Foodborne illness outbreaks associated with manufacturing and catering environments remain a public health concern. The food handler is often identified as one of the key causes of foodborne illness, and has been frequently cited as a significant contributory factor for foodborne illness in restaurant-associated outbreaks. Internationally, cross-contamination, insufficient heat treatment of foods, inadequate refrigerated storage of food, inadequate hand decontamination practices and improper cleaning of food contact surfaces are the most common contributory factors associated with the transmission of foodborne infection. Consequently, the UK Food Standard Agency have recommendations in place for food businesses to ensure food safety relating to the four key areas of cross-contamination, cleaning, chilling and cooking. Food-handler implementation and adherence of such recommendations are essential. Subsequently, there is a need to assess the food safety cognition and behaviour of professional food handlers in the food sector. Numerous studies have been conducted involving professional food handlers; however, to date, a review of the food safety knowledge, attitudes, self-reported practices and observed behaviours of professional food handlers in the food sector has not been conducted.

**Purpose**

The purpose of the study was to review the methods and measures utilised in research studies to assess the food-safety awareness and practices of professional food handlers in catering and manufacturing environments.

**Methods**

**Data Collection:** An inclusion exclusion criteria was devised to identify primary research studies suitable for inclusion. Professional food handlers were defined as those that are responsible for the preparation, service or sale of food products for consumers, are likely to have undergone food safety training and food handling occurs outside of the domestic environment.

**Data capture:** A database was devised to capture primary research data regarding the food safety knowledge, self-reported practices, attitudes and behaviour of professional food handlers. Identified research studies were reviewed, and findings were summarised and recorded using the database.

**Ethical Approval:** Approval was obtained from the Health and Food, Ethics Panel at Cardiff Metropolitan University.

**References**


**Results**

A total of 20 studies detailing professional food-handler food-safety data were identified and reviewed. Half (50%) of the research studies were published between 2013 – 2017. Countries where data collection was conducted included Austria, Brazil, China, Ghana (n=2), Lebanon, Malaysia, Portugal, Saudi Arabia, Serbia, Slovenia (n=2), Spain, UK (n=2), USA (n=4) and Vietnam.

**Food safety practices included in food handler food safety studies**

The most frequently included food safety topics in the reviewed studies relate to the areas of cleaning, cooking, chilling and separation. Data detailing freezing practices, HACCP principles and personal protective equipment (PPE) were less frequently listed (Figure 4).

**Significance of study**

- It must be acknowledged that numerous food-handler food safety studies, far exceeding those included in this study have been conducted, however a comprehensive review of the methods and measures utilised in such studies has not been conducted. Completion of this review has identified the need for an in-depth systematic literature review to further explore the topic.
- Although vast research exists in relation to food-handler food safety, there is a lack of research conducted in food manufacturing environments, the majority of research focuses on retail catering and hospitality, furthermore, the majority of research incorporates the measures of food safety knowledge and self-reported practices suggesting there is a lack of observational data.