

A quantitative assessment of consumers' attitudes towards raw meat decontamination treatments

Area of research interest: [Behaviour and perception](#)

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Background

The Agency has a strategic priority to reduce foodborne disease, tackling campylobacter in chicken as a priority. Identification and implementation of practical and effective interventions to reduce campylobacter in chicken is key to achieving this. Decontamination treatments applied to raw meat in the slaughterhouse could potentially have a significant effect in reducing the exposure of consumers to campylobacter and other foodborne pathogens.

Our campylobacter citizens' forums, held in 2010, gathered qualitative information on UK consumers' awareness of campylobacter and their purchasing habits. It also looked at the acceptability of interventions to control campylobacter at farm, processing and retail level. The findings indicated further focused research was required in order to have a more robust, quantitative assessment of consumers' attitudes towards potential slaughterhouse decontamination treatments for raw meat.

This more detailed exploration of consumers' attitudes will help inform the our campylobacter risk management programme as well as discussions in Europe on permissible decontamination treatments for meat.

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Research Approach

The objective of this research was to collect quantitative data on:

- the UK consumers' understanding and awareness of campylobacter
- their attitudes towards potential slaughterhouse treatments for reducing contamination in raw meat (specifically poultry and beef)
- their attitudes towards messages designed to prevent the risk of cross-contamination in the home

The project involved a three-stage approach: scoping, primary research and a survey.

The scoping stage consisted of a brief review of existing literature on the subject of consumer attitudes/understanding of food safety, food practices, production processes and treatment options.

The review highlighted gaps and limitations in the existing literature and captured methodological insights that were used to inform the following research stages.

Qualitative work in the form of two focus groups was used to inform survey question development. This helped to achieve an understanding of how different content, language and tonal decisions were likely to affect responses to the survey questions. Once the questionnaire was finalised a cognitive testing stage followed by a small pilot survey were undertaken to ensure the questions were clearly understood and the responses could be captured without any problems.

The main stage survey involved face to face interviews with over 2000 respondents across the UK using a robust random probability design. The survey included collection of key demographic data. The survey response data was analysed to explore differences in views between different subgroups of the population and relationships between the data.

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Results

The survey began with questions about attitudes to food and food poisoning. The majority of respondents were aware that they had a high degree of control over their risk of food poisoning and chicken was the most often cited food as being a particular food poisoning risk (mentioned by 60%).

Respondents were given a brief description of four possible forms of slaughterhouse treatment for raw meat to reduce the risk of food poisoning:

- Rapid chilling – this exposes the surface of the meat to extreme cold temperatures to rapidly reduce temperature for a short time without freezing the flesh
- Lactic acid – the meat is sprayed with a solution of dilute lactic acid, a naturally occurring substance present in foods such as yoghurt
- Hot water or steam – the meat passes through a hot water bath or is exposed to steam in a chamber or tunnel
- Ozone – the meat is exposed to ozone gas or dipped into or sprayed with water containing ozone

The survey found that consumer responses on the acceptability of the treatments were mixed:

- immediate reaction to lactic acid and ozone treatments was strongly negative (15% and 12% respectively found them acceptable)
- immediate reaction to hot water/steam treatment was neutral (41% found it acceptable and 40% unacceptable)
- immediate reaction to rapid chilling treatment was positive (51% found it acceptable and 30% unacceptable)
- the acceptability of lactic acid treatment rose markedly when more information was given, and became positive overall (54% found it acceptable)
- the acceptability of rapid chilling treatment rose markedly when people were told treated meat could safely be frozen after purchase (69% found it acceptable)

The terms lactic acid and ozone alone provoked strong negative responses, suggesting that they would have low acceptability among UK consumers, although provision of extra information appeared to mitigate the negative response to lactic acid.

The two physical treatments, rapid surface chilling and heat/steam, were viewed more positively, especially rapid chilling. The level of variation in response, once extra information had been provided, suggests that the specific information presented to the public about decontamination treatments is likely to have a considerable impact on public opinion.

Responses to questions on labelling of treated meat showed a strong consensus amongst respondents (96%) that meat that had been treated should be labelled. There was a preference for the most detailed labelling option.

The survey results provide a robust measure of consumers' attitudes towards various raw meat decontamination treatments. This provides evidence that will help inform our future actions aimed at reducing the incidence of campylobacter.

There is underpinning data linked to this project. The full dataset is available from us on request as an SPSS file and the data have also been submitted to the Essex data archive for future use by researchers.

Research report

England, Northern Ireland and Wales

PDF

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England, Northern Ireland and Wales

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[View Consumers' Understanding of Campylobacter and Attitudes Towards Poultry Decontamination Treatments as PDF\(Open in a new window\) \(21.51 MB\)](#)