HYGIENIC EVALUATION OF MILK AND DAIRY PRODUCTS IN THE CHISINAU MUNICIPALITY

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Keywords: *milk and dairy products, food safety, hygienic indicators of food.*

Introduction. Milk and dairy products represent a very important food group in human nutrition. However, the vast majority of foods in this group are excessively perishable and can present a certain danger in case of microbial contamination. Contamination with various xenobiotics is not uncommon.

The aim of the research was to analyze and hygienically evaluate the results of laboratory investigations of milk and dairy product samples conducted at the Center of Public Health in Chisinau municipality.

Material and methods. The results of investigations of 1233 samples for sanitary-hygienic indicators obtained during a period of 8 years (2014-2021), and the results of the sanitary-microbiological examination of 1482 samples obtained during 7 years (2014-2020) were evaluated. All investigations were conducted in accordance with the official documents in force. Analytical, statistical and hygienic methods were used in the study.

Results. During the studied period, the number of samples investigated annually decreased. The average proportion of non-compliant samples according to sanitary-hygienic indicators was 2.03%, these being detected only in 2014, 2017 and 2019 with the highest proportion (8.18%) in the first year of the study. Non-conformities were established according to following sanitary-hygienic indicators: organoleptic properties, humidity, content of defatted dry substances, chlorides, fats, sugar. Mycotoxin investigations were carried out only in the first 4 years and non-compliant samples were detected. Also, no non-compliant samples were detected in the investigations for the detection of toxic substances. The share of non-compliant samples according to the sanitary-microbiological indicators in the first 3 years was, on average, 7.28%, being higher in 2019 and 2020. The non-conformity of the analyzed samples was primarily caused by coliform bacteria, making up 65% of the total indicators. According to this indicator, the non-conformity was established especially in the samples of liquid dairy products, such as kefir, in some types of cheese and ice-cream. Exceedances according to this indicator were detected in 2016, 2017 and 2017, in milk products for children with non-compliant samples increasing during this period. The second place was non-conformity according to the total number of germs, the highest rate being established in 2016 and 2017 (5.44% and 8.84% respectively). Non-compliance caused by fungi and yeasts came in the third place and had a greater weight in the years 2014-2016 (1.35-2.70%). Staphylococcus aureus was detected only in 2015, 2016 and 2018, with the share of non-compliance being 0.68%, 2.04% and 0.68%, respectively.

Conclusions. During the years under study, the number of samples analyzed was decreasing. The average share of non-compliant samples according to the sanitary-hygienic indicators was 2.03%, and according to the sanitary-microbiological indicators – 7.28%. The non-conformity of the samples analyzed according to the concentrations of toxic substances and mycotoxins was not established.