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Food Quality And Safety From A Consumer Perspective

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Abstract

The Slovak consumer has increasingly perceived and is interested in information on the quality and safety of food products. Food safety and quality is a shared effort of all food chain operators from primary processors, food manufacturers, logistics operators, storage and subcontractors to retail and other business entities. Consumer and health protection against harmful health concerns not only economic operators, but also the interests of public institutions. Governments and international institutions have an important role to play in defining the requirements for safe products and regulating business activities in the food industry. An effective food safety policy requires the assessment and monitoring of consumer health risks associated with raw materials and food processing activities. Focusing on the quality and safety of food products is considered at the same time as focusing on the consumer who ultimately influences his or her interest - by demanding or ignoring quality and safety. Food production and consumption is important for any society and has economic, health and, in many cases, environmental impacts. Consumer protection and the improvement of quality of life is a strategic priority of the European Union, which is developed within the framework of the policies at Community and national level in all Member States.

Introduction

The quality policy of the European Union focuses on the quality of traditional agricultural products and foodstuffs, the support of cultural traditions and regions where these products are produced and must meet quality parameters, raw material composition and a technological process that distinguishes them. The quality of food products can vary, whether in production, in the sphere of the goods or in final consumption, as a result of different impacts, which may have a positive or negative influence on quality. In the broader definition, the term 'food quality' means ensuring compliance with energetical and nutritional requirements, optimal sensory characteristics, hygienic safety, required degree of processing, final modification stage, packaging and other specific utility in terms of consumption (Lacková & Karkalíková 2013).



The Slovak consumer is increasingly interested in information about the quality of food products. The production of raw materials for ensuring the population nutrition must meet certain food safety criteria to be able to produce sufficient foodstuffs in terms of the required structure, quality and composition. The SK quality label is a mark by which the consumer quickly finds that the product thus labeled meets the requirements of quality, safety and is related to both production and tradition in the SR (Jarossová, 2016).

The organizations are forced to offer the foodstuff that meet high requirements caused by increasing consumer demands, as well as government regulation of food safety and intense competition in the market. In order to satisfy consumer demands, the producers of raw materials or food are endeavoring to comply with safety standards in the production and food manipulation by monitoring each food chain stage. Consumers are becoming more demanding and responsive to possible threats to food safety. Consumer protection against harmful foodstuff concerns the economic entities, but also the interests of public institutions. Governments and international institutions play an important role in defining the requirements for safe products and regulating business activities in the food industry. The Central and Eastern European countries are currently adapting their food legislation according to European Union legislation, which is in accordance with the association agreements leading to creation of a free trade area. It is in accordance with the White Paper of the Regulations issued by the EU and at the same time respecting the internationally valid Codex Alimentarius.

The European Food Safety Authority that specifies food safety procedures was established by Regulation (ES) no. 178/2002 of the European Parliament and of the Council, which defines general principles and requirements of food law:

- foodstuffs may not be placed on the market unless they are safe,
- foodstuffs are considered dangerous if they are:
 - harmful to health,
 - unsuitable for human consumption.

Food production and consumption is important for any society and has economic, health and environmental impacts. In addition, the status and quality of the environment, especially ecosystems, can affect the different stages of the food chain. The food production chain is becoming more and more complex. Each article in this chain must adequately protect the health of the consumer.

This approach must be applied whether foodstuffs are produced in the European Union or imported from third countries. An effective food safety policy requires the assessment and monitoring of consumer health risks associated with raw materials and food processing activities. This requires an integrated approach to food safety protection. The main tasks of the European Food Safety Authority include:



- **risk analysis** – to provide the European Commission and the Community institutions with independent scientific judgements, opinions, scientific and technical support, scientific studies, summaries and analysis of scientific and technical data,
- **responsibility for activity of rapid alert system for food** - the EU information system informs about non-compliant food and withdraws risky food from the EU internal market,
- **responsibility for consumer information, consumer communication** - raising the consumer interest in food safety issues, providing information on potential risks, informing specific categories of consumers via food labeling, consumer education in the food sector (manuals, promotional materials, etc.)
- **cooperation with other European Union** institutions as well as cooperation with third country institutions.

The Rapid alert system for food and feed RASFF was created as an initiative of the European Commission to ensure the rapid and effective exchange of information between member states in a case of a harmful food endanger and prevention from its penetration to the European Community market. All EU Member States, as well as European Free Trade Association (EFTA) member countries- Norway, Iceland and Liechtenstein, are publishing reports of potential risks, their adoption and rapid response. Each member state has established a national contact points, which together create a RASFF network headed by the European Commission. If the contact point of a member state (in Slovakia is the State Veterinary and Food Administration of the Slovak Republic) receives information about a harmful food or feed, it is obliged to inform the European Commission via the RASFF, which will evaluate this information and forward it to all member states. (Food safety information center) RASFF distinguishes three categories of information:

- **Warning notifications** - are broadcast when a member state identifies a serious health risk and requires a rapid intervention of the food withdrawal from the market if the product is already on the market and the necessary action is taken.
- **Information notifications** - are applied to foods and feeds that represent a certain degree of risk, but member states do not have to take immediate action against these products unless these products have either been marketed or have already been subject to certain measures.
- **Border notifications** - concern food and feed that did not cross the EU's external borders and were refused for risk identification. Subsequently, this information is distributed across all EU border crossings with third countries to ensure that such a product does not enter the internal market

The European Commission publishes a weekly overview of information and alert notifications to ensure the highest protection of the consumer against food and feed



that could endanger human health. The supervisory authorities of Slovak Republic, through the national contact point, are aware of dangerous products that can be controlled on the Slovak market and under their jurisdiction. The European Commission is subsequently re-informed about the facts that have been identified in response to EU information and the measures imposed (ec.europa.eu/rasff).

Food safety is linked to proper production hygiene and health-related safety output. In these terms, the food safety is understood as a very important aspect of the food production quality (Escanciano & Santos-Vijande, 2013). The organizations operating within food industry implement food quality and safety standards to avoid the dangerous food occurrence, consumer complaints, but also the costs associated with it. To be able to ensure, control and improve processes and food quality, organizations must use appropriate management systems (Karkalíková & Noseková, 2017). From long term perspective, the effectively implemented management system increases the competitiveness of the organization and generates strategic market benefits (Karkalíková, 2015).

Food safety systems are a functional tool that protects the brand, the name of the company and the health of the consumer. Even though these systems are not all of a generally binding nature, a certain degree of modification in their implementation is permissible or desirable. They are specific to every business, industry, or country. They are implemented according to certain qualitative and legal requirements that regulate corporate production as well as environmental performance. This category includes:

- **Hazard Analysis and Critical Control Points -HACCP** is a systemic approach that ensures food safety through preventive measures, thereby reduces the risk to the health of consumers.
- **Principles of Good Hygiene Practice GHP** - contain hygienic requirements for individual stages of the production process of food businesses. These requirements were initially created for companies operating in the pharmaceutical industry but were soon modified and applied also in the food sector. The principles guarantee the production of health-conscious foods with a view to their sustainable quality.
- **Good Manufacturing Practice GMP** – in Codex Alimentarius of Slovak Republic is characterized as a summary of the production method measures in terms of its optimization and minimization of health risks. To implement the principles of good manufacturing practice, food business operators shall draw up documentation that comprehends orders, directives, regulations, programs, procedures and processes that are conducive to the production of safe and quality food.

These systems are applied throughout the food chain, from primary production to final consumption, as at each stage of production there may be a risk of biological, microbiological, chemical or physical origin that threatens food safety. HACCP principles



are generally considered to be a useful tool for food business operators to control food-related hazards and they are internationally recognized (Karkalíková, Lacková & Strhan).

The greatest benefit of food safety systems is the ability to detect the failure of the production process directly at the manufacturer, thereby preventing the delivery of an inappropriate product to the market. Ensuring the highest safety and quality of food products is a common effort of all chain subjects from primary processors, food manufacturers, logistics operators, storage and subcontractors to retail and other business entities.

Compliance with food safety legislation and HACCP by food business operators has improved significantly. Responsible authorities must strive to improve the hygiene of small businesses that have problems with staff shortages, financial resources and poor knowledge of food safety (Smigic, Rajkovic, Djekic & Tomic, 2015).

Management systems that are introduced to food-producing organizations are a sort of algorithm, a sequence of steps that defines the organization's quality performance, primarily with focus on meeting customer needs. The implementation of food safety systems and their certification according to standard ISO 22000: 2005 Food safety management systems. Requirements for any organization in the food chain are becoming an essential condition for achieving, maintaining or enhancing the competitiveness of an organization (Nenadál, 2016). Customer care, healthy and safe food, or environmental behavior are just some of the requirements that businesses require from food manufacturers. The introduction of food safety management systems has changed in recent years, and food businesses are currently implementing and certifying management systems for the safety and quality of food products to ensure consumer protection and confidence.

Methods

The aim of the paper is to highlight the risk factors that affect food safety from the consumers perspective. Several general procedures and methods were used to obtain suggestions and recommendations for examined subject. As secondary sources were used literary sources, scientific journals, as well as resources from available internet databases.

The solution required the application of the method of analysis, which allowed to divide and then in more detail to examine individual theoretical knowledge, obtained through domestic and foreign magazine sources.

The method of analysis was also used in the processing of data obtained through a consumer survey questionnaire, which was focused on identifying the interest of Slovak



consumers in food quality and safety issues, their level of education and awareness in this field, the extent to which their purchasing behavior was influenced by individual indicators, awareness of the RASFF system use. Furthermore, the impact of individual indicators such as price, quality, composition and other factors on consumer decision-making was examined.

The scientific methods that have been used included also the method of querying that was using a standardized questionnaire as a method of collecting primary data within a survey conducted. The subject of research was a basic set of 150 respondents working in Slovakia, with primary data obtained from 100 respondents. An electronic questionnaire was created using Google Docs and sent to the respondent by email.

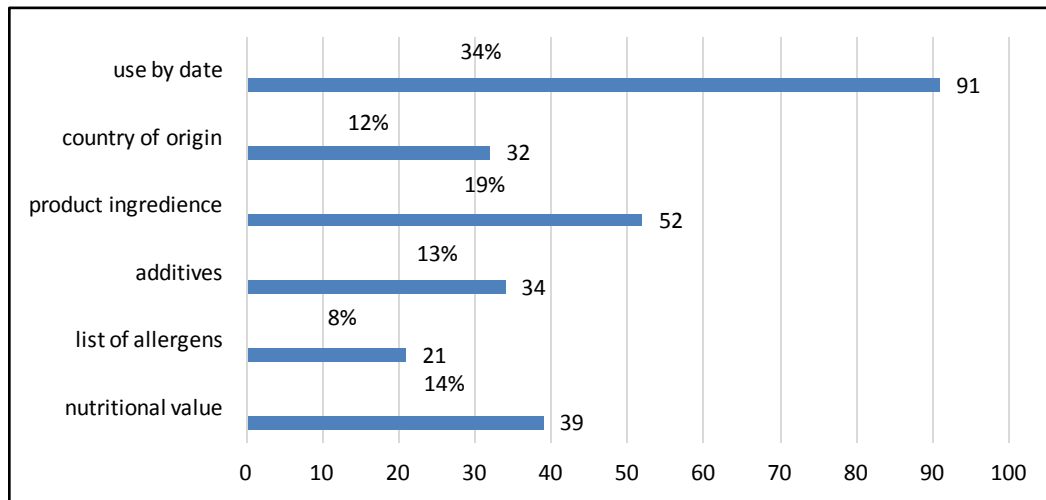
The relationships between individual management systems and their impact on food quality and safety were subsequently investigated by using synthesis. Data on the advantages and obstacles resulting from the quality management systems implementation as well as benefits identification of their certification were processed through induction and deduction. Using this method, we have formulated a conclusion based on questionnaire data. Deduction from the general knowledge has led to a particular knowledge. We used this method to process and evaluate the data obtained from the questionnaire. By using mathematical-statistical methods, the data were analyzed to make the outcomes of each output in a graphical form.

Results

Nowadays, the food policy encourages all entities included in the supply chain and focuses its activities on food quality and safety. In the food industry, it is more important to ensure the health of the population than the economic interests of organizations. Food safety is defined as a condition in which every citizen has both physical and economic access to a sufficient amount of safe and nutritious food. This is a set of measures in which the safety of all components of the food chain is achieved.

The aim of the survey was to evaluate consumers' attitude to food safety, to identify the level of consumer awareness and opinions within this area. The survey was conducted through a standardized questionnaire answered by 100 respondents. Anonymous questionnaire was responded by 66% of women and 34% of men. The women predominance is apparently related to the fact that food products for household are mainly purchased by women. The highest percentage of responses, i.e. 32% (32) was recorded by respondents with secondary education and with graduation, followed by respondents with university education, who accounted for 61% (61) of respondents, 7% (7) of respondents had secondary education without graduation.

Graph 1 Quality as a significant food factor from a consumer perspective

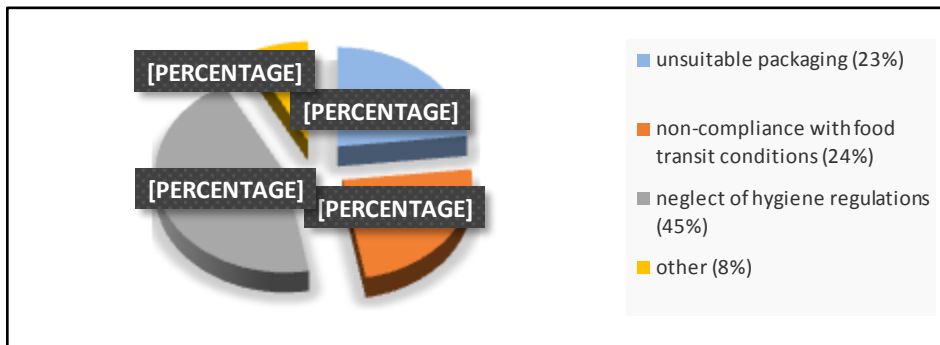


Source: Own study

Respondents could express their own opinion on food safety criteria as they could choose more options in the questionnaire. For the highest percentage, 52,44% (86) of the participants the term "food safety" presents the preservation of food safety. Food safety compliance was the second most common criterion for the assessment of safe food by respondents- 23,75% (39). 17,07% (28) of respondents understood the "food safety" as a safety of the food packaging material. The remaining 6,71% (11) of the interviewed respondents expressed their own opinion on the assessment of safe food. While evaluating the food safety, particular emphasis was placed on food product origin and content. They have also been interested in the content of additives and allergenic ingredients which are considered as harmful to health.

As Graph 1 suggests, respondents could choose more options from offered answers. From the information obtained, we found out that the highest number of respondents' answers, up to 34% (91) characterise the quality of food as a food freshness (use by date). 19% (52) of respondents indicate that respondents put emphasis on product ingredience, 14% (39) consider nutritional value as a food quality. Almost the same percentage of respondents, with only a small variation, evaluate the food quality according to the content of food additives - 13% (34) and 12% according to the country of origin (32). The remaining 8% (21) of respondents expressed the opinion that food quality depends on the list of allergens. They claim that food allergies are one of the main unwanted food impacts. A significant percentage of people suffer from allergy to certain food ingredients, and by focusing on the list of allergenic ingredients contained in the food, it is possible to eliminate the possible risks of the possible allergic reactions.

Graph 2 Risk factors affecting food safety



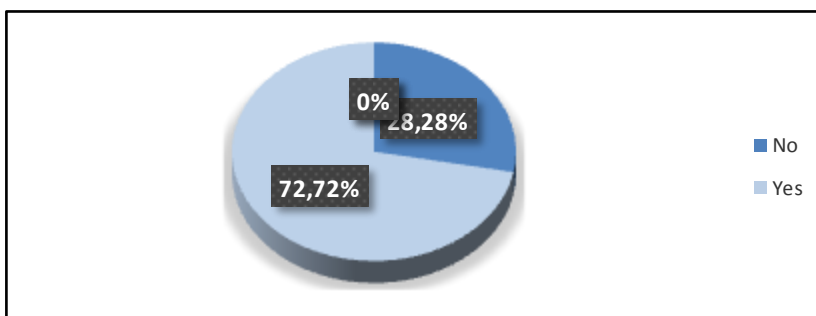
Source: Own study

The neglect of hygiene regulation are considered as risk factors that affect food safety (Graph 2) by 45% of respondents. Hygiene compliance is important for all organizations that manipulate with food- during production, storage, transport and launching the food products on the market and their consumption by consumers.

From Graph 3 shows that the majority of respondents, up to 72 of the 100 questioned, do not know what means "Rapid alert system for food and feed". Respondents stated they have never met with this concept, they could not identify the RASFF abbreviation. Only 28% of respondents knew what the RASFF system was.

The responses of these respondents have captured the very essence of this security system. Food safety is considered as a priority at all stages of the food chain. The Organisation for Economic Co-operation and Development (OECD), Food and Agriculture Organization (FAO) and the World Health Organization (WHO), as independent international institutions, developed directives that ensure the harmlessness of new technologies in food production. In terms of food safety, legislative institutions and manufacturing enterprise have different mechanisms. It is assumed that food is safe when it is not possible to identify a significant hazard for consumer health

Graph 3 Consumer awareness of RASFF



Source: Own study

There is a very wide range of food products on the market, both domestic and



imported from abroad. There are several factors influencing consumers' decision-making on food. The most important are price, quality and food safety. Consumers' opinions on food safety and control are constantly being monitored, as organizations are increasingly adopting concepts of meeting consumer needs. The results obtained from ongoing monitoring significantly influence the behavior and decision-making of producers, sellers as well as food distributors, and last but not least, they influence the process of consumer decision making in the purchasing process.

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