**Impact of Demographic Profile on KAP of Food Labels and Food Choice among Women consumers in Mysore Urban**

***Abstract:*** *Food labels are an excellent avenue of communication. The modern package has assumed the responsibility of communicating relevant information that consumers need to know about the product. The objectives of this study was to understand the knowledge, attitude and practices of consumers with regard to food labels and impact of Demographic variables on Practice level about Food labels among women consumer in Mysuru urban. Study was considered as a suitable technique to select the women consumers age between 25- 45 years from four residential areas of Mysore Urban on arbitrary basis. 50 households were included in each area randomly and those who co-operated to participate in the study. 33 percent of the respondents were graduates and 63.5 percent were housewives. Regarding the food pattern there was a higher percentage of respondents as non-vegetarian (63.5%) than the vegetarians. 70-74 percent of the respondents believed that the label information ascertained the safety of the food for used. Respondents knowledge score positively correlated with attitude score towards food labels. The results of the present study highlight the needs to improve food labeling, provide education to consumers to raise their awareness on importance of reading and use of food labeling information to make an informed choice of the food.*

***Key Words****: Food label, Knowledge, Attitude, Practice, Nutrition Labelling*

**Introduction**

Food is provided in attractive wrappers along with eye catching labels. Therefore the primary functions of label is to attract the customer, convey the message and inform about the product in a short time hence label design and the information has assumed importance. It is also a legal obligation to any company to merchandise the market (1).

Food labels are an excellent avenue of communication. The modern package has assumed the responsibility of communicating relevant information that consumers need to know about the product. This is conducted through providing labels on the package (2).

Label is defined as “any written, printed or graphic matter about the article or the contains of a package, provided on paper, wrapper or any such means” label information is provided in two key plans i.e., the “Principles Display Panel [PDP] and information panel [I.P]. Further the labels which are used on food articles that are pre-packed for marking purposes are referred as “Food Labels”. [3, 4]

Food labels tell us a lot about food. Not only do they show the name or description of the food, they also indicate the date by which the food should be eaten and the ingredients it contains. Many food labels also carry nutritional information of the food, certain group of food such as baby food or those used for therapeutic purpose often list the amount of energy and nutrients in the products [5, 6].

Thus label is an important interface between the manufacturer and the consumer. The role of nutritional labelling is important in the context of emergence of cheaper imitation foods and product innovations. The food nutrition label provides the nutrition information that helps consumers on food choices and gives us information so that customer can choose between foods. Awareness and knowledge together with correct delivery of nutritional facts are interrelated which can form the consumer‟s choice of food. Consumer’s expectation comes from present-day influences. These can range from newspapers, television and radio to advertising pressures and the demands of consumer activities. The media have a powerful influence on the consumer and play a role in presenting the issues (7).

A cross-sectional study of undergraduate students in the Kuala Selangor district of Malaysia conducted in 2011, reported that the practices by reading the nutrition information were significantly associated with the use of food label. The important aspect during buying food product was expiry date (98.5%), taste (95.7%), price (92.4%) and nutrient content (90.5%) were significantly associated with the use of food label. Therefore, this study aims at highlighting the existing factors like socio-demographic, knowledge, attitude and preference which affect the usage of food labels among Indian consumers with the following objectives (8).

**Objectives:** The study was under taken

* To understand the knowledge, attitude and particle of consumers with regard to food labels
* To study the association between Demographic variables and Practice level on Food labels and food choice.

**Methodology:**

Food purchase is obligatory and is a common human behavior; hence population study was considered as a suitable technique to select the consumers from four residential areas of Mysore Urban on arbitrary basis. 50 households were included in each area randomly and those who co-operated to participate in the study.

Housewives of the selected family between the age group of 25-45 years were explained about the purpose of study and were interviewed to elicit required information. The data so obtained was tabulated and suitable comparisons were made to conclude meaningfully, the consumer behaviour about food labels, using suitable computer package.

**Result and Discussion:**

Consumer behaviour has become important in present marketing system. The decision to purchase a food is a complex process since a wide choice has been provided to the consumers for selection. Food labels therefore performed the task of communicating to the consumer. Awareness about the labels among the consumer is essential to make best use of the selection. It is a legal obligation to provide a standard format of information on the labels of every packaged food marketed. It is worked to investigate the consumer regarding food labels. The present study was an attempt to assess the Knowledge, Attitude and Practice i.e. KAP of the population regarding Food Labels. Food labelling provides a potentially direct and cost-effective vehicle for assisting consumers to identify healthy food choices. Nutrition labels help people identify what type of foods they are purchasing. 200 subjects were randomly selected from four residential areas of Mysuru Urban, Karnataka and then the results were analyzed.

**General Profile of the Respondent and Family Details:**

The age of the respondent, family income, family size and food pattern followed by the families among the respondent is present in Table – 1.

**Table 1: The Demographics of Respondents (n = 200)**

|  |  |  |
| --- | --- | --- |
| **Variables** | **Frequency** | **Percentage** |
| **Age in years** |
| 22-35 | 120 | 60.0 |
| 36-45 | 80 | 40.0 |
| **Education of Respondent** |
| Can read and write | 20 | 10.0 |
| SSLC | 47 | 23.5 |
| PUC | 26 | 13.0 |
| Graduate | 66 | 33.0 |
| Post Graduate | 16 | 8.0 |
| Professional | 25 | 12.5 |
| **Occupation** |
| Housewife | 127 | 63.5 |
| Business/ Service | 73 | 36.5 |
| **Family size** |
| 3- 4  | 92 | 46.0 |
| 5 – 7 | 93 | 46.5 |
|  8+ | 15 | 7.5 |
| **Food Pattern** |
| Vegetarian | 73 | 36.5 |
| Non- vegetarian | 127 | 63.5 |
| **Monthly income** |
| <15000  | 111 | 55.5 |
| 15,001 – 30,000 | 64 | 32.0 |
| > 30,001 | 25 | 12.5 |

A perusal of table – 1 also suggests the income distribution of the respondents. All the respondents had education with a minimum of10 percent just to read and write as this is very important aspects for KAP regarding food labeling. 63.5 percent of the respondents were house wives, and around 46 percent of them had a family size between 3-7 members which again can influence the consumer’s purchasing attitude. Another important factor that can interfere with the selection of food like branded foods with labels if the family income. Family income Majority of the respondents (55.5%) from all the selected areas belonged to the income between <15000. 32 and 12.5 percent respectively were from 15,001 – 30,000 & > 30,001 income. Regarding the food pattern there was a higher percentage of respondents as non-vegetarian (63.5%) than the vegetarians.

The practice of purchasing food by the respondent from different residential areas was surprisingly noteworthy as majority of the respondent preferred to purchase packed foods the exception in such behaviour was exhibited for butter and milk which were purchased loose by local venders. Foods which were purchased loose by majority of respondent were Bakery item, Cereal flours and whole spices.

The knowledge about labels and the practice of reading labels was studied and the results are present in fig-1. It is encouraging to note that the entire respondent practiced to read the label information. The type of information from the label which was known to the respondent is also presented in fig-1.

# Fig – 1: Food Label Reading Practice and Awareness of Label Information among the Respondent

The brand name and price of the product was known to all the respondents. Manufacturing date, expiry date, net weight, brand name, prize, ingredients used and nutrition profile were read by a higher proportion of the respondents (11-16%). A study reported similar observation as the subjects read the food label and knew about that food label consists of nutritional information, expiry/ manufacturing date or any logo, net weight, food ingredients added on a food item. (9)

**Table – 2: Opinion of the Respondent about importance of Label Information**

|  |
| --- |
| **Opinion about usefulness** |
| **To know about the quality of packed products** | **To be certain that food is safe to use** | **To use of food before spoiled/ due date** | **To know the nutrition quality of product** | **Can easily approach consumer forum in case of product default**  |
| Yes | No | Yes | No | Yes | No | Yes | No | Yes | No |
| 50(100.0) | - | 35(70.0) | 15(30.0) | 42(84.0) | 8(16.0) | 49(98.0) | 1(2.0) | 24(48.0) | 26(52.0) |
| 50(100.0) | - | 36(72.0) | 14(28.0) | 44(88.0) | 6(12.0) | 37(74.0) | 13(26.0) | 20(40.0) | 30(60.0) |
| 50(100.0) | - | 37(74.0) | 13(26.0) | 44(88.0) | 6(12.0) | 49(98.0) | 1(2.0) | 35(70.0) | 15(30.0) |
| 50(100.0) | - | 36(72.0) | 14(28.0) | 47(94.0) | 3(6.0) | 48(96.0) | 2(4.0) | 21(42.0) | 29(58.0) |
| 200(100.00) | - | 144(72.0) | 56(28.0) | 177(88.5) | 23(11.5) | 183(91.5) | 17(8.5) | 100(50.0) | 100(50.0) |

Although manufacturers provide nutrition facts on products, it is worth deliberating consumers’ knowledge of this information, and their willingness to read, understand and use the information as a guide when making decisions about what food to buy. The importance of label information according to the respondent is given in table – 2. It can be perused that all the respondents included for the study opined that label information help to known about the quality of packed product. A majority of respondent believed that the label information ascertained the safety of the food for used (70-74%). It was encouraging to note that there was consensus that shelf life of the food and nutritional quality of the product can be known from the labels. Similar observation was made by a researcher who stated that the consumers were 80% responded “yes”. When asked if they had read the nutrition information on the labels before placing food products into the baskets prior to purchasing. However the awareness about the legal approach to get justice in case of cheating or obtaining a default product was less. (21)

**Factors Influencing on Purchasing Behaviour:**

Food and Nutrition labels are the labels present on food packages to help the consumers to compare the products, inform them about the nutrients and guide them to make healthy choices. The nutritional labels act as a reliable guide that educates the consumers about the nutritional value of the packed foods. Consumers must also give importance to the nutrition part on the food label for a healthy lifestyle (17).

Perusal of table provides the association between demographic variables and practice level on Food labels

**Table-3: Association between Demographic variables and Practice level on Food labels**

n=200

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Demographic Variables | Category | Sample  | Practice Level  | χ 2 Value | P Value |
| Low | Moderate |
| N | % | N | % |
| Age group (years) | 22-35 | 120 | 53 | 44.2 | 67 | 55.8 | 7.38\* | P<0.05 (3.841) |
| 36-45 | 80 | 51 | 63.8 | 29 | 36.2 |
| Educational status | Can read & write | 20 | 9 | 45.0 | 11 | 55.0 | 2.66 NS | P>0.05 (1.107) |
| SSLC | 47 | 27 | 57.4 | 20 | 42.6 |
| PUC | 26 | 12 | 46.2 | 14 | 53.8 |
| Graduate | 66 | 31 | 47.0 | 35 | 53.0 |
| PG | 16 | 9 | 56.3 | 7 | 43.8 |
| Professional | 25 | 16 | 64.0 | 9 | 36.0 |
| Occupation | House wife | 127 | 59 | 46.5 | 68 | 53.5 | 4.28\* | P<0.05 (3.841) |
| Business/Service | 73 | 45 | 61.6 | 28 | 38.4 |
| Family size (members) | 3- 4 | 92 | 40 | 43.5 | 52 | 56.5 | 3.90 NS | P>0.05 (5.991) |
| 5 - 7 | 93 | 53 | 57.0 | 40 | 43.0 |
| 8 + | 15 | 9 | 60.0 | 6 | 40.0 |
| Family income/month | <Rs.15000 | 111 | 48 | 43.2 | 63 | 56.8 | 10.05\* | P<0.05 (5.991) |
| Rs.15001-30000 | 64 | 37 | 57.8 | 27 | 42.2 |
| >Rs.30000 | 25 | 19 | 76.0 | 6 | 24.0 |
| Food pattern | Vegetarian | 73 | 47 | 64.4 | 26 | 35.6 | 7.06\* | P<0.05 (3.841) |
| Non-vegetarian | 127 | 57 | 44.9 | 70 | 55.1 |
| **Combined** |  | **200** | **104** | **52.0** | **96** | **48.0** |  |  |

\* Significant at 5% Level, NS : Non-significant

Note : Figures in the parenthesis indicate Table value

It is clear that demographic profile of the consumers has an impact on the knowledge, attitude and practice with regard to food and nutrition labeling. Table-3 shows the fact that age plays an important role in understanding the food label. Younger the age more curious and cautious is the consumers with the practice of food label as it may be related to the health and illness. Similar to the findings in this study, Mannell et al reported that French middle-aged or younger adults were more likely to read food labels than older individuals. This could be attributed to the fact that adolescents and young adults need to obtain optimal nutrition during adolescence to maintain growth, prevent nutritional deficiencies and ensure good health. (17, 20)

From the table it was observed that educational status had no significant influence on food label reading and practicing. As the qualification of an individual participant increases, the knowledge of foods also increases; on the contrary, as the educational level increases, there is no significant relation seen between it. Similar results were obtained by other studies (7, 14) as no significant association could be established between these two parameters during the study. However some studies observed in their respective studies and concluded that there exists a strong positive association between the educational level of the consumers and their frequency of use of labels in practicality. (13, 15, 20).

Our findings revealed that there was no association established between the occupation and the use of food labels. This was also proved by Masoodi and Mubarak (2019), Jadapalli and Somvarapu (2018) whereas Drichoutis et al. (2005) contradicted this.

Income excreted tremendous influence on the perception and practices of people in general. Hence the purchasing behaviour was also found to bare an influence. Income as a factor to influence purchasing behaviour was analyzed on the basis of per capita food money expenditure, type of food purchased and marketing system for purchase. Studies reported that the monthly income of respondents had a weak positive association (r = 0.200) at the significance level of 0.01, with the quality and type of diet they follow. According to some studies (13, 24) the consumers with a higher level of income tend to use labels more frequently and effectively whereas Jain et al. (2018), no significant relationship can be found between these two variables. There is an association between income and food label information. Those with high income don’t pay much attention to label but attention towards the brand and those with low income would like to buy healthy food so they will read the food label.

**Table-4: Inter relationship between Knowledge, Attitude and Practices scores**

|  |  |  |
| --- | --- | --- |
| **No.** | **Parameter** | **Correlation (r)** |
| **1** | Knowledge and Attitude | + 0.7825\* |
| **2** | Knowledge and Practice | + 0.9704\* |
| **3** | Attitude and Practice | + 0.8913\* |

\* Significant at 5% Level,

KAP surveys are focused evaluations that measure changes in human knowledge, attitudes and practices in response to a specific situation. KAP studies tell us what people know about certain things, how they feel, and how they behave.

It was found (table-4) that subjects knowledge score positively correlated with attitude score towards food labels (r = 0.7825) and similarly knowledge score was also positively correlated with practices of the same (r = 0.9704). The results also showed that Attitude and Practice had a significant correlation with each other (r= 0.8913). Similar observation was done by Simarjeet Kaur etal.

 Only 45% of the subjects knew about food labels out of which 8% strongly agreed that food label is anything which is written on food package, 28% agreed that a logo or a picture on a food package is a food label, 41% agreed that nutritional information is a food label, 40% strongly agreed that expiry/ manufacturing date on a food package is a food label and majority of the subjects (93%) practice reading food labels. Key results showed that the most widely used label elements were the use by/best before dates, ingredients list and nutrition information, declaration of vegetarian, non-vegetarian food items and the least used labeling element were the, presence of food additives, irradiated food declarations

**Summary:**

Food Labeling is an important process in the food processing chain and should not be overlooked. The label is the first point of contact between a consumer and the producer. It is used to identify one product from another and also to make a decision over which product to purchase (Kristal et al, 1998).Labeling is an important process in the food processing chain and should not be overlooked. The label is the first point of contact between a consumer and the producer. The label is therefore the most important tool for a product. The food nutrition label provides the nutrition information that helps consumers on food choices and gives us information so that customer can choose between foods. Thus the present study aimed to determine the association between knowledge, attitude and practices on food label use and also to determine the factors that influence the use of food labels during making food purchasing decision among the consumers.

**Conclusion:**

The results of the present study highlight the needs to improve food labeling, provide education to consumers to raise their awareness on importance of reading and use of food labeling information to make an informed choice of the food.

**REFERENCES:**

1. Adak, S.C., Laws and regulations – labeling and marketing on food packaging; Jr. packaging in India (2004) Feb / March: 55-59.
2. Beniwil, A et. al., Impact A Nutrition Education on knowledge of consumers regarding food labels ; Jr. of Indian food Industry July / April ; (2000) 9, 262-267.
3. Minis. S. et. al., Consumer and Manufactures perceptions about Nutrition labeling in India proposed labels for Indian pickles. Jar of Indian food packers: July (2005). 58-63.
4. Schryer. D.W. Consumer response to nutritional labeling: food tech. (1998) 32 (12) 42-45.
5. Wandel. M. Food labeling from a consumers prospective: British food Journal (1998). 99(6) 212-219.
6. Nurliyana, G., Norazmir, M.N. and Khairil Anuar, M.I., (2011). Knowledge, attitude and practices of university students regarding the use of nutritional information and food labels. Asian Journal of Clinical Nutrition, 3(3), 79-91. <https://doi.org/10.3923/ajcn.2011.79.91>.
7. Usage of food label information among supermarket shoppers in Shah Alam, Malaysia, August 2019, International Journal of Medical Toxicology & Legal Medicine 22(1-2):118-124, 22(1-2):118-124, DOI:10.5958/0974-4614.2019.00027.5.
8. Assessment of Knowledge, Attitude and Practice (KAP) Vis-A-Vis Food Labels, Simarjeet Kaur and Dr. Anshu Singh, Journal of Hospitality and Applied Sciences, p-58-71.
9. Attributes of nutritional information labelling that determine attractiveness of labels and correctness of inferences made about food healthfulness, Wasowicz-Kirylo, G., & Stysko-Kunkowska, M. (2011). Procedia - Social and Behavioral Sciences, 30, 722–728. <https://doi.org/10.1016/j.sbspro.2011.10.141>
10. Mahan KL, Escott-Stump S, editors. Krause’s food and nutrition therapy. 12th ed. New York: WB Saunders Elsevier; 2008.
11. Impact of demographic profile on nutritional labelling usage by working women population of Varanasi, India, Srivastav, S., Awasthi, M. and Saraswat, S, Food Research 6 (4) : 407 - 412 (August 2022).
12. Vemula, S.R., Gavaravarapu, S.M., Mendu, V.V.R., Mathur, P. and Avula, L. (2014). Use of food label information by urban consumers in India–a study among supermarket shoppers. Public Health Nutrition, 17(9), 2104-2114. <https://doi.org/10.1017/S1368980013002231>.
13. Zugravu, C.A., Patrascu, D., Prejbeanu, I. and Tarcea, M. (2011). Food label” Check before buy” and association with demographic, nutritional and purchasing factors in a group of Romanians. Annals of Food Science and Technology, 12(1), 22-29.
14. Mandle, J., Tugendhaft, A., Michalow, J. and Hofman, K. (2015). Nutrition labelling: a review of research on consumer and industry response in the global South. Global Health Action, 8(1), 25912-25915. <https://doi.org/10.3402/gha.v8.25912>.
15. Masoodi, N. and Mubarak, H. (2019). Nutritional knowledge and consumers use and understanding of food labels. International Journal of Physiology, Nutrition and Physical Education, 4(1), 1371-1376.
16. Jadapalli, M. and Somavarapu, S. (2018). A Survey on Perception of Food Labels Among the Population of Nellore District. American Journal of Food Science and Nutrition, 5(1), 1
17. Robert Daniel, S. and Chandran, A. (2017). Survey on Consumers Knowledge and Use of Food Labels. Indian International Journal, 7(10), 203-209.
18. Mannell A, Brevard P, Nayga RM, et al. French consumers’ use of nutrition labels. Nutrition & Food Science. 2006;36:159-168
19. Donga G, Patel N. The Nutrition Label-which information is important to the Consumer? International Journal of New Technology and Research 4 (2011): 53-56.
20. Darkwa, S. (2014). Knowledge of nutrition facts on food labels and their impact on food choices on consumers in Koforidua, Ghana: a case study. South African Journal of Clinical Nutrition, 27(1), 13–17. <https://doi.org/10.1080/16070658.2014>. 11734479.
21. Masoodi, N. and Mubarak, H. (2019). Nutritional knowledge and consumers use and understanding of food labels. International Journal of Physiology, Nutrition and Physical Education, 4(1), 1371-1376.
22. Jain, S., Gomathi, R. and Kar, S.S. (2018). Consumer awareness and status of food labeling in selected supermarkets of Puducherry: An exploratory study. International Journal of Advanced Medical and Health Research, 5(1), 36-40. https:// doi.org/10.4103/IJAMR.IJAMR\_48\_17.
23. Use and influence of nutrition labelling: an emerging market experience, [Ketki Gupta](https://www.researchgate.net/profile/Ketki-Gupta) and [Khushdeep Dharni](https://www.researchgate.net/profile/Khushdeep-Dharni?_tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmxpY2F0aW9uIiwicGFnZSI6InB1YmxpY2F0aW9uIn19), May 2016, Nutrition & Food Science 46(3):441-456 46(3):441-456 DOI:[10.1108/NFS-10-2015-0129](http://dx.doi.org/10.1108/NFS-10-2015-0129)