Research Article

Consumer Understanding and Use of Food and Nutrition Labeling in Turkey

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ABSTRACT

Objectives: To determine patterns of food and nutrition labels use by Turkish consumers, and examine constraints on the use of this information.

Design: Cross-sectional survey.

Setting: Twenty-six regions of Turkey.

Participants: Consumers (n = 1,536), aged 12-56 years.

Variables measured: Level of interest in food and nutrition labels, the perceived sources of information about nutrition, the performance of the food industry at labeling, and sociodemographic factors.

Analysis: Descriptive statistics and χ^2 statistics.

Results: The uses of food labels and nutrition labels were reported, respectively, by 76.5% and 72.4% of participants. Nutrition label use was significantly associated with sex, age, marital status, educational level, and socioeconomic status ($P < .001$ for all variables). Barriers to the use of nutrition labels included: the lack of understanding of terms, symbols, and values; poor presentation of the information; and concerns about the accuracy of the information. Consumers who wished to use nutrition labels to make healthful choices demanded a standardized location and format for the labels, as well as simplified information conveyed with comprehensible terms and statements.

Conclusions and Implications: New strategies to encourage the effective consumer use of food and nutrition labels should include educational programs and revision of the label format.

Key Words: food label, nutrition labeling, consumer perception, consumer use (*J Nutr Educ Behav*. 2012;44:584-591.)

INTRODUCTION

Food labeling is a population-based approach to nutrition education that enables consumers to make more healthful choices by providing information at the point of purchase. Nutrition information, given as a nutrition label (called Nutrition Facts panel in some countries), is an important component of food labeling that provides knowledge of basic nutritional principles, generates consumer interest, and instils confidence that the food selection environment is conducive to making healthful choices.[1-3] Food labeling is mandatory in most countries depending on 2 main justifications; it enables consumers to make healthful choices, and it protects consumers and their rights.[1,3] However, the implementation of nutrition labeling varies among countries.[1,2] It is mandatory in the United States, Canada, Australia, and New Zealand,[4-6] but it is not currently required in European Union (EU) countries or Turkey unless a nutritional claim is made on the product's packaging.[1] The current Directive 90/496/EEC, a European Commission legislation, provides the required standardized format for nutrition labeling in EU countries. According to this legislation, 2 types of label content are permitted: Group 1 presents the energy provision value, as well as protein, carbohydrate, and fat content; and Group 2 additionally presents the amounts of sugars, saturated fats, fiber, and sodium contained in a measured amount of the selected food.[2,3]

It has been suggested that regulations requiring nutrition labeling will create new arenas of competition by raising consumer awareness and stimulating demand for new product attributes.[7] Several studies have demonstrated associations between nutrition label use and more healthful choices, such as lower fat and sugar consumption.[8-10] Such results clearly indicate the importance of nutrition labeling in nutrition education. Some uncertainty remains, however, about the effective use of nutrition labels.[1,11-13] A better understanding of the barriers to nutrition label use is required in order to stimulate consumers' interest in food choices and their use of labels. This better understanding would also help health professionals to enhance the efficiency of nutrition labels used as a nutrition education tool. Since food labeling is an international issue, examples from different countries would be useful in the context of nutrition education programs. The topic has been the focus of particular

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interest in Turkey recently because of the revision of legal regulations regarding food and nutrition labeling, which covers the standardization of label format, reorganization of health claims, and the use of guideline daily amount on labels. However, little is known about Turkish consumers' attitudes toward the topic. Therefore, this paper reports the investigation of Turkish consumers' use, knowledge, and perceptions of food and nutrition labeling, including the examination of the reasons for non-use of nutrition labels and consumers' expectations for effective label use.

METHODS

Study Design and Participants

A cross-sectional survey of 1,536 participants was conducted in 26 regions of Turkey. The number of participants from each region and the distribution of population according to sex, age, and socioeconomic status (SES) groups in each region were designated according to 2007 Address Based Population Register System data and exhibited attributes representing the general profile of Turkey.[14] Participants were randomly selected using computer software and recruited by visits to their household address. The inclusion criteria for participants aged over 18 years was being a member of household who had regularly purchased food and beverages for their family during the past 2 years; and for participants aged between 12 and 17 years, it was to be purchasing food and beverages for themselves at least twice a week. Only 1 eligible person was recruited per household. This study was approved by the Food Codex Committee at the Ministry of Agriculture and Rural Development of Turkey, and written consent was obtained from all participants.

Data Collection

Face-to-face interviews were conducted by trained university students in May, 2008 using a validated questionnaire developed by the researchers. The content validity of the questionnaire was measured by a pilot study involving 34 participants who were eligible for the study population. Based on comments and question clarifications posed by these respondents, some questions were reworded and response options were altered. The following demographic characteristics were recorded: sex (male, female), age (years), marital status (single, married), education (primary school, high school, university, postgraduate), occupation (unemployed, white and blue collar, trade worker), and socioeconomic status (SES: high, middle, low). Socioeconomic status was divided into 3 subgroups from high to low according to the Turkish Association of Marketing and Opinion Researchers' classification, which was developed using a model to determine SES profiles based on the education level, occupation, and income of participants.[15]

The participants were asked how often they used 13 different information sources related to nutrition and health, and how much confidence they had in them. Two 5-point Likert scales (1, very low conferring; 5, very high conferring; and 1, very low confidence; 5, very high confidence) were used to identify the user's perceived reliability of commonly used information sources. A frequency confidence index (FCI) was calculated as median confidence value multiplied by the median frequency value of use. Hence, FCI identifies the most effective perceived sources of information about health and nutrition, through weighted analysis of consumers' frequency of use and confidence in the sources. Barriers to consumers' trust of the information contained on food labels were examined with open-ended questioning of consumers who expressed such distrust.

Consumers' levels of interest in food and nutrition labels was assessed individually using different survey approaches. In the first stage, the level of interest in food labels and their components was examined in 2 aspects. First, a 5-point Likert scale (1, no importance; 2, not important; 3, neither unimportant nor important; 4, important; 5, very important) was used to evaluate the relative importance of food labels when consumers purchased products for the first time, and when they considered products of known brands. Second, a 3-point Likert-type scale (1, do not care; 2, neither care nor not; 3, care) was used to evaluate the importance of each food label component for different types of food and beverages.

In the second stage, the level of interest in nutrition labels was examined in 5 aspects. First, the percentage of consumers who checked nutrition labels while purchasing products was obtained using a 3-point Likert-type scale (1, never check; 2, sometimes check; 3, frequently check). Second, consumers' awareness of terms used on nutrition labels was determined by asking whether they had heard these terms. Also, a 3-point Likert-type scale (1, unimportant; 2, neither unimportant nor important; 3, important) was used to evaluate the perceived importance of these terms. In addition to terms, a perceived importance of several health claims given on food labels was evaluated using a 5-point Likert scale (1, very unimportant; 2, unimportant; 3, neither unimportant nor important; 4, important; 5, very important). Third, the perceived importance of the following label aspects was evaluated: energy and nutrient values, as well as the recommended amount to be consumed by a healthy person per day; average daily nutrient requirements; and percentage of daily nutrient requirements fulfilled by the product. Fourth, open-ended questions were used to investigate barriers to nutrition label use and consumers' expectations about nutrition labeling. Finally, the use and understanding of symbols on food labels were evaluated with open-ended questions that asked participants to explain the meaning of 10 symbols commonly used on labels. The aspects queried in this part were separate, single-item measures, and any correlations between them were not examined.

An expectation-performance map was developed to assess consumers' expectations for 14 food labeling criteria that consumers thought were present on food labels, and their perception as to the extent to which the food industry meets these expectations (performance). The criteria were: statement of energy content of a pack; statement of nutrient content of a pack; statement of energy content of 1 portion; statement of nutrient content of 1 portion; statement for percentage of nutrient daily requirements provided by the product; statement of maximum consumption