

TITLE: MICROBIOLOGICAL EVALUATION OF RENNET CHEESE MARKETED IN THE CITY OF SOBRAL-CE

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ABSTRACT:

The rennet cheese is a characteristic product of the northeastern “sertão” being considered a delicacy of the region's cuisine. However, it is very vulnerable to contamination and becomes an excellent means of manifestation for microorganisms due to the fact that it is rich in nutrients. Among these, the presence of coliforms in cheeses has become increasingly worrisome, due to the appearance of outbreaks of food poisoning. Therefore, the present study aimed to evaluate the microbiological quality of rennet cheese marketed in free markets and supermarkets in the city of Sobral – CE. Twelve samples were collected in six different points (three supermarkets and three free-trade fairs) in the period of 2017, which were sent to the microbiology laboratory of the Universidade Estadual Vale do Acaraú, where the analyses were carried out. Samples were analyzed using the multiple tube technique to determine the Most Probable Number (MPN) of Total Coliforms and Thermotolerant Coliforms. The test was carried out in three distinct stages: presumptive evidence, evidence for determination of total and thermotolerant coliforms and biochemical evidence. The results varied from 1.4×10^2 MPN /g to $> 1.6 \times 10^3$ NMP /g for total coliforms and 1.7×10 MPN/g at 1.6×10^3 NMP / g for thermotolerant coliforms. According to Brazilian legislation, the maximum standard for thermotolerant coliforms in rennet cheese is 5×10^2 MPN / g. Therefore, 66.7% of the analyzed samples are contaminated. Sixty-nine strains of the Enterobacteriaceae family were isolated: *Providencia alkalifaciens* 43.5%, *Escherichia coli* and *Serratia liquefaciens* 14.5%, *Enterobacter* sp. 10.0%, *Klebsiella pneumoniae* 8.5%, *Proteus vulgaris* 3.0% and *Citrobacter freundii*, *Proteus mirabllis*, *Yersinia enterocolitica*, *Hafnia alvei* corresponding to 1.5% of the samples, demonstrating that the cheeses are with high degree of contamination. Therefore, the results considered as inappropriate the microbiological quality of rennet cheese, marketed in open markets and supermarkets in the municipality of Sobral - CE. In these circumstances, it is necessary to adopt good practices for handling equipment that comes in contact with food and more rigorous inspection during its processing and commercialization.

KEYWORDS: Coliforms, Enterobacteriaceae, good practices, Microorganisms.

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