



ISSN: 0975-833X

RESEARCH ARTICLE

AWARENESS OF NUTRITIONAL INFORMATION AND TRANS-FAT IN FOOD LABEL AMONG TEACHING STAFF OF AMBO UNIVERSITY, AMBO, ETHIOPIA

*¹Dr. J. Paul Mansingh, ¹Debella Deressa Bayissa, ¹Fikadu Abdise Erena and ²Nancy, J.

¹Department of Rural Development & Agricultural Extension, Ambo University, Ambo, Ethiopia

²Department of Food Science & Nutrition, Sarah Tucker College, Thirunelveli, India

ARTICLE INFO

Article History:

Received 28th July, 2015

Received in revised form

22nd August, 2015

Accepted 05th September, 2015

Published online 31st October, 2015

Key words:

Nutritional Information,
Trans-fat,
Awareness of Nutritional Information,
Awareness of Trans-Fat.

Abbreviation:

LDL – Low Density Lipoprotein,
HDL – High Density Lipoprotein

ABSTRACT

It is essential for consumers to know about the nutrition information because it can help them to choose healthier food and to avoid contents or ingredients that they are allergic to. It is important that consumers have basic nutrition knowledge first, before appreciating nutrition labelling. The utilisation of food labels and nutrition information on food packages by consumers has been the focus of a number of recent studies. Scientific reports link trans-fats with raising blood LDL (“bad”) cholesterol levels, which increase the risk of coronary heart disease. To date few studies have explored consumers’ perception of trans-fat following the recent government policies and media influences regarding trans-fat labelling and guidelines. The study was conducted among the teaching staff of Ambo University, Ambo, Ethiopia. In order to give equal chance for all staff being included in the sample, the different colleges in the University are considered as different strata and proportionate random sampling technique was used to select the respondents. In this study, the response rate was 38% i.e. 81 respondents gave their response. From the study it was found that taste and habit were the two major factors that motivated the respondents to choose the foods. The awareness of food label and nutrient information was more. Even though the awareness of nutrient information was high, the utilization of nutrient information on shopping was comparatively low. The awareness of trans-fat among the respondent was very low. Therefore, the government should formulate action plans to create awareness of trans-fat among the people.

Copyright © 2015 Paul Mansingh et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Paul Mansingh, J., Debella Deressa Bayissa, Fikadu Abdise Erena and Nancy, J. 2015. “Awareness of nutritional information and trans-fat in food label among teaching staff of Ambo university, Ambo, Ethiopia”, *International Journal of Current Research*, 7, (10), 21623-21626

INTRODUCTION

Food label means any material which is printed or affixed to a packing material which provides the necessary information about a food. The type and content of nutrition, usage guide and shelf-life of nutritionally produced food shall be stated clearly and marked on its package. The label begins with a standard serving measurement, calories are listed second, and then following is a breakdown of the constituent elements. Always listed are total fat, sodium, carbohydrates and protein; the other nutrients usually shown may be suppressed, if they are zero. Usually 15 nutrients are shown: calories, calories from fat, fat, saturated fat, trans-fat, cholesterol, sodium, carbohydrates, dietary fibre, sugars, protein, vitamin A, vitamin C, calcium and iron (Wheeler *et al.*, 1994). In addition to the nutrition label, products may display certain nutrition information or health claims on packing.

The Institute of Medicine in United States recommended these labels contain the most useful nutritional information for consumers: saturated fats, trans-fats, sodium, calories and serving size. The nutrition facts label currently appears on more than 6.5 billion food packages in USA. The purpose of nutrition labelling is to provide information on food products to reinforce healthy eating practices and support consumers in their efforts to improve their food choices.

It is essential for consumers to know about the nutrition information because it can help them to choose healthier food and to avoid contents or ingredients that they are allergic to (Williams and Caliendo, 1994). Consumers need to know what nutritional contents of foods are so that they can purchase foods of better nutritional quality (Poleman and Packerpaugh, 1995). Education on nutrition labelling is one component of a comprehensive nutrition education programme. It is important that consumers have basic nutrition knowledge first, before appreciating nutrition labelling. The utilisation of food labels and nutrition information on food packages by consumers has been the focus of a number of recent studies.

*Corresponding author: Dr. J. Paul Mansingh,
Department of Rural Development & Agricultural Extension, Ambo
University, Ambo, Ethiopia

Results of research from Australia [<http://www.foodstandards.gov.au>] indicated that there is a relatively high level of prompted awareness of most label elements, with health claims, novel foods and irradiated labels having the lowest prompted awareness. Nagya *et al.* (1998) concluded that for consumers to establish or maintain dietary healthy practices they must have the necessary nutrition information on food labels and that they need to use the information. Another study by Kessler and Wunderlich (1999) indicated that there is a positive relationship between the level of nutrition knowledge of the consumers when that knowledge is provided by health care providers. Barriers to the effective use of nutrition information on the food label include old age, low socio-economic status and lack of education (National Institute of Nutrition, 1999). Piché and Garcia (2001) indicated that grocery shoppers reported that price, freshness and health considerations were the top three factors considered important when buying food. Wang *et al.* (1995) argued that if label information is more usable by consumers, society can greatly benefit from a public health perspective. They further indicated that effectively designed nutrition disclosures facilitate the utilisation of nutrition information and that some consumer characteristics such as education affect the utilisation.

Scientific reports link trans-fats with raising blood LDL (“bad”) cholesterol levels, which increase the risk of coronary heart disease (www.fda.gov). Trans-fats are a type of unsaturated fats which are uncommon in nature but can be created artificially. Although trans-fats are edible, consumption of trans-fats have shown to increase the risk of coronary heart diseases (Food Nutrition Board, 2005), in part by raising the level of LDL, lowering levels of HDL (good cholesterol), increasing triglycerides in the blood stream and promoting systemic inflammation (MFMER, 2007). In lack of recognised evidence and scientific agreement, nutritional authorities consider all trans-fats as equally harmful for health and recommend that consumption of trans-fats be reduced to trace amounts.

The National Academy of Sciences (NAS) advice the United States and Canadian governments on nutritional science for use in public policy and product labelling programmes. Their recommendations are based on two key facts. First, trans-fatty acids are not essential and provide no known benefit to human health, whether animal or plant origin. Second, while both saturated and trans-fats increase levels of LDL, trans-fats also lower levels of HDL, thus increasing the risk of coronary heart disease. The NAS is concerned “that dietary trans-fatty acids are more deleterious with respect to coronary heart diseases than saturated fatty acids”. This analysis is supported by a New England Journal of Medicine (2006) scientific review that states “from a nutritional stand point, the consumption of trans-fatty acids results in considerable potential harm but no apparent benefit (Mozaffarin *et al.*, 2006). A study by Willet (1994) estimated that over 30000 cardiac deaths per year in the US are attributable to the consumption of trans-fat.

Across-sectional study was conducted in Regina, Saskatchewan by Ali Bell and Dufton (1995) who reported that the most important factors in deciding the food to buy were price, nutritional value and need. When looking at the

nutritional facts, however, they indicated they looked at the ingredients, and neglected to pay attention to the amount of trans-fat. This means that trans-fat is not on their minds unless they are specifically told of it. When asked if they ever heard about trans-fat, 98% said, “yes”. However, only 27% said that it was unhealthy. Also, 79% said they only knew a little about trans-fats. Respondents aged 41-60 were more likely to view trans-fat as a major health concern, compared to ages 18-40. When asked if they stop buying their favourite snacks if they know it contained trans-fat, most said they would continue purchasing it, especially the younger respondents. Also, of the respondents that called trans-fat a major concern, 56% of them still wouldn’t change their diet due to non trans-fat snacks. This is because the taste and food gratification takes more precedence over the perceived risk to health. The consumption of trans-fat and the associated increase risk of coronary heart disease is a public health concern regardless of age and socio-economic status (Nasser *et al.*, 2011).

To date few studies have explored consumers’ perception of trans-fat following the recent government policies and media influences regarding trans-fat labelling and guidelines. Therefore, to assess the motivating factors in choosing foods and awareness about nutritional information in food labels, a study was conducted among the teaching staff of Ambo University, Ambo, Ethiopia.

MATERIALS AND METHODS

The study was conducted among the teaching staff of Ambo University, Ambo, Ethiopia. In order to give equal chance for all staff being included in the sample, the different colleges in the University viz., College of Business and Economics, College of Natural and Computational Science, College of Agriculture, Institute of Technology, College of Social Science and Humanities, Institute of Education and Professional Studies, School of Law and Institute of Co-operatives and Development Studies are considered as different strata and proportionate random sampling technique was used to select the respondents. Expatriate staff were excluded from the study and only Ethiopians were considered. Out of the total of 466 teaching staff (excluded those who are on study leave and left for training), a sample of 211 was selected for this study based on the formula given by Kothari (2003). As reported by Anol (2012), mostly 10-15% of the respondents return back the questionnaire after filling it. In this study, the response rate was 38% i.e. 81 respondents gave their response. Simple descriptive statistics viz., percentage analysis and chi-square test were used to analyse the collected data using SPSS software version 20.

FINDINGS AND DISCUSSION

The aim of this study was to find out the motivational factors to choose the food. The results provide information on how people are choosing their foods. These results are expected to help in explaining the reasons that contribute to the food choices and in coming up with recommendations that will guarantee that people are well informed on the nutrient information. Findings of this study could be used in formulating education strategies by health professionals and other stakeholders interested in consumer awareness activities.

The motivational factors to choose food were studied and the details are presented in Table 1.

Table 1. Motivational factors to choose food (n=81; multiple responses)

S.No.	Motivational factors	Number	Percentage
1.	Price	42	51.9
2.	Nutrition information	49	60.5
3.	Taste	54	66.7
4.	Appearance	25	30.9
5.	Habit	52	64.2
6.	Convenience	42	51.9
7.	Brand name	15	18.5

From Table 1 it was found that taste (66.7%) and habit (64.2%) were the major two factors that motivated them to choose the foods where as appearance and brand name were the least motivating factors. The next major motivating factor was the nutritional information (60.5%). The finding of the present study is in agreement with the finding of Mahgoub *et al.* (2007). Habit and taste are interlinking factors, as by habitual consumption for a long period of time, they are used to the taste of the particular food. Hence, majority of the people preferred these two factors. However, the next major factor influencing the choice of food was nutritional information.

The awareness of food label among the respondents were analysed and presented in Table 2.

Table 2. Awareness of food label among the respondents (n=81)

S.No.	Awareness	Yes		No	
		Number	%	Number	%
1.	Awareness of food label	53	65.4	28	34.6
2.	Awareness of nutrition information	70	86.4	11	13.6
3.	Use of nutrition information when shopping	50	61.7	31	38.3

It is clearly evident from Table 2 that the awareness of food label and nutrition information was more among the respondents (65.4% and 86.4% respectively). Even though the awareness level of nutrition information was quite high (86.4%), only 61.7% of them used that information when shopping. This finding is in line with the result reported by Mahgoub *et al.* (2007) that majority of the respondents claimed they used nutrition information when shopping. This is almost equal to the percentage of people who expressed nutrition information as a motivating factor in choosing the food.

Awareness of trans-fat among the respondents was studied and the details are given in Table 3.

Table 3. Awareness of trans-fat (n=81)

S.No.	Description	Number	Percentage
1.	Awareness of trans-fat	22	27.2
2.	Know about trans-fat:		
	A lot	6	7.4
	A little	16	19.8
3.	Concern of trans-fat:		
	Nothing	59	72.8
	Major concern	3	3.7
4.	Minor concern	17	21.0
	No concern	49	75.3
	Look for trans-fat	19	23.5
5.	Made changes to the food you eat	9	11.1
6.	Stop eating your favourite snack	30	37.0

The awareness of trans-fat among the respondents was very low (27.2%). Most of the people (72.8%) know nothing about the trans-fat. Among the respondents aware of trans-fat, only 7.4% knew a lot about trans-fat. For majority of them (75.3%), trans-fat was not at all a concern. Nearly one-fourth of the respondents (23.5%) revealed that they look for trans-fat in the food label. Very few (11.1%) expressed that they made changes to the food they eat to decrease the amount of trans-fat. When they were asked, "will you stop eating your favourite snack if you know it had trans-fat in it", only 37.00 per cent of them said "yes". From the above findings, it is very clear that the awareness level was very low and the government should formulate action plans to create awareness of trans-fat among the people.

Motivational factors viz., price, nutrition information, taste, appearance, habit, convenience and brand name across age categories were analysed and presented in Table 4.

Table 4. Motivational factors across age categories

S.No.	Motivational factors	20-30 (Age)	30-40 (Age)	40-50 (Age)	50-60 (Age)	Chi-square Value
1	Price	28	8	5	1	0.040**
2	Nutrition information	31	13	3	2	0.625
3.	Taste	33	16	4	1	0.883
4.	Appearance	14	9	2	0	0.620
5.	Habit	30	16	4	2	0.551
6.	Convenience	23	15	4	0	0.138
7.	Brand name	12	2	0	1	0.165

** significant at 0.05 level

From the chi-square analysis it was found that the motivating factor "price" alone was found to be significant at 0.05 level which indicates that the price factor alone differs with age category significantly, whereas all the other motivating factors are same across age categories.

Summary and Conclusion

From the study it was found that taste and habit were the two major factors that motivated the respondents to choose the foods. The awareness of food label and nutrient information was more. Even though the awareness of nutrient information was high, the utilization of nutrient information on shopping was comparatively low. The awareness of trans-fat among the respondent was very low. The consumption of trans-fat and the associated risk of coronary heart disease is a public concern regardless of age and socio-economic status (Nasser *et al.*, 2011). Therefore, the government should formulate action plans to create awareness of trans-fat among the people.

REFERENCES

- Anol Bhattacharjee 2012. Social Science Research: Principles, Methods, and Practices. Creative Commons Attributes – Non Commercial Share Alike Unported Licence, USA: 80.
- Food Standards Australia and New Zealand Food labelling issues: Quantitative research with consumers Part 1 Summary Report, 2004.
- <http://www.foodstandards.gov.au/mediareleasespublications/publications/foodlab/index.c> f (Accessed 15 September 2006)

- Kessler H and SM Wunderlich Relationship Between Use of Food Labels and Nutrition Knowledge of People with Diabetes. *Diabetes Educator* 1999; 25(4): 549-559.
- Kothari, C. R. 2003. *Research methodology: Methods and techniques*. Third edition, Wishwa Prahashan, New Delhi.
- Mahgoub SE, Lesoli PP, and Gobotswang K. 2007. Awareness and Use of Nutrition Information on Food Packages among Consumers in Masern (Lesotho). *African Journal on Food, Agriculture, Nutrition and Development*, 7 (6): 1-16.
- Nasser, Roseann, Stephanie Cook, and Sharon Walker.(2011). Consumer Perceptions of Trans Fats in 2009 Show Awareness of Negative Effects but Limited Concern regarding Use in Snack Foods. *Applied Physiology, Nutrition & Metabolism* 36.4: 526-532. EBSCOhost. Web
- National Institute of Nutrition Nutrition Labelling Perceptions and Preferences of Canadians. National Institute of Nutrition, Ottawa, June 1999.
- Nayga Jr RM, Lipinski D and N Savur Consumer's use of nutritional labels while food shopping and at home. *Journal of Consumer Affairs*, 1998; 32 (1): 106-120.
- Piché L and A Garcia Factors Influencing Food-Buying Practices of Grocery Shoppers in London, Ontario. *Canadian Journal of Dietetics Practical Research*, 2001; 62 (4): 199- 202.
- Poleman CM and NJ Peckenpaugh Nutrition: essentials and diet therapy. Philadelphia, PA: W B Saunders 1995: 25-27.
- Wang G, Fletcher SM and DH Carley Consumer utilization of food labelling as a source of nutrition information. *Journal of Consumer Affairs*, 1995; 29 (2): 368-380.
- Wheeler, Madelyn; Marion Franz; Joan Heins; Rebecca Schafer; Harold Holler 1994. "Food Labelling", *Diabetes Care*, 5 (17):482.
- Williams ER and MA Caliendo, 1994. *Nutrition Principles, Issues and Applications*. McGraw-Hill Inc., USA : 485-488.
