Introduction

The domestic kitchen is an important point of origin for foodborne disease, with data indicating that 10% of all foodborne illnesses (beverages to be excluded) are caused by hand-to-food contamination. This significant source is believed to result from consumer implementation of unsafe food handling and storage practices. Reports indicate that behavioral factors such as handwashing are needed to reduce the risk of illnesses. The likelihood of illness and potential mortality from foodborne pathogens such as Clostridium perfringens spp., cause outbreaks during food preparation (n=100) a total of 639 hand cleaning attempts such as before staring food preparation, after handling raw chicken or handling raw chicken. Failure to use soapy wash failure to adequately dry hands failure to use soap before to implement adequate hand washing/drying practices which may result in inadequate hand washing/drying practices during food preparation which may result cross contamination. Older adults are more susceptible and are at an increased risk of foodborne illness as a result of weaker immune function. This study aims to determine food safety behaviors implemented by older adults using a pilot study. All methods and documentation used in the research study were approved by the Cardiff School of Health Sciences (Cardiff Met) Ethics Committee (Ref 2221).

Methods

Development of methods

A literature review of consumer food safety studies and domestic microbiological surveys was undertaken to determine unsafe domestic kitchen practices implemented by older adults that may result in contamination and increase the risk of foodborne illness in addition to identifying non-adherent domestic kitchen practices.

This informed the development of data collection methods, which were subsequently subject to a pilot study. All methods and documentation used in the research study were approved by the Cardiff School of Health Sciences (Cardiff Met) Ethics Committee (Ref 2221).

Participant recruitment

Eight hundred and sixty-six participants recruited to the study; data were collected from 12,000 older adults aged 60+ years. Six hundred and sixty-six participants were categorized into four age groups: 1. 18–30 years, 2. 31–60 years, 3. 61–90 years, and 4. ≥ 90 years. In addition, data were collected from 12,000 older adults aged 60+ years. Six hundred and sixty-six participants were categorized into four age groups: 1. 18–30 years, 2. 31–60 years, 3. 61–90 years, and 4. ≥ 90 years. In addition, data were collected from 12,000 older adults aged 60+ years. Six hundred and sixty-six participants were categorized into four age groups: 1. 18–30 years, 2. 31–60 years, 3. 61–90 years, and 4. ≥ 90 years.

Model domestic kitchen

Semi-structured and semi-structured interviews were conducted in a model domestic kitchen in the Food Safety Authority (ISA) which took 40–60 minutes to complete. Food safety behaviors were observed using ceiling mounted digital cameras (see Figure 1) and recorded using a predetermined checklist.

Microbiological sampling

Prior to food preparation, food contact surfaces were cleaned according to a validated protocol to achieve ≤10 cfu/cm². Post-food preparation, surfaces were immediately sampled to determine whether: Paste count (APC) Enterobacteriaceae and Staphylococcus aureus contamination.

Data analysis

Microsoft Office Excel 2007 and Microsoft Office Access 2007 were used to analyze the data.