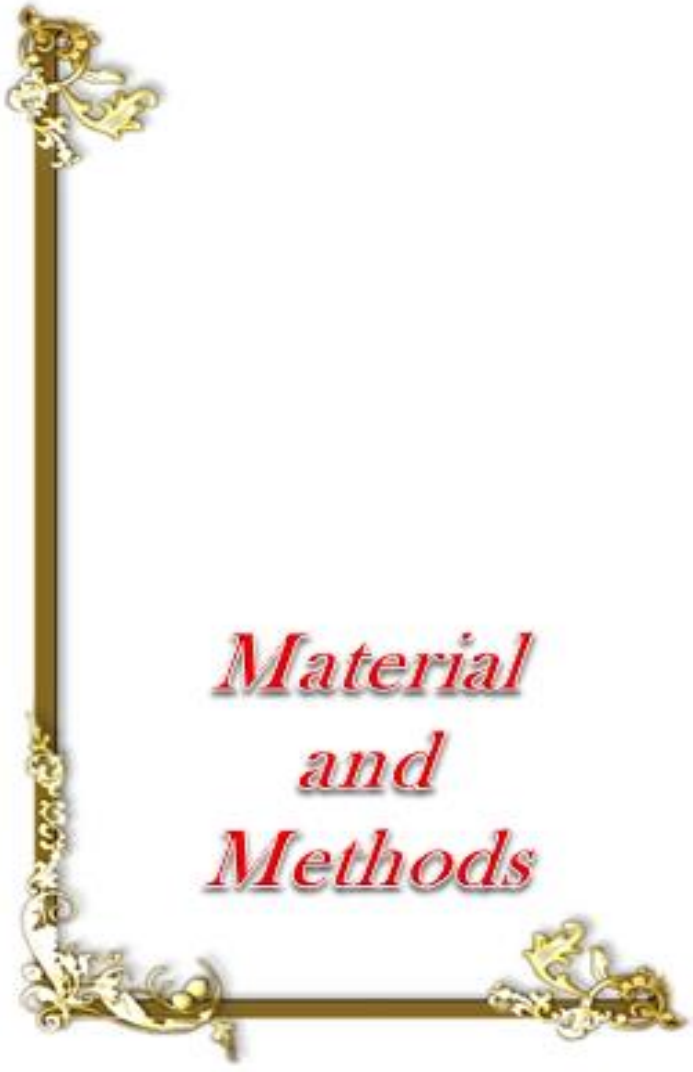
one kid going to school were selected. Survey was conducted from 4 cities of India based on their income Rs. 40,000 to Rs. 1, 20,000. Result revealed that the respondents have typically given low scores regarding transparency of food companies as far as labels were concerned. Also high proportion of women feel that misinformation and gimmicks were both high. Front of pack labeling indeed were given positive scores by the respondents. There was a lot of influence that packaging and labeling had on purchase intent. Despite extensive literature in the area of nutrition labeling and also in food product marketing and advertising for children, there was a dearth of specific research into how nutritional labeling specifically influences purchase of food products aimed at children.

Majid *et al*., (2015) assessed nutritional labelling awareness and its effects towards consumer behaviour in purchasing product. Results showed that females were usually giving more attention towards the nutritional labelling as compared to male. This may be due to the fact that women were more concerned towards their body weight and image as well as to make healthier food choices. On the other hand, males showed lower tendency in the usage of nutrition labelling. Because men were not interested in the nutritional labelling. Among the reasons were most of the males do not agree that nutritional information was valuable, and that information may aid in food choice or that health was a matter of prominence to them. In terms of education, highly educated consumers had more awareness compared to the less educated ones. On the other hand, between rural and urban consumers, it was noted that both rural and urban consumer had different level of awareness regarding the nutritional labelling. Hence, several approaches should be exerted to increase the awareness among the rural consumers.

Kaur *et al*., (2016) assessed consumer awareness about usage of food labels and its impact on food buying behaviour. A study was carried out in three institute of Pilibhit district (Uttar Pradesh) India. Total 60 post graduates respondents were selected (30 male and 30 female). The results indicated that

satisfactory level of awareness about different types of information on the food labels displayed on packaged food products, however, usage of such information as one of the criteria while purchase of packaged food product was relatively low among both male and female respondents. Among the Indian consumers (males and females) very high importance to information about expiry date and manufacturing date of the products. However, as compared to these aspects of food labels, information about direction of use and precautions has lower priority among these consumers. They gave strong preference for brand and the M.R.P. of the products.

Subbarao *et al*., (2016) studied knowledge and practices of using food label information among school adolescents in Kolkata, India. A total 316 children in eighth grade were selected from each school. A pre-coded, closed-ended questionnaire was used to assess the knowledge and practices of adolescents. The Results showed that reading food labels was reported to be a common habit among most of the adolescents. However, many of them appeared to be concerned only about the shelf life or safety of the product, because they reported that they read information related to the date of manufacturing or expiration or best before date. Fewer adolescents read ingredients and nutrition information on the labels. Results showed that less than 20 per cent of adolescents were reported that they checked nutrition information and fat, sugar and cholesterol content; however, no attempt was made to correlate these with adolescents nutrition knowledge or nutritional status because that was beyond the scope of this study.


Material
and
Methods

CHAPTER-III

MATERIAL AND METHODS

The present investigation was carried out to study consumer awareness regarding food label. A cross sectional study was conducted. The details of various methods followed and materials used while conducting the study are described here under the following heads.

1. Locale of the study
2. Method of sampling
3. Development of questionnaire
4. Collection of data
5. Statistical analysis

1. Locale of the study

The present study was conducted in Parbhani city of Marathawada region.

2. Method of sampling

In the present study random sampling method was utilized while selecting the sample. A total sample of 200 consumers from four different professions such as doctors, lawyers, professors (university / college) and businessmen 50 in each group were selected by purposive random sample technique from Parbhani city. They were between 30 and 60 years of age and divided into three groups according their monthly family income such as group 1. Rs. <50,000, 2. Rs. 50,000 - 1, 00,000 and 3. Rs. > 1, 00,000.

3. Development of questionnaire

The questionnaire was framed to collect the general and specific information by formulating structured questions relevant to this study. The questionnaire was categorised into three sections such as A, B and C. Section A general information of the respondents like age, sex, education, type of family, monthly family income was obtained. Section B was used to gather

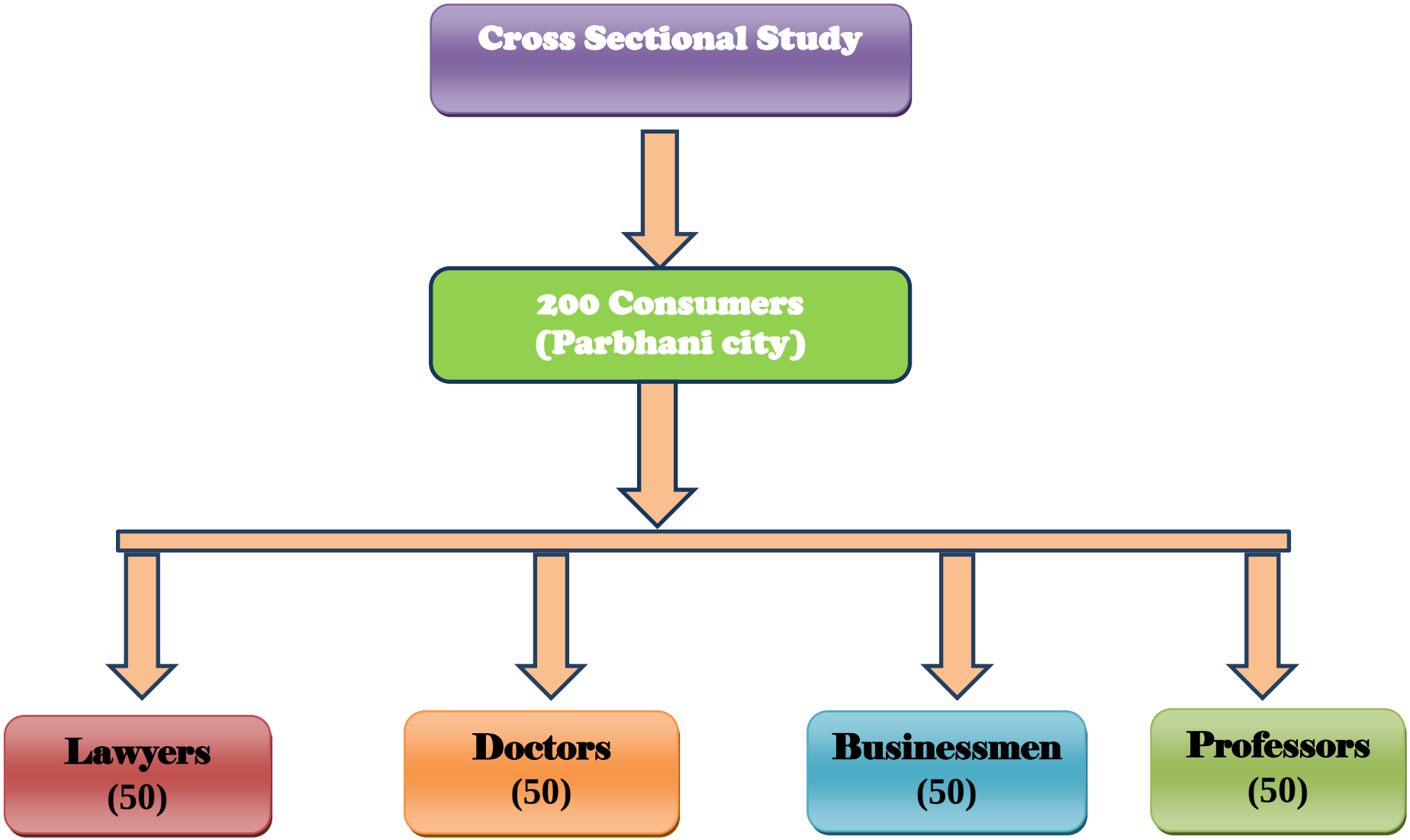


Fig.1. Schematic diagram for sample study

information regarding buying behavior of respondents. Through the section C data was collected to assess the consumer awareness about purchasing, nutrition information and health claims written on food label.

4. Collection of data

In the present study the data regarding awareness of consumers towards food label was collected by interview method. All the 200 selected consumers were personally interviewed by investigator using pre planned structured questionnaire. So as to elicit the different dimensions of respondent awareness about food label and how far this information is used in choosing different food items (Appendix-I).

Visits were made to the selected families prior to data collection to ensure full confidence and co-operation from the respondent.

5. Statistical analysis

The collected data was consolidated, tabulated and analysed statically. Frequency and Percentage were calculated. 't' test was applied to determine the awareness regarding food label by the selected consumers of different professions (Panse and Sukhatme, 1985).

Investigator taking personal interview of Doctors

Investigator taking personal interview of Lawyers

Investigator taking personal interview of Businessman

Investigator taking personal interview of Professor

Result and Discussion

CHAPTER – IV

RESULTS AND DISCUSSION

The present investigation was carried out to study the awareness of consumers regarding food label. Information about food label such as MRP, expiry date, brand name price, quality, standard marks, safety and health hazards, etc. were collected using pre-planned questionnaire. Awareness of the selected consumers about nutrient content and health claims written on food label was also studied. The collected data was analysed statistically, tabulated and discussed under different heads.

4.1 General information of the selected consumers

The collected data on general information of the selected consumers is given in Table 1.

A total sample of 200 consumers was selected from different professions namely Doctors (50), Lawyers (50), Businessmen (50), and Professors (50). Maximum (80) per cent of the selected lawyers were from 30 to 40 and >40 to 50 years of age group and the remaining 20 per cent were from >50 to 60 years of age group. Maximum (46) per cent of doctors were belonging to age group of >40 to 50 years. While minimum (20%) per cent were from >50 to 60 years of age group.

Among the selected businessmen 44 per cent of were from 30 to 40 years of age group, 32 per cent consumers were from >40 to 50 years of age group and 20 per cent were from >50 to 60 years of age group.

Out of the selected professors 50 per cent were from >40 to 50 years of age group and the remaining 28 per cent and 22 per cent were from 30 to 40 years of age group and >50 to 60 years of age group respectively.

A relatively more per cent of the selected lawyer (70), doctor (54), businessman (76) and professor (54) consumers were belonging to joint family. On the other hand, 24, 44, 24, and 44 per cent of the selected lawyer,

Table 1.General information of the selected consumers

Particulars	Lawyers (%)	Doctors (%)	Businessmen (%)	Professors (%)
Age (year)				
30 - 40	40(20)	34(17)	44(22)	28(14)
>40 - 50	40(20)	46(23)	24(12)	50(25)
>50 – 60	20(10)	20(10)	32(16)	22(11)
Types of family				
Joint	70(35)	54(27)	76(38)	54(27)
Nuclear	24(12)	44(22)	24(12)	44(22)
Extended	6(3)	2(1)	0(0)	2(1)
Monthly Income of family				
Rs.<50,000	36(18)	4(2)	20(10)	6(3)
Rs. 50,000 - 1,00,000	42(21)	66(33)	66(33)	48(24)
Rs. > 1,00,000	22(11)	30(15)	14(7)	46(23)

Figures in parenthesis indicate number

doctor, businessman and professor consumers were from nuclear families. Very few consumers were having extended type of family.

Out of 200 selected consumers relatively more per cent of lawyers (42), doctors (66), businessmen (66) and professors (46) were belonging to family having monthly income of Rs. 50,000 to 1, 00,000. Whereas 36, 4, 20, and 6 per cent of lawyers, doctors, businessmen and professors were belonging to families having monthly income of Rs. <50,000 respectively. The remaining lawyers (22%), doctors (30%), businessmen (14%) and professors (46%) had the monthly family income of Rs. >1, 00,000.

On the whole results showed that majority of the selected consumers were from >40 to 50 years of age group joint family and belonging to family having monthly income of Rs. 50,000 to 1,00,000.

4.2 Decision taken by the selected consumers regarding buying of cereals

Decision taken by the selected consumers regarding buying of cereals is given in Table 2 and illustrated in Figure 2.

It was noticed that more per cent of wives from doctors (58) and professors (60) family were taking the decision for purchasing of cereals. On the other hand, the decision of purchase of cereals was taken by other family members in families of lawyer and businessmen. The difference was significant statistically.

It was found that significantly higher per cent of husbands were taking the decision in regard to purchase of cereals in families of businessmen than that of doctors and lawyers family. Very few families of all the selected consumers had the practices of taking combine decision (husband and wife) including in-laws.

In nut shell it can be said that wives were taking the decision in majority of families of the selected consumers in regard to purchase of cereals.

Table 2. Decision taken by the selected consumers regarding buying of cereals

(N=200)

Particulars	Cereals				't' value					
	Lawyers (%) a	**Doctors (%) b**	**Businessmen (%) c**	**Professors (%) d**	**a vs b**	**a vs c**	**a vs d**	**b vs c**	**b vs d**	**c vs d**
Husband	18 (9)	6 (3)	28 (14)	24 (12)	1.809^{NS}	1.066^{NS}	0.670^{NS}	3.616**	2.405*	0.468^{NS}
Wife	34 (17)	58 (29)	22 (11)	60 (30)	1.788^{NS}	1.320^{NS}	1.916^{NS}	0.152^{NS}	0.131^{NS}	1.643^{NS}
In laws	4 (2)	4 (2)	2 (1)	2 (1)	NS	0.707^{NS}	0.707^{NS}	0.755^{NS}	0.707^{NS}	NS
Other family members	40 (20)	22 (11)	42 (21)	10 (5)	1.643^{NS}	0.158^{NS}	3.061**	1.680^{NS}	1.549^{NS}	3.2**
Combined decision of husband and wife	2 (1)	8 (4)	-	4 (2)	1.5^{NS}	NS	0.707^{NS}	0.970^{NS}	0.894^{NS}	NS

Figures in parenthesis indicate number
*significant at 5 per cent level **significant at 1 per cent level NS: Non significant

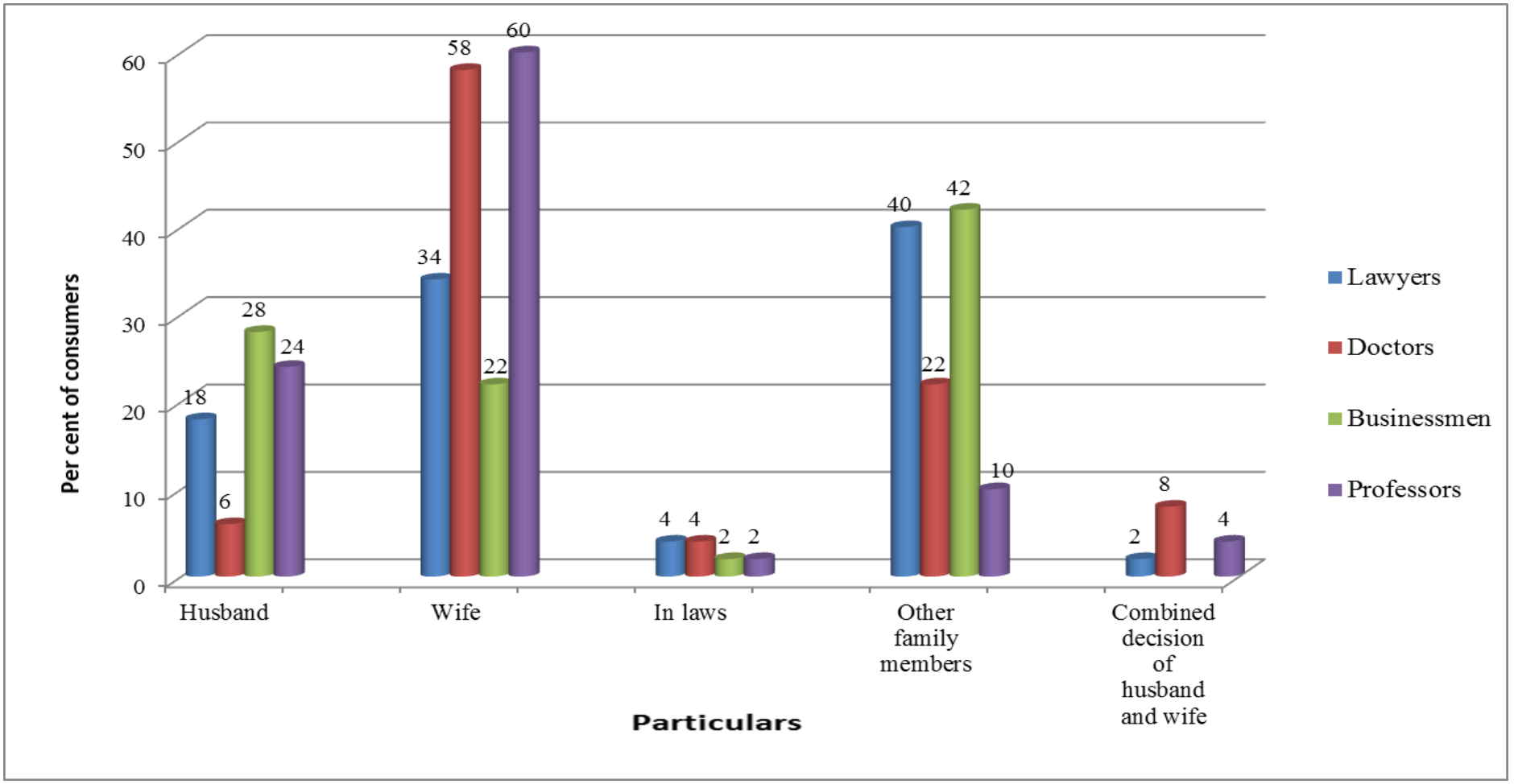


Fig.2. Decision taken by the selected consumers regarding buying of cereals

4.3 Decision taken by the selected consumers regarding buying of pulses

Decision taken by the selected consumers regarding buying of pulses is given in Table 3 and shown in Figure 3.

It was observed that in all the selected families maximum per cent of wives were taking the decision for purchasing of pulses. Significantly higher number of wives from professors (62%) family were found to be taken decision as compared to wives from lawyers and businessmen families in purchase of pulses. On the other hand, the other family members taken the decision of purchase of pulses in lawyers (40%) and businessmen (42%) families. It was also noticed that, significantly higher per cent of husbands (28%) belonging to businessmen family were taking the decision in regard to purchase of pulses than that of doctors family. Even 18 per cent professor and 22 per cent lawyer families the decision was taken by husbands.

In conclusion it can be said that decision of purchase of pulses was mostly taken by wives of the selected families of consumers.

4.4 Decision taken by the selected consumers regarding buying of oils

Decision taken by the selected consumers regarding buying of oils is given in Table 4 and presented in Figure 4.

It was found that 36, 60, 22 and 62 per cent of wives of lawyers, doctors, businessmen and professors family were taking decision in regard to purchasing of oils respectively. Significantly it was more per cent in doctors, lawyers and also professors families than that of businessmen family.

Results showed that 28 per cent of husbands in businessmen family were taking decision in regard to purchasing of oils followed by professors (22%) and lawyers (16%). Statistical analysis revealed that, significantly more per cent of husbands belonging to business family as compared to doctors family taken the decision in purchase of oils.

It was observed that 42 per cent businessmen, 49 per cent lawyers, 24 per cent doctors and eight per cent professors. The decision in

Table 3. Decision taken by the selected consumers regarding buying of pulses

(N=200)

Particulars	Pulses				't' value					
	Lawyers (%) a	**Doctors (%) b**	**Businessmen (%) c**	**Professors (%) d**	**a vs b**	**a vs c**	**a vs d**	**b vs c**	**b vs d**	**c vs d**
Husband	18 (9)	8 (4)	28 (14)	22 (11)	1.443^{NS}	1.066^{NS}	0.458^{NS}	2.425*	1.870^{NS}	0.612^{NS}
Wife	34 (17)	58 (29)	11 (22)	62 (31)	1.788^{NS}	1.154^{NS}	2.042^{*}	2.882**	0.260^{NS}	3.123**
In laws	4 (2)	4 (2)	2 (1)	2 (1)	NS	0.707^{NS}	0.707^{NS}	0.707^{NS}	0.707^{NS}	NS
Other family members	40 (20)	22 (11)	42 (21)	10 (5)	1.643^{NS}	0.158^{NS}	3.061**	1.796^{NS}	1.549^{NS}	3.2**
Combined decision of husband and wife	2 (1)	8 (4)	-	4 (2)	1.5^{NS}	NS	0.707^{NS}	NS	0.894^{NS}	NS

Figures in parenthesis indicate number
*significant at 5 per cent level **significant at 1 per cent level NS: Non significant

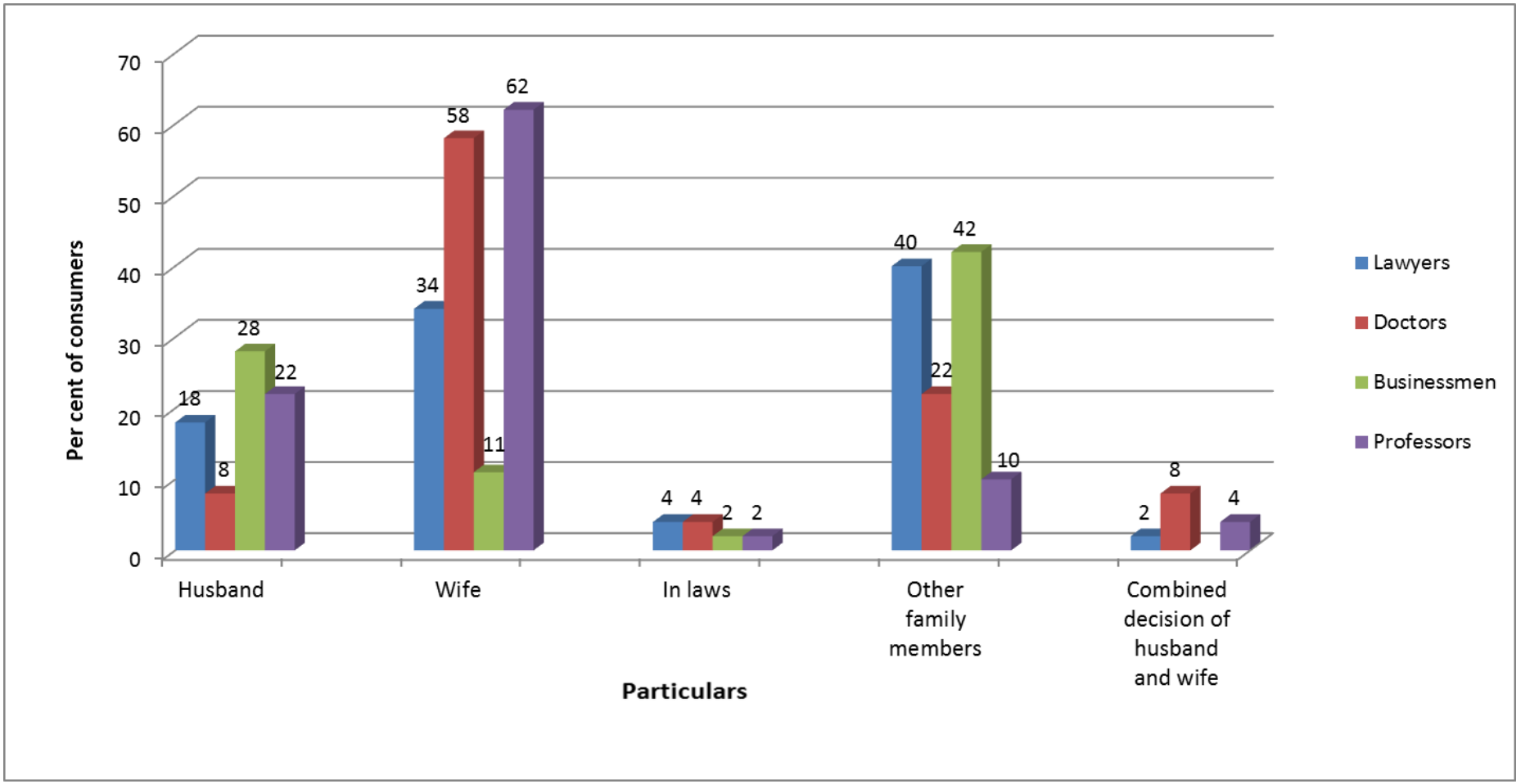


Fig.3. Decision taken by the selected consumers regarding buying of pulses

Table 4. Decision taken by the selected consumers regarding buying of oils

(N=200)

Particulars	Oils				't' value					
	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Husband	16 (8)	6 (3)	28 (14)	22 (11)	1.581^{NS}	1.309^{NS}	0.707^{NS}	2.75**	2.218*	0.612^{NS}
Wife	36 (18)	60 (30)	22 (11)	62 (32)	1.750^{NS}	1.322^{NS}	1.876^{NS}	3.004**	0.129^{NS}	3.123**
In laws	4 (2)	2 (1)	2 (1)	4 (2)	0.707^{NS}	0.707^{NS}	NS	NS	0.707^{NS}	0.707^{NS}
Other family members	40 (20)	24 (12)	42 (21)	8 (4)	0.436^{NS}	1.796^{NS}	3.336**	1.590^{NS}	2.06*	3.470**
Combined decision of husband and wife	2 (1)	8 (4)	-	4 (2)	1.5^{NS}	NS	0.707^{NS}	NS	0.894^{NS}	NS

Figures in parenthesis indicate number
*significant at 5 per cent level **significant at 1 per cent level NS: Non significant

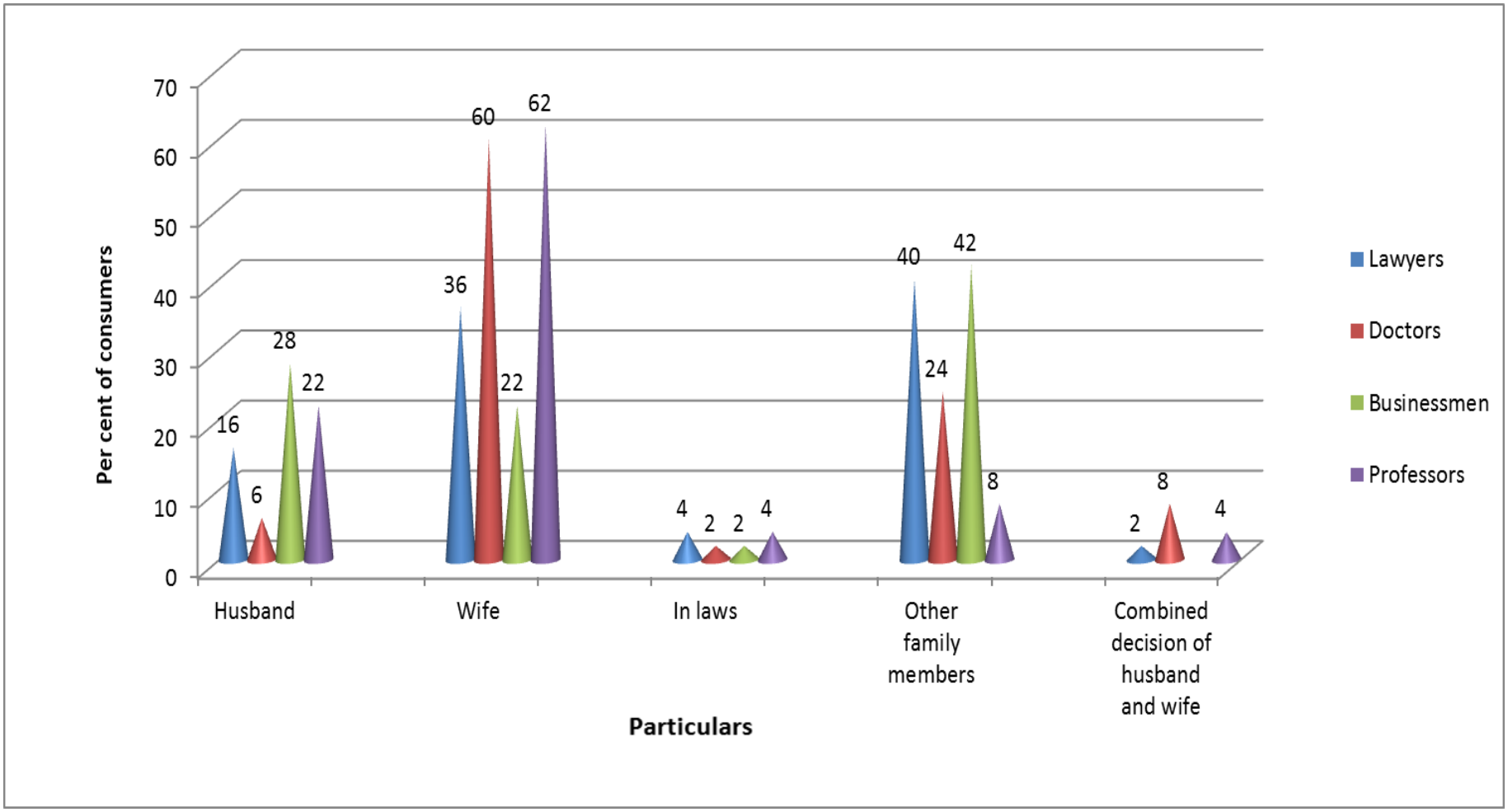


Fig.4. Decision taken by the selected consumers regarding buying of oils

regard to purchase of oils was taken by other family members. Even significantly more per cent was noticed in lawyers and businessmen families as compared to professors family.

On the whole results inferred that majority of consumers family the decision regard to purchase of oils was taken by wives.

4.5 Decision taken by the selected consumers regarding buying of spices

Decision taken by the selected consumers regarding buying of spices is given in Table 5 and depicted in Figure 5.

It was found that a relatively more per cent of other family members (80) followed by wives (64) from professors family were taking the decision for purchasing of spices than those families of lawyers, doctors and businessmen.

It was found that 16, 6, 26 and 20 per cent of husbands were taking decision in regard to purchase of spices in the families of lawyers, doctors, businessmen and professors respectively. It was significantly more among businessmen than that of doctors and professors. It was observed that, less than five per cent the decision was taken by in-laws and less than 10 per cent it was combined decision of husband and wife in the selected consumers family.

On the whole statistical analysis indicated that significantly more number of wives from doctor and professor consumers were taking decision in regard to buying of spices as compared to lawyers and businessmen. Also, significantly more per cent of husbands taken the decision in purchasing of spices from businessmen and professors family than that of doctors.

4.6 Decision taken by the selected consumers regarding buying of ready to eat foods

Decision taken by the selected consumers regarding buying of ready to eat foods is given in Table 6 and shown in Figure 6.

Table 5. Decision taken by the selected consumers regarding buying of spices

(N=200)

Particulars	Spices				't' value					
	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Husband	16 (8)	6 (3)	26 (13)	20 (10)	1.581^{NS}	1.118^{NS}	0.485^{NS}	2.581*	2.027*	0.639^{NS}
Wife	36 (18)	60 (30)	24 (12)	64 (32)	1.750^{NS}	1.114^{NS}	2.0^{NS}	2.811**	0.256^{NS}	3.049**
In laws	2 (1)	2 (1)	2 (1)	4 (2)	NS	NS	0.707^{NS}	NS	0.707^{NS}	0.707^{NS}
Other family members	42 (21)	24 (12)	42 (21)	80 (40)	1.590^{NS}	NS	2.452^{*}	1.590^{NS}	3.920^{**}	2.452*
Combined decision of husband and wife	2 (1)	8 (4)	-	4 (2)	1.5^{NS}	NS	0.707^{NS}	NS	0.894^{NS}	NS

Figures in parenthesis indicate number
*significant at 5 per cent level **significant at 1 per cent level NS: Non significant

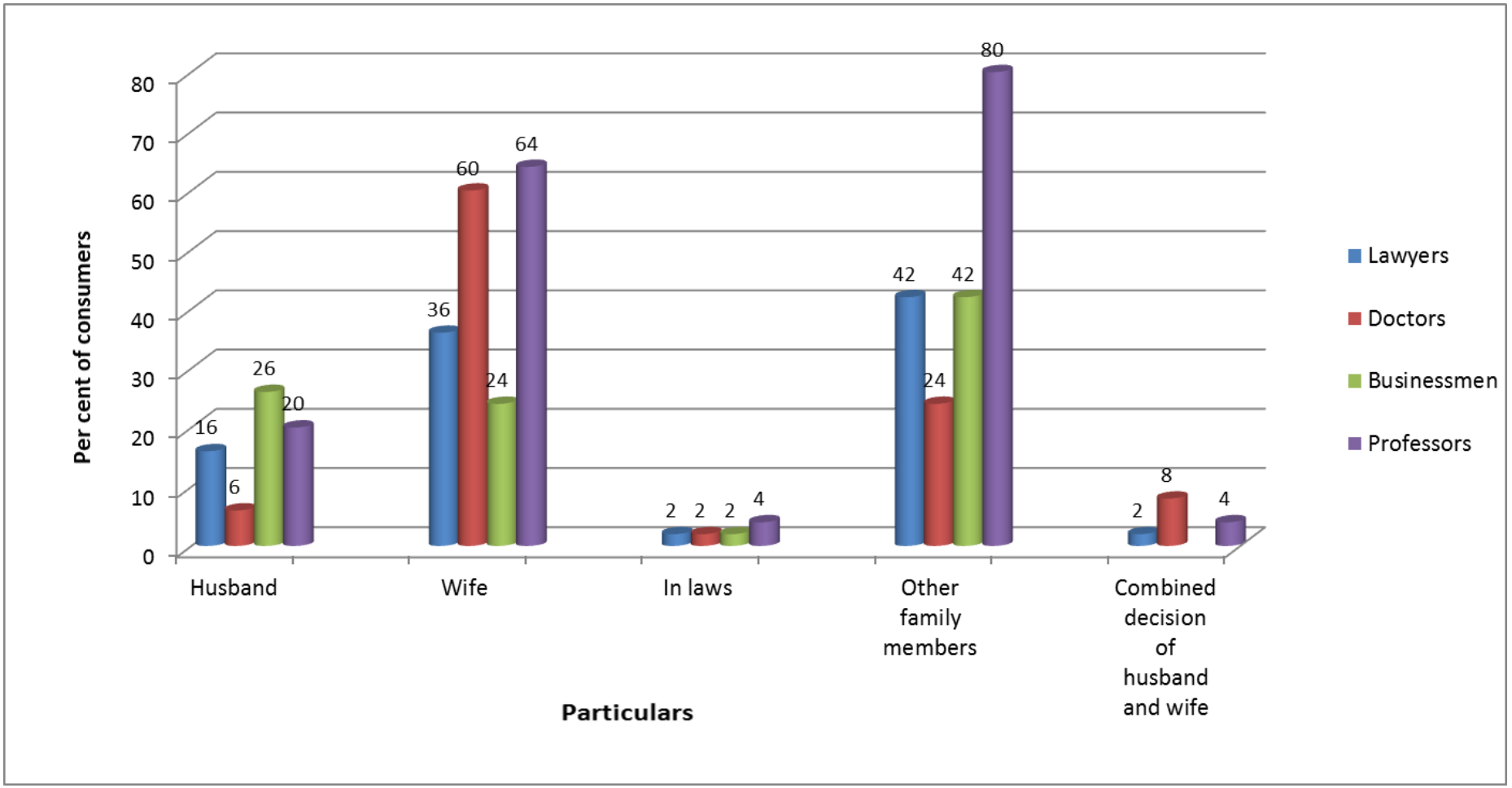


Fig.5. Decision taken by the selected consumers regarding buying of spices

Table 6. Decision taken by the selected consumers regarding buying of ready to eat foods

(N=200)

Particulars	Ready to use /eat foods (like chips, biscuits etc.)				't' value					
	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Husband	20 (10)	6 (3)	24 (12)	18 (9)	2.020*	0.436 NS	0.235 NS	2.405*	1.809 NS	0.670 NS
Wife	30 (15)	58 (29)	22 (11)	48 (24)	2.134*	0.8 NS	1.459 NS	2.882**	0.693 NS	2.229*
In laws	2 (1)	2 (1)	2 (1)	6 (3)	NS	NS	1.154 NS	NS	1.154	1.154 NS
Other family members	40 (20)	22 (11)	42 (21)	6 (3)	1.643 NS	1.158 NS	3.624**	1.796 NS	2.218*	3.753**
Combined decision of husband and wife	4 (2)	10 (5)	-	2 (1)	1.224 NS	NS	0.707 NS	NS	1.788 NS	NS

Figures in parenthesis indicate number
*significant at 5 per cent level **significant at 1 per cent level NS: Non significant

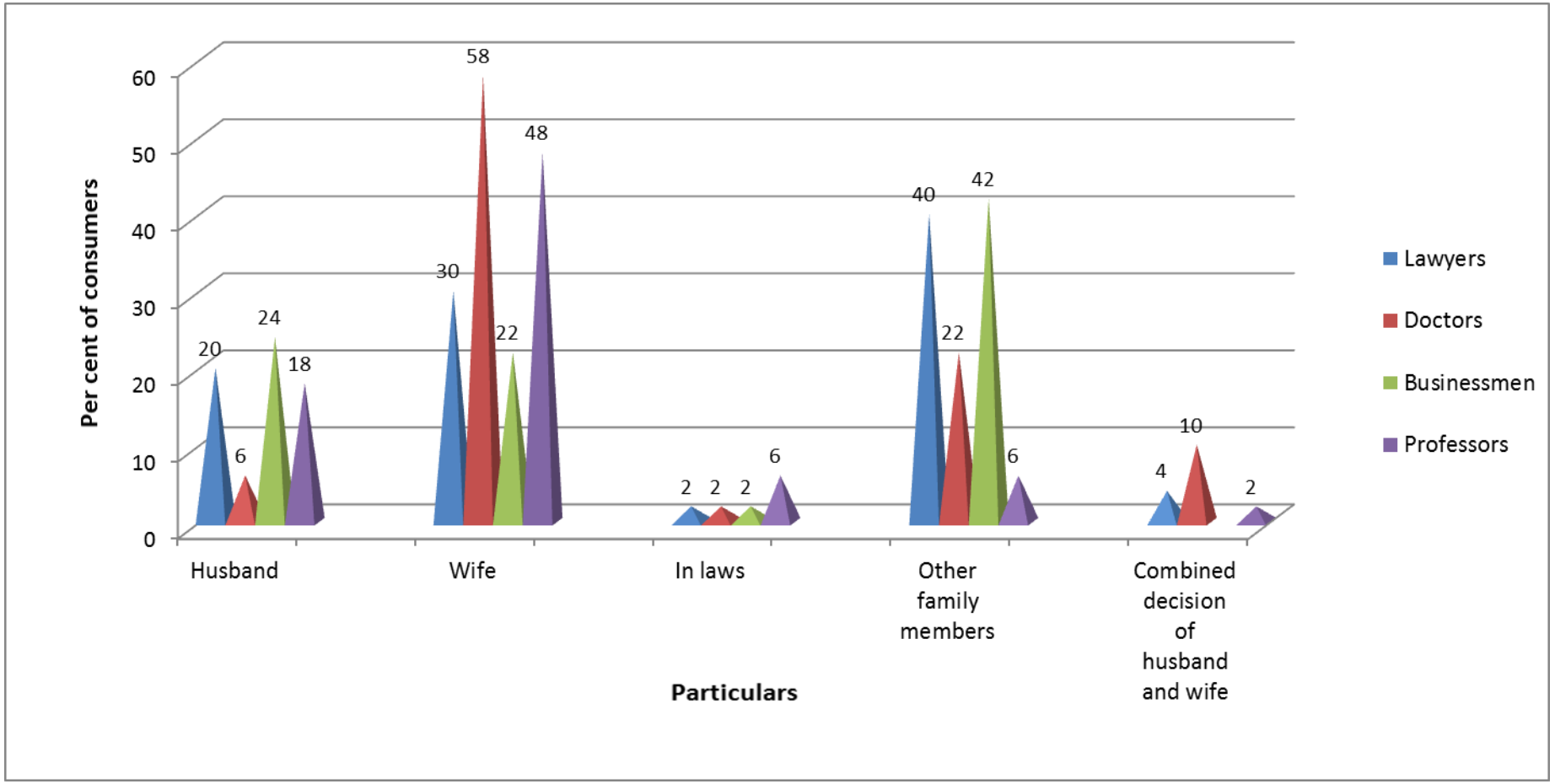


Fig.6. Decision taken by the selected consumers regarding buying of ready to eat foods

It was noticed that the higher per cent of husbands (24) from businessmen family was taken decision in regard to buying of ready to eat foods such as chips, biscuits, etc. followed by lawyers (20), professors (18) and doctors (6).

Results showed that more per cent of wives from doctors family (58) and professors family (48) were taking the decision for purchasing of ready to eat foods than that of the selected consumers from other professions. On the other hand, decision for purchasing of ready to eat foods was taken by significantly more number of other family members of lawyers and businessmen family than that of doctors and professors family.

On the whole it can be concluded that majority of consumers from lawyer and businessman family the decision in purchase of ready to eat foods were taken by other family members. Also difference was significant statistically in lawyer and professor and businessman and professor consumers.

4.7 Decision taken by the selected consumers regarding buying of commercial available food products

Decision taken by the selected consumers regarding buying commercial available food products is given in Table 7and shown in Figure 7.

Results indicated that more per cent of wives from doctors and professors family taken decision regard to buying of commercial available food products than that wives of lawyers and businessmen families. Significant difference was noticed only in consumers from doctor and businessman and businessman and professor families. Whereas, the other family members were taking the decision of purchase of commercial available foods in families of lawyer and businessman.

On the whole results inferred that the decision in regard to purchase of commercial available foods was mostly taken by other family members followed by wives in lawyers and businessmen family. While in doctors and professors family, it was taken by wives.

Table 7. Decision taken by the selected consumers regarding buying commercial available food products

(N=200)

Particulars	Commercial available foods (like jam, jelly, papad, sauce, etc.)				't' value					
	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Husband	18 (9)	6 (3)	24 (12)	16 (8)	1.809 NS	0.670 NS	0.25 NS	2.405*	1.581 NS	0.917 NS
Wife	34 (17)	56 (28)	24 (12)	54 (27)	1.658 NS	0.944 NS	1.524 NS	2.562*	0.136 NS	2.433*
In laws	2 (1)	2 (1)	2 (1)	4 (2)	NS	NS	0.707 NS	NS	0.707 NS	0.707 NS
Other family members	40 (20)	22 (11)	40 (20)	8 (4)	1.643 NS	NS	3.336**	1.643 NS	1.870 NS	3.336**
Combined decision of husband and wife	4 (2)	8 (4)	-	4 (2)	0.894 NS	NS	NS	NS	0.890 NS	NS

Figures in parenthesis indicate number
*significant at 5 per cent level **significant at 1 per cent level NS: Non significant

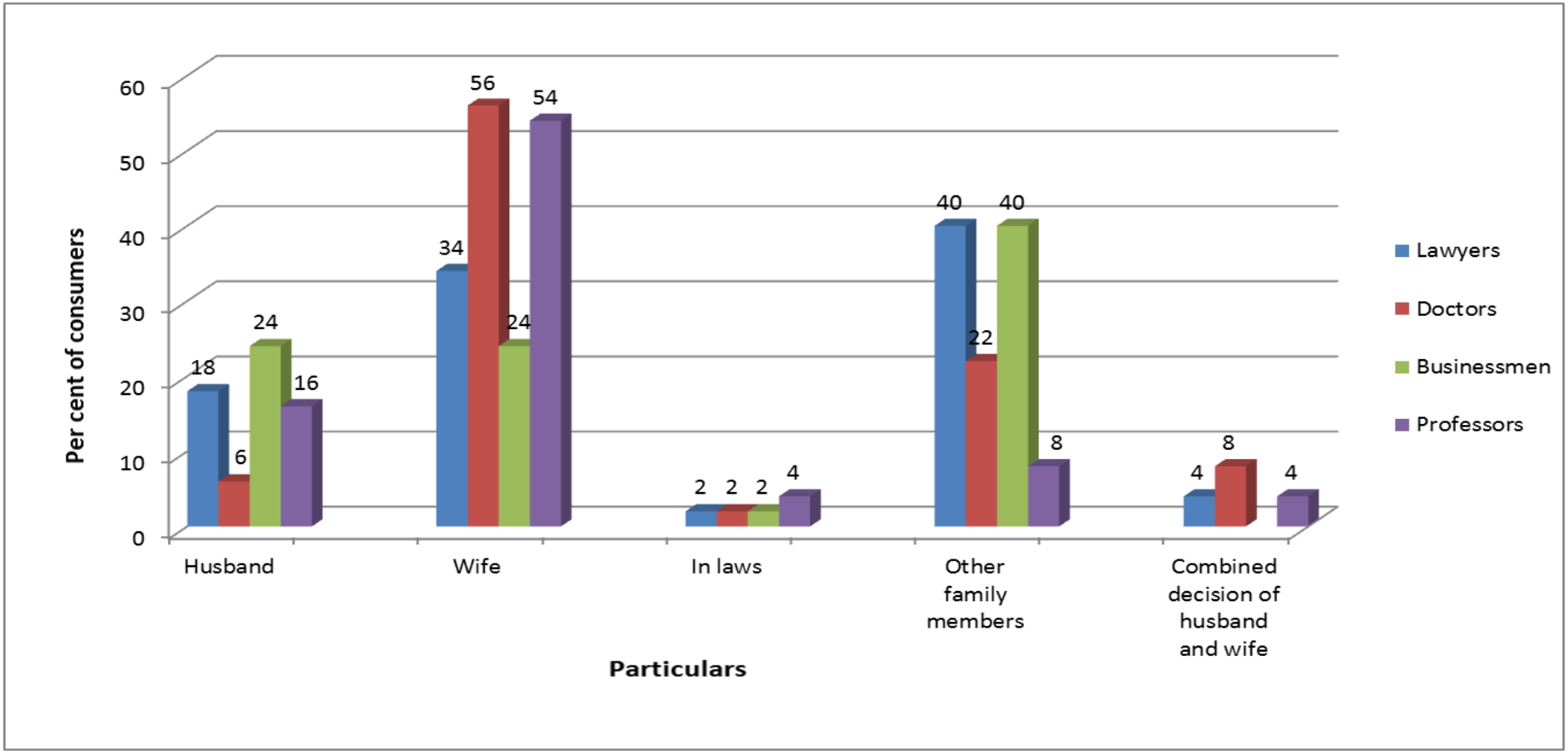


Fig.7. Decision taken by the selected consumers regarding buying commercial available food products

4.8 Various aspects of food labels viewed by the consumers before buying the foods

Data on various aspects of food labels viewed by the consumers before buying the foods is given in Table 8 and illustrated in Figure 8.

It was observed that all the selected consumers gave importance to quality followed by price while purchasing of food products. It was found that significantly more per cent of doctors (98) and professors (96) were noticing information written on food label in regard to safety and health hazards followed by price and taste as compared to lawyers and businessmen while buying the food products. The brand image of products was noticed by more per cent (72) of businessmen followed by professors (60) than that of lawyers (56) and doctors (54).

Fifty per cent businessmen and 32 per cent professors were noticing discount written on food labels during purchasing of food products. It was statistically more per cent among businessmen than doctors and lawyers. More per cent (50) of businessmen was noticing discount written on food label than that of professor (32), lawyer and doctor (14) consumers.

Results reported by Koutroulou and Tsourgiannis (2011) are in line with the results of the present study. They reported that, factors such as taste, quality, price and health safety found to be influenced on purchasing behaviour of consumers. Even the studies conducted by ward et al., (2012) indicated that, majority of the respondents stated that they pay more for food if it tasted better. Forty seven per cent consider price before health and nutritional qualities of organic food buying.

4.9 Buying practices for new or other brand products by the selected consumers

Buying practices for new or other brand products by the selected consumers is given in Table 9 and depicted in Figure 9.

Table 8. Various aspects of food labels viewed by the consumers before buying the foods

(N=200)

Particulars	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	't' value					
					a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Quality	100 (50)	100 (50)	100 (50)	100 (50)	NS	NS	NS	NS	NS	NS
Price	86 (43)	94 (47)	94 (47)	86 (43)	0.423^{NS}	0.423^{NS}	NS	NS	0.423^{NS}	0.423^{NS}
Discount / free	14 (7)	14 (7)	50 (25)	32 (16)	NS	3.232**	1.918^{NS}	3.232**	1.918^{NS}	1.423^{NS}
Taste	54 (27)	82 (41)	68 (34)	74 (37)	1.710^{NS}	0.903^{NS}	1.259^{NS}	0.813^{NS}	0.455^{NS}	0.358^{NS}
Safety and health hazards	70 (35)	98 (49)	74 (37)	96 (48)	1.536^{NS}	0.237^{NS}	1.435^{NS}	1.301^{NS}	0.102^{NS}	1.200^{NS}
Brand images	56 (28)	54 (27)	72 (36)	60 (30)	0.136^{NS}	1.007^{NS}	0.264^{NS}	1.143^{NS}	0.400^{NS}	0.744^{NS}
Friends Recommendation	26 (13)	20 (10)	34 (17)	38 (19)	0.639^{NS}	0.742^{NS}	1.077^{NS}	1.372^{NS}	1.700^{NS}	0.338^{NS}

Figures in parenthesis indicate number

*significant at 5 per cent level **significant at 1 per cent level NS: Non significant

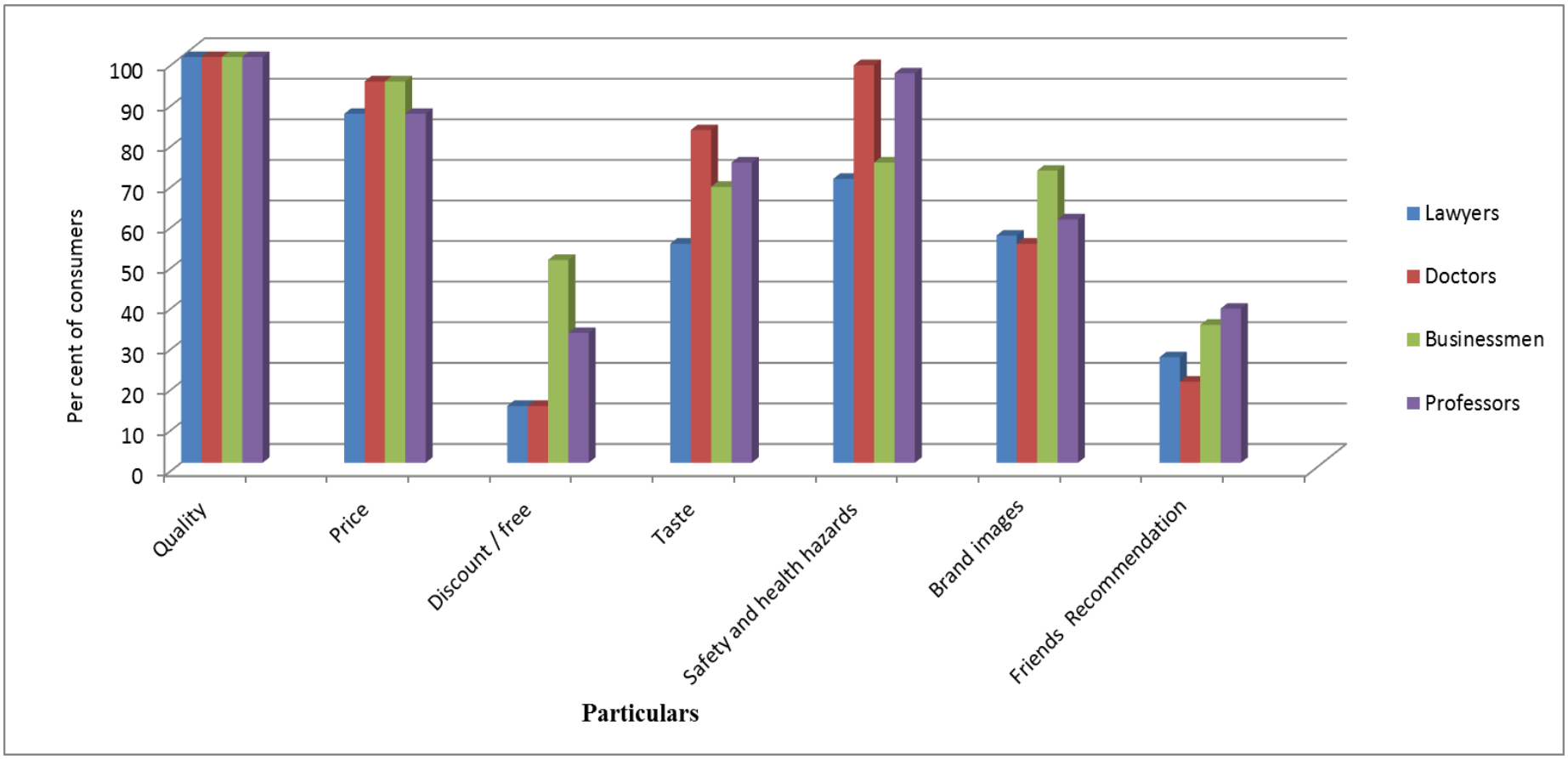


Fig.8. Various aspects of food labels viewed by the consumers before buying the foods

Table 9. Buying practices for new or other brand products of selected consumers

(N=200)

Particulars	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	't' value					
					a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Regular	32 (16)	4 (2)	-	12 (6)	3.395**	NS	2.182*	NS	1.511^{NS}	NS
Occasional	68 (34)	92 (46)	92 (46)	88 (44)	1.350^{NS}	1.350^{NS}	1.139^{NS}	NS	0.211^{NS}	0.211^{NS}
Not at all	-	4 (2)	8 (4)	-	NS	NS	NS	0.894^{NS}	NS	NS

Figures in parenthesis indicate number
*significant at 5 per cent level **significant at 1 per cent level NS: Non significant

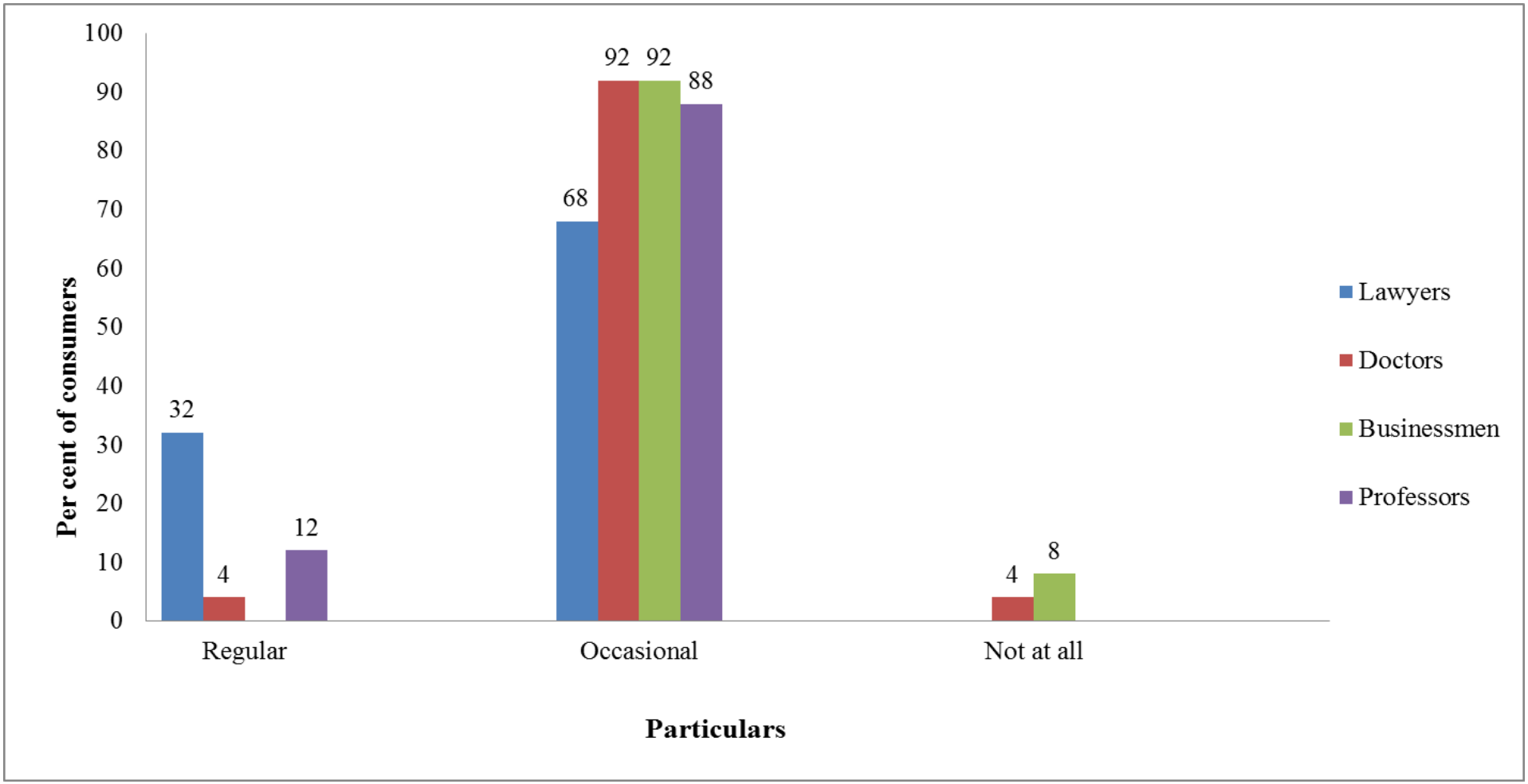


Fig. 9. Buying practices for new or other brand products of selected consumers

It was found that 32 per cent of lawyers were purchasing regularly new items/other brand products. While 12 per cent professors and 4 per cent doctors found to purchase new food items, statistical analysis showed significant difference between layers (32%) and doctors (4%).

A relatively occasionally more per cent of doctors (92), businessmen (92) and professors (88) were purchasing new or other products than that of lawyers (68). But it was not significant statistically. Very less per cent of doctors (4) and businessmen (8) were not purchasing new product.

On the whole significantly more per cent of lawyers had the practice of purchasing new products regularly than other selected consumers. Whereas occasional purchasing of new product or other product was more common among all the selected consumers.

4.10 Consumer response for purchase of new or other brand products

Consumer response for purchase of new or other brand products is given in Table 10 and shown in Figure 10.

It was observed that while purchasing new products or other brand products whenever it was not available in regular shop a relatively very high per cent of consumers found to prefer other shop for the same brand. The practice of postpone buying was also noticed in more number of doctors (38) followed by businessmen (36). On the other hand, less than 30 per cent respondents had a practice of buying the available brand products. But it was Significant only in doctors and businessmen.

On the whole more than 90 per cent of the selected lawyer, doctor, professor and businessman consumers were following practice of searching in other shop. Even, around 30 per cent of consumers were found to be buying the product whatever the brand product was available. Also it was noticed that, more than 70 per cent doctors and businessmen and more than 60 per cent lawyers and professor postponed the buying of particular product.

Table 10. Consumers response for purchase of new or other brand products

(N=200)

Particulars	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	't' value					
					a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Search in other shop	98 (49)	94 (47)	96 (48)	88 (44)	0.205 NS	0.102 NS	0.521 NS	0.103 NS	0.316 NS	0.419 NS
Buy the available brand	20 (10)	10 (5)	30 (15)	26 (13)	1.336 NS	1.020 NS	0.639 NS	2.294*	1.940 NS	0.384 NS
Postpone buying	62 (31)	76 (38)	72 (36)	60 (30)	0.848 NS	0.615 NS	0.129 NS	0.234 NS	0.977 NS	0.744 NS

Figures in parenthesis indicate number

*significant at 5 per cent level **significant at 1 per cent level NS: Non significant

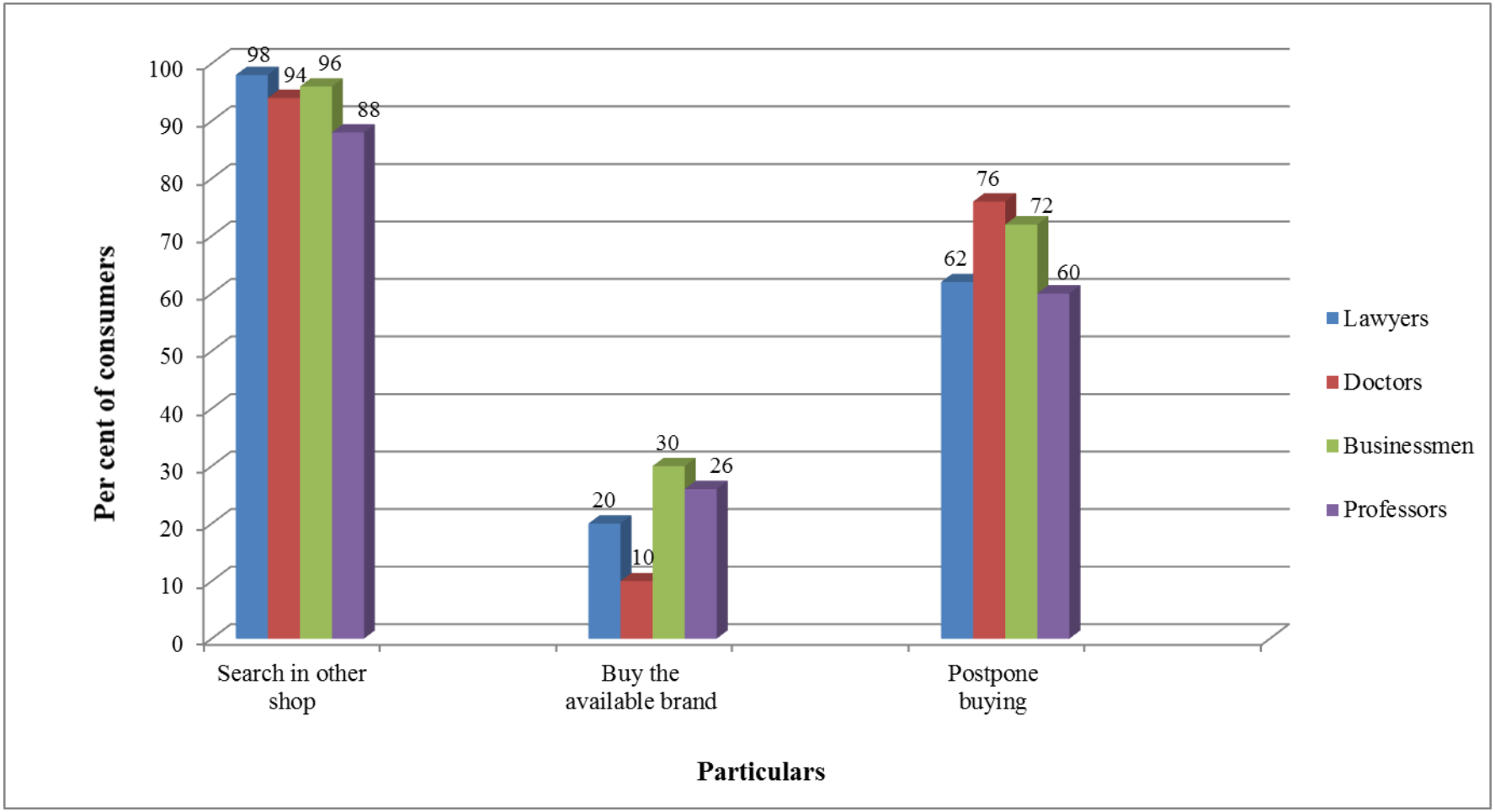


Fig.10. Consumer response for purchase of new or other brand products

4.11.a) Food label information considered during purchase of various food commodities by the selected consumers

Food label information considered during purchase of various food commodities by the selected consumers is given in Table 11(a).

Results indicated that more per cent of doctors (38) were always compared the prices of the product while buying followed by lawyers (34) and professors (26). Even 20 per cent businessmen were comparing the prices of product. Significantly less per cent of businessmen as compared to lawyers, doctors, and professors were found to be always reading food labels and noticing standard marks, while purchasing various food commodities. Lawyers were always particular about knowing the expiry date and product quality than that of doctors, businessmen and professors. Among all the selected consumers maximum per cent of businessmen (84), lawyers (78) and doctors (74) were always ask for receipt.

In nut shell it can be said that reading food label and noticing standard marks were mostly practiced by lawyers, doctors, and professors while purchasing various food commodities than that of businessmen which was statistically significant. Even majority of the selected consumers of various professions were keen about seeing expiry date written on the food label and also asking the receipt for whatever they have purchased.

4.11. b) Food label information considered during purchase of various food commodities by the selected consumers

Food label information considered during purchase of various food commodities by the selected consumers is given in Table 11 (b).

It was found that 50 per cent of all the selected consumers were sometimes comparing prices of food products while buying. It was noticed that, significantly higher percentage of businessmen (74) were sometimes reading food labels as compared to lawyers and doctors (38) and professors (16).

Table 11 (a). Food label information considered during purchase of various food commodities by the selected consumers

(N=200)

Particulars	Always				't' value					
	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Comparing prices	34 (17)	38 (19)	20 (10)	26 (13)	0.338 NS	1.372 NS	0.742 NS	1.700 NS	1.077 NS	0.639 NS
Reading food labels	58 (29)	60 (30)	24 (12)	68 (34)	0.131 NS	2.687**	0.635 NS	2.811**	0.503 NS	3.279**
Standard marks	56 (28)	56 (28)	22 (11)	60 (30)	NS	2.757**	0.264 NS	2.757**	0.264 NS	3.004**
Expiry date	100 (50)	96 (48)	88 (44)	82 (41)	0.203 NS	0.622 NS	0.948 NS	0.419 NS	0.746 NS	0.327 NS
Check the product quality	86 (43)	68 (34)	58 (29)	74 (37)	1.032 NS	1.661 NS	0.675 NS	0.635 NS	0.358 NS	0.992 NS
Ask for receipt	78 (39)	74 (37)	84 (42)	66 (33)	0.230 NS	0.335 NS	0.712 NS	0.566 NS	0.481 NS	1.046 NS

Figures in parenthesis indicate number

*significant at 5 per cent level **significant at 1 per cent level NS: Non significant

Table 11 (b). Food label information considered during purchase various food commodities by the selected consumers

(N=200)

Particulars	Sometimes				't' value					
	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Comparing prices	52 (26)	60 (30)	64 (32)	60 (30)	0.539 NS	0.794 NS	0.539 NS	0.256 NS	NS	0.256 NS
Reading food labels	38 (19)	38 (19)	74 (37)	16 (32)	NS	2.427*	0.514 NS	2.427*	0.514 NS	2.912**
Standard marks	62 (31)	44 (22)	78 (39)	30 (15)	1.248 NS	0.963 NS	2.385*	2.194*	1.166 NS	3.296**
Expiry date	-	4 (2)	12 (6)	16 (8)	NS	NS	NS	1.511 NS	2.0 NS	0.554 NS
Check the product and quality	12 (6)	30 (15)	42 (21)	26 (13)	2.012*	2.941**	1.649 NS	1.014 NS	0.384 NS	1.392 NS
Ask for receipt	12 (6)	24 (12)	14 (7)	30 (15)	1.455 NS	0.288 NS	2.012*	1.178 NS	0.588 NS	1.745 NS

Figures in parenthesis indicate number

*significant at 5 per cent level **significant at 1 per cent level NS: Non significant

Majority of businessmen (78%) was sometimes checking the standard mark of product followed by lawyers (62%), doctors (44%) and professors (30%). The difference was significant statistically. It was found that 16 12 and 4 per cent 0f professor, businessman and doctor consumers sometimes check the expiry date of the product respectively.

More per cent of businessmen (42) found to be sometimes check quality of product followed by doctors (30), professors (26) and lawyers (12). Significantly more in doctors than that of lawyers and businessmen. Out of the selected consumers 12 per cent lawyer, 24 per cent doctor, 14 per cent businessman and 30 per cent professor were found to be sometimes asking for receipt.

On the whole it can be said that maximum per cent of businessmen than that of other consumers sometimes compared the prices, read the food labels, noticing the standard marks and quality of the product. Even Silva and Sandika (2011) reported that more than half of respondents claimed to be always or sometime (61%) read food quality standard logo. Also around 21per cent read always or sometime food safety systems (ISO), whereas 22.2 per cent sometime seek food safety (HACCP) systems in meat items respectively. While in the present study, it was around 50 per cent.

4.11. c) Food label information considered during purchase of various food commodities by the selected consumers

Food label information considered during purchase of various food commodities by the selected consumers is given in Table 11(c).

It was found that significantly higher per cent of businessmen (20%) rarely noticing standard marks of product while buying. It was observed that, six per cent professors and two per cent lawyers rarely check the standard marks. Statistical analysis indicated that, it was significantly more per cent in the businessmen as compared to lawyers. Only two per cent professors check the rarely expiry date written on food label. Quality of product was also checked by lawyers, doctors and professors (2% each).

Table 11 (c). Food label information considered during purchase various food commodities by the selected consumers

(N=200)

Particulars	Rarely				't' value					
	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Comparing prices	6 (3)	2 (1)	16 (8)	12 (6)	1.154 NS	1.581 NS	1.060 NS	2.474*	2.041*	0.554 NS
Reading food labels	4 (2)	2 (1)	2 (1)	-	0.707 NS	0.707 NS	NS	NS	NS	NS
Standard marks	2 (1)	-	20 (10)	6 (3)	NS	2.846**	1.154 NS	NS	NS	2.020*
Expiry date	-	-	-	2 (1)	NS	NS	NS	NS	NS	NS
Check the product and quality	2 (1)	2 (1)	-	2 (1)	NS	NS	NS	NS	NS	NS
Ask for receipt	8 (4)	-	-	4 (2)	NS	NS	0.894 NS	NS	NS	NS

Figures in parenthesis indicate number

*significant at 5 per cent level **significant at 1 per cent level NS: Non significant

Results indicated that among the selected consumers 16 per cent of businessmen found to be comparing prices while buying the food products than that of consumers from other professions. Even significantly it was more by the businessmen than that of doctors. None of the doctors and businessman consumers found to be demanded for receipt. On the other hand, eight per cent and four per cent lawyers and professors demanded receipt respectively.

In nut shell it can be said that significantly more per cent of businessmen rarely compared the prices of food products and check the standard mark written on food label then that of doctors and lawyers respectively. Even Basarir and Sherif (2012) reported that organic certification (standard marks) were read rarely by the respondents.

4.12. Reasons for preferring only particular shops by the selected consumers for buying

Data on reasons for preferring only particular shops by the selected consumers for buying is given in Table 12 and shown in Figure 11.

Results indicated that ease of shopping was the reasons expressed by significantly more number of professors (96%), businessmen (90%) and doctors (86%) than that of lawyers (44%) for preferring only particular shop for buying.

A relatively higher percentage of doctors (94) and professors (94) were preferring only particular shops for purchasing than that of lawyers (80%) and businessmen (76%) due to easily accessible. But the difference was not significant statistically. On the other hand, habitual buying (48%) was the reason given by significantly more per cent of businessmen for preferring particular shop for buying as compared to doctors (20%). Even same reason was expressed by 38 per cent professors and 32 per cent lawyers. It was found that good quality were the reasons expressed by more professors (100%) followed by businessmen (98%), lawyers (96%) and doctors (92%) for preferring only particular shop for purchasing. Good salesman was the reason

Table 12. Reasons for preferring only particular shops by the selected consumers for buying

(N=200)

Particulars	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	't' value					
					a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Easy shopping	44 (22)	86 (43)	90 (45)	96 (43)	2.124*	2.831**	3.058**	0.214 NS	0.511 NS	0.303 NS
Easily accessible	80 (40)	94 (47)	76 (38)	94 (47)	4.949**	0.227 NS	0.754 NS	0.981 NS	NS	0.981 NS
Habit	32 (16)	20 (10)	48 (24)	38 (19)	NS	1.281 NS	0.514 NS	2.437*	1.70 NS	0.771 NS
Good quality	96 (48)	92 (46)	98 (49)	100 (50)	NS	0.102 NS	0.203 NS	0.309 NS	0.410 NS	0.101 NS
Good salesman	30 (15)	52 (26)	48 (24)	44 (22)	1.1 NS	1.459 NS	1.166 NS	0.285 NS	0.583 NS	0.298 NS

Figures in parenthesis indicate number
*significant at 5 per cent level **significant at 1 per cent level NS: Non significant

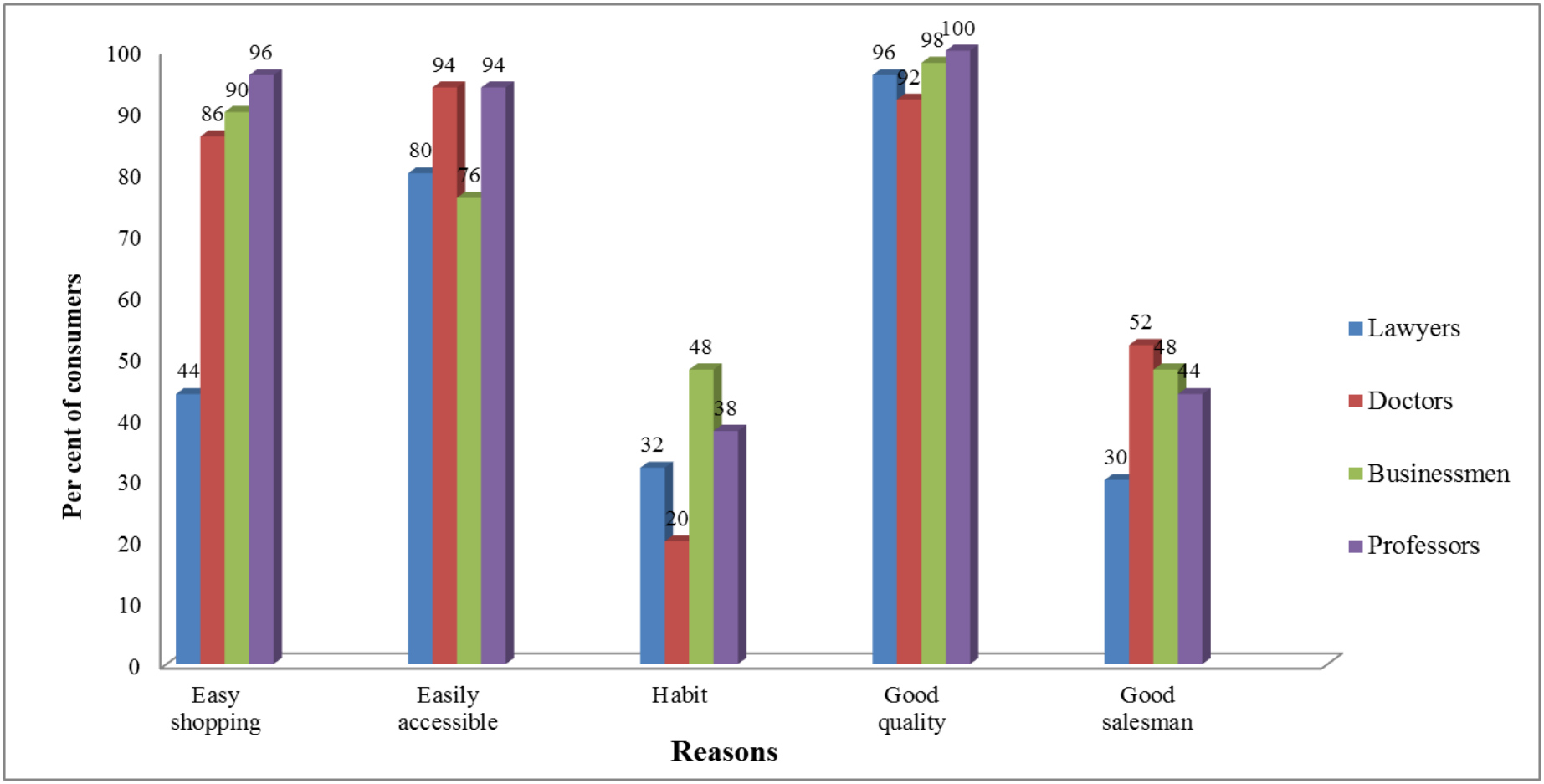


Fig.11. Reasons for preferring only particular shops by the selected consumers for buying

given by 30, 52, 48 and 44 per cent lawyers, doctors, businessmen and professors respectively.

On the whole results indicated that more number of professors as compared to other consumers belonging to different professions preferred particular shop for purchasing because of ease of shopping, easily accessible and good quality of the product.

4.13. a) Frequency of monthly purchase of various food commodities by the selected consumers

Frequency of monthly purchase of various food commodities by the selected consumers is given in Table 13 (a).

Almost all the selected consumers indicated that, spices, sugar and Jaggery were purchase monthly. In case of cereals and pulses, it was less than 40 per cent. Significantly less per cent of businessmen found to be purchase cereals and pulses monthly than that of doctors, lawyers and professors.

It was found that oils were purchased monthly by all the selected businessman and professor consumers. Whereas, it was 92 per cent in lawyers and doctors had a practice of monthly purchasing of oils.

4.13. b) Frequency of annually purchase of various food commodities by the selected consumers

Frequency of annually purchase of various food commodities is given in Table 13 (b).

Relatively 96 per cent of businessmen were purchasing cereals and pulses annually as compared to lawyers, professors and doctors. Even eight per cent lawyers and doctors found to be purchase cereals and pulses annually.

In conclusion it was noticed that more businessmen had the practice of purchase of cereals and pulses annually as compared to other

Table 13 (a) Frequency of monthly purchase of various food commodities by the selected consumers

(N=200)

Food groceries Items	Monthly				't' value					
	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Cereals	26 (13)	32 (16)	4 (2)	24 (12)	0.566^{NS}	2.939**	0.204^{NS}	3.395**	0.769^{NS}	2.773
Pulses	34 (17)	34 (17)	4 (2)	30 (15)	NS	3.535**	0.359^{NS}	3.535	0.359^{NS}	3.25**
Oils	92 (46)	92 (46)	100 (50)	100 (50)	NS	0.410^{NS}	0.410^{NS}	0.410^{NS}	0.410^{NS}	NS
Spices	100 (50)	100 (50)	100 (50)	100 (50)	NS	NS	NS	NS	NS	NS
Sugar	100 (50)	98 (49)	100 (50)	100 (50)	0.101^{NS}	NS	NS	0.101^{NS}	0.101^{NS}	NS
Jaggery	100 (50)	100 (50)	100 (50)	100 (50)	NS	NS	NS	NS	NS	NS

Figures in parenthesis indicate number

*significant at 5 per cent level **significant at 1 per cent level NS: Non significant

Table 13 (b) Frequency of annually purchase of various food commodities by the selected consumers

(N=200)

Food groceries items	Annually				't' value					
	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Cereals	74 (37)	68 (34)	96 (48)	76 (38)	0.358 NS	1.200 NS	0.116 NS	1.555 NS	0.474 NS	1.084 NS
Pulses	66 (33)	66 (33)	96 (48)	70 (35)	NS	1.677 NS	0.244 NS	1.677 NS	0.244 NS	1.435 NS

Figures in parenthesis indicate number

*Significant at 5 per cent level **Significant at 1 per cent level NS: Non significant

selected consumers from different professions. Even more than 65 per cent of lawyers, professors and doctors were purchasing annually cereals and pulses.

4.13. c) Frequency of daily purchase of various food commodities by the selected consumers

Frequency of daily purchase of various food commodities by the selected consumers is given in Table 13 (c).

Results showed that milk and vegetables purchased daily by all the selected consumers. Even more than 75 per cent of the selected consumers were purchasing fruits daily. More per cent of doctors were found to be purchasing egg (32) daily followed by lawyers (22), professors (14) and businessmen (10).

On the whole results inferred that majority of all the selected consumers had practice of purchasing of milk and vegetables daily. Whereas higher per cent of businessmen were purchasing fruits daily as compared to consumers of other professions. Also more per cent of doctors were having practice of purchase of egg daily than those of consumer from other professions.

4.13. d) Frequency of monthly purchase of various food commodities by the selected consumers

Frequency of monthly purchase of various food commodities by the selected consumers is given in Table 13 (d).

Around 75 per cent businessmen and 68 per cent lawyers were buying sauces monthly. The practice of monthly purchase vermicelli was noticed among doctors and professors (38%). On the other hand, papad (64%), jam (42%) and jelly (14%) were purchased monthly by the lawyers.

On the whole results showed that more than 65 per cent lawyers and businessmen had practice of purchase sauces monthly. On the other hand, monthly purchasing practice of vermicelli was noticed less than 40 per cent in all the selected consumers. Results showed that more per cent of lawyer

Table 13 (c) Frequency of daily purchase of various food commodities by the selected consumers

(N=200)

Perishable food items	Daily				't' value					
	Lawyers (%) a	**Doctors (%) b**	**Businessmen (%) c**	**Professors (%) d**	**a vs b**	**a vs c**	**a vs d**	**b vs c**	**b vs d**	**c vs d**
Fruits	82 (41)	76 (38)	88 (44)	74 (37)	0.339 NS	0.327 NS	0.455 NS	0.666 NS	0.116 NS	0.782 NS
Milk	100 (50)	100 (50)	100 (50)	100 (50)	NS	NS	NS	NS	NS	NS
Egg	22 (11)	32 (16)	10 (5)	14 (7)	0.980 NS	1.549 NS	0.970 NS	2.459*	1.918 NS	0.603 NS
Vegetables	100 (50)	-	100 (50)	100 (50)	NS	NS	NS	NS	NS	NS

Figures in parenthesis indicate number

*Significant at 5 per cent level **Significant at 1 per cent level NS: Non significant

Table 13 (d) Frequency of monthly purchase of various food commodities by the selected consumers

(N=200)

Commercially available foods items	Monthly				't' value					
	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Sauce	68 (34)	48 (24)	76 (38)	40 (20)	1.324^{NS}	0.474^{NS}	1.923^{NS}	1.792^{NS}	0.609^{NS}	2.384*
Papad	64 (32)	54 (27)	26 (13)	52 (26)	0.656^{NS}	2.864**	0.794^{NS}	2.241*	0.138^{NS}	2.108*
Jam	42 (21)	14 (7)	30 (15)	40 (20)	2.694**	1.014^{NS}	0.158^{NS}	1.745^{NS}	2.501*	0.857^{NS}
Jelly	14 (7)	2 (1)	4 (2)	-	2.267*	1.767^{NS}	NS	0.707^{NS}	NS	NS
Vermicelli	28 (14)	38 (19)	20 (10)	38 (19)	0.883^{NS}	0.834^{NS}	0.883^{NS}	1.700^{NS}	NS	1.700^{NS}

Figures in parenthesis indicate number

*Significant at 5 per cent level **Significant at 1 per cent level NS: Non significant

consumers found to be purchased papad (64), jam (42), and jelly (14) monthly.

4.14. Consumers awareness towards food label

Consumers awareness towards food label is given in Table 14 and shown in Figure 12.

It was noticed that lawyers and doctors (100% each) were vigilant about date of manufacturing and expiry date written on food label while buying the food products. Even 96 per cent of businessmen and professors were aware about date of manufacturing and date of expiry of food products before buying. It was found that significantly more number of doctor consumers was reading MRP written on food label while buying food products as compared to businessman consumers.

More than 70 per cent lawyers, doctors and professors had awareness regarding standard marks. Whereas less than 40 per cent businessmen were aware about standard marks. Statistical analysis also indicated that significantly less per cent of businessmen had awareness regarding standard mark than that of lawyers, professors and doctors.

Similarly less per cent of businessmen were aware about list of ingredient (42) and weight of product (52) than that of lawyers, doctors and professors. However significant difference was noticed in lawyers and businessmen also doctors and businessmen in regard to awareness of list of ingredients. It was also reported that all the consumers from doctors, businessmen and professors categories were aware about brand of the product.

It can be summaries from results that significantly more number of consumers belonging to doctor profession had awareness about MRP, standard marks and list of ingredients than that of businessman. Also awareness in regard to MRP and Standard marks were significantly more among professors than those of businessmen.

Table 14. Consumers awareness towards food label

(N=200)

Particulars	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	't' value					
					a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
MRP	64 (32)	86 (43)	46 (23)	78 (39)	1.278 NS	1.224 NS	0.836 NS	2.480*	0.444 NS	2.048*
Date of manufacturing and date of expiry	100 (50)	100 (50)	96 (48)	96 (48)	NS	0.203 NS	0.203 NS	0.203 NS	0.203 NS	NS
Standard marks	78 (39)	84 (42)	36 (18)	72 (36)	2.406*	1.061 NS	1.697 NS	3.124**	0.683 NS	2.472*
List of ingredients	90 (45)	76 (38)	42 (21)	62 (31)	0.773 NS	2.976**	1.616 NS	2.232*	0.848 NS	1.400 NS
Weights of products	86 (43)	82 (41)	56 (28)	72 (36)	0.219 NS	1.954 NS	0.792 NS	1.725 NS	0.573 NS	1.110 NS
Brand	96 (48)	100 (50)	100 (50)	100 (50)	0.203 NS	0.203 NS	0.203 NS	NS	NS	NS

Figures in parenthesis indicate number

*Significant at 5 per cent level **Significant at 1 per cent level NS: Non significant

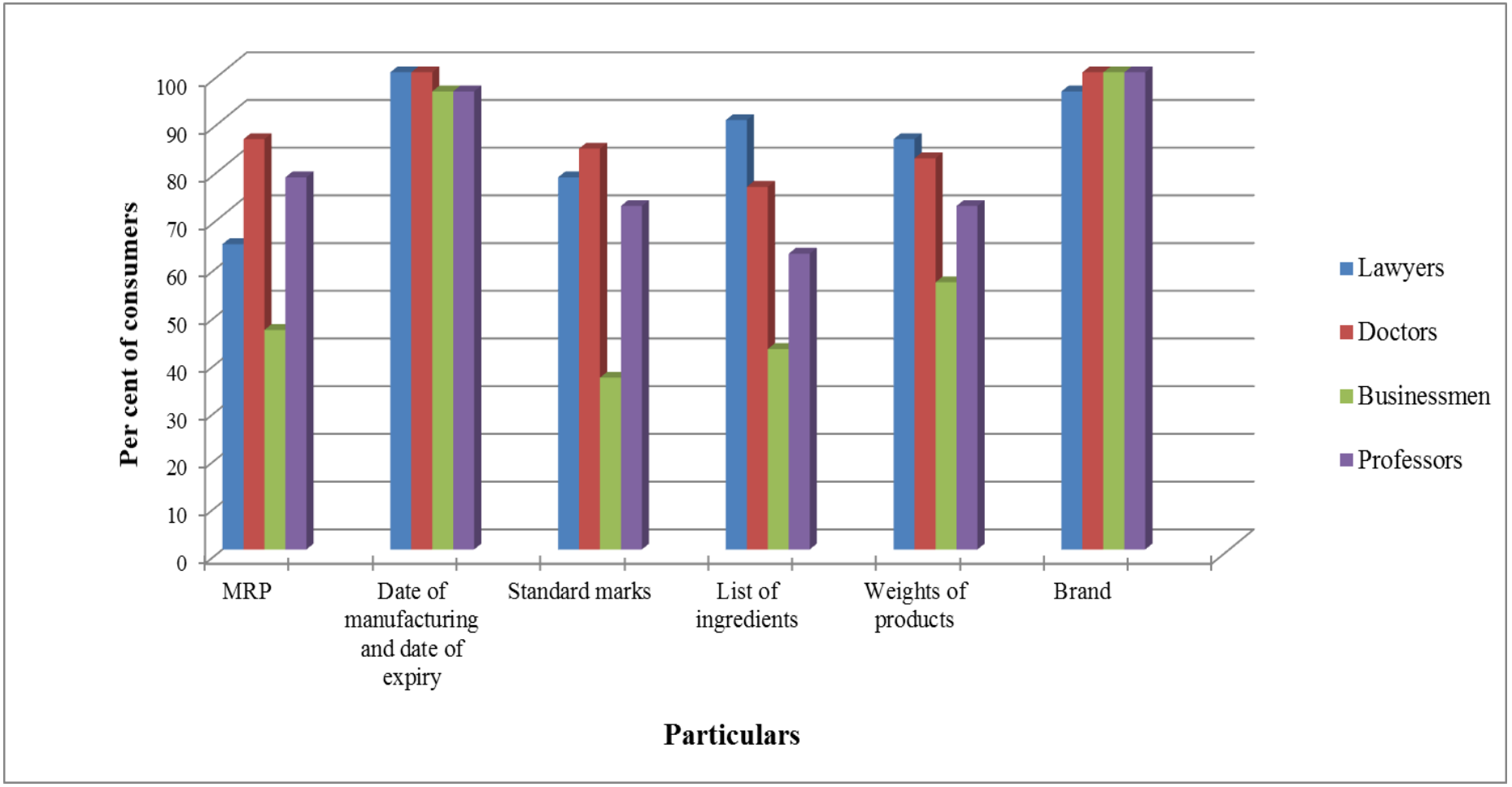


Fig. 12. Consumers awareness towards food label

On the whole results clearly indicated that among the selected consumers a relatively very high per cent of consumers were vigilant about brand, date of manufacturing and expiry date.

Results of the present study are found to be in agreement with those reported by Subbarao *et al*., (2014). They reported that adolescent from Kolkata were found to be consult about self-life or safety of the product. They read information related to the date of manufacturing or expiration or best before date. Similarly Kour *et al*., (2016) observed that surveyed male and female respondents gave very high importance to information about manufacturing and expiry date of the products also strong preference for MRP of the products. Washi *et al*., (2012) reported that, 58.8 per cent consumers from United Arab Emirates keen about reading all the information such as manufactory, expiry dates and validity dates, nutritive value of food. Priyadarshini (2014) also reported that, price and expiry date was mostly seen by customers of Bhubaneswar city before buying of any product.

4.15. Source of acquiring nutrition information written on food label by the selected consumers

Source of acquiring nutrition information written on food label by the selected consumers is given in Table 15.

Results showed that T.V., radio, newspaper, magazines, internet, sales representatives and family / friends were source for acquiring nutrition information among selected consumers. Majority of the selected consumers found to be acquired nutrition information given on food label through T.V., newspaper and internet. More number of businessmen acquired nutrition information through T.V., newspaper, sales representatives and family / friends. On the other hand, radio, newspaper and magazines were the sources for gaining nutrition information among the doctors.

On the whole majority of the selected consumers were using T.V., internet and newspaper for acquiring nutrition information written on food label. Similarly a study conducted by Darkwa (2014) revealed that, 13.7

Table 15. Source of acquiring nutrition information written on food label by the selected consumers

(N=200)

Sources	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	't' value					
					a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
T.V.	90 (45)	70 (35)	92 (46)	72 (36)	1.125 NS	0.105 NS	1.006 NS	1.229 NS	0.119 NS	1.111 NS
Radio	9 (18)	40 (20)	30 (15)	36 (18)	2.078*	1.251 NS	1.765 NS	0.857 NS	0.328 NS	0.530 NS
Newspaper	86 (43)	98 (49)	100 (50)	88 (44)	0.628 NS	0.729 NS	0.107 NS	0.101 NS	0.521 NS	0.622 NS
Magazine	64 (32)	78 (39)	62 (31)	56 (28)	0.836 NS	0.127 NS	0.520 NS	0.963 NS	1.354 NS	0.393 NS
Internet	94 (47)	98 (49)	92 (46)	90 (45)	0.205 NS	0.104 NS	0.209 NS	0.309 NS	0.414 NS	0.105 NS
Sales representatives	56 (28)	78 (39)	88 (44)	60 (30)	1.354 NS	1.898 NS	0.264 NS	0.552 NS	1.091 NS	1.638 NS
Family / friends	58 (29)	46 (23)	80 (40)	62 (31)	0.840 NS	1.333 NS	0.260 NS	2.159*	1.098 NS	1.075 NS

Figures in parenthesis indicate number

*Significant at 5 per cent level **Significant at 1 per cent level NS: Non significant

per cent consumers obtained nutrition information from family members and friends, while 11.3 per cent acquired nutrition facts from the media.

4.16. Commonly read nutrient information given on food label by the selected consumers

Commonly read nutrient information given on food label by the selected consumers is given in Table 16.

Results indicated that more per cent of doctors were reading information given on food label in regard to all nutrient content than that of lawyers. However, significant difference was noticed only in case of fiber.

Among the selected consumers more per cent of businessmen found to be read the nutrient content of product such as total calories, protein, fat, sugar, vitamin and minerals. On the other hand more per cent of professors were reading the content of carbohydrate, protein and sodium. Cholesterol content of the product was read by significantly more number of doctors than that of other selected consumers. Statistical analysis showed that, significantly high per cent of lawyers were reading the nutrient content such as carbohydrates, sugar, vitamins, minerals and cholesterol written on food label as compared to businessmen.

On the whole results inferred that while purchasing the food product more number of businessmen read the content of calories, protein, fat, sugar, vitamins and minerals written on food label. On the other hand, carbohydrate, fiber and sodium content was seen by more per cent of professors. Content of cholesterol was read by more number of doctors compared to other consumers.

Similarly a study conducted by Aryee (2013) revealed that nutrition information written on food label was considered by selected consumers (19.6%). Among those content of fats (16.4%), sugar (16.1%) and cholesterol (14%) was mostly consider before buying. Results of present study are in line with finding of study conducted by Even Vemula *et al*., (2013) and

Table 16. Commonly read nutrient information given on food label by the selected consumers

(N=200)

Nutrients	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	't' value					
					a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Total calories / energy	96 (48)	96 (48)	100 (50)	90 (45)	NS	0.203 NS	0.312 NS	0.203 NS	0.312 NS	0.515 NS
Carbohydrates	38 (19)	48 (24)	10 (5)	62 (31)	0.771 NS	2.919**	1.714 NS	3.590**	0.952 NS	4.394**
Protein	58 (29)	68 (34)	82 (41)	82 (41)	0.635 NS	1.444 NS	1.444 NS	0.813 NS	0.813 NS	NS
Fat	72 (36)	94 (47)	98 (49)	82 (41)	1.214 NS	1.418 NS	0.573 NS	0.205 NS	0.643 NS	0.847 NS
Sugar	46 (23)	74 (37)	88 (44)	64 (32)	1.822 NS	2.584*	1.224 NS	0.782 NS	0.606 NS	1.385 NS
Vitamins and Minerals	54 (27)	80 (40)	90 (45)	76 (38)	1.600 NS	2.136*	1.375 NS	0.545 NS	0.227 NS	0.773 NS
Cholesterol	56 (28)	70 (35)	28 (14)	66 (33)	0.889 NS	2.186*	0.645 NS	3.031**	0.244 NS	2.801**
Fiber	14 (7)	38 (19)	28 (14)	48 (24)	2.4*	1.565	3.103**	0.883 NS	0.771 NS	1.643 NS
Sodium	14 (7)	32 (16)	12 (6)	34 (17)	1.918 NS	0.288	2.085*	2.182*	0.176 NS	2.345*

Figures in parenthesis indicate number

*Significant at 5 per cent level **Significant at 1 per cent level NS: Non significant

Subbarao *et al*.,(2016). They reported that women, girls and elderly consumers of north and south India who were concerned about fat, sugar, or salt and cholesterol content intake were checking the nutrition facts.

4.17. Use of nutrition information provided on pre-packaged foods by the selected consumers

Use of nutrition information provided on pre-packaged foods is given in Table 17.

Results showed that 84 per cent of doctors were utilizing nutrition information in all circumstances followed by businessmen (80%), lawyers and professors (70% each). A relatively more per cent of businessmen were using the nutrition information given on pre-packaged food while buying a new product as compared to lawyers (58%), doctors (68%) and professors (70%). It was not significant statistically.

Statistical analysis indicated that, significantly more per cent of businessmen (74%) were using nutrition information while buying a new version of existing product than that of the selected consumers from lawyer, professor and doctor professions.

4.18. Awareness of the selected consumers regarding health claims disclosed on various food products

Awareness of the selected consumers regarding health claims disclosed on various food products is given in Table 18.

It was found that more per cent of professors had awareness in regard to heath claims disclosed on food label such as suitable for people with diabetes mellitus and cholesterol (40%), heart problem (32%) and recommended as part of balanced diet (94%) as compared to other selected consumers. The differences was significant statistically. On the other hand, higher per cent of businessmen were vigilant regarding the health claims such as product is intended to improve the health (94%), guarantee that it is not harmful to health (78%), guarantee of quality(86%), and suitable for people

Table 17. Use of nutrition information provided on pre-packaged foods by the selected consumers

(N=200)

Particulars	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	't' value					
					a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
All circumstances	70 (35)	84 (42)	80 (40)	70 (35)	0.802 NS	0.581 NS	NS	0.222 NS	0.802 NS	0.581 NS
When buying a new product	58 (29)	68 (34)	80 (40)	70 (35)	0.635 NS	1.333 NS	0.755 NS	0.702 NS	0.121 NS	0.581 NS
When buying a new version of existing product	20 (10)	48 (24)	74 (37)	56 (23)	2.437*	3.980**	2.745**	1.678 NS	0.529 NS	1.075 NS

Figures in parenthesis indicate number

*Significant at 5 per cent level **Significant at 1 per cent level NS: Non significant

Table 18. Awareness of the selected consumers regarding health claims disclosed on various food products

(N=200)

Health claims on food labels	Lawyers (%) a	Doctors (%) b	Businessmen (%) c	Professors (%) d	't' value					
					a vs b	a vs c	a vs d	b vs c	b vs d	c vs d
Suitable for people with diabetes mellitus, cholesterol	20 (10)	10 (5)	6 (3)	40 (20)	1.336^{NS}	2.020*	1.856^{NS}	0.755^{NS}	3.061**	3.624**
Product is intended to improve health	76 (38)	76 (38)	94 (47)	64 (32)	NS	0.981^{NS}	0.722^{NS}	0.981^{NS}	0.722^{NS}	1.698^{NS}
Product is particularly good for people with heart problem	20 (10)	8 (4)	4 (2)	32 (16)	1.664^{NS}	2.412*	1.2^{NS}	0.894^{NS}	2.752**	3.395**
Product is recommended as part of balanced diet	28 (14)	64 (32)	56 (28)	94 (47)	2.683**	2.186*	4.260**	0.520^{NS}	1.698^{NS}	2.208*
Guarantee that the product is not harmful to health	66 (33)	56 (28)	78 (39)	52 (26)	0.645^{NS}	0.712^{NS}	0.919^{NS}	1.354^{NS}	0.274^{NS}	1.625^{NS}
Guarantee of quality	76 (38)	76 (38)	86 (43)	50 (25)	NS	0.559^{NS}	1.651^{NS}	0.559^{NS}	1.651^{NS}	2.199
Suitable for people with specific allergies	36 (18)	32 (16)	60 (30)	40 (20)	0.348^{NS}	1.750^{NS}	0.328^{NS}	2.086*	0.676^{NS}	1.428^{NS}
Purely for advertising purposes	24 (12)	6 (3)	-	10 (5)	2.405*	NS	1.75^{NS}	NS	0.755^{NS}	NS

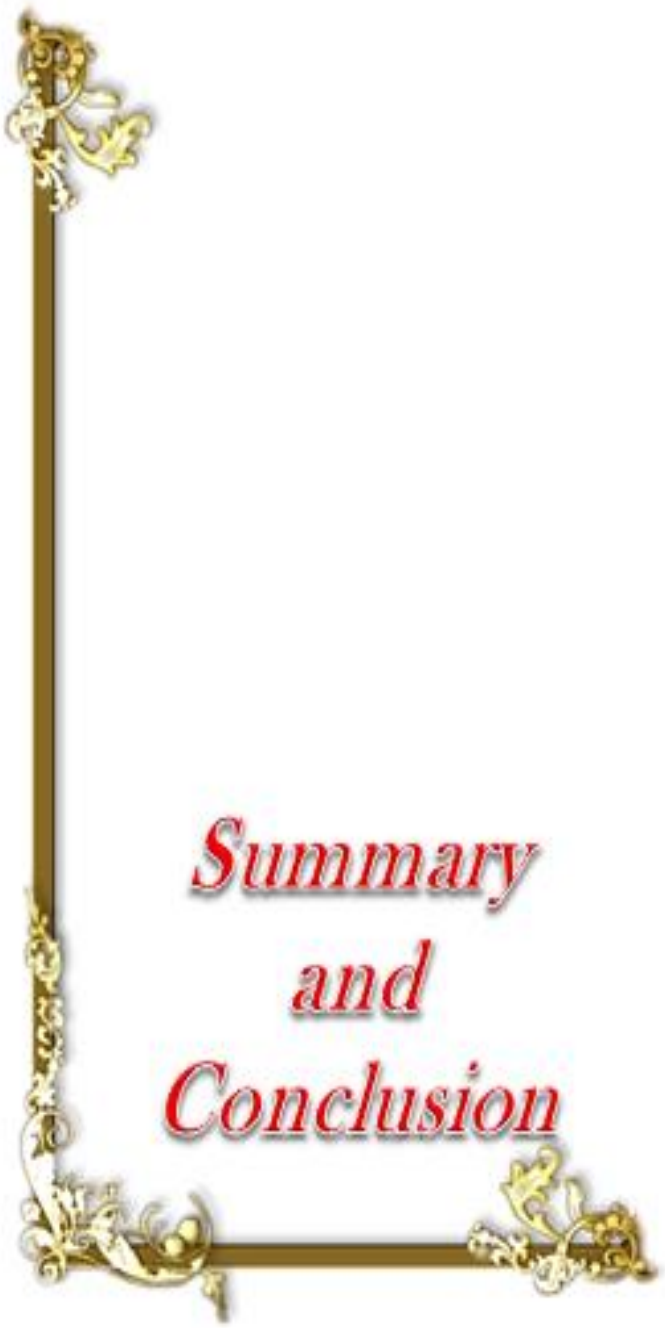
Figures in parenthesis indicate number

*Significant at 5 per cent level **Significant at 1 per cent level NS: Non significant

with specific allergies (60%) than that of lawyers, doctors, and professors. However, significant difference was not noticed.

On the whole it can be said that, majority of businessman and professor consumers had awareness about the health claims disclosed on various food products as compared to lawyers and doctors. Awareness about food claims such as suitable for people with diabetes mellitus and cholesterol and good for people with heart problem which was significantly more among lawyers than businessmen. On the contrary, the product recommended as balanced diet was significantly less among lawyers than other consumers.

Similar findings were also reported by Oghojafor *et al.*, (2012). They found that, 80.8 per cent consumers of Nigeria read nutrition claim. Even Tanjo and Themba (2013) reported that, majority (88%) consumers of Botswana city use nutrition claim information before buying. The values are higher than that of reported in present study. Similarly nutritional claims like low calories from fat and saturated fat, low cholesterol, low sodium and high fiber were most popular and had major impact on the food purchasing behaviour of the customers was reported by Jain *et al.*,(2013).


Summary
and
Conclusion

CHAPTER - V

SUMMARY AND CONCLUSION

The present study was undertaken to study the consumers awareness regarding food label. Two hundred consumers from four different professions such as doctor, lawyer, businessman and professor 50 in each group were selected by purposive random sample technique from Parbhani city. The information on age, education, type of family, monthly family income, buying behaviour of consumers, frequency of purchasing various food, consumers awareness about nutrition information and health claims disclosed on food label were collected by using pre-planned structured questionnaire and by interview method.

Majority of the selected consumers were from >40 to 50 years of age group. A relatively more per cent of the selected lawyers (70), doctors (54), businessmen (76) and professors (54) consumers were belonging to joint family having monthly family income of Rs. 50,000 to 1, 00,000.

More per cent of wives were taking the decision in doctors and professors families regarding purchase of cereals. On the other hand, the decision of purchase of cereals was taken by other family members in families of lawyer and businessman. The difference was significant statistically.

It was observed that maximum per cent of wives in all the selected families were taking decision of purchasing of pulses. The per cent was significantly highest in professors family than that of lawyers (40) and businessmen (42) family. Similar trend was also noticed in purchasing of oils. But significant difference was noticed only in per cent of wives and other family members.

Results inferred that the decision in regard to purchase of spices in professors family was mostly taken by other family members (80%) which was more as compared to families of lawyer, doctor and businessman. It was noticed that significantly more per cent of husbands belonging to businessman

and professor families were taking decision in purchasing of spices than that of doctors.

Majority of families of lawyer and businessman, other family members were found to be taken decision in purchase of ready to eat foods. It was also significantly less in professors family as compared to other selected consumers family.

Results showed that commercial available foods were mostly purchased by other family members in lawyer and businessman families followed by wives. While in doctors and professors family it was taken by wives only.

It was observed that all the selected consumers gave importance to quality followed by price of the product. A very high per cent of doctors (98) and professors (96) were reading the information given on food label in regard to safety and health hazards. It was significantly more than those of businessmen and professors. On the other hand, price and taste of the product was mostly noticed by lawyers and businessmen during purchasing of food products.

Results indicated that significantly more per cent of lawyers had the practice of purchasing new products regularly than other selected consumers. Whereas occasional purchasing of new product or other product was more common among all the selected consumers.

More than 90 per cent of the selected consumers reported that if product is not available in regular shop then it was searched in other shop. Thirty per cent of consumers were found to be buying the product whatever the brand product was available. Beside it was also noticed that more than 70 per cent doctors and businessmen and more than 60 per cent lawyers and professors were postponing the buying due to unavailability of the product of particular brand.

Among all the selected consumers significantly less per cent of businessmen were found to be always reading food label and seeing the standard mark written on food label as compared to lawyers, doctors and professors. Maximum per cent of businessmen (84) and lawyers and doctors were always asking for receipt for whatever they have purchased.

It was found that maximum per cent of businessmen than that of other consumers sometimes compared the prices, read the food labels, noticing the standard marks and quality of the product. Results indicated that, more number of professors (96) were preferring particular shop for purchasing due to ease of shopping, easily accessible and good quality of the product.

All the selected consumers were found to be purchasing spices, sugar and jaggey monthly. In case cereals and pulses, it was less than 40 per cent. It was found that, 92 per cent of lawyers and doctors had practice of purchasing of oils monthly. On the other hand, oil was purchased monthly by all the selected businessmen and professors family.

More per cent of businessmen had the practice of purchase of cereals and pulses annually as compared to all the selected consumers from the different professions. Results showed that all the selected consumers were purchasing milk and vegetables daily. Even 75 per cent of the selected consumers purchased fruits daily.

It was noticed that majority of consumers were found to be purchasing papad, jam and jelly monthly. Even more than 65 per cent lawyers and businessmen had practice of purchase sauce monthly. While vermicelli was purchased monthly by less than 40 per cent of the selected consumers.

Results showed that all the selected lawyers and doctors and 96 per cent businessmen and professors were vigilant about date of manufacturing and expiry date. Statistical analysis indicated that significantly more per cent of doctors had awareness about MRP, standard marks and list of ingredients than that of businessmen. Also awareness in regard to MRP and standard marks were more in professors as compared to businessmen. Majority of the selected

consumers were found to be acquiring nutrition information written on food label through T.V., internet and newspaper.

Results indicated that the information regarding nutrient content such as calories, protein, fat, sugar, vitamin and minerals was mostly read by businessmen. Whereas content of carbohydrates, protein and sodium mostly read by professors. It was also noticed that cholesterol content of the product was read by significantly more per cent of doctors.

Results showed that in all circumstances 84 per cent doctors, 80 per cent businessmen and 70 per cent lawyers and professors used nutrition information given on food label of pre-packaged food while buying the food product. On the other hand, significantly more per cent of businessmen were utilizing nutrition information while buying a new version of product as compared to other selected consumers.

Results in regard to various health claims written on food label indicated that more number of lawyer consumers had awareness about product suitability for people with diabetes mellitus, cholesterol and heart problem which was significant statistically. On the contrary, product recommended for balanced diet which was significantly less among the selected lawyers than other consumers.

On the whole findings inferred that decision of purchase of cereals and pulses was mostly taken by wives in the families of doctors and professors. Whereas other family members in lawyers and businessmen family. Similar trend was also noticed in purchase of spices, ready to eat foods and commercial available foods. Importance for the quality of product was given by all the selected consumers.

More per cent of doctors were aware about MRP, standard marks, manufacturing and expiry date. Results showed that T.V., internet and newspaper were the sources for acquiring knowledge about nutrition information in the selected consumers. In regard to nutrient content such as calories, protein, fat, vitamin and minerals were mostly read by businessmen.

Whereas carbohydrates, protein and sodium content mostly read by professors. Significantly more per cent of doctors found to be reading cholesterol content of product.

Whereas more per cent of professors had awareness about fiber and sodium content. Results showed that less than 50 per cent selected consumers were aware about these nutrients. Less than 20 per cent selected consumers irrespective to their professions had awareness regarding health claims such as suitability of product for diabetes mellitus, high cholesterol and heart problem.

In nut shell it can be said that there is a need to educate consumers in regard to information of nutrient content and health claims written on food label. Consumers should be made aware of relation between healthy diet and its implication on health and disease. The nutritional label should be made more consumers friendly. So that it will be helpful for the consumers in making rational food choices.

Literature cited

LITERATURE CITED

Ababio P. F., Adi D. D., and Amoah M. (2012). Evaluating the awareness and importance of food labeling information among consumers in the Kumasi metropolis of Ghana. Food control, **26**(2), 571-574.

Asiamah K. (2006). Food labeling are we doing it right with the right information. African journal of Food Agriculture Nutrition and Development, **6**(1).

Affram Priscilla Cecilia and Darkwa Sarah (2015). Consumer knowledge, understanding and use of food label information, and how it affects purchasing decision in Ho, Ghana. Asian Journal of Empirical Research, Vol. **5**, Issue 6.

Al Tamimi and Company (2004). Standardization and classification in the USE.

Retrieved from center for food safety (2006). Benefits of nutrition information on food labels. http://www.cfs.gov.hk./ English/ programme/ programme- nifl/programme-nifl-02.html.

AMEinfo.com (2008) Dubai municipality applies new specifications for food stuff label and GCC validity period rules- Press release. http://www.ameinfo.com/144611.html.

Anjum Saista, Chitra Sonkar and Dorcus Masih (2014). A case study on labeling regulations of pre-packaged (Biscuits). International Journal of Research in Engineering and Advanced Technology. Vol.**2**, Issue 3, 1-5.

Aryee Gloria Aba (2013). Awareness and use of nutritional label on pre-packaged foods among consumers in Accra. http:// ugspace. ug.edu.gh.

Basarir Aydin and Sherif Sherin (2012). Consumers' awareness of food labeling. African Journal of Agricultural Research, Vol. **7**(28): 4021-4028.

Bazhan Marjan, Mostafa Mirghotbi and Zohreh Amiri (2015). An analysis of

the consumers' reasons for non-use food labels. Journal of Paramedical Sciences, Vol.**6**, No.1: 2-10.

Campos K. E., Doxey J. and Hammond D. (2011). Nutrition labels on pre-packaged foods: a systematic review, Ns Public Health Nutrition.

Charton K. E. Brrewitt P. and Bourne L. T. (2004). Sources and credibility of nutritioninformation among black urban south African women, with a focus on messages related to obesity. Public Health Nutr. **7**, 801-811.

Cowburn G. and Stockley L. (2005). Consumer understanding and use of nutritional labelling. A systematic review. Public Health Nutr. **8**, 21-28.

Darkwa S. (2014). Knowledge of nutrition facts on food labels and their impact on food choices in consumers in Koforidua, Ghana. S. Afr J. Clin. Nutr. Vol.**27** (1): 13- 17.

Food safety and standards regulations (2011). Food safety standards authority of India.

Grunert K. G. and Wills J. M. (2007). A review of European research on consumer response to nutrition information on food labels. Journal of Public Health, **15**, 385-399.

Jain Monika, Payal Jain, Khushboo Gupta and Shweta Sharma (2013). Understanding and use of nutrition information on food labels by consumers. IRC'S International Journal of multidisciplinary Research in Social and Management Sciences, Vol. **1**, Issue 4.

Jones G. and Richardson M. (2007). An objective examination of consumer perception of nutrition information based on healthiness ratings and eye movements. Public Health Nutr. **10**, 238-244.

Jordan Lin C. T., Lee J. Y. and Yen S. T. (2004). Do dietary intakes affect search for nutrient information on food label? Social Science and Medicine, **59**(9), 1955-1967.

Kaur Virender Pal, Dr. Nirmal Kaou and Ms Neha Qumar (2016). Assessment of Consumer awareness about usage of food labels and its impact on food buying behaviour. International Journal of Research-GRANTHAALAYAH, Vol.**4**, Issue7, 10-19.

Kim S., Nagya R. M., Jr and Cappa O. Jr (2000). Food label use, self-selectivity and diet quality. Journal of Consumers Affairs, **35**(2): 346-363.

Koutroulou Anna and Tsourgiannis Lambros (2011). Factors affecting consumers purchasing behaviour towards local foods in Greece. Scientific Bulletin – Economic Sciences, Vol. **10**, Issue 2, 1-14.

Kumar Harsha H.N., Anshu Kumar Jha, Khushboo K. Taneja, Krishan Kabra and Hafeez M. Sadiq (2013). Study on consumer awareness, safety perceptions and practices about food preservatives and flavouring agents used in packed /canned foods from south India. National Journal of Community Medicine, Vol.**4**, No.3: 402-406.

Kumar Sushil and Ali Jabir (2011). Assessing consumer awareness and usage of food labels and influences on food buying behaviour. Proceeding of seminar at 21st annual IFAMA world forum and symposium, Germany.

Latiff Zul Ariff Adbul and Ayob Mohammad Amizi (2015). Consumption awareness of Indian community towards food label in klang, Selangor. International Academic Research Journal of Business and Technology, Vol.**1** (2), 45-50.

Mackison D., Wrieden W. L. and Anderson A. S. (2010). Validity and testing of short questionnaire developed to assess consumers use, understanding and perception of food labels. European Journal of Clinical Nutrition, **64**(2), 210-217.

Madhvapaty Havish and Aparajita Das Gupta (2015). A study of food product labeling for products aimed at children. IOSR Journal of Business and Management, Vol. **17**, Issue 3, 88-96.

Mahdavi Aida malek, Paria Abdolahi and Reza Mahdavi (2012). Knowledge, attitude and practice between medical and non-medical science students about food labeling. Health Promotion Perspectives, Vol.**2**, Issue 2: 173-179.

Majid Hayati Adilin Mohd Abd, Siti Nor Fadillah Ahmad Sheriff, Mohd Aliff Abdul Majid, Nur Fattin Fatnaih Che Aszahar and Nur Syazwani Omar (2015). Nutritional labeling awareness and its effects towards consumer behaviour in purchasing product. J. Appl. Environ. Sci., Vol. **5**(6): 62-68.

Marks L. (1984). What's the in a label? : Consumers, public policy and food labels. Food policy, **9**(3): 252-258.

Maubach N. (2010). The effect of front-of-pack nutrition information and product claims on consumers' product evaluations and choices behavior. doctor of philosophy thesis, Massey university Palmerstone north, new Zealand. PP. l-243.

Neuhouser M. L., Kristal A. R. and Patterson R. E. (199). Use of food nutrition labels is associated with lower fat intake. Journal of the American Dietetic Association, **99**, 45-53.

Oghojafor Ben E. A., Patrick Ladipo K.L., and Kennedy Ogbonna Nwagwu (2012). An empirical determination of consumers reaction to nutritional labeling of pre-packaged food products in Lagos, Nigeria. International Journal of Development and Sustainability. Vol.**1**, No.2, 171-185.

Ollberding N. J., Wolf R. L. and Contento I. (2010). Food label use and its relation to dietary intake among US Adults. J. Am. Diet Assoc.; **110**: 1233-1237.

Osei Mensah J., Lawer D. R., and Aidoo R. (2012). Consumers use and understanding of food label information and effect on their purchasing decision in Ghana. Asian Economic and Social Society. Vol.**2**, Issue 3, PP. 351-365.

Panase V. G. and Sukhatme P. V. (1985). Statistical methods for agricultural works. ICAR publications, New Delhi: 58-60 and 97-110.

Prathiraja P. H. K. and Ariyawardana A. (2003). Impact of nutritional labeling on consumer buying behaviour. Sri Lankan Journal of Agricultural Economics, Vol. **5**, No. 1.

Priyadarshini Vijayeta (2014). Awareness and use of food labeling information's among consumers in Bhubaneswar city. Food Science Research Journal, Vol.**5**, Issue 2.

Rotfeld H. J. and Taylor C. R. (2009). The advertising regulation and self-regulation issues ripped from the headlines with opportunities for disciplined multidisciplinary research Journal of Advertising, Vol. **38** (4), 5-14.

Sandberg Kristoffer Jost and Chrysochou Polymers (2013). Consumer response to food labels in denmark. Aarhus School of Business and Social Sciences, Aarhus University. Dept. of Business Administration.

Sanlier N. and Karakus S. S. (2010). Evaluation of food purchasing behaviour of consumers from supermarkets. British food Journal, **112**, 140-150.

Shekhar Suraj Kushe and P. T. Raveenndran (2013). Does nutritional labelling increase healthy eating fallacy?, an exploration into young Indian's purchase behavior. Management Science Letters, Vol. **3**, 2945-2956.

Shekhar Suraj Kushe and P. T. Raveenndran (2014). An exploration into young Indian's perception on food products nutritional labeling. Management and Research Practice, Vol. **6**, Issue 1, PP. 65-78.

Silva De P. H. G. J. and Sandika A. L. (2011). Quality standard labeling information on meat packs demanded by consumers and relationships with purchasing motives. The Journal of Agricultural Sciences, Vol.**6**, No.2, 85-90.

Singh Menu, Uma Iyer and Suneeta Chandorkar (2013). Nutrition labeling compliance of branded processed packaged foods with Indian food laws (FSSAI, 2011 Regulations) (2013). International Journal of Food and Nutritional Sciences, Vol. **2**, No. 4, 14-19.

Srivastava Nivi and Ghufran Ali (2013). Analysis of nutritional information disclosure on labels of milk based malted health drinks in India. Integral Review – A Journal of Management. Vol.**6**, No.1, 61-69.

Subbarao M. Gavaravarapu, Snehasree Saha, Sudarshan R. Vemula and Vishnu Vardhana Rao Mendu (2016). Knowledge and practices of using food label information among adolescents in Kolkata, India. National Institute Of Nutrition, Vol.**37**, No.2.

Swamy Bala M., Anil Kumar T. and Srinivasa Rao K. (2012). Buying behaviour of consumers towards instant food products. International Journal of Research and Computational Technology, Vol.**2**, Issue.2.

Talagala Ishanka A. and Carushi Arambepola (2016). Use of food labels by adolescents to make healthier choices on snacks, Sri Lanka. Bio. Med. Central Public Health, Vol.**16**:739.

Temple N. J. and Fraser J. (2013). Food labels: a critical assessment. Nutrition (Burbank, Los Angeles County, Calif.), **30**(3), 1-4.

Themba Godfrey and Joyce Tanjo (2013). Consumer awareness and usage of nutrition information in Botswana. Business and Management Horizons, Vol.**1**, No.1, 44-58.

Tinne Wahida Shahan (2011). Factors affecting impulse buying behavior of consumers at Suprstores in Bangladesh. ASA University Bangladesh, Vol.**5**, No.1, 210- 220.

Van der Merwe D., Bosman M., and Ellis S. (2014). Consumers opinions and use of food labels: reults from an urban-rural hybrid area in south African. Food Research International, **63**, 100-107.

Vemula Sudarshan R., Subbarao M. Gavaravarapu, Vishnu Vardhana Rao Mendu, Pultik Mathur and Laxmaiah Avula (2013). Use of food label information by urban consumers in India. Public Health Nutrition, Vol.**17** (9), 2104-2114.

Vijayabaskar M. and Sundaram N. (2012). A study on purchasing attitude towards Ready-to-eat/cook products by health conscious consumers in southern Indiawith respect to trir-I cities. International journal of physical and social sciences, **2**(4), 417-436.

Voordouw J. Cornelisse-Vermaat J. R., Yiakoumaki V., Theodoridis G., Chryssochidis G., and Frewer L. J. (2009). Food allergic consumers preferences for labeling practice. A qualitative study in a real shopping environment. International Journal of Consumer Studies, **33**, 94-102.

Ward Poul R., Loreen Mamerow, Julie Henderson, Anne W Taylor, Samantha B. Meyer and Jonh Coveney (2012). The social determinants of food purchasing practices, who chooses price-before-health, taste-before- price or organic foods in Australia?. Food and Nutrition Sciences, Vol. **3**, 461- 470.

Washi Sidiga (2012). Awareness of food labelling among consumers in groceries in Al- Ain, United Arab Emirates. International journal of marketing studies, Vol.**4**, No.1.

Wojcicki Janet M. and Heyman Melvin B. (2012). Adolescent nutritional awareness and use of food labels: Results from the national nutrition health and examination survey. BMC Pediatrics. 1-8.

Appendix

APPENDIX-I

Interview Schedule to Assess the Consumer Awareness Regarding Food Label

A) General Information

1. Name:

2. Age: Sex:

3. Education:

4. Occupation:

5. Address:

6. Mobile no. :

7. Types of family: Joint / Nuclear / Extended

8. No. of family member:

9. Monthly Income of Family:

   Rs. <50,000/-

   Rs. 50,000 - 1, 00,000/-

   Rs. >1, 00,000/-

B) Buying Behaviour

Q. 1) Who takes the decision on buying food products in your family?

Products	Husband/Wife/ In-laws / other family members
Cereals	
Pulses	
Oils	
Spices	
Ready to use/ eat foods like chips/Biscuits etc.	
Commercial available foods like Jam, Jelly, Papad, sauce, etc.	

Q.2) Specify the factors that you consider while selecting the food products?

Factors	
Quality	
Price	
Discount / free	
Taste	
Safety / Health hazards	
Brand images	
Friends recommendation	

Q.3) State the frequency of buying new and other brands?

Regular / Occasional / Not at all

Q.4) If a particular brand of the food product is not available your reaction to purchase is

Particulars	Yes	No
You search in other shop		
Buy the available brand		
Postpone		

C) CONSUMER AWARENESS

I. Purchasing awareness

Q.5) Do you see the following factors while you purchase the foods?

Factors	Always	Sometimes	Rarely
Comparing prices			
Reading food labels			
Standard marks			
Expiry date			
Check the product & quality			
Ask for receipt			

Q.6) Do you purchase only from particular shop?

Reason for preferring only particular shops.

1. Ease of shopping
2. Easily accessible
3. Habit
4. Good quality
5. Good salesman

Q.7) Frequency of purchase of the following items.

Items	Daily	Monthly	Annually
Food Groceries			
• Cereals			
• Pulses			
• Oils			
• Spices			
• Sugar			
• Jaggery			
Perishable foods			
• Fruits			
• Milk			
• Egg			
• Vegetables			
Commercially available foods			
• Sauces			
• Papad			
• Jam			
• Jelly			
• Vermicelli			

Q.8) Do you check MRP? Yes / No

Q.9) Do you check Date of Manufacturing and Date of Expiry? Yes / No

Q.10) Do you check Standardization of Product like ISI, AGMARK, etc.?
Yes / No

Q.11) Do you check Ingredients used in the product? Yes / No

Q.12) Do you check the weight of the products mentioned on items? Yes / No

Q.13) Do you buy branded food items? Yes / No

II NUTRITON INFORMATION AWARENESS

Q.14) What is your main source of nutrition information?

1. T.V.
2. Radio
3. Newspaper
4. Magazine
5. Internet
6. Sales Representatives
7. Family / Friends

Q.15) What information you most likely to use when you read /look at nutrition label?

1. Total calories / Energy
2. Carbohydrates
3. Protein
4. Fat
5. Sugar
6. Vitamins & Minerals
7. Cholesterol

8. Fiber

9. Sodium

Q.16) Under what circumstances do you usually use the nutrition information provided on pre-packaged foods?

1. All circumstances
2. When buying a new product
3. When buying a new version of existing product

III. LABEL AWARENESS

Q.17) What do you think is the meaning of the food label from following?

1. The product is suitable for people with health issues (Diabetes mellitus,
   Cholesterol, etc.?)
2. The product is intended to improve health
3. The product is particularly good for people with heart problems
4. The product is recommended as part of a balanced diet
5. The guarantee that the product is not harmful to health
6. A guarantee of quality
7. Suitable for people with specific allergies
8. Purely for advertising purposes