R E S E A R C H A R T I C L E

Impact of food selection and usage pattern on consumers' attitude towards food label information

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A B S T R A C T

As the world is shrinking, the markets are integrating and the customer base is expanding. Consumers have a variety of packaged foods to choose from. They have become conscious about what they eat and want to make an informed food choice. Though most of the consumers are aware of the importance of food labels, they are unable to comprehend entire information provided on the labels. This makes it very important to study the consumers' attitude towards food label information. This paper focuses on measurement of consumers' attitude towards food labels in terms usage pattern of food label information and food selection. A cross sectional exit survey was conducted for a sample of 230 respondents from 5 major cities of Rajasthan, India using ratio based stratified random sampling. ANOVA was used to measure variation in consumers' attitude demographically and multiple regression was used to find the impact of usage pattern and food selection on consumers' attitude. Most of the consumers have a positive attitude towards food label information and there is a significant variation in consumers' attitude with respect to highest qualification and personal income. Usage pattern and food selection have a positive and significant impact on consumers' attitude.

Keywords: Consumers' attitude, food label information, food selection, usage pattern.

INTRODUCTION

In the last fifteen years, Food industry has seen a big surge in consumer demand for variety of products. Super market shelves are flooded with wide variety of packaged food products. Food is not a "Low Involvement" product anymore and Food Selection has become a complex task (Grunert, 2005). This makes it very difficult to follow consumer behavioral patterns. Flavor, Aroma and Appearance of Food products are complemented with Health, Safety and Quality parameters. With the increase in per capita income, technological developments and increase in food scares globally, consumer wants to be well informed about all the aspects of the food products that they are willing to purchase and consume (Nasreddine et al., 2014). In present times, when the world is badly impacted by COVID-19, information like country of origin, detailed information on manufacturing unit, processing techniques, human intervention, quality certifications, nutritional information have become all the more critical. Consumer also seeks detailed information about different brands in case of exploring new products. Sometimes, he seeks information to reinforce his previously learnt notions about some food products. It has become very much essential for the manufacturers to provide proper Food label information to the consumers. The most efficient and cost effective way to

communicate such information to the consumers are the Food Labels (Campos et al., 2011). They act as a very powerful and reliable source of Nutrition information (Vemula et al., 2013).

The selection of food products depends a lot on the use of food label information by the consumers(Joel et al., 2016). Consumers look at the food labels, pay attention towards specific information, comprehend the information and store it in their brain as long term memory and later use it to make purchase decisions (Miller and Cassady, 2015). The use of Food label information can be measured both objectively and subjectively in terms of researchers own observation or self-reported frequency of use of Food label information(Miller and Cassady, 2015). Frequency of use of Food label information may include things like what parts of the food label information are mostly referred to by the consumer, how often, how much importance do they give to different specifications mentioned on the food labels. Earlier, Food label information displayed by manufacturers in India was very vague and haphazard (Vemula et al., 2013). But, with the introduction of FSSAI, 2011 and FSSR, 2011, the information provided on the food packages has become more standardized. Though, a lot of information is displayed by the manufacturer, it has been observed in studies conducted in developed countries, consumer cannot comprehend all the information and rather screens the information and pays attention to some specific details only (Cowburn and Stockley, 2014). Which information will attract the consumers the most and which detail can be missed out by him broadly depends upon the consumers' attitude towards the food labels. Consumers' attitude can be both positive and negative. But, as consumer attitude is a subjective aspect, it cannot be measured directly. Though, Indian Packaged Food market is expanding at very fast pace, not many efforts have been made to understand consumers' attitude. Most of the studies either concentrate on usage pattern of the consumers in an Indian market set up or general perception of consumers towards packaged food products. There is a direct need to study the impact of Consumer attitude on usage of food label information. This paper focuses on measurement of consumers' attitude towards food labels in terms of the usage pattern of food label information and food selection criteria used by the consumers.

MATERIALS AND METHODS

The present study was conducted in five major cities of Rajasthan viz Jaipur, Jodhpur, Udaipur, Kota and Ajmer focusing on the urban consumers of packaged food products. The reason behind taking urban consumers was that it was presumed that urban consumers have better access to packaged food products and have better understanding of food label information than the rural consumers.

Sample design

For the purpose of the study, a cross-sectional survey was conducted from January to June 2020 using ratio based stratified sampling technique. A sample of 230 consumers was taken for study. The participants in the study belonged to different age groups starting from 15 years of age and many respondents were above 60 years as well. The participants belonged to different income groups and had varied level of qualification as well. Data was collected from both males and females.

Data collection

For the purpose of data collection, a pre tested questionnaire was administered to the respondents in the form of an exit survey outside randomly selected supermarkets.

The first part of the questionnaire elucidated information on demographic factors like gender, age, qualification, family size and number of children. The second part of the questionnaire focused on information from the respondents regarding the search, use, evaluation, decision and their general attitude towards the food label information. All the questions in the second part were designed on 5 point likert scale. A score above 3 was considered as a measure of positive indicator for food label use, selection and attitude towards food label information.

Statistical analysis

The data was first filtered and coded using MS Excel 2007. Later the data was analyzed using IBM SPSS software version 22. Before statistically examining the data the reliability of the data was checked using Cronbach Alpha. Then a descriptive analysis like frequency percentage mean and standard deviation was conducted for the data and cross tabulation of data was done. ANOVA was applied to check the variation in the consumers' use of food label information and their attitude towards food labels on the basis of various demographic factors. Finally, linear regression technique was used to check the impact of use of food label information and its use by the consumers on their attitude towards food labels. A P-value less than 0.05 was considered significant.

RESULTS AND DISCUSSION

Reliability

As evident from Table 1, all the parameters of study viz. Use, Search, Evaluation, Decision and Consumers' attitude towards food labels were found to have a Cronbach's alpha value above 0.7 and hence are found to be reliable in terms of their results.

Table 1 : Reliability statistics using Cronbach's Alpha

Parameter	Cronbach's Alpha
Food Selection Criteria	0.814
Use of Food Label Information	0.781
Search for Food Labels	0.721
Purchase Decision based on Food Label Information	0.838
Consumers' Attitude towards Food Label Information	0.785

Demographics

As enumerated in Table 2, out of a total of 230 shoppers, the highest proportion of the people belonged to the age group 25 – 45 years (55.7%) followed by 15 – 25 years (27.8%) and 45 – 60 years (11.3%). The least proportion was that of the people belonging to the age group above 60 years of age (5.2%). 55% of the respondents of the study were Males and 45% were females. More than half of the population had Post – Graduation or above as their highest qualification (52%). While 35% of the population had a personal income below 2 Lacs, 16% earn between 2-5 lacs and around 49% of the shoppers had a personal income 5 lacs and above. Around 45% people did not have any children in the family, 9% had infants (below 2 years), 18% had preschoolers between the age group 2-5 years and 28% shoppers had children between the age group 5 – 18 years.

Variation in Usage Pattern and Food Selection Criteria on the basis of demographic variables

From Table 3, it is evident that as the P value is more than 0.05 for all the parameters with respect to age, gender and age group of children in the family which indicates that there is no significant variation in the usage pattern, food selection and Consumers' attitude towards food label information with respect to these demographics. A significant variation is found in Food Selection (Sig. 0.044), Use of Food Labels (Sig. 0.015) and Search for Food Labels (0.019) with respect to highest qualification, though Buying decision and Consumers' attitude are not significantly affected by highest qualification (Sig.> 0.05). Food Selection (Sig.

0.002) and Consumer Attitude (Sig. 0.003) also vary significantly with respect to personal income of the respondents, though, it does not have any impact on other parameters.

Table 2: Frequency Distribution of Demographic Variables

Demographics	Frequency	Percent
Age		
15- 25 years	64	27.8
25 – 45 years	128	55.7
45 – 60 years	26	11.3
60 years and above	12	5.2
Total	230	100.0
Gender		
Male	127	55.2
Female	103	44.8
Total	230	100.0
Highest Qualification		
Higher Secondary	21	9.1
Graduation	89	38.7
Post-graduation **and** above	120	52.2
Total	230	100.0
Personal Income (per annum)		
Below 2 Lacs	80	34.8
2-5 Lacs	38	64.5
5-10 Lacs	48	20.9
Above 10 Lacs	64	27.8
Total	230	100.0
Age Group of Children in the family		
0-2 years	21	9.1
2-5 years	41	17.8
5-10 years	21	9.1
10-15 years	15	6.5
15-18 years	29	12.6
None	103	44.8
Total	230	100.0

Table 3: ANOVA Table for Variation in Usage Pattern and Food Selection Criteria on the basis of demographic variables

Parameter	F Value	Sig.
Age		
Food Selection	1.268	0.286
Use of Food Label	0.691	0.559
Search for Food Labels	1.067	0.364
Buying Decision based on Food Label Information	0.687	0.561
Consumers' Attitude towards Food Label Information	0.932	0.426
Gender		
Food Selection	0.081	0.776
Use of Food Label	0.330	0.566
Search for Food Labels	0.001	0.972
Buying Decision based on Food Label Information	0.015	0.902
Consumers' Attitude towards Food Label Information	0.638	0.425
Highest Qualification		
Food Selection	4.100	0.044*
Use of Food Label	5.961	0.015*
Search for Food Labels	5.580	0.019*
Buying Decision based on Food Label Information	1.521	0.219
Consumers' Attitude towards Food Label Information	2.161	0.143
Personal Income (per annum)		
Food Selection	5.197	0.002*
Use of Food Label	2.530	0.058
Search for Food Labels	1.758	0.156
Buying Decision based on Food Label Information	0.776	0.508
Consumers' Attitude towards Food Label Information	4.851	0.003*
Age Group of Children in the family		
Food Selection	0.066	0.978
Use of Food Label	2.157	0.094
Search for Food Labels	0.961	0.412
Buying Decision based on Food Label Information	0.415	0.743
Consumers' Attitude towards Food Label Information	1.071	0.362

Impact of Usage Pattern and Food Selection Criteria on Consumers' Attitude towards Food Label Information

In order to study the impact of Usage pattern and food selection on Consumers' attitude towards Food label information, multiple regression was used. R square value of the model (0.876) indicated that the independent parameters of study are able to explain 87.6% of the dependent variable i.e. consumers' attitude. F value of ANOVA table was also found to be significant (0.000) indicating model fit. Except for Buying decision, which has a p value more than 0.05, all other parameters viz. Food selection, Use of Food labels and search for Food labels are found to be significant with p values 0.04, 0.056 and 0.034 respectively. On the basis of the regression table, following regression equation can be formulated to determine consumers' attitude towards Food Label Information:

$$Attitude = 1.039 \ (Constant) + 0.214(Selection) + 0.265(Use) + 0.278(Search) + 0.076(Decision)$$

Study limitations

The study was conducted in only the urban areas of 5 districts of Rajasthan wih a sample size of 230 respondents. The study can be replicated on a larger scale with a larger sample size to improve the reliability of the results. Also, while this study used quantitative methods to study consumer attitude, it can be better studied using Mixed methods, i.e. a combination of both quantitative and qualitative study.

CONCLUSION

The above study aimed at determining the consumers' attitude towards food label information. This paper focused on measurement of consumers' attitude towards food labels in terms of the usage pattern of food label information and food selection. From previous studies, it has been concluded that consumer's education acts as an internal influence in his reading and understanding of food labels(Macanda, 2005). The same pattern has been observed here. Level of education affects the search, use and selection of food products based on Food Label Information. Personal Income of the respondents also affects Food selection criteria and attitude towards food labels. On an average, most of the respondents have a positive attitude towards food labels and have food label information. It has been observed in many studies in the past all over the world, that though, majority of the consumers are aware of the importance of food labels, not many of them are able to comprehend all of the information provided on the labels. They are not very much comfortable with the technical terms and numerical values mentioned on the food labels(Vijaykumar et al., 2013) They read some parts of the food label information mostly to check brand name, shelf life, nutritional information, ingredients and quality labels (Ali et al., 2010) But, it has been observed that not all consumers have complete confidence in the claims made in food label information. Also, it has been observed that they look for different information and make use of this information in selection of food products and making buying decisions as well. From the study, it is evident that Usage pattern and Food Selection criteria based on Food Label information are responsible for more than 85% of consumer's attitude towards food labels.

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