

## STUDY OF MILK AND DAIRY PRODUCT CONSUMPTION HABITS

RUZSA DZSENER MARIA<sup>1</sup>, BODNAR KAROLY\*<sup>1</sup>

<sup>1</sup>*Szent Istvan University, Szarvas, Hungary*

\*Corresponding author's e-mail: bodnarkaroly.dr@gmail.com

**Abstract:** *The consumers' attitudes to milk and dairy products were studied in this survey. The data of the completed questionnaires (n=212) were processed using IBM SPSS 25, correlation analysis and cross-tabulation analysis was used. The majority of respondents are familiar with several domestic and foreign brands of milk and dairy products, although they are often unable to accurately identify the affiliation of the brand by name. Data show that those who find the price of milk high also find the price of dairy products expensive. This correlation shows a close significant relationship (r=0.621). Those who found the price of milk high are not willing to pay more for the Hungarian product either.*

**Key words:** milk, dairy product, consumers' attitude, brand preference, local product

### INTRODUCTION

Nowadays, the food market is saturated. Under these circumstances, the importance of food marketing has grown exponentially. In recent years, several surveys have been conducted on the eating habits of Hungarian consumers. According to the estimates of the Milk Product Council, in 2003 the per capita consumption of milk and dairy products together with self-consumption was 160 liters of milk equivalent in Hungary. Consumption in the EU countries is about twice as high [14]. According to surveys, Hungary is still at the end of the European field in terms of cheese consumption, with only Romania consuming less cheese than ours. One reason could be the increase of the purchase price of milk and traditional dairy products not only in Timis County, but the trend is the same in whole Romania [11]. Slovak consumers also buy dairy products on a very low level compared to other EU countries [8].

The consumption of milk and dairy products by Hungarian consumers is determined by their income and advertisements. They mostly look for and buy the cheaper category mass products, ignoring their composition. The supply of dairy products in Hungary is unfavorable for the Hungarian economy, as the proportion of imported products is 20-80% [1].

In developed Western European countries, a process began in the late 1980s to increase the demand for regionally produced foods produced in the traditional way with multi-generational experience. Today, it can be observed in Hungary that locally produced, processed products are becoming more and more important for consumers. Gradually, the group of conscious buyers who prefer short supply chains and local products over bulk goods is gradually growing [2].

Small scale milk producers can sell milk by milk vending machines as a form of direct distribution channel [15].

The behavior, mindset and attitudes of consumers must not be forgotten, as taking them into account, as with traditional foods, is essential for functional food consumption. Consumer acceptance of functional foods can be divided into three main factors: consumer characteristics, purchasing position and product characteristics [12]. Those consumers who prefer purchasing milk and dairy product complain of high prices, but other main factors influencing of consumption are quality, shelf life and composition [7].

The motivation of consumers of organic milk is rooted in the beliefs in animal welfare, sustainability of the environment, nutritional advantages or support of local farms [5]. The origin of the milk is important in most of the cases among elderly people [13].

For Hungarian dairy production and distribution companies, guerrilla marketing offers an excellent opportunity to achieve the desired increase in turnover. The use of creative, innovative advertising techniques can inform previously unreachable target groups about the benefits of the products, all for a fraction of traditional advertising prices [3, 16].

74.1% of Hungarians consume milk and some dairy products with some frequency. Yet it can be said that the proportion of non-consumers is significant when examining individual dairy products. Milk is most often consumed in Hungary, and butter, buttercream and various matured cheeses also play a significant role. The other extreme is represented by natural yoghurts, which are consumed on average every two weeks on an annual basis. 56% of respondents more or less agreed that margarine is a dairy product [6]. Respondents are not aware of the concept of "organic" either; it is identified with a dairy product purchased directly from the producer [10]. It is essential to emphasize the nutritional benefits of dairy products, as consumer knowledge in this area is surprisingly incomplete [14].

Milk is a daily-consumed product so the key to its successful marketing is the knowledge of consumption patterns and the influencing factors of their decision-making [4, 9].

During the our survey, we looked for answers to the question of how consumers relate to cow milk and dairy products, which are typical reasons for consumption and rejection, whether there is a preference for producers' raw milk or a brand of a dairy company, and how much and how often they consume milk and dairy products.

## **MATERIALS AND METHODS**

The method of the questionnaire survey was chosen for the primary data collection of the research. The questions form two groups: the first concerns demographic data and the second the consumption of milk and dairy products. The questions included both open and closed questions. A Likert-scale of 1-5 was used to measure consumption-related attitudes. The online questionnaire was created using the questionnaire editor feature of Google Drive and distributed electronically as an URL link to our friends for distribution. The questionnaire was completed by 212 people in an evaluable form.

The data of the completed questionnaires were processed using IBM SPSS 25, correlation analysis and cross-tabulation analysis was used. The non-codable text responses were aggregated "manually".

## **RESEARCH RESULTS**

After data processing of the 212 questionnaires, it can be stated that our study sample is not representative. The randomly selected respondents are characterized by:

- In the gender distribution, 68.4% of women and 31.6% of men returned the questionnaire. Their mean age was 33.8 years, the youngest was 13, and the oldest was 72 years old. All respondents had an address in Hungary. By place of residence, 59% were urban residents, 39.2% in villages and 1.8% in the capital.

The vast majority of respondents consumed milk (n = 189; 89.2%). Of those who refuse to consume milk: 4 people do not consume milk for health reasons, 1 person does not drink milk for animal protection reasons, 16 people do not like milk, and 1 person does not consume food of animal origin at all.

Considering the nature of the milk consumed, the consumption of long-lasting milk (UHT) is outstanding. Many consume several types of milk on a regular basis. Perhaps the designators of producer raw milk have not indicated any other type of milk.

On average, 18.9 brands were known to one respondent. It can be clearly seen that the products of Sole-Mizo Zrt., Alföldi Tej Kft. and Tolnatej Zrt. are the best known among the participants in the study.

Milk produced by the domestic dairy industry also caused uncertainty (n = 310). The product of a Hungarian manufacturer was marked in the first 5 places, and although a foreign brand was not included in the list, 10 people answered that they do not know the origin of the consumed brand. Nearly half of milk consumers (48.1%) do not have a favorite brand.

Scoring on a scale of 1 to 5 among the factors influencing purchasing (where 1: the least important trait, 5: the most important for the consumer), respondents considered the quality of the milk to be the most important (Table 1) and the brand to be the least important.

**Table 1.**

<b>Factors influencing milk purchases</b>		
<b>Factor</b>	<b>Mean score</b>	<b>SD</b>
Quality	4.17	1.01
Habit	3.54	1.32
Domestic product	3.54	1.25
Availability	3.54	1.25
Price	3.33	1.33
Brand	2.99	1.40

*Source: authors*

According to the responses, the average weekly milk consumption was 2.71 liters (the highest value was 12 liters). To the question of the effect of consuming more milk, the following main answers were given:

- reduction of milk prices: 34.3%,
- better milk quality: 26.4%,
- if you would definitely receive a Hungarian product: 23%.

1.7% of respondents would not consume any more milk for any effect. When asked how much they would be willing to pay more for a surely Hungarian product, the answers varied widely, but not everyone answered:

- 11% refuse to pay more,
- pay 5% more 7.3%,
- 10% would pay more 22%,
- would pay 15% more 6.7%,
- would pay 20% more for 17.1%.

Regarding the consumption of dairy products, it can be said that cheese and sour cream (Table 2) are consumed by many and often, however, kephir is less popular. The low score of milk powder is presumably due to the fact that few use e.g. to flavor their coffee, and the majority did not think it was found in many food products (e.g. in biscuits).

The most common reason among those who consciously chose a foreign product was the good quality and favorable price of the products. The most common reason for buying a domestic product was also good quality, but here the price was considered less favorable. At the same time, a significant number (42.6%) chose to support domestic producers and prefer domestic flavors.

Table 2.

## Scores for consumption of dairy products

Dairy product	Mean score	SD
Cheese	4.363	0.897
Sour cream	4.108	0.932
Butter	3.965	1.155
Yogurt	3.638	1.202
Milk-based desserts	3.474	1.249
Cottage cheese	3.412	1.092
Cream	3.099	1.199
Kephir	2.337	1.385
Milk powder	1.994	1.271

Source: authors

More than 40% of respondents do not buy in producers' markets. Nearly a third of them prefer domestic flavors, but only 27.2% consider these flavors to be of better quality and 22.8% support domestic small producers with their purchases. Few find these products special, but do not trust them more than industrial dairy products, and few consider producers' market prices to be favorable. In contrast, only one person finds it difficult to access these products in their area.

Data show that those who consider the price of milk to be high also find the price of dairy products expensive (Table 3). This correlation shows a close relationship ( $r=0.621$ ). Of course, a score on the importance of the unit price of a dairy product is also linked to this opinion.

Table 3.

## Relationship of milk price with other factors

Factor	Correlation coefficient (r)	Significance level p=
Dairy product prices	0.621	0.000
Unit price of dairy product	0.510	0.000
Amount of weekly consumption	0.269	0.000
Habit	0.261	0.001
Best before date	0.246	0.001
Availability	0.226	0.003
Quality	0.150	0.046
Would you pay more for the Hungarian dairy product?	-0.229	0.004

Source: authors

There was a weak correlation between the price of milk and the amount of dairy product consumed per week, the habitual purchase, the importance of the shelf life and the scores given for the quality of the milk. A weak negative correlation shows that those who found the price of milk high are unwilling to pay more for the Hungarian dairy product, too.

The preference for the domestic product naturally shows a strong correlation with the importance of the place of origin of the product, but shows a moderately strong relationship with the importance of the producer and processor, brand importance, product availability, and producer information.

There is a weak positive relationship between the preference of the domestic product and the consumption of sour cream, butter and cottage cheese. We found it interesting that among the lovers of domestic products there is only a weak statistically verifiable correlation with the importance of knowing more about allergen content.

There was a moderately strong relationship ( $r=0.425$ ;  $p=0.000$ ) among those who considered the brand of the product important in terms of the importance of the knowledge of the manufacturer or producer. The brand showed a weak correlation with knowing the exact name of the product ( $r=0.285$ ;  $p=0.000$ ), and those who value the brand are willing to pay more for the verifiably Hungarian product ( $r=0.198$ ;  $p=0.015$ ). This relationship can be approached from another angle as well, namely those who are willing to pay more for domestic products watching the place of origin of the product among the product information ( $r=0.209$ ;  $p=0.009$ ).

Those who are willing to pay a higher price for Hungarian products consider it less important to watch the price of the product. This was confirmed by a weak negative correlation ( $r = -0.214$ ;  $p = 0.007$ ).

## CONCLUSIONS

Based on the results, the following conclusions can be made:

- A large majority of respondents consume milk ( $n=189$ ; 89.2%).
- Considering the nature of the milk consumed, the consumption of long-lasting milk is outstanding. Many people consume several types of milk on a regular basis. Lactose-free milk is not consumed just for health reasons.
- Consumers of raw milk are not marked and do not consume other types of milk.
- The majority of respondents are familiar with several domestic and foreign brands of milk and dairy products, although they are often unable to accurately identify the affiliation of the brand by name.
- The most common reason for buying a domestic product was good quality, but here the price was considered less favorable. At the same time, a significant number (42.6%) intend to support domestic producers and like domestic flavors.
- An obvious correlation has also been established, for example, as perishable products, most people look at the shelf life on the product.
- Interestingly, compared to the price of the product (which is also considered important), the unit price received fewer points, as most similar products come in different packaging and often with varying weight / volume, so the unit price would be more informative for the consumer.
- The importance of the allergen content of the products received less than average points.
- More than 40% of respondents do not buy in a producers' market. Few find these products special, do not trust them more than dairy products, and few consider producers' market prices to be favorable. Consumers are more satisfied with the information they receive about the product, but it cannot be ignored that more than a quarter of consumers are dissatisfied with the information.
- Respondents estimate (42.5%) to consume 1kg of dairy product per person per week.
- No statistically significant correlation was found between the data in most responses. Where, however, there was a significant relationship between the individual parameters, usually only a weak or moderately strong correlation could be justified, presumably due to the relatively low number of sample.
- Data show that those who find the price of milk high also find the price of dairy products expensive. This correlation shows a close significant relationship ( $r=0.621$ ).

- Those who found the price of milk high are not willing to pay more for the Hungarian product either.

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