

Knowledge and perceptions on the reading of food labels: a case study in Uruguay

Conocimiento y percepciones sobre la lectura de la etiqueta de los alimentos: estudio de un caso en Uruguay

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Abstract

Food labeling is one of the tools that consumers use to make choices when buying food products. This study aimed at evaluating some knowledge regarding labeling of packaged foods among one convenience sample comprising consumers in Uruguay, over 18 years of age. Our findings are similar to those found in other Latin American studies aimed at understanding and helping the consumer make a conscious and informed purchase of packaged products. Among respondents, 88% declared they read food labels. Based on the most read information provided in the labels, the expiration date was the most mentioned. Specifically in relation to nutritional information, the fat content was considered the most relevant fact, whereas the protein content was the least relevant one. The technical concept of portion seems to be understood by more than half of the respondents. But the same was not observed in relation to the concept of light. This study reflects the lack of knowledge regarding fundamental nutritional aspects in people's lives. Working towards clear food labels and a constant high-standard education on this issue is crucial to cause an impact on the food choices and the consumption of healthy food products, besides raising public awareness about how appropriate food choices can contribute to health maintenance and prevention of diseases.

Keywords: Food labeling. Perception. Knowledge.

Resumen

El etiquetado de alimentos es una de las herramientas que utiliza el consumidor para realizar elecciones de los alimentos que compra. El objetivo de este trabajo fue evaluar algunos conocimientos relacionados con el etiquetado de alimentos envasados, en una muestra por conveniencia de la población de consumidores de Uruguay, mayores de 18 años. Nuestros hallazgos son similares a los encontrados en otros estudios latinoamericanos con el objetivo de comprender y ayudar al consumidor a realizar una compra consciente e informada de los productos envasados. Un 88% de los encuestados dicen leer la etiqueta de los alimentos. En función de la información que más leen de las etiquetas, la *fecha de vencimiento* fue el dato que más menciones tuvo. Específicamente en relación a la información nutricional, el *contenido de grasa* fue considerado el dato más relevante, y el *contenido de proteínas* el menos relevante. El concepto técnico de *porción* parece ser entendido por más de la mitad de los encuestados. No así se evidenció lo mismo para el concepto *light*. Este estudio refleja la carencia de conocimientos con respecto a aspectos nutricionales fundamentales en la vida de las personas. Trabajar en un etiquetado claro y en la educación profunda y constante de la población con respecto a este tema, es de primordial importancia para lograr un impacto en la elección de los alimentos y su consumo, de forma de contribuir al mantenimiento de la salud y prevención de enfermedades.

Palabras clave: Etiquetado de alimentos. Percepción. Conocimiento.

Introduction

Considering the high rates of obesity in the world's population, WHO recommends the use of nutrition labeling as one of the measures to educate and help people to make healthy food choices. The Codex Alimentarius Commission established the guidelines on nutritional labeling in 1985 and the nutrient reference values in 1993. These guidelines are purely for information purposes and it is up to each government to decide how to apply them.¹

Many countries have established food labeling as a mandatory public policy measure, as this strategy is one of the tools used by consumers to make healthy choices when buying food.

In Uruguay, packaged food labeling is ruled the National Bromatological Regulation (NBR), Chapter 1, Section 4 (repealed in its entirety by Decree nr. 117/06 on *mandatory nutrition labeling for packaged foods*). This Decree contains resolutions nr. 26/03, nr. 44/03, nr. 46/03 and nr. 47/03 of the

Mercosur Common Market Group. Such resolutions take into account the following aspects: first, it addresses consumers' rights to information on the nutritional composition of the food they buy/consume; second, nutrition labeling allows the consumer to use the information provided to make wise choices when buying food; third, nutrition labeling makes it easier to know the nutritional properties of foods and, finally, it helps to ensure an adequate consumption of food products. The term portion is defined in the resolution nr. 46/03 as the average amount of food that should be consumed by healthy people aged over 36 months, at each meal, in order to promote a healthy diet. The resolution nr. 47/03 establishes the serving sizes that should be used in the nutrition facts labels together with the corresponding household measure. This resolution determines levels and groups to establish the right portion.

In 2012, Mercosur Technical Regulation resolution nr. 1/12 on nutrition claims was issued. This resolution was considered and incorporated into the National Law through Decree nr. 402/12. Health and nutrition claims complement the strategies and policies geared towards the consumer's health, aiming at increasing their understanding on the nutritional properties of food products and helping them to make good choices. These properties can refer to the absolute content of a food product, fulfilling certain conditions, as they depend on whether it is a ready-made meal dish or a serving size, and in turn, they also depend on the portion weight.

The importance of food labeling stems from the fact that it is the main means of communication between producers and consumers, for which it is a useful guidance tool for making decisions about food intake, and thus a correct interpretation is paramount. Ten years after the publication of Decree nr. 117/06 on nutritional labeling and its incorporation into the National Legislation, and almost five years after the publication of Decree nr. 402/12 on nutrition claims, it is important to determine how knowledge and perception have evolved regarding food labeling.

The objective of this work was to evaluate some fundamental concepts related to the nutritional labeling of packaged foods through a survey using a convenience sample relying on data collection from consumers in Uruguay, over 18 years of age.

Methodology

This is a quantitative study that applied a convenience non-probabilistic sampling technique through which samples were selected from people living in Uruguay, who were responsible for their household's grocery shopping. A survey with structured questions addressing some sociodemographic and behavioral variables was used as a data collection instrument. In order to properly design this survey, a previous study conducted in 2011 on this subject by teachers from the Food Department of the School of Nutrition (UDELAR) was used as a reference.²

The survey included questions on the nutrition facts on the labels of packaged foods, divided into three parts. The first included questions when respondents “always or occasionally” read the labels; the second group encompassed questions when the respondent “never reads the label”. In the third part of the survey, regardless of whether they “always”, “occasionally” or “never” read the label, interviewees were asked to answer questions on two technical terms (“light” and “portion”). The response possibilities allowed the respondent to select more than one option.

The survey was conducted through individual interviews by Bromatology undergraduate students in 2017, corresponding to the basic degree level in Nutrition Degree, from the University of the Republic of Uruguay. It was carried out during April and June 2017, using the Google forms, allowing obtaining and keeping all the answers in an online electronic spreadsheet.

The quantitative variables were categorized according to following three groups: those who “always read the label”, those who “occasionally read the label” and those who “never read the label”. The results were expressed as a percentage for each category, according to the groups. The results were processed using Open Office package.

The analysis of the findings, as well as the development of the discussion, was carried out together with the students, as a learning opportunity we offered them.

Results

A total of 588 individuals between 18 and 60 years old from the Eastern Republic of Uruguay answered the questionnaire. The average age of the respondents was 36 ± 14 years old. Regarding the education level, 27% of participants in this study had a higher education diploma, 22% had a complete tertiary level and 51% concluded primary and secondary studies (Table 1).

Table 2 shows the distribution of the food label reading patterns.

Those who reported “always” and “occasionally” reading the label considered the expiration date the most relevant information, followed by the list of ingredients and the brand, for both groups (Table 3). It is noteworthy that in this question it was allowed to select more than one option as a response.

As can be seen in Table 4, the nutrition information read the most is the *fat content*, both for those who “always” read the label and for those who read it “occasionally”. On the other hand, the *protein content* was considered the less relevant data. Here the respondents could select more than one option as an answer.

Table 1. Characterization of the surveyed population by age and the highest education level achieved. Uruguay, 2017.

AGE	
<i>Between 18 and 30 years old</i>	41% (n=241)
<i>Between 31 and 50 years old</i>	41% (n=241)
<i>Over 51 years old</i>	18% (n=106)
HIGHEST EDUCATION LEVEL ACHIEVED	
<i>Complete Higher Education degree</i>	27% (n=159)
<i>Complete Tertiary Education</i>	22% (n=127)
<i>Complete High School Education</i>	39% (n=233)
<i>Complete Primary Education</i>	12% (n=69)

Table 2. The frequency distribution of reading the label of foods for the year 2017 and 2011. Uruguay, 2017.

	Total - year 2017	Total - year 2011
Always	23% (n=135)	26% (n=124)
Occasionally	65% (n=381)	56% (n=267)
Never	12% (n=72)	18% (n=83)

Table 3. Distribution of information that interviewed people read the label of foods according to frequency. Uruguay, 2017.

	“Always read”	“Read occasionally”
Brand	29%	30%
Expiration date	89%	91%
List of ingredients	71%	59%

Table 4. Distribution of nutrients the interviewees consider relevant, according to the frequency. Uruguay, 2017.

	Carbohydrates	Proteins	Fat	Sodium
Always read	21%	14%	36%	29%
Read occasionally	24%	16%	34%	26%

Regarding the group that declared “never” reading the label (12%), they referred to the fact that this behavior is due to the lack of interest or because they “do not understand what it means”, or “the size of the letters used is reduced”, or they “have confidence in the product and always buys the same”, going in order from the most significant to the least.

In the third part of the survey, key concepts on the technical terms shown in both the nutrition facts and in the food package label were evaluated. Regarding the concept of “portion”, 65% of the respondents selected the option with the correct definition. Similar percentages were found among those who “always” and “occasionally” read the label, 73% and 66% respectively. For 36% of the respondents, the concept of “light” was associated with a “low-energy food product”; 30% associated it with a “low-energy and low-sugar product”, 12% associated it only with a “low-sugar product” and 7% associated it with a “low fat” product. For 11% of the respondents, a light food product is a “low-energy” item and a “low-sugar and low-fat” type of food.

Discussion

Our findings are similar to those found in other Latin American studies aimed at understanding and helping the consumer to make a conscious and informed purchasing decision on packaged products.

It was observed that most of the interviewees (more than 75%) affirmed they “always” and/or “occasionally” read the food labels, a similar behavior to that found in studies carried out in other countries such as Brazil, Chile and Ecuador, where high reading frequencies were observed, with high values reaching more than 50% of the interviewees.³⁻⁵ When comparing the results obtained in the surveys conducted in 2011 and 2017 with Uruguyan people, the increased level of reading frequency stands out (Table 2), which may be due to a growing concern about healthy food consumption. This evolution may be caused by an improvement in the educational level of the population; a greater promotion of healthy habits; public policies and a greater variety of products in the market.^{1,2}

In a study carried out in Chile on the perception of food labels, it was also found that the most read information was the expiration date, in consonance to the findings of the present study. This information was also considered by consumers as one of the most common and simple aspects that ensures the food quality.⁵ In Brazil, a study on the food label reading among users of basic health care and associated factors, which interviewed more than 1200 people, revealed that the most consulted information was also the expiration date.⁶ This information may be considered important, since it shows that an increased knowledge about the immediate adverse health effects that food in poor condition (mainly digestive manifestations) can cause and it can also be useful to know the storage time at home before consumption. This suggests that the consumer does not evaluate all the information included in the food labels, a behavior that is a source of regional concern, since the expiration date is not an information specifically related to the nutritional properties. Therefore, encouragement should be given to the educational model, not only to make consumers check the expiration date but also to guide them to correctly read all the nutritional information available on the labels, aiming at healthier food choices.

Specifically in relation to nutritional information, the fat content was considered the most relevant data, in consonance with the 2011 report on people living in Uruguay.² According to Miren Itxaso et al.,⁷ people considered the fat content in food to choose their products, even before considering all the nutrition information provided. On the other hand, the protein content was the least relevant data in the present study. It is believed that this disinterest is due to lack of information on this nutrient and its function within a balanced and healthy diet. According to a study carried out in Peru, surveys were conducted on the frequency and other factors associated with the nutrition label reading among people attending gyms, and it was found that the number of calories as well as the protein content arose a similar level of interest, above 30%.⁸

A very low percentage of respondents reported “never” reading the label, a value similar to that reported in 2011 for people living in Uruguay.² It coincided with the rate of 10% reported in a study with similar characteristics carried out in Chile.⁵ Studies should be further developed on the reasons underlying this phenomenon, enabling to define strategies to prevent this from happening.

Regarding the technical terms, the concept of “portion” was selected as the correct option by more than half of the respondents, a higher value than that found in a study conducted in 2011 with people living in Uruguay.² Such an increase can be explained by Uruguayan people’s shift in understanding of what this term means. Regrettably, results on this particular term have not been reported in the researches conducted in the region, limiting the comparison of the results. On the other hand, the concept of “light” does not seem to be well understood, as the results showed that the term was associated with a particular nutrient, such as sugar or fat or energy value. This association may be due to the fact that the products bearing a light claim are understood as diet food items, although both concepts (“light” and “diet”) are different.

According to a study carried out among employees and university students of a higher education institute in São José, State of Santa Catarina, Brazil, 66% of the respondents affirmed they knew the difference between the nutritional terms “light” and “diet”, but the conceptual answers were incorrect. It was concluded that the lack of correct information regarding the true definition of these technical terms may influence the food choices and thus have an impact on the consumers health.⁹

This study demonstrates the need to develop strategies that help the consumer to choose foods through the use of a well explained nutrition label and list of ingredients, to promote health and improve the quality of life; to generate more opportunities enabling people to learn about the nutritional properties of foods and, guided by all this information, make a purchase decision based on the knowledge acquired. It is necessary to emphasize such learning, as it allows the consumer to see beyond the expiration date, and understand the information on the label, with the ultimate goal of making a product selection that allows a healthy and informed diet.

Limitations

First, it is a sample selected by convenience comprising people over 18 years of age who voluntarily decided to participate, and it cannot be extrapolated to the total national population.

Second, the survey was not conducted at the time of food purchase, thus one cannot confirm whether the consumers really read and used the label at the time of purchase. It would also be necessary to study the level of understanding to establish a relationship with level of nutrition label reading.

Third, no pathologies were identified among the respondents that conditioned the label reading process focusing on a particular nutrient or data.

Concluding remarks

This study reflects the lack of knowledge regarding fundamental nutritional aspects in people's lives. Therefore, working towards clear food labels and a constant high-standard education on this issue is crucial to cause an impact on the food choices and the consumption of healthy food products, besides raising public awareness about how appropriate food choices can contribute to health maintenance and prevention of diseases.

One must continue along the path of the creation and dissemination of public policies geared towards nutrition education, which emphasizes the importance of food labeling and the nutrition facts provided, allowing the consumer to make conscious and healthy choices, as reading the expiry date is not synonym for knowledge on this subject.

Future studies should conduct a survey examining the entire national population and consider that interviewees may suffer from some specific pathologies. In addition, they should include other means to gather information such as individual interviews, witnessing/observing the time of purchase and the organization of focus groups.

Acknowledgements

The authors would like to thank the students who have taken a great interest on the subject, a fact that was observed in their active involvement during the analysis of the results: *Marianela Iriarte Farias, Emiliano Morana, Ana Laura López, Ramiro Silveira, María José de la Llana*. And to all the people who voluntarily collaborated, since without their backing this study would have not been possible.

Collaborators

LR and VB worked in all the steps from the study design, to writing process of the article and the critical review of the final piece.

Conflicts of interests: The authors declare that there is no conflict of interests.

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Received: February 20, 2018

Reviewed: August 7, 2018

Accepted: Octubre 15, 2018