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# Nutritional information and labels in relation to food advertising: a survey of Macedonian consumers

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## Abstract

Food labeling significantly helps consumers to make informed food choices. Considering the importance of nutrition knowledge for using food labels and making dietary decisions, the opinion of consumers on the usage of nutritional information as part of food advertising was investigated. Based on information collected via an online survey of 183 participants in the Republic of North Macedonia, this study provided consumers' perceptions and attitudes regarding food safety, brand influence, health claims, and label comprehensibility. Results of the survey indicated that while a significant percentage of respondents (48.9%) understood health claims, only 26.8% were familiar with the Nutri-Score labeling system. Brand recognition was high (96.1%), with 68.3% associating brand with product quality. Also, concerns about food safety were prevalent, with 64.8% expressing doubts about the safety of food products available at the national market. Another worrying outcome is understanding food labels, since more than half of respondents (58.8%) stated that the labels are not entirely comprehended. This study demonstrated the need for improvement of the public education on labeling systems, enhanced food safety measures, and stated apparent and more readable food labels, ultimately promoting appropriate food choices and ensuring consumer protection in the Republic of North Macedonia.

**Key words:** nutritional information, food labels, food advertising, consumer perceptions

## Introduction

In the 21st century, marketing plays an integral role in industries and enables them to grow economically. The food sector is a challenging business where ethical standards must always be maintained and several strategies are implemented for successful food product marketing (Martinho, 2020). One critical aspect is the adaptation to local market demands and competitive environments. This includes understanding consumer preferences, cultural differences, and local regulations. For instance, a study of Kwon et al. (2021), emphasized the importance of tailoring marketing strategies to meet the specific needs and expectations of different international markets to achieve success.

The modern consumer is faced with a vast selection of food products and therefore needs to have access to accurate and correct information to make the right choice according the needs is essential. Throughout the world, there is a need to prevent deceptive sales practices and to inform consumers on the actual quantity and quality of foods. Preventing misinformation is a fundamental principle of labeling policies, established to protect the health of consumers and to ensure fair practices in food trade (WHO, 2022). Nutrition information labeling is a

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description intended to inform the consumer about the nutritional properties of the food. Nutrition facts on the label provide detailed information about the nutrient content of the food and allow the consumer to compare the nutritional value of similar food products and make convenient choice (Shamim et al., 2020). A nutritional data label simplifies the choosing of appropriate foods and can also assist in comparing similar products to determine which is a healthier choice (Viola et al., 2016). Food labels are increasingly used to inform consumers about the health and safety aspects of food products, as well as the environmental, technical, and socioeconomic conditions of their production (Hawkes, 2008). Among the most important information to read on the labels when purchasing the product are: expiry date, list of ingredients, nutritional information, recommended serving size and presence of allergens (Regulation (EU) 1169/2011).

Reading food labels is a form of nutrition education itself. For that reason, several different front-of-pack labels have been adopted in the past and classified according to an EU taxonomy on the basis of their informative and directive strengths, as "nutrient-specific labels" and "summary labels" (Mazzu et al., 2022). The NOVA system is widely used worldwide as a method to classify foods according to their degree of processing and to predict the risk of developing chronic non-communicable diseases (Elizabeth et al., 2020). In the past few years, a number of European countries have also implemented the Nutri-Score, a colored five-graded indicator which displays the total nutritional value of a food, excluding unprocessed foods consisting of a single commodity such as a piece of fruit (Pitt et al., 2023). In the Republic of North Macedonia, the basic legal act in this area is the Law for Food Safety (Law for Food Safety, Official Gazzette of the Republic of Macedonia№ 123/2015) and the by-laws and regulations arising from it. According to these acts correct front-of-pack nutrition labeling is mandatory. However, the NOVA methodologies are not implemented yet. Some investigators in this area suggested that the most suitable front-of-pack nutrition labeling to motivate consumers to make healthier food choices is a five-color label since it is an easily interpretive label with a minimal cognitive load (Goiana-da-Silva et al., 2021; Pitt et al., 2023). Conversely, a thorough by-country investigation involving 20 different countries and 4650 respondents found that nutrient-specific labels, like the NutrInform Battery (shows the percentage of the individual portion's energy, fat, saturated fat, sugar and salt toward the recommended daily intake), are more subjectively understood and liked than Nutri-Score as a summary label (He et al., 2023). There is a lack of information about consumers' opinion regarding implementation and use of novel labeling approaches in the Republic of North Macedonia. Therefore, it is very important to examine current knowledge and opinion regarding food labels and nutritional information in relation to food advertising among Macedonian consumers in order to improve the manner of communicating nutrition information to consumers.

## Material and methods

An online questionnaire composed of 11 questions was created in order to obtain objective data about the impact of nutritional information and labels on consumers in their choice of food products. The survey included 183 participants, 70 men and 113 women, each allowed to complete the questionnaire only once. Out of total number of the participants, 76 were over 46 years old, and 97 were between the ages of 26 and 46. Herein, the respondents were required to answer the following questions: familiarity with the term health claims, familiarity with the term Nutri-Score, brand awareness and recognition, influence of the brand on product purchases, opinion on the safety of foods in the Republic of North Macedonia, opinion on the quality of Macedonian products, opinion on the understandability of food labels, awareness of false advertising, familiarity with the food regulations in Republic of North Macedonia and awareness of their legal rights as customers.

## Results and discussion

**C**onsumer perceptions regarding the impact of nutritional information and labeling on dietary decision making in the Republic of North Macedonia were assayed. In order to identify relevant strategies for improving food labeling and marketing, the study assessed consumers' knowledge, comprehension, and perception of food labels and nutrition information. Furthermore, by outlining future trends in this sector, we attempted to comprehend customer attitudes regarding food safety, brand influence, and the efficacy of the current food labeling requirements. Responses of the conducted survey are summarized in Table 1. The findings could address necessary activities to enhance food labeling practices and consumer education in view of promoting healthier food choices and ensuring consumer protection.

The massive increase in the number of food products rises the need, in addition to mandatory information, to display health or nutritional claims on the labels, which must be in accordance with accepted nutritional and health principles. Since these claims are a large part of product advertising, they must be understandable and clear, and government institutions must ensure the declaration of accurate and evidence-based (Ashwell et al., 2023). Significant percentage (48.9%) of respondents knew the meaning of health claims, while 18.1% were not familiar. A small percentage of respondents were familiar with the term Nutri-Score (26.8%) and more than third of the respondents have never heard this term (36.1%). This indicates a need for increased public education on newer labeling systems such as Nutri-Score, which has been shown to effectively guide consumers toward healthier

Table 1. A survey of consumers' attitude towards food regulation and nutritional information and labels in Republic of North Macedonia.

| Questions | Answers (%) | | |
|---|---|---|---|
| | Yes | No | Partially agree/I don't know |
| **Are you familiar with the term health claims?** | 48.9% | 18.1% | 33% |
| **Are you familiar with the term Nutri-Score?** | 26.8% | 36.1% | 37.2% |
| **Are you familiar with the term brand/trademark?** | 96.7% | 2.2% | 1.1% |
| **Is your decision influenced by the brand?** | 100% | | |
| **Is the brand recognition important for food quality?** | 68.3% | 8.2% | 23.5% |
| **Is the food in our country safe?** | 23.2% | 12.1% | 64.8% |
| **Do you think that domestic food products are of good quality?** | 67.8% | 7.1% | 25.1% |
| **Are for you nutrition labels understandable?** | 25.8% | 15.4% | 58.8% |
| **Have you noticed false advertising of food?** | 61.3% | 16% | 22.7% |
| **Are you familiar with food regulations in our country?** | 60.8% | 8.8% | 30.4% |
| **Are you informed of your legal rights as a customer?** | 31.7% | 19.4% | 48.9% |

food choices (Dréano-Trécant, 2020).

As can be expected, vast majority of the respondents (96.1%) knew what brand or trademark of a product represents and not surprisingly everyone agreed that the brand is of considerable importance when choosing to buy a certain product as it indicates the quality of the food. Out of the total number of respondents, 68.3% considered that the brand is closely related to the quality of a certain product and only 15 respondents disagreed with this statement (8.2%). The fact that about 64.8% of respondents declared that they have doubts about the safety of food offered at the market in the Republic of North Macedonia

indicates urgent need to enhance the safety measures and to strengthen the control of the final product including both food industry and food authorities. Only 23.1% believed that the food is safe, while 12.1% of respondents completely disagreed with this statement. Surprisingly positive is that many respondents (67.8) have shown positive attitude and trust toward the quality of Macedonian products, which is particularly important for the development of new domestic products. This may contribute in improvement of domestic food production by focusing on the quality, safety and attractiveness of diverse food products. As far as food quality and a high level of consumer health protection are concerned, it is necessary to have a system of effectively organized control of the quality and safety of both domestic and imported foods. Additionally, the perceived value of a product, often conveyed through pricing, plays a crucial role in consumer decision-making. Studies suggested that consumers associate higher prices with higher quality, which can influence their willingness to purchase premium food products (Wang and Somogyi, 2018). Lastly, sustainability and health consciousness are becoming increasingly important in food product marketing. Consumers are more likely to choose products that align with their values, such as those that are environmentally friendly or offer health benefits. Companies that emphasize these attributes in their marketing can better meet the growing demand for sustainable and healthy food options (Pérez-Cueto, 2020). These encouraged the development of a multifaceted approach to food product marketing, combining local adaptation, value perception, and health consciousness to meet the evolving needs of global consumers.

According to the opinion of 58.8% of the respondents the current information provided on the food product labels is partially understandable and clear. This seems to suggest that food labels need to be changed in a way that will make them easier for people of all ages to understand. It is concerning that 61.3% of respondents are aware of and have observed deceptive product promotion, indicating a demand for further regulation in this domain. Relatively high percentage (60.8%) of the respondents were familiar with food regulations in the Republic of North Macedonia and 48.9% indicated that they are familiar with consumer rights, conditions, and methods of consumer protection. Consumers are more conscious of the impact that product labels have, as it can be seen by the research that was done and the findings that were presented. They understand the importance of nutritional information and how it influences the foods they choose to purchase and eat.

The most important influencing factors in purchasing food products among Macedonian consumers are presented on Figure 1. Upon thorough analysis of the research findings (Fig. 1), it can be concluded that the quality, the price, the nutritional value of food as well as experience and opinion of other consumers are important factors influencing the selection in food purchasing. Moreover, it is evident that the brand is also enrolled in food purchasing for most respondents, and they exhibit a preference for Macedonian products (Table 1).

Finally, regardless of the brand or country of origin of foods, consumers expressed a belief that nutritional information will be used more readily if it is comprehended and straightforward, reflecting the main nutritional features without overwhelming and sometimes fraudulent marketing elements. Meijer et al. (2021) reported that increasing number of label elements may not contribute to effective food labeling. This review pointed out the importance of global harmonization in the use of food labeling features. Kliemann et al. (2018) discussed nutrition labelling legislation regarding serving size and the implications of declared serving size on packaged foods concluded that standard format for presenting serving size on food labels is required to provide clear nutrition information to the consumer. Hence, convenient, memory-friendly approaches like the five-graded colored system or pictorial explanations of quantities that indicate little or a lot of the nutrient, can facilitate comprehension and make food labels simple to use.

## Conclusion

When selecting food products and creating an initial impression of the product, labels are essential. Thus, encouraging packaging, effective branding, and the use of validated health and nutritional claims are all goals for manufacturers to strive for. Educating consumers on the value of nutritional information on packaging and food quality is one of the most important marketing objectives for manufacturers, as it will ultimately assist consumers in selecting the most suitable products for their needs. According to this survey, respondents pay significant attention to food quality during their purchases, but they also have concerns about the safety of food marketed in the Republic of North Macedonia. Further efforts to improve nutritional information and labels in conjunction with food advertising are required considering the significance of these responses and the majority of respondents' declaration that food labels are either partially or difficult to understand.

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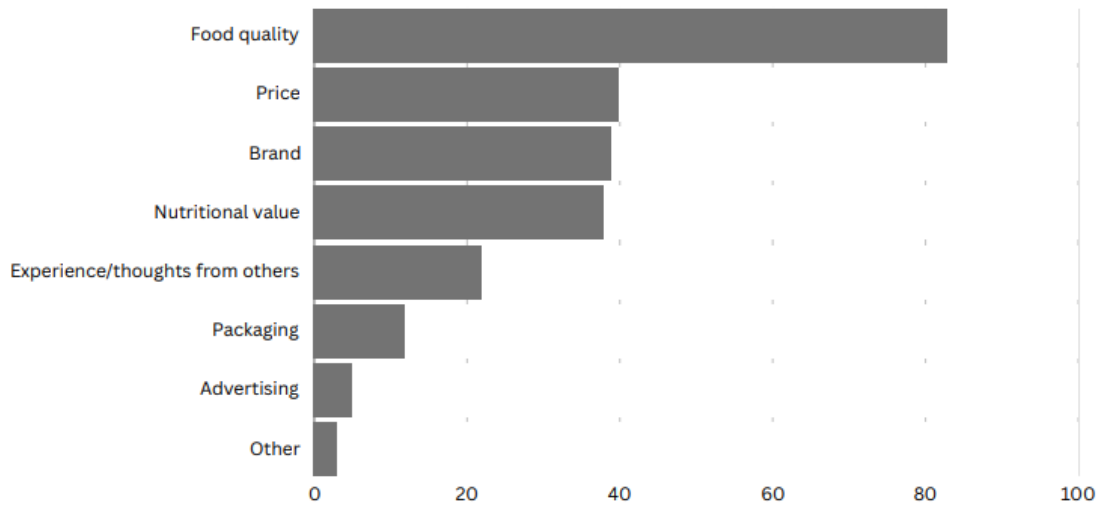


Fig. 1. The most important influencing factors in purchasing food products among Macedonian consumers.

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**Резиме**

# Нутритивните информации и етикети во функција на рекламирањето на храната: анкета на македонските потрошувачи

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**Клучни зборови:** нутритивни информации, нутритивни етикети, рекламирање на храна, перцепција на потрошувачите

Означувањето на храната значајно им помага на потрошувачите за ефикасно користење на нутритивните информации за да направат соодветен избор. Користењето на нутритивните етикети и донесувањето одлуки за исхраната се заснова на знаењето на потрошувачите за исхраната и затоа е важно да се истражат нивните ставови и размислувања за нутритивните информации како дел од рекламирањето на храната. Овој труд ги прикажува мислењата на 183 испитаници во Република Северна Македонија за безбедноста на храната, разбирливоста на етикетите, здравствените тврдења, како и влијанието на брендот при изборот. Резултатите од анкетата покажуваат дека значаен број испитаници (48,9%) ги разбираат здравствените тврдења, а само 26,8% се запознаени со системот за означување Nutri-Score. Препознатливоста на брендот беше висока (96,1%), при што 68,3% од испитаниците го поврзуваат брендот со квалитетот на производот. Кај голем дел преовладува загриженост за безбедноста на храната, при што 64,8% изразуваат сомневање за безбедноста на прехранбените производи достапни на македонскиот пазар. Загрижува и податокот што значаен број испитаници (58,8%) одговориле дека нутритивните етикети се делумно разбирливи. Оттука произлегува потреба од подобрена едукација за системите за етикетирање, користење појасни етикети, како и засилени мерки за безбедност на храната, што ќе промовира соодветен избор на храна ориентиран според потребите на секој потрошувач и воедно ќе обезбеди нивна заштита во Република Северна Македонија.