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Knowledge, Attitude and Practice (KAP) Study on Food Label Information available on Packed Food Items

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ABSTRACT

Many of the pre-packed food products, imported and locally manufactured, are now provided with nutrition information on their food labels. With the rising interrelationship between nutrition, health and life style among the population, this study was aimed to assess the knowledge, attitude and practices related to food label information available on packed food items. In this study, the association between knowledge, attitude and practice related to food label information among 100 respondents was studied. Self-structured study questionnaire was used. Nutrition education was also imparted through video and pamphlet. Feedback was taken with the help of google form from 100 random respondents. The overall knowledge, attitude and practice did not show significant correlation but association between knowledge and practice showed significant moderate positive correlation, also the association between practice and attitude showed statistically moderate positive correlation. The questionnaire was set to assess the purchase behavior of some common food items like beverages, staples, confectionary foods, spices, bakery, sauces and processed food items. This study also reveals that out of total respondents, majority of them 73 per cent preferred reading food labels because they were concerned about taste and price. The study revealed that male considered taste (97.67% male) the most important factor while female considered expiry date (92.98% female) the most important factor while buying packaged food items.

Keyword: Food labelling, Knowledge, Attitude, Practice, Association

INTRODUCTION

The phrase “You are what you eat” is exactly true. Food carries a variety of nutrients which are important for our bodies to function effectively. Getting consumers to eat healthily is no trivial task. One of the important tools in trying to bring about healthier eating figures has been food labeling. Consumers are highly demanding that they need information to make better choices in the food market. Public health policies aimed to reduce diet-related non-communicable diseases have started focusing more on displaying the nutritional value of food products through the use of “front of pack” nutritional-labeling schemes to increase the visibility of the nutritional quality of the food product so that it helps consumers interpret the healthfulness of food products (*Kleef, and Dagevos,* 2015). Food labels provide information on the nutritional content of packaged foods to consumers, which may influence consumption of nutrients such as energy, fat, saturated fat, trans-fats, sodium and added sugars (*Anastasiou, 2019*).To safeguard the

interest of the consumer, *The Food Safety and Standards (Packaging and Labelling) Regulations, 2011,* provides that every packaged food article has to be labeled and it provide the following information:

- The name of the food
- List of ingredients
- Nutritional information
- Declaration regarding vegetarian or non-vegetarian
- Declaration regarding food additives
- Name and complete address of the manufacturer or packer
- Net quantity
- Code No. / Lot No. / Batch No
- Date of manufacturing or packaging
- Best before and use by date
- Country of origin for imported food and
- Instructions for use

Grunert (2010) conducted a research study on nutrition knowledge, use and understanding of nutrition information on food labels among consumers in the UK and concluded that 27% of shoppers looked for nutrition information on food labels. *Bhilwar (2018)* conducted a study on the use of information on prepacked foods among residents of an urban village in South Delhi in India and concluded that the intention of promoting healthy food choices using food labels is met inadequately. Awareness generation activities were required to improve this behaviour. *Saha (2013)* conducted a study on Knowledge and Practices of using food label information among adolescents attending schools in Kolkata and concluded that there is a need to provide education on different aspects of label information to promote food label use. The effectiveness of alternative methods of nutrition information display should also be investigated. Keeping the above factors in mind, it was decided to a KAP study on food label information available on packed food items to study the knowledge, attitude and practices of the selected male and female consumers about food label information. and find out the association between knowledge, attitude and practice of the consumers about food label information.

MATERIALS AND METHODS

This cross-sectional study was conducted in the District Agra of Uttar Pradesh. The locale of this study was conveniently selected for the present study investigation. The selection of sample was done by random sampling (Uncontrolled Instrument Distribution Technique) with the help of offline survey questionnaire. The sample included 100 adults above 20 years upto 60 years who purchase packed food items.

Data was collected by using self-constructed proforma. The proforma was validated by subject experts. Data collection work was carried out by face-to-face interaction and the respondents, were asked to fill the proforma themselves. It took about 45 days for data collection and managing data entry for statistical analysis.

The proforma basically consists of five sections as section a, b, c, d and e. The sections were divided as demographic profile, food items purchased having food labels, knowledge-based questions, attitude-based questions and practice-based questions. First part included general information of the consumers, i.e., name, address, age, gender, education, occupation, religion, family type, family income per month, family members, vegetarian / non-vegetarian. The second part included the information regarding the food items used/purchased by the consumers having food label information, *i.e.*, beverages, confectionary food items, staple food items, spices items, bakery items, milk and milk products, fats and oil items, meat and egg

food items, processed foods, types of sauces and other food items. Third section included knowledge-based questions to assess the knowledge of consumers. Each question had two options, Yes or No, for each correct answer 1 mark was allotted. The fourth part included attitude-based questions to assess the attitude of consumers. Each question had four options: Most Important, Important, Least Important and not nmportant, fifth part included practice-based questions to assess the practice of the consumers. Each question had four options often, sometimes, rarely and never.

RESULTS AND DISCUSSIONS

A total of 100 respondents participated in the study. Out of which, 43 per cent males and females 57 per cent were in the age group of 20-60 years. Majority of the respondents were in the age group of 20-29 years. Almost all the respondents were literate and the majority (43%) of them were post-graduate. About 16% were students and 44 per cent were employed. Over 20 per cent of the adults and elderly were housewives and about 20 per cent were in business. Majority of the respondents (70%) belonged to nuclear families and 30 per cent belonged to joint families, out of which 90 per cent were Hindus and 10 per cent were Muslims.

A study was conducted on consumer awareness and status of food labelling in selected supermarkets in Puducherry *(Jain S.,et al., 2018)* showed that out of a total of 153 individuals, majority of them were graduate (80.4%) and none of them were illiterate.

Food items used by the consumers with food label information:

Eighty eight percent of respondents preferred to buy packed juices, followed by soft drink and water bottle with 75 per cent and 74 per cent respectively. In the purchase behavior of confectionary items, 73 per cent of the respondents preferred to buy packed cakes and chocolates, followed by 71 per cent who preferred to purchase packed cookies. In the purchase behavior of staple foods, purchase of packed rice and packed wheat flour were almost same about 67 per cent and 66 per cent respectively (Figure 1). In the purchase behavior of packed spices, 91 per cent purchased packed salt, followed by 71 per cent and 55% who preferred to purchase packed turmeric and packed garam masala (Figure 2). 85 per cent purchased white bread and 62 per cent purchased brown bread in purchase behavior of bakery products. In the purchase behavior of milk and milk products, purchase of milkmaid and cheese was highest with 62 per cent and 57 per cent respectively. In the purchase behavior of fats and oil, majority of the respondents preferred to buy butter (81%), followed by ghee and mustard oil with 72 per cent each (Figure 3). Purchase of Kurkure in processed food was highest among all with 97 per cent and purchase of tomato ketchup with 91 per cent was highest in the category of sauces. A cross-sectional study conducted in Delhi, across the generations showed that the purchase of ready-to-eat packaged food was influenced by children in the family (Mediratta, and Mathur, 2023).

Knowledge of the consumers about food label information:

Among all the respondents, 83 per cent of the respondents considered reading food label information while 17 per cent did not read food label information, followed by 23 per cent of the consumers who always bought prepackaged food and 78 per cent did not buy prepackaged food. Eighty nine per cent respondents believed that food label

Figure 1- Distribution of the Respondents according to purchase behaviour of Staple with food label information.

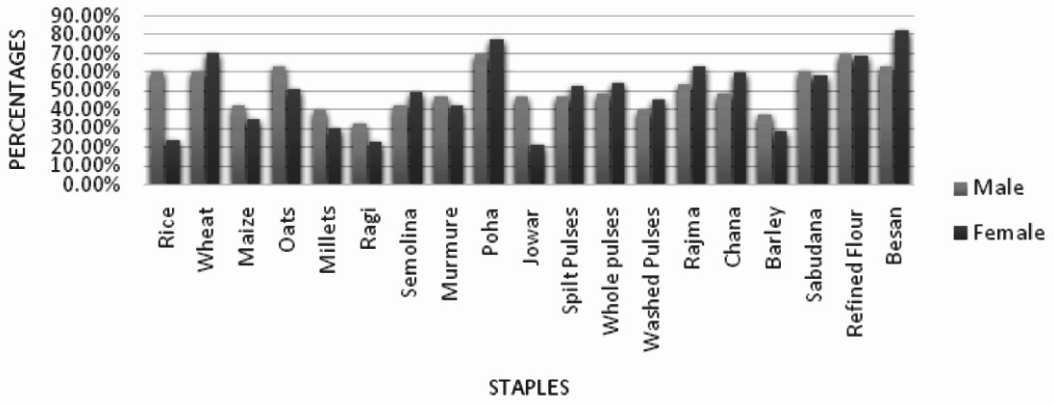


Figure 2- Distribution of the Respondents according to purachse behaviour of Spices with food label information

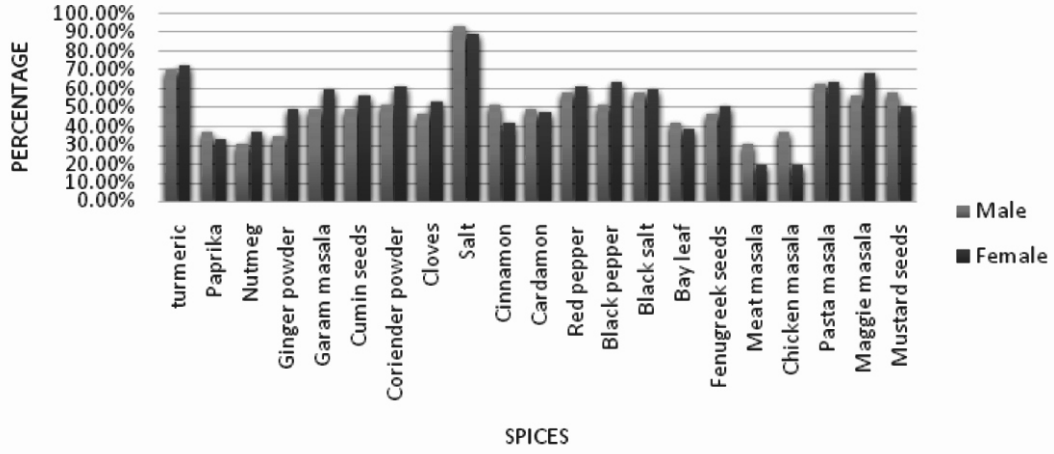
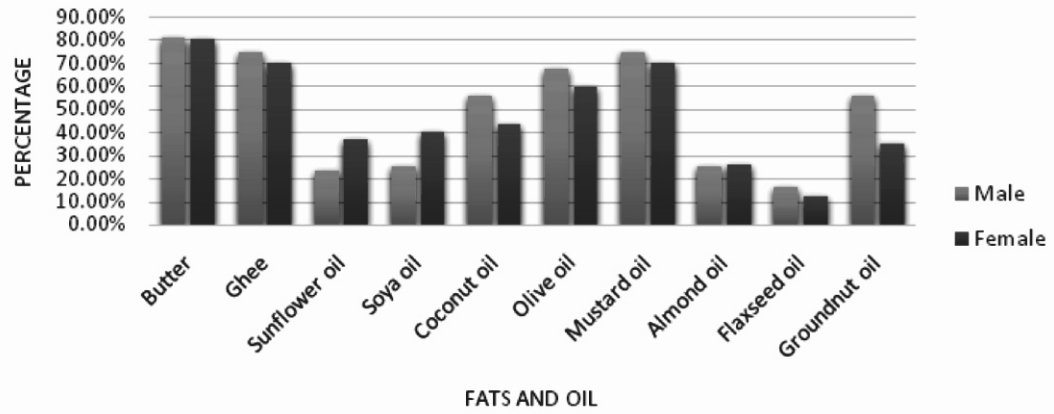


Figure 3- Distribution of the Respondents according to purchase behaviour of Fats and Oil with food label information.



influences nutritional composition, followed by 100 per cent respondents who believed that food labels are useful tool for consumers, only 13 per cent consumers thought that nutrient information is not accurate on food labels, followed by 19 per cent consumers who did not understand food label easily. It was also observed that there is no statistically significant difference between the level of knowledge among males and females on food labelling. Therefore, our hypothesis (H1) is rejected. It means that the level of knowledge among both the group was statistically insignificant i.e.,both group were having equal knowledge on food labelling ($p<0.05$).

A study was conducted on knowledge and practices of using food label information among adolescents attending schools in Kolkata, India by Saha (2013) showed that out of 316 respondents, about 66% believed that nutrition information on labels was too complex to understand, about a half of the adolescents considered labels useful for making food choices, and one third of them thought that the labels were sometimes useful and only 6 per cent thought that labels was not useful for choosing foods.

Attitude of the consumers about food label information

Male considered taste (97.67%) as the most important factor while female considered expiry date (92.98%) as the most important factor. Method of preparation was considered as important factor by only 44.18 per cent male while only 50.87 per cent female considered method of preparation as important. For male, price (9.34%) was least important. Female considered packaging and method of preparation (8.77 female each) as least Important, followed by male who considered method of preparation (11.62% male) as Not Important while female also considered method of preparation (5.26% female) as Not Important (Table 1). It was also observed that there is no statistically significant difference between the level of attitude among male and female on food labelling.

A study was conducted on use of information on prepacked foods among residents of an urban village of South Delhi, India (*Bhilwar, 2018)* showed that a majority (222/368; 60%) of participants brought prepacked food because they liked taste and also because they were easily available (153/368; 41.7%). In a study conducted by *Mediratta and Mathur (2023)* in Delhi was observed that a higher percentage of men (35%) reported that they were influenced by food brands (P = 0.01) as compared with (26%) women and a higher percentage of women reported that they were influenced by recommendations by friends or family (10% compared with 8%, P = 0.02) and advertisements (6% compared with 2%, P = 0.004) as compared with men.

Practice followed by the consumers about food label information:

Male often practised reading production and expiry date (88.37%), female often practised the same (96.49%). Male sometimes practised reading storage and direction of use (58.13%) while females also sometimes practised reading storage conditions (49.12%), while males rarely practised direction of use (9.30%) while female rarely practised reading about allergen information (26.31%). It was also observed that there is no statistically significant difference between the practices among males and females on food labelling. Therefore, our hypothesis (H3) was rejected. It means that the level of practice among both the group was

Table 1: Attitude of the consumers about food label information

Frequency	Most Important		Important		Least Important		Not Important		Total		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Sum
	%	%	%	%	%	%	%	%	f	f	f
Price	83.72	73.68	6.97	19.29	9.30	7.01	0	0	43	57	100
Taste	97.67	91.22	2.32	8.77	0	0	0	0	43	57	100
Nutrient content	81.39	78.94	16.27	19.29	2.32	1.75	0	0	43	57	100
Ingredient	81.39	64.91	18.60	28.07	0	7.01	0	0%	43	57	100
Packaging	62.79	57.89	32.55	31.57	2.32	8.77	2.32	1.75	43	57	100
Expiry Date	90.69	92.98	9.30	7.01	0	0	0	0	43	57	100
Method of preparation	37.20	35.08	44.18	50.87	6.97	8.77	11.62	5.26	43	57	100

statistically insignificant i.e., both groups were following equal practices related to food labelling ($p<0.05$) (Table 2).

Table 2: Practices followed by the consumers about food label information (n=100)

Frequency	Often		Sometimes		Rarely		Never		Total		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Sum
	f	f	f	f	f	f	f	f	f	f	f
List of ingredients	37	49	5	6	1	2	0	0	43	57	100
Serving size	23	33	17	19	3	2	0	3	43	57	100
Sugar	25	27	14	24	3	4	1	2	43	57	100
Health claims	25	32	11	19	6	6	1	0	43	57	100
Reading Production and Expiry Date	38	55	4	2	1	0	0	0	43	57	100
Looking at Price	35	48	4	5	1	1	3	3	43	57	100
Looking at Brand Name	34	40	4	16	3	0	2	1	43	57	100
Reading Storage Conditions	13	21	25	28	2	8	3	0	43	57	100
Direction of Use	11	19	25	26	4	10	3	2	43	57	100
Reading Alarms	12	21	21	22	4	12	6	2	43	57	100
Allergen information	14	23	17	15	3	15	9	4	43	57	100
Place of manufacturing/ import	6	17	22	20	3	9	13	10	43	57	100

Association between knowledge, attitude and practice of consumers:

There is no statistically significant correlation between knowledge and attitude. There is a statistically significant moderate positive correlation between knowledge and practice. There is a statistically significant moderate positive correlation between attitude and practice.

Table 3: Association of variables of consumers about food label information

Variable	Mean± S.D	r-Value	p-Value	Remark
Knowledge Attitude	4.62 ±0.956 18.58±2.150	0.150862	0.134232	Not Significant at <0.05
Knowledge Practice	4.62±0.956 28.27±5.373	0.463363	<0.00001	Significant at <0.05
Attitude Practice	18.58±2.150 28.27±5.373	0.277233	0.005271	Significant at <0.05

CONCLUSION

The food and nutrition label provides the nutrition information that helps consumers to make judicious food choices and they can compare different foods easily with food labels with respect to price, nutrition content, ingredients, manufacturing and expiry date.

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