

THE IMPORTANCE OF MILK AND DAIRY PRODUCTS CONSUMPTION AS A PART OF RATIONAL NUTRITION

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ABSTRACT

The paper is focused on the issue of consumption of milk and dairy products as an important part of the rational nutrition of the population of the Slovak Republic. The aim of the paper is to highlight the development of consumption of drinking milk and selected dairy products, including cheese and acid-based products, in the last 20 years in the conditions of the Slovak Republic. Furthermore, the paper focuses on comparing current consumption of milk and dairy products with recommended intakes resulting from the rationalization of diet. Based on the results, it can be stated that the consumption of milk and dairy products is insufficient at the level of 70% of the recommended consumption intakes of the selected food group. In connection with this, it is important to note that the consumption of drinking milk is low. The results obtained by processing the secondary data were supplemented with the primary data obtained from the questionnaire survey. Based on the results, we have conclude that most consumers are trying to maintain a healthy lifestyle and rational diet, which is just the consumption of milk and dairy products. Consumers especially prefer drinking milk, cheese and yoghurt, whose consumption is still low, which the respondents attribute to the high prices of the monitored products as compared to their income. On the other hand, the results showed the main factors determining the consumption of milk and dairy products, among which we can include quality, composition, price, durability and nutrition data. Based on the results obtained by processing secondary data and primary research, we suggest informing and educating consumers about the positive health effects and highlighting the recommended benefits to a greater extent.

Keywords: milk; dairy product; consumption; recommended intake; rational nutrition

INTRODUCTION

The aim of rational nutrition is to ensure the necessary intake of nutrients that are relevant to the health of the human organism (Golian et al., 2018; Holienčinová et al., 2013). However, at present consumers do not have enough information to make reasonable decision when buying the food. Important food, which consumption is inadequate in the conditions of the Slovak Republic and which are essential for health, includes milk and dairy products. For this reason, the aim of the paper is to highlight the basic issues and issues related to milk and dairy products, with an emphasis on the importance of consumption and its sufficiency in relation to the recommended intakes resulting from the rationalization of eating.

Milk and dairy products represent one of the most elemental foods for all age categories of the population because of its biological component, which is the basis for the promotion and maintenance of rational nutrition of the population, regarding to which it has got a significant position (Michaelidou, 2008; Pereira, 2014). Milk is a multicomponent blend, with its primary components, which are proteins, fat, lactose, vitamins and minerals,

involved in the formation of a complex food (Keresteš, 2016; Čuboň, Haščík and Kačaniová, 2012; Nicklas, O'Neil and Fulgoni, 2009).

Milk proteins present in the milk are made of casein and whey proteins, which are nutritionally and technologically essential and represent an irreplaceable amino acid intake for humans. Another milk constituent is carbohydrates that do not form a significant portion, but lactose is the primary ingredient. Lactose is a hydrocarbon that can only be found in milk and has a significant role in energy production. Milk fat, representing an easily digestible emulsion containing lecithin and a relatively low level of cholesterol, is another important ingredient in milk. According to Beck and Coad (2017) the main minerals are calcium, phosphorus and potassium, with iron and copper having a less pronounced presence. In the context of this, there is an important ratio of calcium and phosphorus, which should be 1:1.3, and the magnesium content for the optimal skeleton development in child and juvenile consumers. In addition to the ingredients, milk also consists vitamins that can be diversified into two categories, water-soluble vitamins and fat-soluble vitamins. In cow's milk, there is enough of vitamin A, B1, B2, B6 and

B12, biotin and lower amount of vitamin C (Zeleňáková and Golian, 2008).

On the basis of the mentioned above, we can conclude that milk is an important food because milk and dairy products take an irreplaceable place in the intake of nutrients that are essential for the growth of the human organism and can be considered as a medicine for all age categories of consumers with different levels of their health condition (Košíčiarová, Nagyová and Holienčinová, 2017; Herian, 2006).

Nouzovská (2007), based on studies by several experts who regard milk as an exceptional food for its ingredients, highlights its need for body building. She also points to substances that provide the human body with energy in the required amount and essential elements that body cannot produce by itself, vitamins, minerals, hormones, enzymes with a positive aspect of non-stressing the body. In the context of the individual components of milk and their beneficial effects, we can define the basic benefits of consuming dairy products for the health of consumers (Koca et al., 2017).

Regular consumption of milk and dairy products has, in the first place, beneficial effects on health of bones and teeth. We state that cow's milk is an important source of calcium and minerals (Prentice, 2014). Furthermore, the milk also contains vitamins that positively influence the health of the bones. An inadequate amount of calcium and vitamin D can lead to negative health consequences, in particular can cause osteoporosis and osteopenia. For this reason, it is beneficial and necessary for people to include milk and dairy products in their daily diet. On the other hand, it is important to note that cow's milk consumption is not sufficient to prevent osteoporosis, it is important to maintain also the physical activity, strength training, absence of smoking and drinking alcohol, complex healthy eating with a focus on diet containing low sodium and a significant amount of potassium (International Osteoporosis Foundation, 2015).

Consumption of milk and dairy products as part of a rational, healthy diet also has positive effects on optimal blood pressure. Cow's milk, which is an important source of potassium and contains a low sodium content, is effective in preventing and promoting the elimination of the risk of

cardiovascular disease. However, milk and dairy products should be consumed according to recommended intakes, since their over-consumption may have adverse health effects for consumers. As we have already mentioned, cow's milk contains not only high amounts of potassium but also saturated fat and cholesterol, whose excessive consumption can cause an increased risk of heart disease. If the consumers have the high blood pressure and cardiovascular disease reported for the longer time, they should consider cholesterol intake, when milk and dairy products with low fat and salt content are recommended (Ware, 2016).

Ware (2016) consider as a significant positive of cow's milk its content of a wide range of proteins, including all essential amino acids that have a beneficial effect on the growth and recovery of human muscle tissue. Cow's milk and high-fat milk products contain a sufficient amount of saturated fat, which can be considered as the energy source needed to increase the muscle mass in the body. Maintaining a healthy amount of muscle in the body is one of the basic prerequisites for promoting metabolism and ensuring optimal body weight (Geng, Qi and Huang, 2018). It can be said that by consuming of milk, consumers can increase their muscular mass and receive the energy they need to exercise and promote a healthy lifestyle.

Several studies confirm that cow's milk has, in addition to the above-mentioned benefits, other aspects contributing to the positive health of humans. Cow's milk and dairy products due to its high content of minerals act preventively against the development of colon cancer. Experts also point to a sufficient amount of vitamin D in cow's milk, which has a beneficial effect on hormones associated with mood, appetite and sleep, which can lead to the elimination of depression of consumers. Various studies aimed at examining the positive effects of cow's milk on the human organism also emphasize its importance in brain and nerve tissue development, regulation of body temperature, bowel movement, bile acid reduction, good vision, and resistance to infections of various kinds (Herian, 2006).

Analysis of individual milk components leads us to the conclusion that cow's milk and dairy products have demonstrated beneficial effects on human health, therefore are set the recommended intake of consumption.

Table 1 Composition of cow's milk %.

Ingredient	%
Water	87.0
Dry matter	13.0
Protein	3.2
Lactose (carbohydrate)	4.8
Fat	4.2
Minerals	0.8

Note: own processing based on Obermaier and Čejna, 2013.

Table 2 Recommended intake for milk and dairy products consumption.

Milk and dairy product	Recommended annual intake in kilograms per person	Recommended daily intake in grams per person
Milk and dairy products	220.0	602.7
of which: Cheese and curd	10.1	27.7
Drinking milk	91.0	249.3
Sour-milk products	14.0	38.3

Note: own processing based on Kajaba et al., 2012.

Recommended intake of milk and dairy products are formulated with regard to recommended dietary intake to give the consumer daily basic nutrients, minerals and vitamins. In the context of the above, recommended intake of milk and its consumption are set at 220 kg per capita per year, with an intake for adequate consumption between 206 kg and 240 kg. Receipt of the analysed commodity is necessary due to its positive effects on consumer health. The following table shows the recommended annual and daily consumption of individual dairy products.

Milk and dairy products can be generally considered as recommended food for all age categories of consumers that are very difficult to substitute, and with regard to children's consumers, their intake is irreplaceable (**De Pelsmaeker, Schouteten and Gellynck, 2013**). For this reason, it is important to draw attention to children and the need to include milk and dairy products into their daily meals. Recognizing the need for milk by children of low age can lead to a positive relationship and a regular consumption of dairy foods even in adulthood.

As already mentioned, consumption of milk and dairy products is beneficial for consumers and can be considered as a form of prevention against various diseases. **Lecerf (2013)** considers milk as a food from which the child obtains 51% of calcium, 31% of phosphorus, 27% of zinc, 41% of iodine, 15% of selenium, 39% of vitamin B2, 42% of retinol, 20% of vitamin B12, 24% of protein and 18% of magnesium from the recommended daily dietary intake. In the case of adults, the proportion of milk and dairy products is different from the recommended daily dietary intake. Adult consumers obtain, by consuming the recommended daily dietary intake of milk and dairy products, 45% of calcium, 24% of phosphorus, 20% of zinc, 32% of iodine, 11% of selenium, 29% of vitamin B2, 30% of retinol, 20% of vitamin B12, 18% of protein and 11% of magnesium.

Scientific hypothesis

The aim of the paper is to point out the consumption of milk and dairy products in the conditions of the Slovak Republic, with an emphasis on the development of consumption of individual types of dairy products compared to the recommended intake and the identification of factors affecting the level of consumption.

For a deeper analysis of the research objectives, the following hypotheses were formulated:

Hypothesis 1: We assume that there is a dependence between respecting health principles in rational nutrition and selected demographic characteristics of respondents (age, gender, education).

Hypothesis 2: We assume that there is a difference in the evaluation of higher prices as a main reason of low consumption of milk and dairy products between respondents from households with different monthly incomes.

Hypothesis 3: We assume that consumers assess the importance of the individual criteria for choosing milk and dairy products differently.

MATERIAL AND METHODOLOGY

Regarding the development of the consumption of milk and dairy products in comparison with the recommended intake, the secondary data had been obtained from the

Statistical Office of the Slovak Republic and the Research Institute of Agriculture and Food Industry.

The primary data was obtained from questionnaire survey, implemented in an electronic version and conducted on a sample of 516 respondents from April to December 2018 in the Slovak Republic.

Respondents participating in the survey were diversified into 9 categories by gender (women 64.1%, males 35.9%), age (up to 25 years 43.0%, 26 – 35 years 23.3%, 36 – 50 years 19.2%, 51 – 60 years 8.5%, more than 61 years 6.0%), education (basic 1.7%, secondary school 45.9%, university 52.3%), permanent residence (countryside 48.6%, city 51.4%), economic status (student 36.2%, employed 48.3%, the self-employed person 4.7%, unemployed 1.2%, maternity leave 2.9%, retired 6.8%), monthly household income (less than 1,000 Euro 19.8%, 1,001 – 2,000 Euro 54.7%, 2,001 – 3,500 Euro 23.1%, 3,501 – 4,500 Euro 2.1%, more than 4,501 Euro 0.4%) and by the number of members of the household (1 member 3.7%; 2 members 18.8%; 3 members 22.9%; 4 members 37.6%; 5 members 12.0%; more than 5 members 5.0%).

Statistic analysis

Collected data was processed by using Microsoft Excel and then evaluated in the statistical program XL Stat. The formulated hypotheses were tested by applying the following statistical methods:

- Contingency table chi-square test,
- Fisher's exact test,
- Cramer's coefficient,
- Mann-Whitney test,
- Friedman test,
- Nemeny's method.

In hypothesis testing, if the p -value is lower than significant level, in case of XL Stat software, it is 0.05, the null hypothesis is rejected, and the alternative hypothesis is confirmed (**Witek, 2016**).

RESULTS AND DISCUSSION

In the Slovak Republic, the development of consumption of milk and dairy products per capita was accompanied by a fluctuating trend in the period 1997 – 2017 (Figure 1) (**Statistical Office of the Slovak Republic (SO SR), 2018**). In 2003, the consumption of milk and dairy products began to decline. In 2010 there was an increase in consumption of the monitored food, but the average consumption did not reach the recommended intake level resulting from rationalization of meals. This trend persisted until 2017, so it is necessary to point out the possible reasons for the relatively low consumption of milk and milk products that could be caused by the living conditions of the population of the Slovak Republic, by unconfirmed information about the negative effects of milk consumption on human health or by the diagnosis of lactose intolerance (**Zingone et al., 2017**). At present, the consumption of milk and dairy products is 176.1 kg per capita, which represents lower consumption by 20.0% compared to the recommended intake. The consumption of milk and dairy products was mainly due to drinking milk, cheese and sour-milk products.

Development of consumption of drinking milk is not proportional to the total consumption of milk and dairy products in the analysed period 1997 – 2017 (Figure 2). We predict this on the basis of the downward trend in milk consumption in the long run. In the first reference year, consumption was 75.8 kg per capita and in 2017 only 46.3 kg. Of course, the fluctuations in milk intake by Slovak consumers were also recorded. The largest increase was registered in 2010, which was determined by the state's support activities for milk consumption. However, in the context of the above, it is also important to note the elimination of consumption from 2011 to the present. Consumption of drinking milk does not cover the

recommended intake and falls by almost 50%, which we consider to be a very significant lack of rational nutrition. In the next two years, we expect an even lower consumption of drinking milk based on the determinant coefficient (R^2), which should reach an annual level of about 40 kg per capita in the Slovak Republic. Low milk consumption contributes to increasing milk prices and to constantly expanding supply of other dairy products such as cheese, yoghurt, or other sour-milk products (Kubicová, 2008; Kubicová and Habánová, 2012).

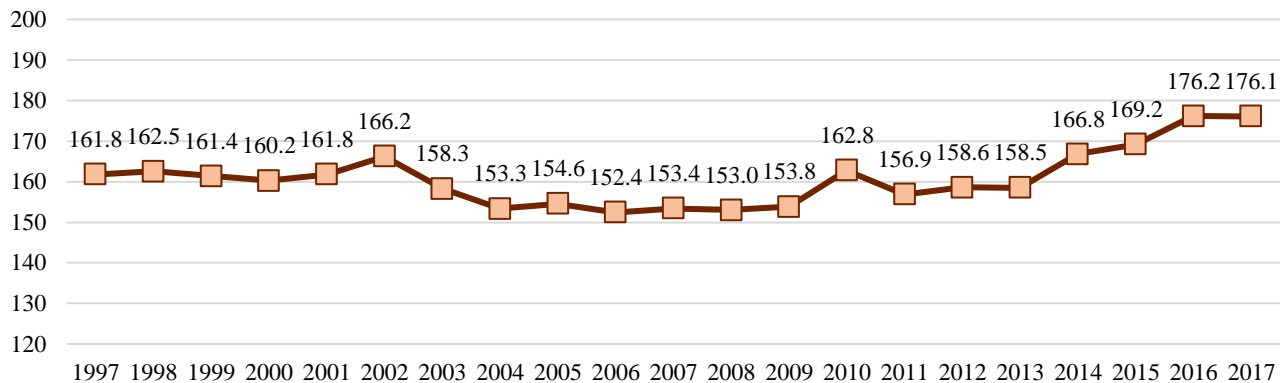


Figure 1 Average consumption of drinking milk and dairy products in kilograms per inhabitant of the Slovak Republic. Note: own processing according to SO SR, 2018.

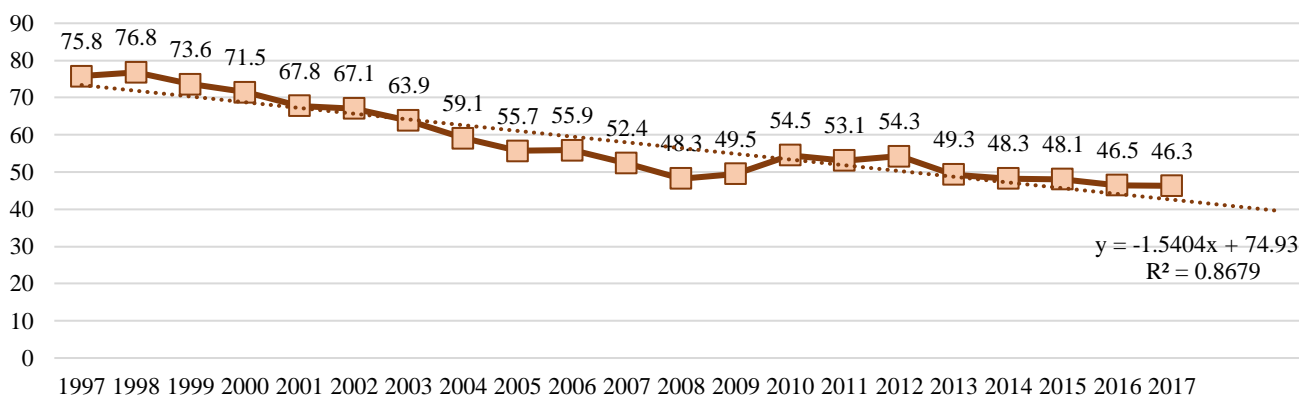


Figure 2 Average consumption of drinking milk in kilograms per inhabitant of the Slovak Republic. Note: own processing according to SO SR, 2018.

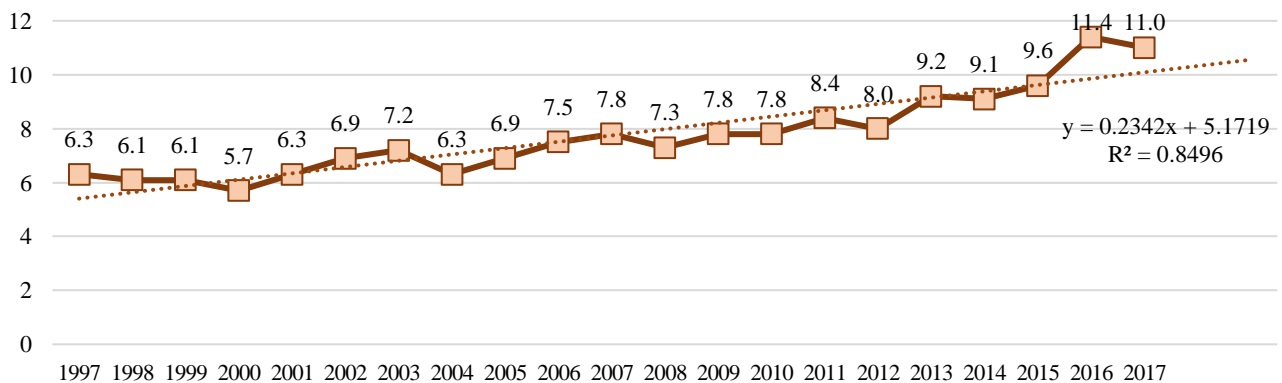


Figure 3 Average consumption of cheese in kilograms per inhabitant of the Slovak Republic. Note: own processing according to SO SR, 2018.

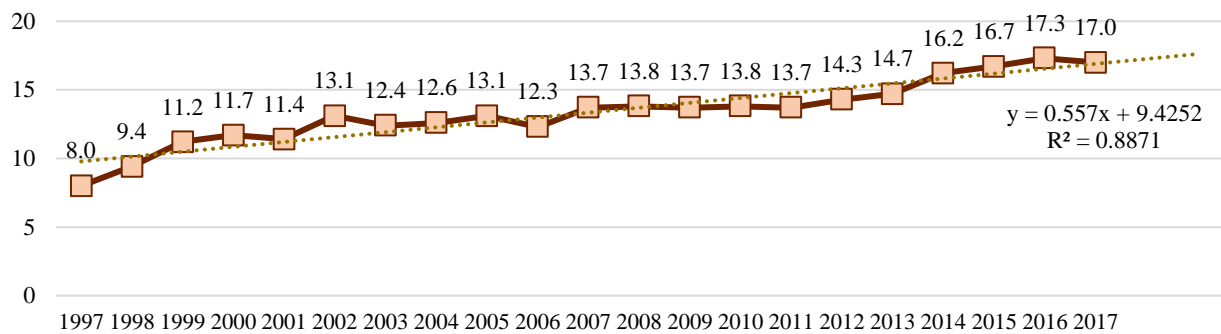


Figure 4 Average Consumption of sour-milk products in kilograms per inhabitant of the Slovak Republic. Note: own processing according to SO SR, 2018.

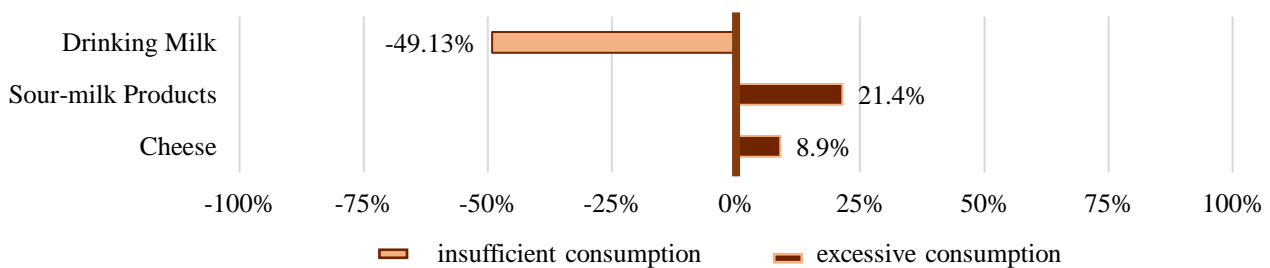


Figure 5 Comparison of recommended and real consumption of milk and dairy products in %. Note: own processing according to SO SR, 2018.

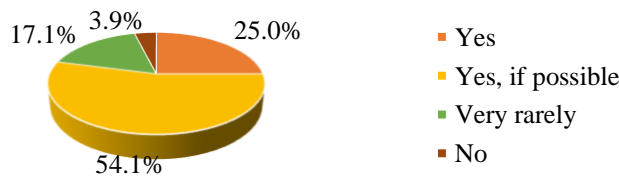


Figure 6 Respecting health principles in rational nutrition. Note: questionnaire survey, 2018.

Table 3 Influence of selected demographic factors on respecting health principles in rational nutrition.

Factors	p-value	correlation	Cramer's V-coefficient
Respecting Health Principles and Gender	0.008	yes	0.151
Respecting Health Principles and Age	0.024	yes	0.123
Respecting Health Principles and Education	0.001	yes	0.152

Note: questionnaire survey, 2018.

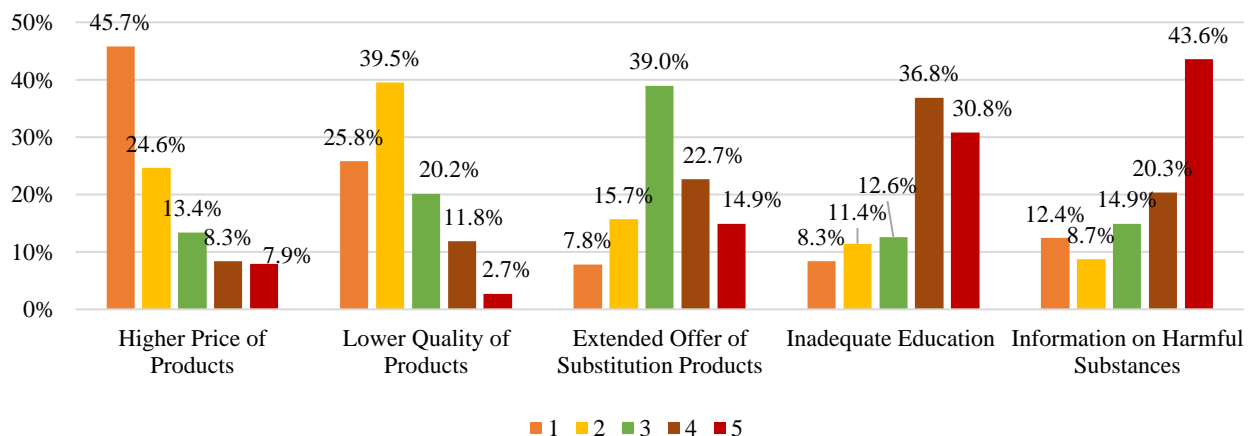


Figure 7 Reasons for low consumption of milk and dairy products compared to recommended intakes. Note: questionnaire survey, 2018.

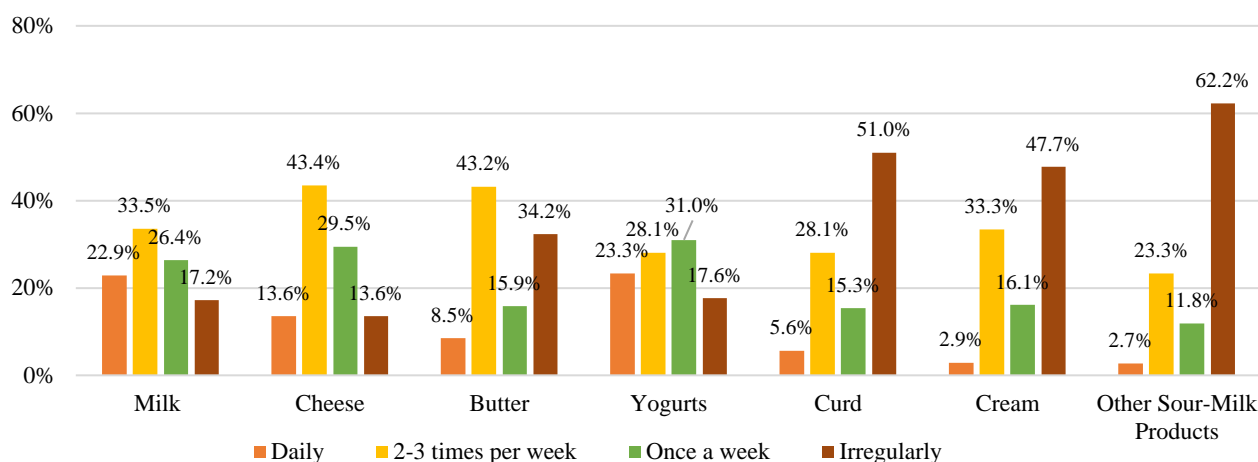


Figure 8 Preference of selected types of dairy products and milk according to regularity of their consumption. Note: questionnaire survey, 2018.

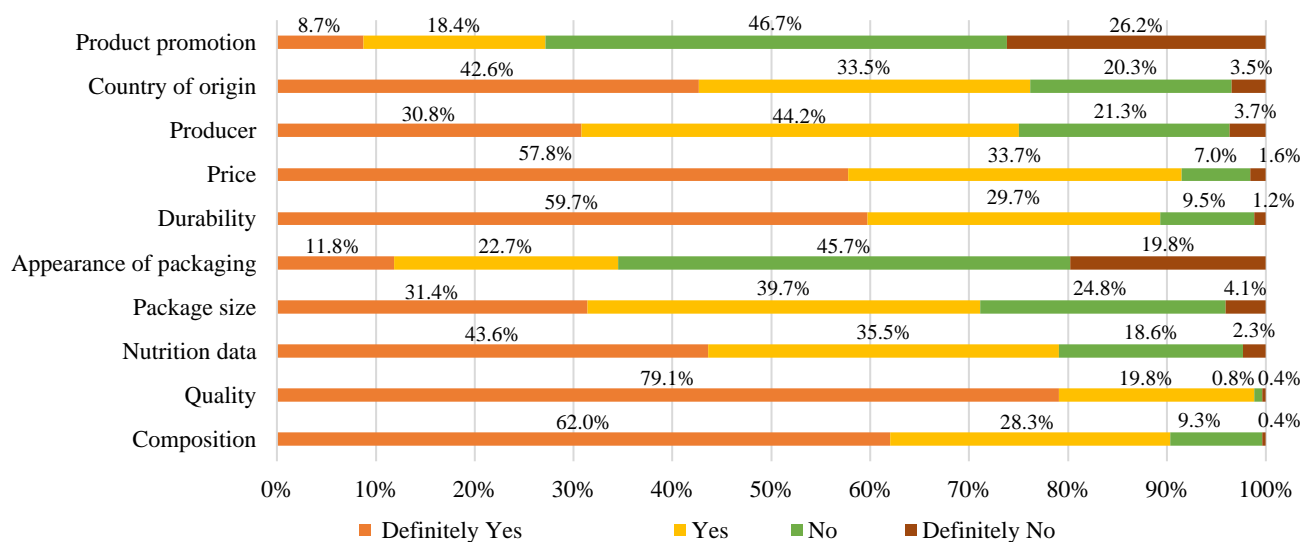


Figure 9 Factors determining the consumption of milk and dairy products. Note: questionnaire survey, 2018.

Table 4 Differences in factor evaluation when choosing milk and dairy products by applying the Friedman Test and Nemeny's Method

Sample	Frequency	Sum of ranks	Mean of ranks	Groups
Quality	516	1,722.500	3.338	A
Composition	516	2,162.500	4.191	B
Durability	516	2,262.000	4.384	B
Price	516	2,265.000	4.390	B
Nutrition data	516	2,711.000	5.254	C
Country of origin	516	2,785.000	5.397	C D
Producer	516	3,025.000	5.862	D
Package size	516	3,077.500	5.964	D
Appearance of packaging	516	4,078.000	7.903	E
Product promotion	516	4,291.500	8.317	E

Note: questionnaire survey, 2018.

The consumption of cheese is directly proportional to the total milk and dairy consumption. In the monitored period, a gradual increase in the consumption of cheese was recorded (Figure 3). In 1997, consumption was 6.3 kg and in the last analysed year up to 11 kg, which represented an

increase in consumption by 74.6%. On the basis of the determinant (R^2), a slight decrease in cheese consumption is estimated to approximately 10.5 kg per person in the following two years, but with a view to rationalizing the diet

and the recommended intake, cheese consumption will still be at a sufficient level.

Consumption of sour-milk products is similar to consumption of cheese. In the analysed period 1997 – 2017 there was a gradual increase in the intake of sour-milk products by Slovak consumers (Figure 4). In connection with mentioned, it is important to highlight the favourable consumption growth of 212.5% from 8.0 kg in 1997 to 17 kg in the last reference year.

By 2011, the consumption of dairy food was below the recommended dose of 14 kg, but it is slightly higher than in 2012 and currently stands at around 21.4% above the rational diet recommendations.

In view of the above, the consumption of sour-milk products is expected to increase and in 2019 it should reach an annual level of approximately 17.5 kg per inhabitant of the Slovak Republic. **Kubicová and Dobák (2012)** emphasize that the increase in consumption of sour-milk products was mainly determined by the increased and varied range of products of domestic and foreign production associated with marketing communication and a wider range of price levels.

The question of the adequacy of current consumption of milk and dairy products can be judged by the level of recommended intake. Excessive consumption, i.e. consumption higher than the recommended intake, is recorded in the case of cheeses and sour-milk products. The consumption of sour-milk products is 21.4% higher compared to the recommended intake and the consumption of cheeses is 8.9% higher compared to the recommended intake. On the other hand, inadequate consumption, i.e. consumption lower than the recommended intake, is recorded in a case of drinking milk, which is 49.13% lower compared to the recommended intake (Figure 5).

Consumption of milk and dairy products is influenced also by the level of retail prices in relation to the average income of the population (**Bousbia et al., 2017**), the gross domestic product and its distribution among the population, the standard of living, structure of the market, intensity of international trade or the individual consumer behaviour (**Matošková and Gálik, 2016; Skořepa, 2009**). Consumer behaviour can be considered as one of the main factors determining the consumption of milk and dairy products. We identified these on the basis of a questionnaire survey focused on consumers of milk and dairy products, aimed at identifying consumers' attitudes towards rational eating, the positive health effects of milk consumption from the point of view of consumers, preferences in milk and dairy products and factors determining consumer behaviour when choosing milk and dairy products. In relation to health and a healthy lifestyle resulting from rational diets, it was necessary to point to the percentage of consumers adhering to this trend. Based on the research results (Figure 6), it can be stated that 25% of respondents adhere to regular health principles in rational nutrition and 54.1% of consumers follow rational diets on an irregular basis. As a result, almost 80% of respondents are nutritionally focused on the health aspect and try to follow recommended intakes.

Regarding to this question several dependences between the selected socio-demographic variables of respondents and respecting the health principles in rational nutrition (Hypothesis 1). Applying the statistical tests Contingency table chi-square test and Fisher's exact test, statistically

significant dependency has been proved between respecting health principles in rational nutrition and gender (p -value = 0.008), age (p -value = 0.024) and education (p -value = 0.001). From the aspect of dependence tightness, there is a slight dependence demonstrated by the calculation of the Cramer coefficient (Table 3).

Recommended intake of milk consumption is also result from its positive effects on consumer health. The positive health effects of drinking milk and dairy products are recognized by 88.4% of respondents involved in consumer survey. Respondents have highlighted milk as a very good food, containing calcium, protein, iron and zinc, which greatly affects bones, teeth, nails or skin. In addition, the polls evaluated milk and dairy products as an excellent source of vitamins and minerals. The positive effect of milk consumption is also perceived by respondents who consume milk, especially because of the proven effects related to the growth of the organism, the support of the immune system. Other beneficial effects assessed by consumers include support for better digestion, energy intake, preventive effects against osteoporosis, memory support and brain function, prevention of high blood pressure, elimination of sleep problems as well as ensuring proper functioning of the thyroid gland. Several studies show that the consumers were made aware of the good health benefits and reducing risk for exposing to diseases (**Peng, West and Wang, 2006; Alwis, Edirisinghe and Athauda, 2011**). On the other hand, **Krešić et al. (2010)** emphasize, that consumers do not have adequate knowledge about the health benefits of milk and dairy products consumption.

As most consumers involved in the questionnaire survey are aware of the positive effects of drinking milk and dairy products and are trying to keep their consumption in line with the recommended intakes, we were interested in reason of the lower consumption in the Slovak Republic in comparison with the requirements for rationalization of meals. Consumers should rank 5 reasons of low consumption, 1 being the most important reason and 5 the least important reason and the reasons were ranked according to the average order. On the basis of the results of the survey (Figure 7), consumers consider the higher price of the monitored products as the main reason for lower consumption of milk and milk products compared to the past (1.62) followed by a lower quality (2.00), an extended offer substitution product (3.13), inadequate education (3.62), and unconfirmed information on harmful substances in milk (3.62). Regarding to this question the difference in the evaluation of higher prices as a main reason of low consumption between respondents from households with different monthly incomes was examined (Hypothesis no. 2). Applying the statistical test of Mann-Whitney U test it could be concluded that the calculated p -value (0.901) is more than significance level $\alpha = 0.05$, which means, that the null hypothesis was accepted and there is not statistically significant difference in evaluation of higher prices as a main reason of low consumption between respondents from households with the monthly income less than 2,000 euro and respondents from households with the monthly income more than 2,000 euro. In connection with the questionnaire survey, up to 23.4% of respondents are aware of insufficient consumption of the selected food group.

The questionnaire survey shows that all respondents consume milk and dairy products at least in a minimum amount, mainly because of rational diet (20.3%) and nutritional content (14.0%).

In the context of the above, the objective of the questionnaire survey was to identify which dairy products are most preferred among consumers. The results of the consumer survey (Figure 8) proved that the respondents engaged in the questionnaire survey purchased all kinds of dairy products, with milk and cheese as the most preferred ones. This is confirmed by the fact that milk (56.4%), cheese (57.0%), butter (51.7%) and yogurt (51.4%) are most commonly bought and consumed by consumers in regular intervals. **De Graaf et al. (2016)** found out that Most participants consumed milk and dairy products at least once per day (54.1%), or multiple times per week (27.3%). **Kapsdorferová and Nagyová (2005)** and **Pinto et al. (2016)** identified milk, yoghurt and cheese as the most commonly preferred dairy food among consumers. On the other hand, other sour-milk products are least preferred, which was confirmed by their purchase by 70% of respondents in irregular intervals, followed by curd (66.3%) and cream (63.8%).

Based on the results (Figure 9) can be concluded that quality (98.8%), price (91.4%), composition (90.3%), durability (89.3%) and nutrition data (79.1%) are the most important factors for consumers when choosing the specific dairy products. **Kumar and Babu (2014)**, **Paraffin, Zindove and Chimonyo (2018)** and **Kurajdová et al. (2015)** confirm our results and identify quality, nutritional value and price as the main factors determining the purchase of milk and dairy products. **Zajác et al. (2012)** highlights the quality and safety of raw cow's milk as a factor that consumers of dairy products increasingly focus on. **Nagyová et al. (2019)**, concluded within their research that consumers consider as healthy food products those with a positive effect on human organism and food, which is subject to rigorous control requirements for quality of food products. On the other hand, the promotion of the product (72.9%), the appearance of the packaging of the product (65.5%) and the size of the packaging (28.9%), consumers do not consider as important criteria when deciding to buy a given product. **Bytyqi et al. (2008)** concludes that consumer behaviour in the purchase of milk and dairy products is not affected by factors connected with the packaging of milk and dairy products. The **GfK survey (2017)** has shown that for the Slovak consumers is still a very important price when deciding about purchasing chosen food, including milk and dairy products, but the emphasis on quality is clearly rising. 59% of consumers say they closely monitor the prices of food in different stores and shop where the best deal is offered. As a result, consumers are focusing on quality, but at the same time they are looking for quality for the best price.

In relation to the assessment of the various factors influencing the choice of milk and dairy products by consumers, we found differences in the assessment of these criteria among the respondents (Hypothesis No. 3). Based on the Friedman test, it is possible to identify differences in factor evaluation confirmed by the statistical calculation of the p -value (<0.0001), which is lower than the alpha significance level (0.05). By using Nemeny's method and based on the data in the following Table 4, we conclude that

quality is the most important criterion when choosing milk and dairy products (Group A), another group of significant factors is created by price, durability and composition (Group B), followed by a set of criteria created by the nutrition data and country of origin (Group C), the other group of factors consisted from the country of origin, the manufacturer and the package size (group D), and the last group of factors is the appearance of packaging and the promotion of the product (Group E). By dividing the factors determining consumer behaviour when choosing milk and dairy products into these groups, it is possible to point to the differences in the assessment of individual criteria (groups) by consumers. The country of origin criterion is placed in two groups (Group C and Group D), which can be explained by the fact that there is no statistically significant difference in their ratings among Group C and Group D factors. However, between groups C and D there is a difference in the assessment of factors by consumers.

CONCLUSION

Paper focuses on the consumption of milk and dairy products and its importance within the rational nutrition of the population of the Slovak Republic. Based on the results, it can be stated that at present the consumption of milk and dairy products is at the level of 70% of the recommended consumption of the given food group. Consumption of cow's milk is alarmingly low, covering only about 50% of the recommended milk consumption, while consumption of cheese, curd and sour-milk products has risen in recent years and slightly exceeds the recommended consumption intakes. Other dairy products, cream, powdered milk and condensed milk or butter do not represent a significant share of total consumption. Regarding previous, a consumer survey was conducted, in which we identified that 80% of consumers are aware of a healthy lifestyle that also includes consumption of milk and dairy products in view of their proven positive effects. In the context of this question, there the formulated hypothesis was proved, and it means that there exists the dependence between the respecting of the health principles in rational nutrition and selected demographic characteristics of respondents (gender, age and education). Consumers attribute importance to milk consumption, especially due to calcium, protein, iron and zinc content, which greatly affect bone, teeth, nails or skin, and the overall positive effect on the human body. However, consumers are aware of the inadequacy of consumption of the monitored food, which is justified by the high prices of milk and dairy products. In the context of this question there was formulated hypothesis, which was rejected and there is no statistically significant difference in the evaluation of higher prices as a main reason of low consumption of milk and dairy products between respondents from households with monthly incomes of less than 2,000 euro and respondents from households with monthly incomes of more than 2,000 euro. Despite above mentioned, consumers consume the milk and dairy products at regular intervals, with the most preferred milk, cheese and yogurt. The choice of specific dairy products is determined by different criteria, which respondents evaluate differently, and it means the proved hypothesis related to consumer assessment of the importance of individual criteria for choosing milk and dairy product. The most important criteria for milk and dairy products consumption are quality, composition, price,

durability and nutrition data. Nutrition information is becoming more and more noticeable to consumers when choosing dairy products, which we consider to be an important aspect in the direction of rational nutrition. Due to the obtained results, we note that it is essential to address consumers in particular with regard to information and education in the selection of cow's milk and dairy products. Consumers need to be permanently aware of recommended doses of consumption of a given commodity in terms of its beneficial effects due to the strengthening of bones, teeth, muscle mass, prevention of cardiovascular diseases, colon cancer and other positive effects.

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