USING NUTRIENT PROFILING TO MAKE NUTRITION INFORMATION ON LABELS MORE CONSUMER FRIENDLY

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Abstract: Consumption of processed packaged and ready to eat foods is on rise in both developed and developing countries. Nutrition information present on the food labels of the packaged foods is one of the major means of communicating the nutritional quality of the product and thus helping consumers in making wiser food choices. The present study was an exploratory study to evaluate the understanding of the nutritional information on the food labels by adults and elderly living in Urban Delhi. A total of eight focus group discussions (FGDs) covering 79 participants were conducted in four zones of Delhi independently for adults and elderly belonging to middle income group families. Their understanding and use of food label information and, factors influencing food selection were measured. Coding and theme wise analysis was done. Most of the elderly (60%) and most (54.5%) of the adults reported that they did not understand the nutritional information present on the labels. The study also found that 80% of the elderly and 41% of the adults never checked the nutrition information on the labels due to lack of clarity in terms of visibility and understanding. Additional findings also revealed that food marketing strategies meant to appeal to the consumers did not influence the food selection made by most of the adults (88%) and elderly (77%). However, 'taste' was the most important factor in food selection followed by 'cost'. The study suggests that the people are health conscious and would like to select healthy foods but there is a need for an effective and eye-catching nutrient profiling on food labels which consumers can comprehend quickly and easily is necessary for helping consumers make healthful food choices.

Keywords: food choices, food marketing, food labels, Nutrition information, Nutrient profiling.

Introduction: The consumption of processed and ready to eat pre-packaged foods is on rise in both developed and developing countries predisposing people of all age groups to many health problems. Lesser availability of 'healthier' products has been associated with lower intake of those products among people [1]. Developing strategies directing at the availability of foods rich in nutrients and promoting them for making up a healthy diet is imperative along with creating awareness among consumers about the nutritional quality of the food they are consuming. Nowadays, there is a growing interest of the consumers towards getting the knowledge about what they are eating and the food manufacturers are the means for providing this information. The facts provided on the labels of the food products is the key source of communicating the information about its nutrient contents and thus helping the consumers in making healthful choices if provided in an easily comprehensible way.Nutritional labeling of the food products has become important and is present on most of the packaged food products. The regulations laid down by the Food Safety and Standards Authority of India (FSSAI) mandates the presence of Nutrition Facts panel (NFP) on the food labels of pre-packaged food products [2]. However, most of the processed foods in the Indian market are not complying to these regulations [3]. Fig. 1 shows the contents of the Nutrition facts Panel. The facts provided on the food labels is an important source of

information, but the overloading of the information prevents consumers from taking wise decisions of food selection [4]. Time constraints while shopping also limit the reading of information present on the labels by consumers [5].A study on family's use of nutritional information on food labels found that the children's use of nutritional information on the labels was rare, even the parents rarely used the nutritional information when it was too technical and/or when their health consciousness was limited. Parents preferred food labels with more concise information and visual aspects [6]. Only the highly qualified people and the nutrition experts are able to comprehend the nutrition information there on the food labels.

Fig.1: Nutrition Facts Panel* on the Food Labels

*Source:

http://www.fda.gov/downloads/Food/Guidance Regulation/GuidanceDocuments Regulatory Information/LabelingNutrition/UCM387451.pdf (Accessed on 13.11.2014)

'Nutrient Profiling' is one of the approaches besides Nutritional labeling on foods which could help in classification and selection of foods according to their nutritional composition. It classifies the food products on the basis of their nutrient content in a way to promote healthy food selection and thereby preventing disease

[7]. Many nutrient profiling models have been developed to classify foods as 'healthy' and 'unhealthy' [8]. The details of the various nutrient profile models are provided elsewhere [9]. There is an urgent need for a consumer friendly profiling system for categorizing foods on the basis of their nutritional quality for healthy food selection.

Hence, the study was designed with an objective to explore qualitatively the understanding of the nutritional information on the food labels by adults and elderly living in urban Delhi and using a nutrient profiling system to make the nutrition information approachable to the consumers.

Methodology: The study was conducted with the adults and elderly (N=79) belonging to middle income group families, who were sampled purposively from different regions of Delhi. A total of eight focus group discussions (FGDs), independently four each with adults (29 years above) and elderly (60 years above) were conducted in four zones of Delhi in order to get an insight about their understanding about the information present on the food labels and how they use that information while selecting foods. The duration of each FGD ranged from 45 minutes to 1 hour. Mixed gender groups were taken for all the FGDs having 7 to 14 participants in each. Socio-demographic information was recorded on FGD information sheets for each member of FGD. The discussion was focussed on the understanding of participants about the information present on the food labels, problems encountered in understanding the information, appropriateness of the information provided for healthy food selection, frequency of food label use, and reasons for using/not using the label information. Additionally, factors influencing food selection were assessed. Pilot focus group discussion was conducted to assess the success of the themes. The respondents were made to discuss and reflect their views on the themes. The discussions were audio-recorded,

transcribed accompanied with field notes. Coding and theme wise analysis was done. The study was approved by the institutional ethics committee. A written informed consent from the participants was taken prior to data collection.

Results And Discussion: The Socio-demographic information of the participants was taken (Table 1). A total of 79 participants formed the study sample of which around 44.4% (n=35) were elderly and 55.6% (n=44) were adults who were married and had children. The age range for the participants from elderly group was from 60 years above to 82 years and in adult group, the participants age ranged from 29 years to 58 years.Majority (60%) of the participants from the elderly groups were in the age range 61-70 years and in the adult groups, majority (47.7%) were in the age range 41-50 years. About 57.1% elderly and 54.6% adultsof the group were females. Most of the elderly participants had completed their education till high school, followed by graduates and most of them were homemakers or retired.The adult participants were mostly graduates and most of them were in service, followed by homemakers which formed the second highest number. Most (85%) of the elderly respondents were from North India, Likewise, Most (78%) of the respondents from adult groups were from Northern India.

Nutrition information on the food labels: The respondents were made to discuss about what they know about the food labels and what all information is there on the food labels. The results from a total of 8 FGDs conducted with elderly and adults revealed that most of the elderly (74.2%) and adult (75%) participants had some knowledge about the information present on the labels of the food products. They knew and recalled seeing information regarding Price, Manufacturing and Expiry dates, Ingredients list on the food packages. Some 17.1% of the elderly and 45.4% of the adults reported seeing nutrition information on the label. When asked about what do they usually check on the

package while buying a food product, most of the elderly (43%) participants said that they check the Expiry/Best before date of the product while buying, some (28.6%) said that they check the Price of the product, some others (25.7%) out of those who check Price and Best before date stated that they check both Price and Best before date while buying a food product, few (11.4%) others reported that they see the Brand name while buying. When asked about the awareness about the quality symbols and claims on the labels of the food products, most (60%) of the elderly participants could not comprehend the meaning of claims and quality symbols. From the adult participants, some (43.2%) did not know while the rest (56.8%) knew about quality symbols and claims. Some elderly who could not read and understand English felt that to be the reason for not reading the label in greater detail.

"The information on the labels is only in English, they should also provide the information in Hindi language so that we may understand easily what is there on the label" -68 year old female, East Delhi.

"Sometimes check the nutrition information on the labels, but not always. Mostly, I look at only price of the product. Nowadays, due to inflation everything is so costly, so have to give importance to money. Foods rich in nutrients are generally costly and out of our budget like muesli, diet bars etc."- 38 year old adult female, West Delhi.

Most importantly, the participants checked the best before date and price of the product. Very few of them checked the nutrition information. However, few (8.6%) of the elderly participants who were above 71 years of age reported that the food purchase was not done by them and hence they had no idea about the information on labels.

Consumer's understanding about information on the food labels: The members from the FGD groups of the two generations

were further asked about their understanding of the nutrition information, labels and claims present on the food products. Most of the elderly (60%) and adults (54.5%) reported that they did not understand the nutritional information present on the labels. Most of the elderly group (82.8%) and around 72.7% of the adults emphasized that the font size is too small for them to see the information clearly. They also said that there are too many details in the information about nutrients and health claims are being made by all food manufacturers, making it difficult for the consumers to select a healthy product out of all those present on the shelf. However, only some (17.1%) of the elderly and 45.4% of the adults could decipher that in the nutritional information the number of Calories, other nutrients like protein, amount of fat, sugar are also present on the food labels but they could not fully appreciate their significance or tell if the quantities were low or high. Very few (8.6%) of the elderly and 11.3% of the adults found the label information appropriate for healthy food selection.

"Label information is too technical that we do not understand"- 66 year old male elderly, South Delhi.

"The fat content in the nutritional information is understood- that lesser amounts of fat is good for our health but do not understand about the other nutrient amounts mentioned like calcium, protein, iron, sodium...etc., that how much amount our body needs or how much we should look for in a product" -42 year old, female adult, West Delhi.

The participants wanted that the information should be simple and easily visible so that they could go through it and make selection based on the nutrient quality. Both the age groups felt that they could not fully trust the claims made by the food companies. They did not have faith in the veracity of the claims made.

Frequency of reading the nutrition label: The study also found that 80% of the elderly and 41% of the adults never checked the nutrition information on the labels due to lack of clarity in terms of visibility and understanding. Only few (8.5%) from elderly and some adults (50%) reported that they read the nutrition label while buying but that too not often. Around 8.5% of theelderly and 29.5% of the adults read the information only once (for the first time) while buying a new food product (fig. 2). Most (75%) of the adult participants reported 'lack of time' to be the reason for not using the food label information on nutrients while buying. However, few elderly (17.1%) and around 16% adults felt that the information provided is not correct, and that food companies made false claims just to lure the consumers and increase the sales. There seemed to be distrust among the consumers regarding the claims made on the labels.The group expressed the need for information on the products to be presented in a manner that is easy to understand by people of all age groups and some did suggest that the nutritional information should be present at front of the pack rather than at the back and in bigger font size for better visibility. "Food companies should highlight the claims like 'good for heart', 'good for diabetics' etc. so that its easier for the consumers to pick the product suiting their requirements" was the general sentiment among the adults.

Factors affecting food selection: 'Taste' was the most important factor in food selection for 31.4% of the elderly and for 34.1% of the adults, followed by 'cost' considered as an important factor by 17.1% elderly and 20.4% of the adults. However, around 14% elderly and 25% adults found advertisements as a driving factor in their food selection (fig. 3). Additional findings also revealed that food marketing strategies meant to appeal to consumers like discounts, schemes and freebies did not influence the food selection made by most of the adults (88%) and elderly (77%). Moreover, among those who were not influenced by the marketing strategies, around

59.2% of the elderly and 53.8% of the adult participants felt that these schemes were only meant for selling the poor quality/ about to expire lot and misguide the general public.It was alsoIt was also found that elderly participants' food selection was driven by children. Theelderly were also disenchanted with freebies given with the products.
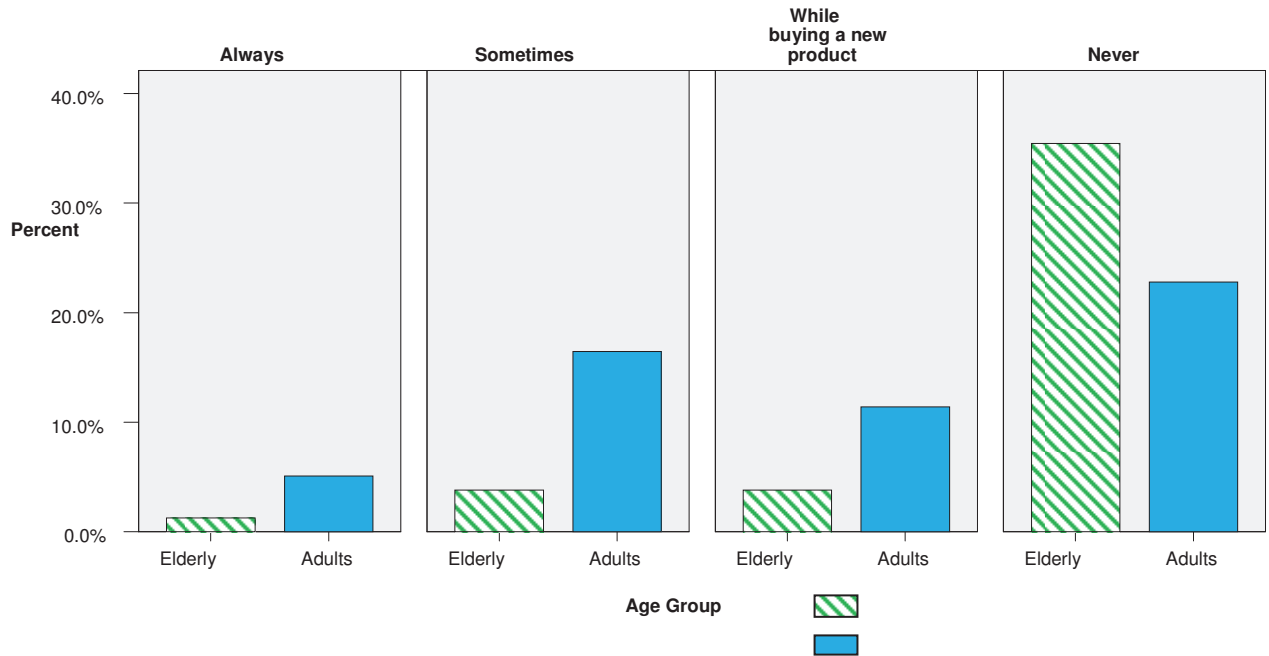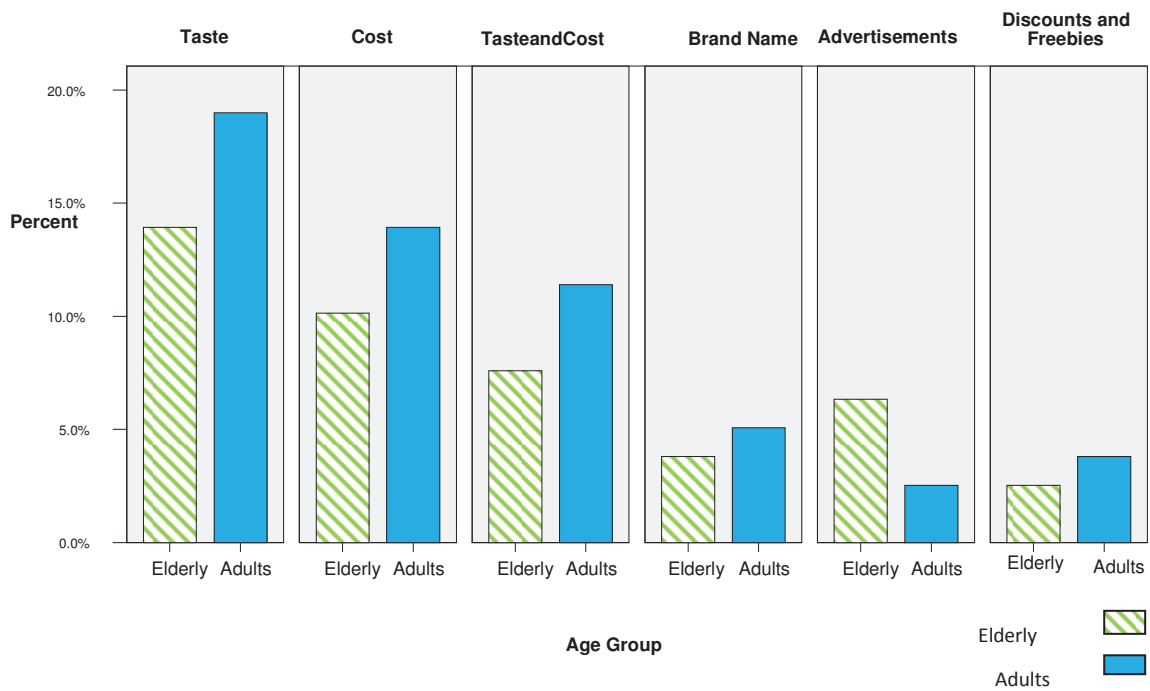

Fig 2. Frequency of Food Label Use

Fig 3. Factors Affecting Food Selection

Using a Nutrient Profiling System to communicate nutrition information: In order to make the nutrition information readily comprehensible to the common people, many nutrient profile models have been developed in various countries to enable the consumers make healthy food selection. Nutrient profiling is the science of the ranking or classifying the food products as per their nutritive value (WHO/IASO, 2010). But still, consumers all over the world are facing difficulties in comprehending the nutrient information provided on the labels and selecting healthier food products. The information should be simple and easy to understand by the common people and 'Traffic light labeling' is one such approach which could overcome the problem faced in using other profiling systems. *'Traffic Light Labeling'* also known as Signpost labeling was developed by the Food Standards Agency (FSA), UK for the purpose of helping the consumers in making healthy food choices quickly and easily. Since 2004 efforts have been made for development of an easier method for selecting healthier food options. The use of traffic light colors in labeling food products was conceptualized in 2004 (Rayner et al., 2004) (fig. 4a). In March 2006, FSA recommended the voluntary use of the traffic light colors as an approach to nutrition labeling to help identify healthy foods. The scheme makes use of three colors (Red, Amber/Yellow and Green) for different levels (high, medium and low) of the four nutrients to limit according to nutritional criteria developed by FSA. For instance, if a food product carries a red color for fats and salt, amber for sugar, it implies that product has high amounts of fat, salt and medium amount of sugar, thus it is not a healthy product and not a good choice for inclusion in the diet. If food products contain all three colors on the pack, then a product with more number of greens is a recommended product and a healthier choice (FSA, 2006). Internationally, this system has been found to be effective and popular amongst consumers. Studies conducted in UK suggest that the use of traffic light labeling was found to be significantly effective in choosing healthier foods by the consumers as compared to other front-of-pack nutrient profiling systems (Kelly, 2009).The Choices programme introduced in Netherlands, 2006 gives the logo 'Healthy Choice' is another nutrient profile model based on international dietary guidelines to tackle diet related health problems. This logo present on the front of the pack helps in making healthy food choices (fig. 4b). Another one is Guiding stars program patented in July, 2011 which rates the foods in terms of their nutritional quality by giving 1 (Good), 2 (Better) and 3 (Best) stars (fig. 4c). More the number of stars, better is the nutritional quality of the product. Although, various models have been developed and are in place across various countries especially in U.K and U.S but in India, no such system is being developed, neither any regulation is there to mandate a feasible, country specific nutrient profile system which is consumer friendly. Only few food companies are voluntarily labeling their products using nutrient profiling.
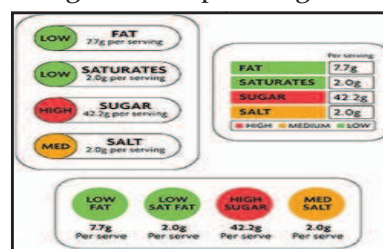
Source: [a]Traffic light labelling
(www.food.gov.uk);

b　　　　　　　c

[b] Healthy Choice
(www.choicesprogramme.org); [c] Guiding
stars (www.guidingstars.com)

Table 1: Socio-Demographic Profile of the Study Participants				
S.no	**Elderly**	**n=35**	**Adults**	**n=44**
	Characteristic	**f (%)**	**Characteristic**	**f (%)**
1	**Age**			
	• < 60 years • 61-70 years • 71-80 years • > 80 years	02 (5.8) 21 (60.0) 08 (22.8) 04 (11.4)	• <30 years • 31-40 years • 41-50 years • 51-59 years	02 (4.5) 18 (40.9) 21 (47.7) 03 (6.8)
2	**Gender**			
	• Male • Female	15 (42.9) 20 (57.1)	• Male • Female	20 (45.4) 24 (54.6)
3	**Qualification**			
	• Illiterate Primary Schooling (up to 5th Grade) Secondary Schooling (5th to 8th Grade) • High School (9th to 12th Grade) • Graduate Post Graduate or higher	02 (5.8) 01 (2.8) 03 (8.5) 17 (48.5) 10 (28.6) 02 (5.8)	• Illiterate Primary Schooling (up to 5th Grade) • Secondary Schooling (5th to 8th Grade) High School (9th to 12th Grade) • Graduate Post Graduate or higher	0 (0) 0 (0) 0 (0) 06 (13.7) 26 (59.0) 12 (27.3)
4	**Occupation**			
	• Homemaker • Service • Business • Retired	17 (48.5) 02 (5.8) 03 (8.6) 13 (37.1)	• Homemaker • Service • Business • Retired	12 (27.3) 24 (54.5) 08 (18.2) 0 (0)
5	**Native region of India**			
	• North • South • East • West	30 (85.8) 01 (2.8) 03 (8.6) 01 (2.8)	• North • South • East • West	37 (84.1) 01 (2.3) 05 (11.3) 01 (2.3)

Conclusion: The present study has assessed the consumer's knowledge and understanding about nutrition information on the labels. The findings of the study indicated that most consumers do not understand the nutrition information on the labels. Most elderly encounter difficulties in comprehending and reading the information. The information was found to be too technical and complicated inhibiting the consumers to read labels before buying a food product. The study also found 'taste' followed by 'cost' being important factors for food purchase. Some elderly and adults were not influenced by the marketing strategies like schemes, discounts and freebies to lure consumers and increase the sales. The consumers were disappointed by the use of these marketing strategies made by the food companies, as the younger generation was

most influenced by these. Consumers today are health conscious and want to choose food products wisely. Thus, present limitations to the use of the food label to communicate nutrition information can be dealt by using a consumer friendly nutrient profiling system that can enable the consumers in making healthy food choices easily and at a glance. Traffic light labelling, Guiding stars and healthy choice logo are some examples that can be adapted by India.

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