Introduction

The home kitchen is important in relation to food safety, as data suggests the majority of food poisoning is not associated with outbreaks and may result from unsafe practices in the home.1,2

Due to age-associated weakened immune function3 older adults are more susceptible to foodborne disease than the general population4, however food poisoning among older adults in Europe has increased by 50 – 80% over the last decade5; the reasons for which are unknown.

Knowledge and self-report data suggest older adults lack awareness of food safety and may implementing unsafe practices; however, actual behaviour data is lacking6.

Therefore, observation of older adults food safety practices is needed to determine the potential microbiological risk.

Findings

During food preparation sessions (n = 100) a total of 639 hand cleaning attempts such as before staring food preparation, after handling raw chicken or handling raw chicken packaging, were observed. Data presented in Figure 2 indicates malpractices implemented by older adults when washing/drying hands during food preparations and Figure 3 indicates the occasions which older adults failed to implement adequate hand washing/drying practices.

![Figure 2. Hand washing / drying malpractices (n = 639)](image)

![Figure 3. Occasions which older adults failed or inadequately implemented hand cleaning (n = 100)](image)

![Figure 4. Surfaces touched with inadequately cleaned hands after handling/preparing raw chicken (n = 100)](image)

Inadequate hand washing and/or drying after handling foods such as raw chicken may result in contamination of surfaces subsequently touched. Figure 4 indicates the surfaces older adults most frequently touched with inadequately cleaned hands after handling/preparing raw chicken. Post food-preparation microbial analysis of such surfaces indicated that contamination with ACC 6.32 log_{10} CFU, Enterobacteriaceae < 5.68 log_{10} CFU and S. aureus < 5.41 log_{10} CFU occurred as a result of older adults food handling practices.

Furthermore, during food preparation sessions (n = 100) 696 attempts to wash and dry food preparation equipment such as chopping boards and knives were observed. 82% chopping boards and 85% knives used to prepare ingredients during food preparation were inadequately washed and/or dried. Post food-preparation microbial analysis of these surfaces resulted in contamination with ACC < 6.24 log_{10} CFU, Enterobacteriaceae < 4.26 log_{10} CFU S. aureus < 3.24 log_{10} CFU.

Conclusion

- Observational findings indicates that a considerable proportion of older adults implement unsafe food handling practices during food preparation.
- Microbial findings indicate older adults’ do not implement sufficient washing/drying practices of food handling equipment and hands.
- Food handling malpractices have been compared to microbial contamination of kitchen surfaces and suggests that older adults food handling practices may impact on food safety
- Findings suggest a need for targeted risk communication and has implications for future consumer food safety education initiatives.

References