

Título: Microbiological aspects restaurant's trays: risks in utensils contamination

Autores: Ferreira, A.G.O.¹; Frederico, A. B. T.¹; de Oliveira, A. G. M².;
dos Santos, A. C.¹; Miguel, M.A. L¹

Instituição: Universidade Federal do Rio de Janeiro - Instituto de Microbiologia Paulo de Góes¹(Av. Carlos Chagas Filho, 373. Edifício do Centro de Ciências da Saúde, Bloco I, Cidade Universitária. CEP: 21941-902), Instituto de Nutrição Josué de Castro² (Av. Carlos Chagas Filho, 373. Edifício do Centro de Ciências da Saúde, Bloco J, 2º andar, Cidade Universitária, Cep: 21.941-902).

Resumo:

Although the sanitization of food utensils is essential for safety in food production, not all surfaces receive treatment with appropriate intervals. The trays used in restaurants, although they are highly manipulated, exposed to food waste, personal material and others utensils like cutlery and napkins are often reused without any sanitization process. In this way, educational actions are needed to highlight failures in sanitization of food utensils. This work aims to evaluate the microbiological quality of surface trays used in restaurants, as well as assess the transferability of microorganisms intentionally contaminated in the surface of plastic trays for cutlery and napkins. We analyzed 150 trays obtained from a restaurant located at Rio de Janeiro city. The samplings were performed by surface washing with 50mL of saline solution and plated on selective and differential media for coliforms, *Salmonella*, mesophilic bacteria and staphylococci. For the assessment of the transfer of contamination to the surface, plastic trays were sanitized with sodium hypochlorite solution, ethanol ultraviolet treatment. The trays were inoculated with a sponge soaked in different suspensions of *Escherichia coli* to achieve concentrations ranging from 10^2 to 10^6 cells/ cm². Trays were kept at room temperature to drying the inoculum. Briefly, sterile cutlery and napkins were softly placed in contact with the surface for 30 seconds and microbiologically analyzed by rinsing in plastic bags with peptone water and plated in trypticase soy agar and agar chromogenic *E. coli*. All trays analyzed showed bacterial counts above of reference values recommended for eating utensils. In all samples mesophilic bacteria were counts over 10^4 cells/cm². Following international safety recommendations staphylococci and thermotolerant coliforms should not be found in this surface, but they were found in counts exceeding 140 and 43 cells/cm². Fungi were found 8200/cm². In experiments were the tray's surface were contaminated with 10^2 cells/ cm² of *E. coli* was possible to recover the microorganism in concentrations of 1×10^2 cfu/ cutlery unit and 6 cfu/napkin unit. These results show that even at low concentrations of *E. coli* that are easily found in improperly sanitized trays, it is possible to transfer this microorganism to others food utensils, as well as for the consumer. This study reinforces the need to implement the routine sanitizing trays between each use in restaurants.

Palavras-chaves: *Escherichia coli*, improperly sanitized trays, microbiological surfaces, self service restaurants, thermotolerant coliforms, ,

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