

UK consumer awareness of food safety practices associated with *Campylobacter*

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Introduction

Campylobacter is the most common cause of foodborne illness in the United Kingdom (UK), with an estimated economic cost of £900 million and causes 100 deaths annually¹.

Poor food-safety practices by consumers in the domestic environment are believed to be a common cause of *Campylobacteriosis*^{2,3}. It is reported that 37% of foodborne illness outbreaks in the European Union are thought to originate in the home⁴. However, due to under reporting of mild foodborne illnesses, it is estimated the true percentage of incidence originating in the home to be higher than reported^{5,6}.

To reduce the risks associated with *Campylobacteriosis* in the domestic environment, consumers need to implement risk-reducing food safety practices, these include^{7,8}:

- Cooking chicken thoroughly
- Avoiding cross-contamination
- Adhering to use by dates
- Good personal hygiene

Consequently, there is a need to determine consumer awareness of *Campylobacter* and explore consumer understanding and implementation of food-safety practices that may be associated with *Campylobacter*.

Purpose

The purpose of the study was to investigate knowledge of *Campylobacter* and determine self-reported domestic food-safety practices associated with the risk of *Campylobacteriosis* among consumers in the UK

Methods

Self-complete questionnaire: An online self-complete questionnaire to determine consumer food-safety knowledge, attitudes and self-reported practices, hosted on Qualtrics, was distributed using social media (twitter and facebook) was completed by UK consumers (n=183).

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

References

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Results

A total of 183 UK consumers completed the questionnaire. Of the complete sample, 79% were female. The majority (48%) were employed full time, 24% were employed part time, 14% were students and 13% were unemployed.

Awareness of *Campylobacter*

The majority (80%) were aware *Campylobacter* was a bacteria, and 62% indicated awareness that *Campylobacter* was associated with raw chicken (Figure 1).

Although predominantly associated with raw chicken, 7% associated the pathogen with unpasteurised milk, as during the data collection phase (December 2016) an ongoing UK outbreak of *Campylobacter* was linked to unpasteurised milk (Figure 2).

As indicated in figure 3, the majority (90%) were aware that *Campylobacter* may cause severe symptoms of ill health, such as vomiting and diarrhoea, where time off work may be needed and that further complications can occur and could cause death.

The home was perceived to be the most common location for causing foodborne illness (69%).

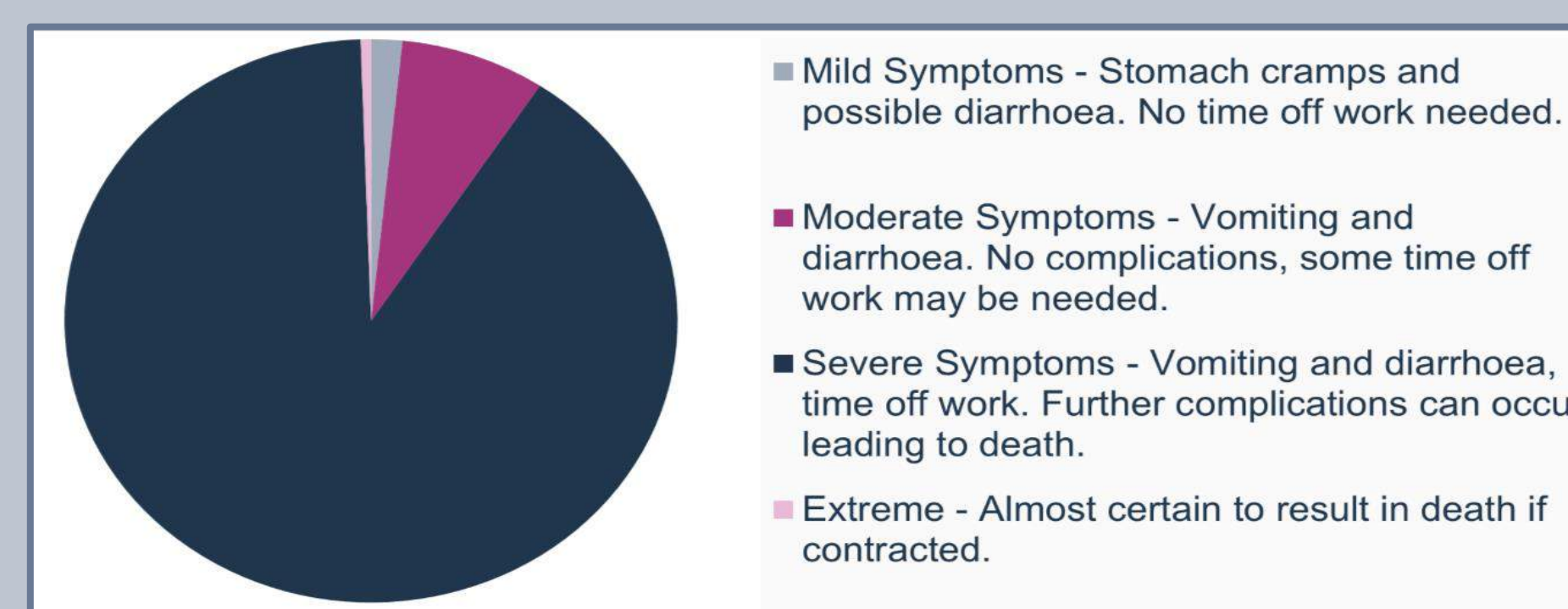


Figure 3. Consumer awareness of illness associated with *Campylobacter* (n=183).

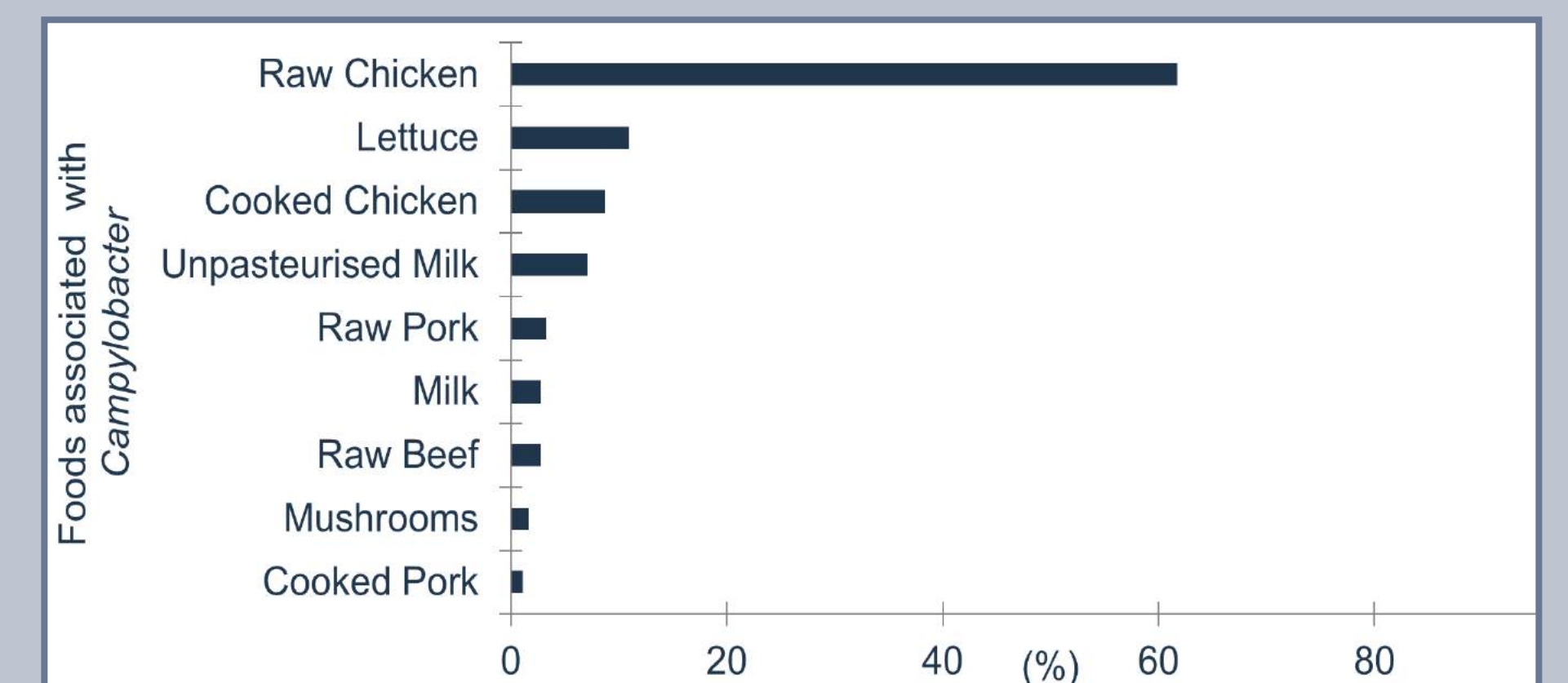


Figure 1. Consumer awareness of food products associated with *Campylobacter* (n=183).

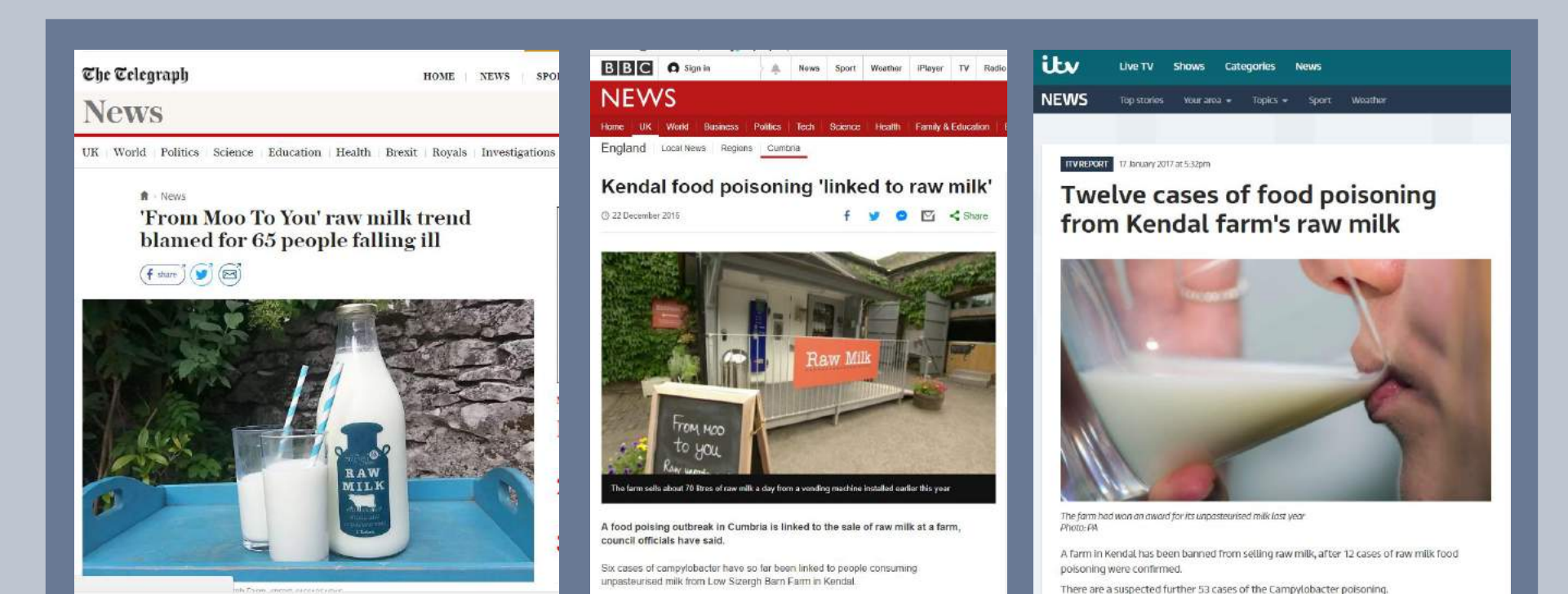


Figure 2. Press coverage of *Campylobacter* outbreak linked to unpasteurised milk.

Self-reported food safety practices associated with *Campylobacter*

Cooking chicken thoroughly

Only 10% reported using a temperature probe to ensure food safety when cooking raw poultry. Many reported personal cooking experience, temperature to touch, changes in colour and texture were reliable methods to ensure adequate cooking (Figure 4).



Figure 4. Self-reported practices to ensure adequate cooking of chicken.

Although 43% were aware of recommended cooking temperatures ($\geq 75^{\circ}\text{C}$), 47% stated temperatures $> 100^{\circ}\text{C}$.

Adhering to use by dates

As indicated in Figure 5, the majority (68%) reported that they 'probably' or 'definitely' would not prepare, cook and eat raw poultry with an expired 'use by' date.

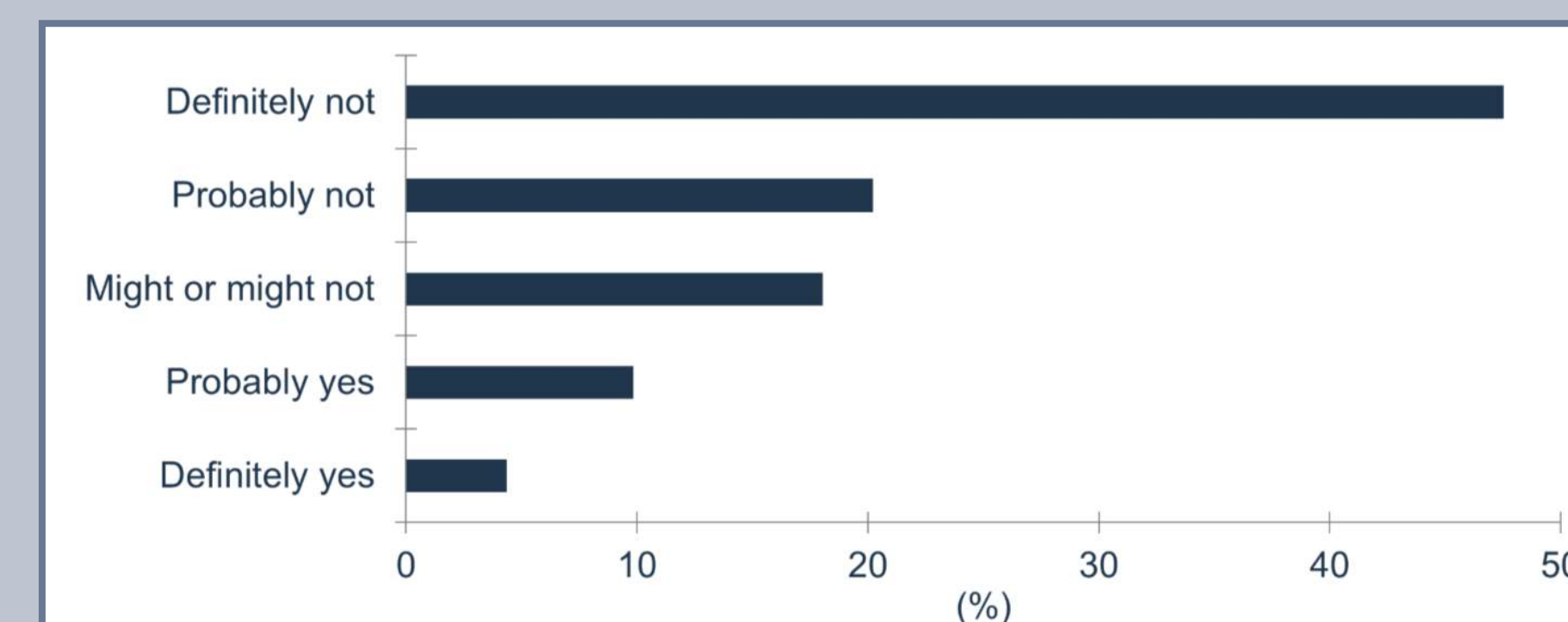


Figure 5. Reported likelihood of preparing, cooking and consuming raw poultry beyond the 'use by' date (n=183).

Avoiding cross-contamination

Practices associated with cross-contamination were reported, 10% reported to wash raw chicken. Only 49% reported to 'always' use separate boards for raw poultry and ready-to-eat (RTE) food, 26% reported the same board would be washed between use (Figure 6).

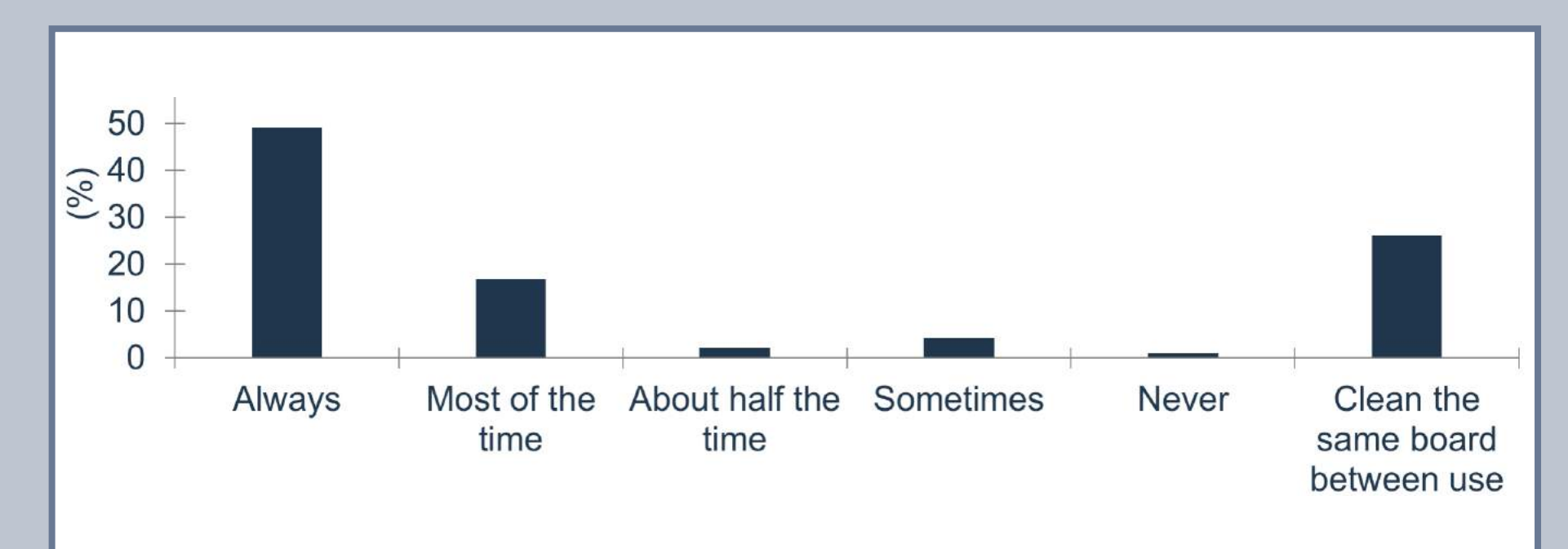


Figure 6. Self-reported chopping board use between raw poultry and RTE food (n=183).

The majority (73%) reported raw chicken would be stored at the bottom of the refrigerator, whereas 20% indicated storage of raw poultry would be determined by available space (Figure 7), 17% also reported raw poultry would be stored next to RTE food.

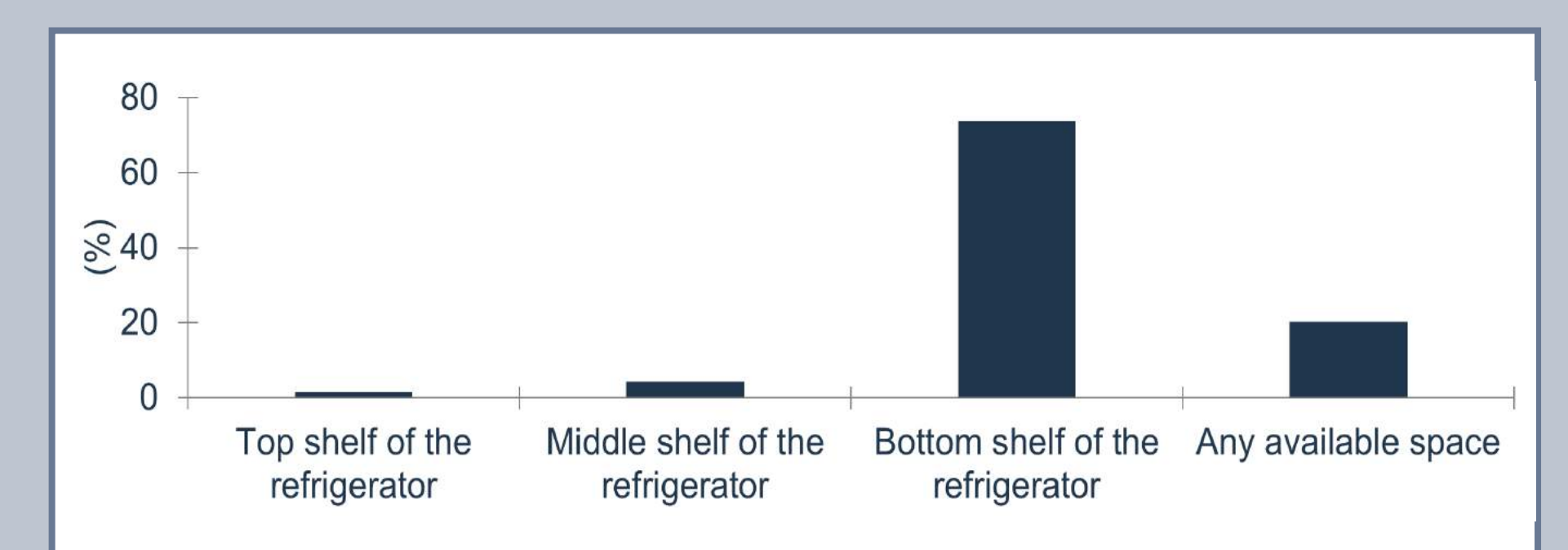


Figure 7. Reported storage locations for raw poultry (n=183).

Personal hygiene

The study determined that the majority (91%) of participants reported to 'always' wash their hands using soap after handling raw chicken in the domestic kitchen.

Significance of study

- Although findings indicate public awareness regarding *Campylobacter*, food-safety malpractices were reported. However, it must be considered that self-reported data may not equate to consumer behaviour.
- Therefore, behavioural studies to observe consumer food-safety practices in the domestic environment relating to *Campylobacter* risk-reducing behaviours are required.
- Further studies are needed to investigate why consumers fail to adhere to recommended domestic food-safety practices.