

Sanitary conditions and microbiological quality of ready-to-eat food in street food vending – preliminary survey

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Street food vending had a significant growth during the past few decades due to strategically location, close to the consumer, presenting readily available and inexpensive nutritional meals. Nevertheless, conditions under which street vendors operate are usually unsuitable for the preparation, storage and maintenance of food at safe temperatures and hygienic conditions. For instance, food available may be subject to air pollution (dust), long holding times at ambient temperatures and cross contamination by insects and rodents attracted and harbored by waste in the streets. Considering these factors, street food vending can be of particular concern with regard to the occurrence of food poisoning due to potential contamination with pathogenic microorganisms. Furthermore, the information on the microbiological quality and safety of street-vended foods are absent. The present work aims to evaluate the sanitary conditions of street food vending facilities and evaluate microbiological quality of ready-to-eat food available in street food vending.

This study was carried out in nine randomly selected vendors where were acquired 10 snacks (hot dogs, hamburgers, wrapped and beef sandwich) for the detection and identification of mesophilic microorganisms (37°C), Enterobacteriaceae and *Staphylococcus* spp. Food samples were classified according microbiological criteria proposed by the National Institute of Health Dr. Ricardo Jorge (INSA, Portugal) and by the Irish Food Safety Authority. A *checklist*, comprised the fields: general setup, hygiene conditions and personal hygiene of the food handlers, was used to characterize structural and functional conditions.

For the sanitary conditions about 67% of establishments were classified as sufficient, based on clean surrounding area, conservation status of the walls and ceilings, appropriate work clothing and proper washing of hands. High numbers of mesophilic microorganisms were found, being 70% of food samples classified as unsatisfactory. The same classification was assigned for the presence of Enterobacteriaceae, being identified *Klebsiella pneumoniae* and *Enterobacter cloacae*. In the survey of *Staphylococcus* spp. were identified *Staphylococcus epidermidis*, *Staphylococcus hominis*, *Staphylococcus xylosum*.

Results seem to indicate that food available in street food vending, particularly those who have in its constitution raw materials, namely lettuce, onion, carrot and olives can present risk to human health. The beef sandwich presented lower microbiological contamination, probably due to efficacy of thermal process. It was verified the need to develop training programs under the Food Safety and Hygiene, to avoid cross contamination and recontamination of cooked products. Efforts should be made by health authorities to maintain regular inspections, as well as to monitor the microbiological quality of food available in street food vendors.