Exploring perceptions and self-reported food safety practices of pet owners, providing raw meat-based diets to pets.

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Introduction

Rapidly rising popularity of alternative raw meat-based feeding of domestic pets (traditionally cats and dogs) has led to concerns about the safety of such practice to the pet owners. A number of studies have investigated the presence of pathogens in raw meat-based pet diets, highlighting the presence of bacteria hazardous to human health (5,6,10,11,13). It is suggested that the frequent handling of raw meat products may lead to increased risk of foodborne illness in the absence of adequate implementation of food safety practices.

Although a few studies highlight concerns about human health and confirm possible sporadic pathogen transmission (2,7,8), there is a particular lack of data addressing the topics of pet owners' risk awareness, perception of susceptibility to foodborne illness and food safety practices, associated with raw meat-based feeding.

Therefore, it is important to explore the perceptions and practices of pet owners that practice raw meat-based pet feeding.

Purpose

This study aimed to explore pet owners' knowledge and perceptions about safety of raw meat-based feeding and determine self-reported food safety practices during raw meat-based pet food preparation.

Methods

The design and development of a questionnaire to explore the knowledge, perceptions and practices of pet owners providing raw meat-based food for pets was informed by:

- The content of the questionnaire was based on a netnographic study of pet owners' online forum comments regarding raw pet feeding and hygiene (3).
- The framework of the questionnaire was based on the Health Belief Model (HBM) (1) in order to explore various behaviour aspects such as: perceived severity, perceived susceptibility, cues to action and self-efficacy.

The online questionnaire, comprised of 23 questions, was distributed via social media platforms and completed by pet-owners, practicing raw meat-based feeding (n=174). The data were analysed using descriptive statistical analysis.

Ethical approval for the study was obtained from the Cardiff school of Sport and Health Science Ethics Committee (Project Reference PGT-1889).

Results

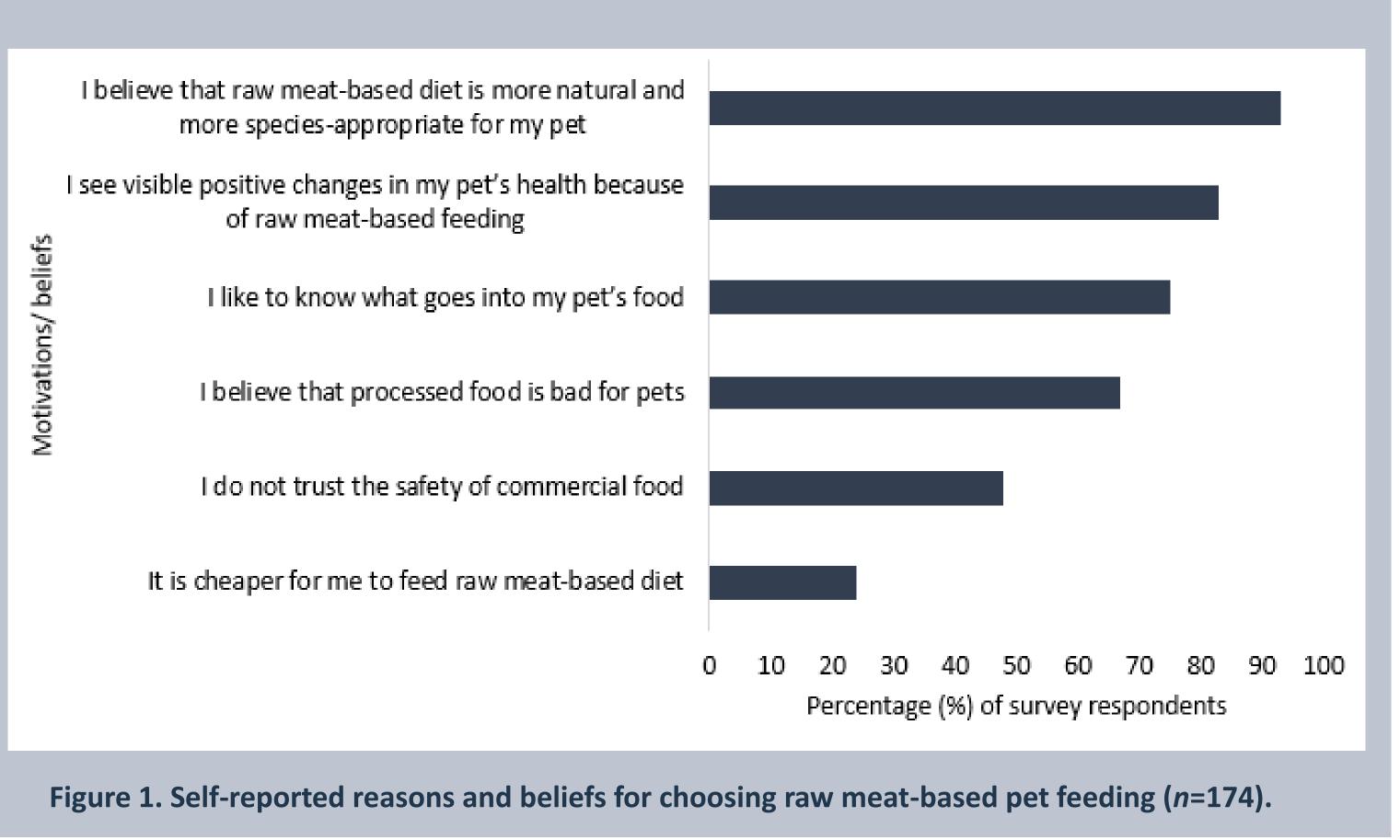
Motivation and risk perception

As illustrated in Figure 1, this study established that the majority of pet owners were motivated to provide raw meat-based food for their pet as they perceived it to be more natural, more species-appropriate and more beneficial for their pet.

Additionally, the need to know what goes into their pets' food was strongly expressed by the participants of the survey. This corroborates with previous studies that documented pet owners' expressed mistrust in the quality and safety of traditional manufactured pet food and wish to provide their pets with a healthier diet (7,8).

Findings suggest that despite pathogen awareness, the risks to human health may be underestimated:

- Survey participants indicated a general awareness of the pathogens associated with raw meat-based diets, with *Salmonella* (70%) and *E. coli* (44%) most frequently believed to be present in raw meat.
- Almost every participant of this survey (95%) reported confidence that their pets' raw meat-based food is safe.
- Importantly, only just over a half (51%) of pet owners recognised that foodborne illness may be severe, and even less (36%) were aware of its potential for a lethal outcome.
- It was established in this study that the risk of foodborne illness, associated with raw pet feeding practice, to themselves or others was perceived to be 'low' by 89% of the pet owners, suggesting 'optimistic bias'.
- Although respondents (67%) reported to have researched food safety information about raw meat-based diets, only 8% asked a veterinarian for food safety advice and 5% reported they had never seen any food safety information.



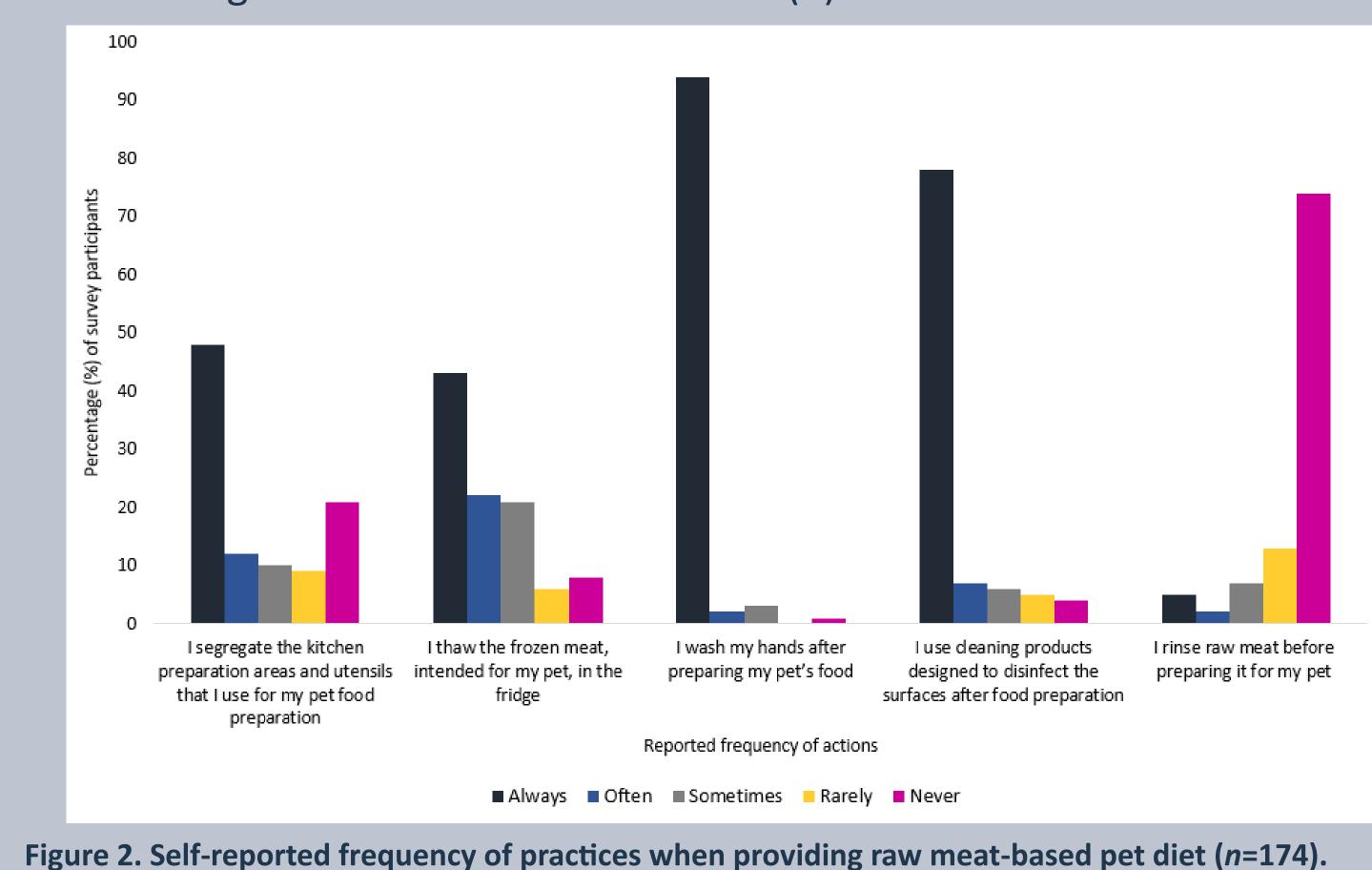
Self-reported food safety practices

In this study, "total confidence" in the safety of their raw meat-based diet preparation practices was reported by 95% of survey participants. Moreover, the majority of pet owners (70%) 'strongly agreed' that raw pet food preparation is no different from human food preparation.

Despite reporting awareness that harmful pathogens may be present in raw meat-based pet food, respondents did not report sufficient implementation of food safety practices to eliminate the risk of foodborne illness

Figure 2 indicates the reported frequency of performing food safety practices during raw meat pet diet provision, reported by the survey participants:

- Majority (94%) of participants reported to "always" wash their hands after raw meat-based pet food preparation. However, whilst these findings indicated pet owners' awareness of the necessity for correct handwashing practice, it is unclear whether the reported handwashing practice is adequate.
- A fifth (21%) of the survey participants reported 'never' segregating the equipment used for raw meat-based pet food preparation.
- Less than a half (43%) of pet owners confirmed to be 'always' thawing the frozen meat in the fridge.
- Although more than two thirds (74%) of pet owners reported to 'never' rinse raw meat, more than a quarter (22%) indicated that this practice may be implemented when preparing raw meat-based diet for their pet. And a small number (5%) pet owners reported that they 'always' do it. This practice can lead to cross-contamination of the domestic kitchen increasing the risk of foodborne illness (9).



Malpractices implemented by older adults

As older adults are at an increased risk of foodborne illness due to agerelated changes in the gastrointestinal tract (12) and changes in the innate and adaptive immune response (4), the self-reported food safety practices of this age group were explored further.

It was established in this study that potential food safety malpractices were reported by participants aged 65 years and over when preparing raw meat-based pet food, as seen in Figure 3.

- The use of same kitchen utensils for raw pet food preparation, indicating lack of segregation, was reported by over a third (36%) of participants in this age group.
- Also, less than a half of pet owners in this age group (46%) reported 'always' thawing frozen meat products for pets in the fridge.
- Using cleaning products, designed to disinfect surfaces after food preparation was reported by less than a half of older pet owners (46%).
- Moreover, almost a third (27%) of survey participants aged 65 years and over reported implementing the food safety malpractice of rinsing raw meat.
- It is suggested that older pet owners implementing inadequate or inconsistent food safety practices, when providing raw meat-based diets to pets, may be at an increased risk of severe foodborne illness.

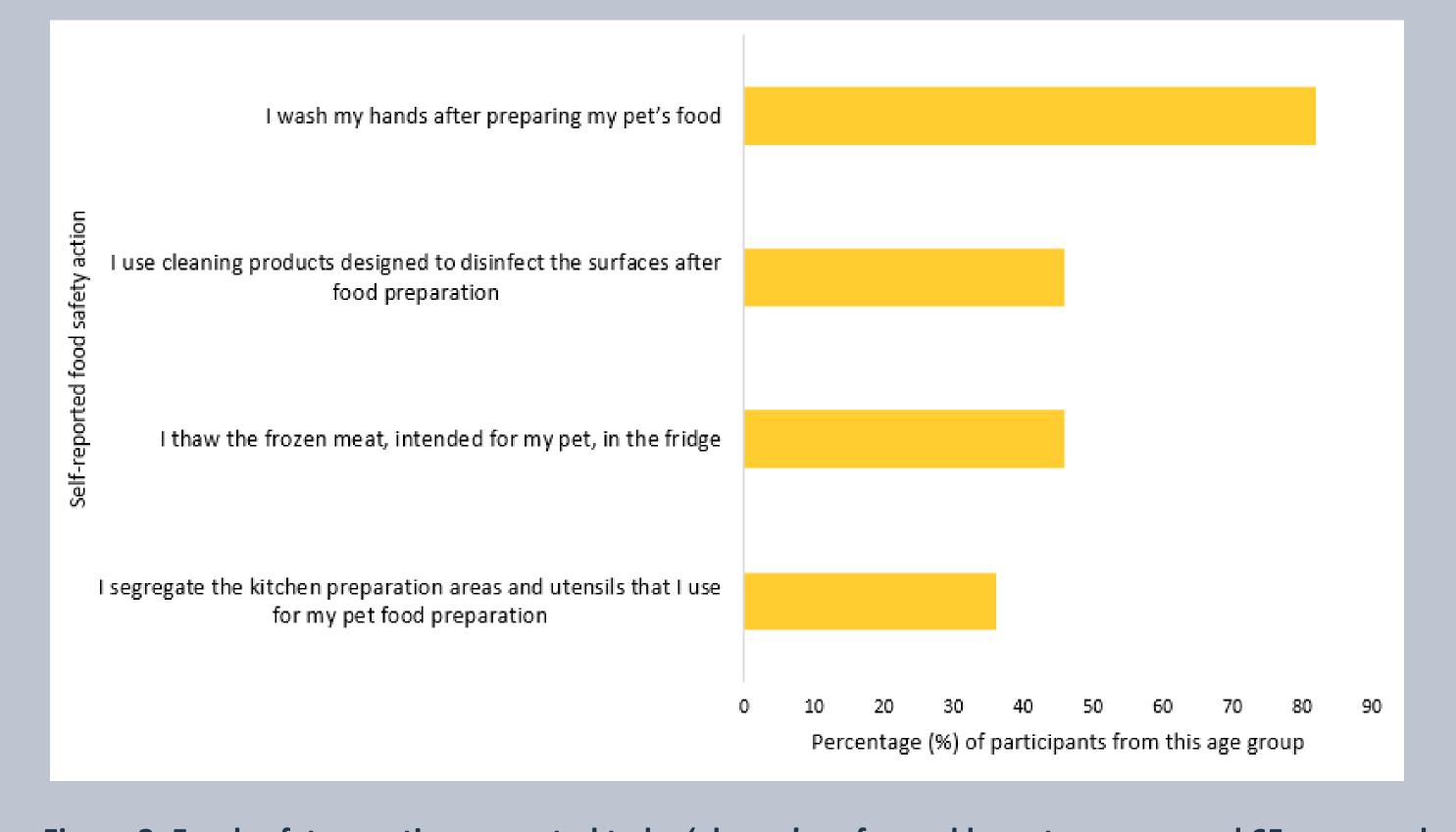


Figure 3. Food safety practices reported to be 'always' performed by pet owners aged 65 years and over. (n=11)

Significance of study

This study has revealed that despite indicating awareness of pathogens associated with raw meat, pet owners perceive themselves at 'low' risk of foodborne illness, associated with raw meat-based pet feeding, and may underestimate its severity. Moreover, some pet owners reported employing potentially unsafe practices, such as rinsing raw meat, when providing raw pet food. Cumulatively, there is a need for an intervention ensuring that raw meat-based feeding is practiced with appropriate food safety measures.

Recommendations

This study has identified the need for information provision:

- There is a need for raising pet-owners' awareness about the risks of failing to implement appropriate practices, the potential severity of foodborne illness and regarding the benefits of employing appropriate food safety practices.
- Comprehensive instructions from pet food suppliers, describing adequate food safety practices when providing raw meat-based diets to pets are required.

Completion of this study has also identified the need for further research:

 Observational studies would provide useful insight to the actual preparation practices that pet owners employ.

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