

REMARKS ON CONSUMER AWARENESS OF FOOD ADDITIVES IN CHILDREN FOOD PRODUCTS

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Abstract

Food additives (commonly known as E) are substances that are not normally consumed as a stand-alone food and are not used as characteristic food ingredients with or without nutritional value. The aim of the paper was to observe the presence of food additives in some products, such as cold cuts and spreads, more frequently used in children's food, which have high visibility on the shelf, due to the attractive packaging, but also advertising messages in the media. The method applied was the observation of components from the label of products for children and the determination of those that are harmful to human consumption. A questionnaire was also developed to determine consumer opinion. This study was conducted in the Bucharest area, in three large shopping centres. Sodium nitrite (E 250) is found in all foods for children under study. The parents have the obligation to choose the right nutrition for their children. 52.9% of adults admitted that they did not read the label of the food they bought. It is necessary to continuously educate consumers about potentially dangerous ingredients, added to food, reading the label, to determine their presence in the chosen product on the shelf, giving up buying food on the principle of quantity or reduced price to the detriment of quality.

Key words: children, consumer, food additives, food products.

INTRODUCTION

Understanding consumer profile is important for any company that wishes to successfully operate on a market. Understanding the way globalization influences this profile is equally important, especially for agri-food markets. The one in Romania is particularly interesting from this point of view because it has entered this global economic context during the last 20 years. Under its influence and amid the economic and social changes of this period, the local agri-food consumer has shifted from providing the minimum necessary staple goods to phenomena such as preferential consumption, acquiring wide distribution areas or agri-food selection underpinned by individual preferences (Marin et al., 2019). Nevertheless, against consumer profile in developed countries, fundamental differences still exist (Burda, 2009).

The Romanian food market is still in the process of integration into the European Union market both as a regulation and as specific phenomena for consumption and the consumer. From this point of view, one problem is the transformation

that took place in the profile of the Romanian consumer of food goods, before and after Romania's accession to the European Union. Romania wants to equalize the living standards of developed countries in the European Union, so the evaluation standard of the measure of transformation of consumption and purchasing behavior is the way it has evolved and characterizes the profile of the consumer of food in these countries. Strongly influenced by the American lifestyle, the new generations of consumers impose specific behaviors regarding food consumption (Pascaud, 1995)

Food additives (commonly known as E) are any natural or chemical substance that is not consumed as a food in itself and is not used as a constituent ingredient of a food, whether or not it has nutritional value and is intentionally added, for a technological purpose (including organoleptic changes) during the production, processing, preparation, treatment, packaging, wrapping, transport, storage, or other modification applied to a food, becoming a component or affecting the characteristics of the food in one way or another (Regulation EC no 1333/2008).

Food preservatives, which are widely used in food products, affect human health. Their effect varies according to age and health status. The most used preservatives are chemicals such as sodium nitrite, NaNO₂, which is used in meats and fish as an antimicrobial and preservative. Unfortunately, despite its powerful preservative efficiency, NaNO₂ has various worrisome hazardous effects on human health and safety (Attia et al., 2021)

Children are the most important audience when it comes to healthy eating. According to the World Health Organization (WHO), the adequate nutrition of infants is essential to ensure the growth and optimal development of children and achieve better health throughout life, including prevention of overweight, obesity, and diet-related non-communicable diseases (WHO, 2019). A balanced diet is essential for their normal growth and development. At this age they form and define their eating habits that they will follow throughout their lives. Proper nutrition promotes better health and a lower susceptibility to disease. It also contributes to cognitive development and school success.

MATERIALS AND METHODS

The working method applied was the study of labels and the observation of food additives presence in some products, such as cold cuts and spreads, more commonly used in children's food, due to the high visibility on the shelf, due to the attractive packaging, but also to advertising messages in the media.

In order to determine a specific eating behavior, a questionnaire was also developed, addressed to those who bought these products

This study was conducted in the Bucharest area, in three large shopping centres.

RESULTS AND DISCUSSIONS

Sodium nitrite (E 250) was found in all foods for children under study (Martinel Sausages and Martinel Spreadable cream produced by The Family Butchers România SRL (Reinert); Mini Chichen Sausages and Pepe Spreadable cream produced by Perutnina Ptuj – Slovenia).

E250 is a food additive approved by the European Union (EU) and used as an antibacterial synthetic preservative in food products, as well as a colour fixative.

It is specifically effective at inhibiting the botulism-causing bacteria, *Clostridium botulinum*.

Over the years, sodium nitrite has raised some concerns about its safety in foods, but it remains in use. Studies in the 1990s indicated some adverse effects of sodium nitrite, for instance the potential to cause childhood leukemia and brain cancers (Abdollahi & Khaksar, 2014).

The amount of nitrite permitted in meat products is heavily regulated because at high levels it can be toxic (Barbut, 2017)

As a result, in recent years consumer and regulatory pressure has mounted to reduce the levels of nitrite in processed meats (Austin, 2014)

The main concern with sodium nitrite is the interaction with proteins in food that lead to the formation of nitrosamines, which are considered carcinogenic, when meat products containing E250 are exposed to high temperatures (Boerema & Broda, 2004).

Ascorbic acid (vitamin C, E300), tocopherol (vitamin E) or erythorbic acid (E315) prevent the formation of nitrosamines, which is why they are used together with sodium nitrite.

The responsibility for proper nutrition of children lies with the parents, who have the obligation to choose the right nutrition for their children.

In the questionnaire, the adults received various questions in order to establish a profile of the consumer.

In each store were interviewed 5 people each day, in an interval of 7 days, a total of 35 people / store resulting in a total number of 105 people per activity.

Only those who are parents were selected, for data processing.

The interviewees were asked questions related to sex, age, education and average monthly income (to establish social and financial status) (Figures 1-6).

As shown in Figure 1, the majority of people who answered the questions were female, respectively 68.8%.

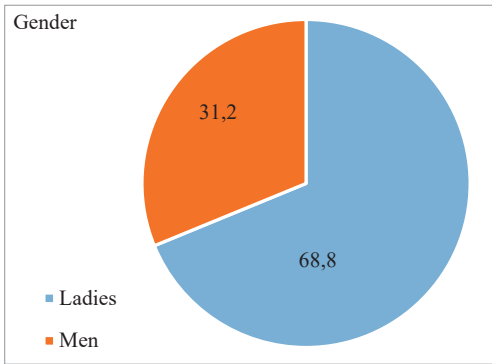


Figure 1. Consumers gender

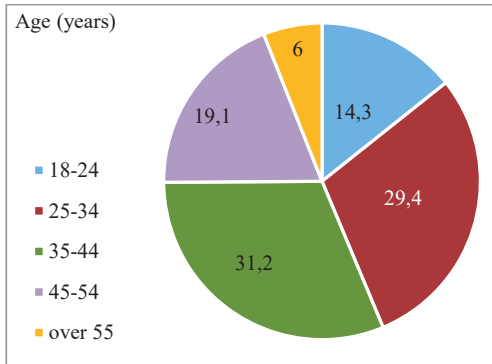


Figure 2. Consumers age

Various age categories were included from 18 to over 55 years old and here it can be seen that most were between 35-44 years with a percentage of 31.2%, the next age category being between 25-34 years, here we have a percentage of 29.4%, the lowest percentage was the age category over 55 years (6%).

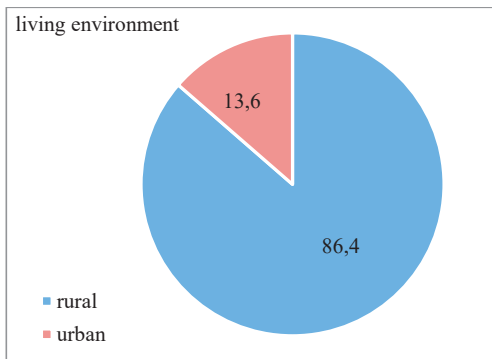


Figure 3. Consumers living environment

1 of the 3 supermarkets where the questionnaires were applied was located on the suburb of Bucharest, some of the buyers being from Ilfov County.

However, those in urban areas were visibly the majority compared to those in rural areas with a majority of 86.4% compared to 13.6%.

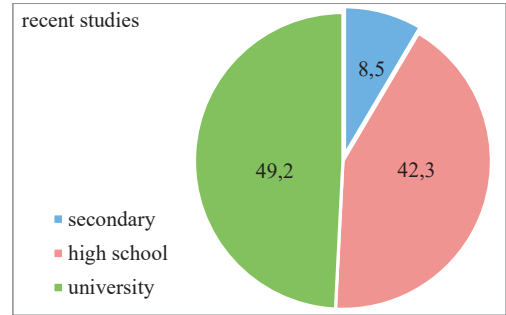


Figure 4. Consumers last studies graduated

Regarding the graduated studies, the majority were those with university studies with a percentage of 49.2%, being closely followed by those with high school studies with 42.5%.

Those with high school education are in a much lower percentage (8.5%).

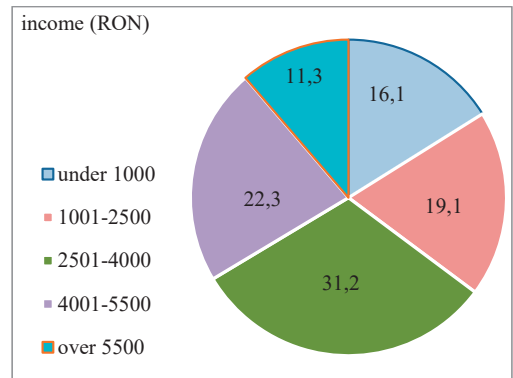


Figure 5. Consumers income

The income category between RON 2501-4000 represented the highest percentage (31.2%).

The lowest percentages were for the categories of incomes below 1000 RON (16.1%) and over 5500 RON (11.3%).

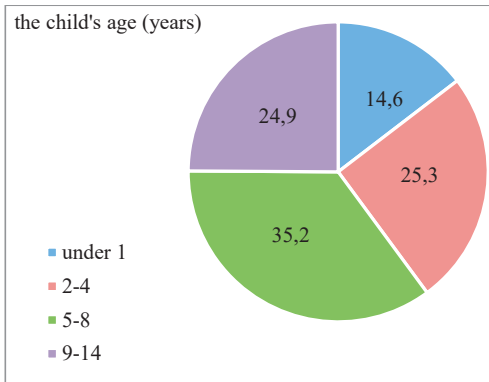


Figure 6. The age of the consumer's child

Most people on the shelves with food for children said that their child's age is between 5-8 years, this category having the highest percentage of 35.2%.

The interviewees were also asked questions related to age of the child/children, frequency of purchase of the products studied, interest in the information on the label. and awareness of the presence of food additives in products, confidence in these products, interest in purchasing organic (organic) products (establishing eating behavior and level of education in this regard – Figures 7-14).

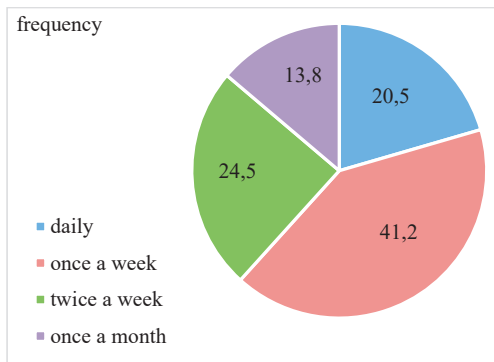


Figure 7. Frequency of purchasing the products under study

The rate for the purchase of food for children is 41.2% for those who buy once a week, 20.5% for those who buy daily, 24.5% for those who buy twice a week and 13.8% for those who buy once a month.

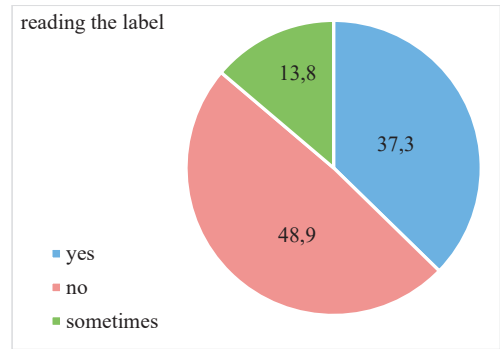


Figure 8. Do you read the product label

Asked if they read the product label before purchasing a baby food, most of the answers were negative, with a high percentage of 48.9%, compared to 37.3% and 13.8% who read it sometimes.

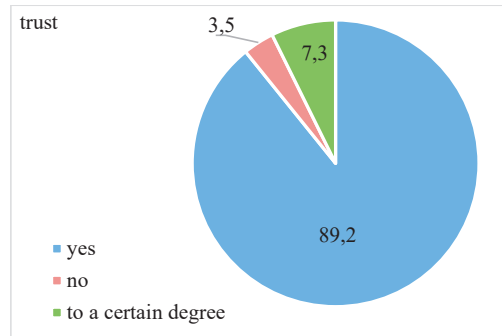


Figure 9. Do you trust the food you buy?

According to figure 9, those who buy food for children trust 89.2% of it, 3.5% do not trust it completely and 7.3% trust it to some extent.

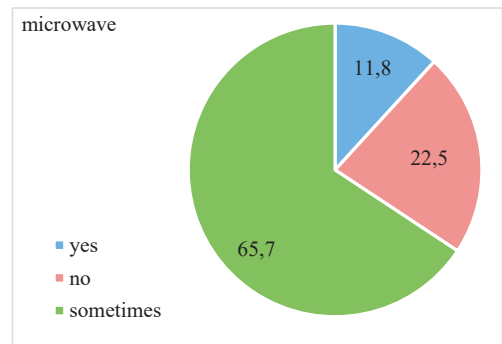


Figure 10. Do you buy organic products for children?

Regarding the purchase of organic food products, the majority of parents (65.7%) answered that they occasionally buy these products for their children, 22.5 do not buy and 11.8 do so frequently.

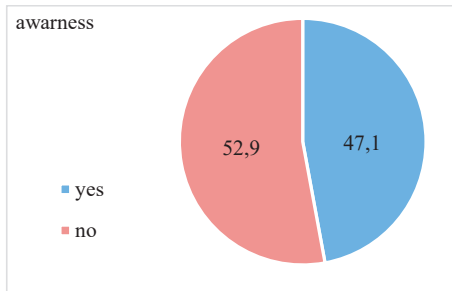


Figure 11. Are you aware of the presence of food additives in children products?

Figure 11 shows that 52.9% of people are unaware of food additives in baby products.

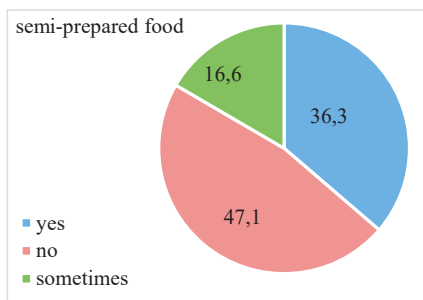


Figure 12. Do you buy semi-prepared foods more often than fresh ones?

Most parents prepare food at home, using raw materials and fresh products (47.1%), but a fairly high percentage (36.3), have a habit of buying semi-prepared products to use in the family's diet. Only 16.6% do not usually buy semi-prepared foods.

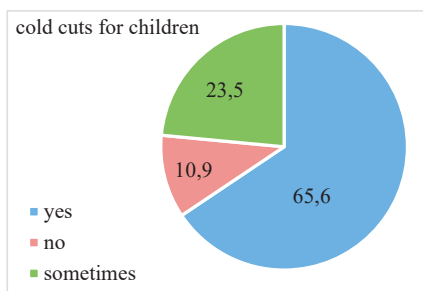


Figure 13. Do you buy cold cuts for children?

More and more parents choose to introduce cold cuts to the diet of young children (70.6%), which is worrying because their number is much higher than those who do not do so (10.9%) or those who do it occasionally (23.5%).

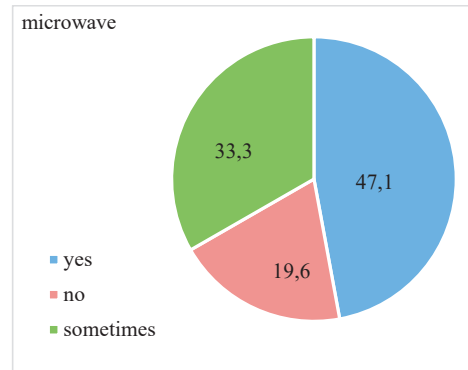


Figure 14. Do you heat food for children in the microwave?

47.1% of parents choose to heat the food to be served to their children in the microwave, 19.6% do not do it and 33.3% do it occasionally.

CONCLUSIONS

Children are the most important audience when it comes to healthy eating. A balanced diet is essential for their normal growth and development. At this age they form and define their eating habits that they will follow throughout their lives.

Proper nutrition promotes better health and a lower susceptibility to disease. It also contributes to cognitive development and school success.

Worryingly, there are many shoppers who are unaware of the potentially dangerous ingredients in the foods they feed their children. The high confidence in the products intended for children is due to the mentality that these products are much better monitored and verified by the competent sanitary-veterinary control bodies. Consumers sometimes make the mistake of placing the responsibility of the food authorities, and do not practice the personal verification of the respective producer.

It is necessary to continuously educate consumers about potentially dangerous ingredients, added to food, reading the label, to determine their presence in the chosen product

on the shelf, giving up buying food on the principle of quantity or reduced price to the detriment of quality.

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