TITLE: ANTIMICROBIAL SUSCEPTIBILITY OF *STAPHYLOCOCCUS AUREUS* ISOLATED FROM ARTISANAL MINAS FRESCAL CHEESE COMMERCIALIZED AT PUBLIC FOOD MARKETS IN THE FEDERAL DISTRICT, BRAZIL

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ABSTRACT: During the last decade, there has been a growing awareness of potential human health problems caused by the selection of antimicrobial resistance among food-producing animals. Since several studies have shown that pathogenic bacteria or commensal species of animals can be transmitted to humans, it seems prudent to explore their patterns of resistance to antimicrobials used in veterinary and human medicine. The aim of the present study was to determine the antimicrobial susceptibility of strains of *Staphylococcus aureus* isolated from Minas Frescal cheese sold at public food markets in the Federal District, Brazil. For total *S. aureus* counts, serial dilutions of the samples were surface plated in Mannitol Salt Agar, following incubation at 37ºC for 48 h. The colonies were counted and sub-cultured in Mannitol Salt Agar tubes. The characteristic colonies of *S. aureus* (yellow colonies with yellow zones, mannitol-fermenting) were stained by Gram's Method to confirm Gram-positive cocci. The susceptibility of *S. aureus* strains to antimicrobials was evaluated using the disk diffusion technique (Kirby-Bauer method). In the results, 41 strains of *S. aureus* were isolated from three cheese samples. These samples were unacceptable for consumption because they exceeded the limit of Brazilian legislation for *S. aureus* (> 3 log CFU/g). The antimicrobial susceptibility profile of the 41 strains of *S. aureus* isolated from the samples showed high resistance to sulphonamide (63.4%) and Cefoxitin (58.6%) and 7 strains (17.1%) were classified as multidrug resistant. Cefoxitin is an antibiotic used to predict mecA gene-mediated oxacillin resistance (MSRA). The high *S. aureus* count in artisanal Minas Frescal cheese samples suggests the use of raw milk from infected animals (mastitis) or a probable contaminating agent introduced by handlers who are asymptomatic carriers. Thus, artisanal Minas Frescal cheese commercialized at public food markets in the Federal District showed a lack of microbiological quality, a potential risk of causing food poisoning, being a food that may contribute to the spread of antibiotic resistant bacteria.

Key words: Minas cheese; *Staphylococcus aureus*; antibiotic resistant bacteria

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