



DETECTION OF *CRONOBACTER* SPP. AND EVALUATION OF THE MICROBIOLOGICAL QUALITY OF FUNCTIONAL FLOURS COMERCIALIZED IN NITERÓI AND RIO DE JANEIRO MUNICIPALITIES

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Cronobacter infections occur in all age groups, albeit with a greater incidence in the very young and elderly, who are typically more immunocompromised. The epidemiology of non-neonatal cases suggests that various potential sources of contamination exist, including foods. Functional foods, such as flours, are commonly recommended in diets for adults, including the elderly. This is because epidemiological studies correlate a dietary fiber intake with lower incidence of cancer, diabetes, and atherosclerosis. The aim of this study was to evaluate microbiological quality of commercially marketed functional flours, both industrially and in bulk, commercialized in the municipalities of Rio de Janeiro and Niterói. Twenty-two samples were analyzed (13 industrialized and 9 in bulk) for the presence of *Cronobacter* and *Salmonella*, and quantification of *Bacillus cereus* and *Escherichia coli*. *Cronobacter* research was performed according to ISO 22964:2017 methodology, while for the others microorganisms were carried out following the methodology described in the Bacteriological Analytical Manual/Food and Drug Administration. Presumptive cultures were identified by

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Matrix-Assisted Laser Desorption Ionization - Time of Flight/ Mass spectrometry (MALDI TOF/MS) using MALDI Biotyper[®]. The samples were classified as satisfactory or unsatisfactory according to Brazilian Resolution RDC n°. 724/2022, in conjunction with Normative Instruction n°. 161. *Cronobacter* spp. was identified in 10 (45.4%) samples. *B. cereus* was identified in nine (40.9%) samples, with concentration ranging to $1,0 \times 10$ to $3,5 \times 10^2$ colony unit forming (CFU)/g. *Salmonella* spp. and *E. coli* was not found in any sample. All the samples were considered satisfactory according to Brazilian legislation. The presence of *Cronobacter* in flours indicate that these foods can be a potential threat to human health, particularly when preparing food for elderly or immunosuppressed persons. The incorrect use of this foods for feeding of neonates (<six months) by careers should also be avoided.

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