

## FoodSimplex – food safety methodology for restaurants

Ana Lúcia Baltazar<sup>1</sup>, Ana Ferreira<sup>2</sup>, Lara Manyes<sup>3</sup>, Jordi Mañes<sup>3</sup>

<sup>1</sup>Faculty of Pharmacy, University of Valencia, Spain; Coimbra Health School, Dietetics and Nutrition, Coimbra, Portugal

<sup>2</sup>Coimbra Health School, Dietetics and Nutrition, Coimbra, Portugal

<sup>3</sup>Department of Public Health. Faculty of Pharmacy. University of Valencia. Spain

The offer increase in mass caterer establishments such as restaurants, canteens, schools, hospitals and catering enterprises, arises the concerns, if the meals prepared are safe, the food business operators (FBO) have the means and the technical support and if there is a preventive action plan effective to provide food safety in medium and small companies? Billions of meals are prepared safely each day throughout the world but 22% outbreaks of food borne diseases were reported in Europe that had their origin in processed foods and/or by catering establishments. The European Union (EU) has created legal tools to ensure food hygiene in the sector, as well as official entities in charge of controlling and inspecting establishments to ensure public health. In Portugal, we have two kinds of situations that can increase the food safety concerns, namely, family business with bad handling practices, old establishment premises, to reduce bureaucracy and facilitate the establishments of the new food business, the restaurant's premises only need registration, without inspection pre-approval, to start working and the restaurants' food business operators are responsible for managing hygienic-sanitary quality and for providing safe food to clients and most of the times they don't have the knowledge to respond to the food safety EU regulations.

This study aims to assess food safety action plan created for medium and small restaurants, named FoodSimplex, as public health tool to be applied by food safety technicians.

The project was a longitudinal study which took place between 2010 and 2014, in 22 restaurants eligible.. The data collection instrument for the inspection was an audit checklist, designed to collect data through visual inspection regarding food handlers and facilities hygiene and GMP as well as through interviewing the person responsible with regard to HACCP aspects (manual of procedures, records, etc.) and it's organized in three modules divided into specific topics (items). The 352 audits were studied according to with the results and their evolution during the application of a FoodSimplex methodology

The results were analyzed taking into account the 1st and 4th audit, to assess the evolution in hygiene and GMP practices in this small and Medium enterprises. The results were statistically treated by SPSS and the McNemar test was applied to a confidence of 95%.

The results of the 1st audit highlighted significant gaps like poor hygiene of cold storage, cooking, locker rooms, handwashing sinks, 1st aid kit, dishwashers and waste treatment. In GMP were receiving inspection, labeling in room temperature and cold storage, freezing procedures and cold packaging of food. All these items presented nonconformities in more than 50% of the restaurants. After the application of FoodSimplex, the restaurants showed an evolution in compliance both in hygiene and good manufacturing practices (GMP). That means that, after systematic training and frequent audits, FoodSimplex was linked to a change of habits: an increase of food safety and improvement of hygiene and GMP in small and medium restaurants.

**Keywords:** Public Health, Food Safety, Mass catering, Foodsimplex, Restaurants