Utilising the 'Safe Recipe Style Guide' to Assess Food Safety Communication in Chicken Salad YouTube Video-Recipes

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Introduction

Food safety practices can reduce the risk of foodborne illness in the domestic setting. Food safety practices include temperature probing cooked meat and poultry, washing produce, hands, cleaning surfaces and equipment and the correct separation of raw and ready-to-eat (RTE) foods 1, 2, 3.

Previous research has explored food safety communication in broadcasted television cookery programmes and published recipe books; however, the way consumers obtain recipes is changing due to the increasing popularity of videosharing platforms^{4, 5, 6, 7}.

Celebrity chefs have been generally known to the general public through television programmes and cookery books while video-sharing platforms have allowed an increase in video-recipes from home kitchens with the amateur cooks ordinary expertise in the domestic kitchen becoming noticeable in recent years⁸.

Online video sharing and social media platforms allow users to view videos without the constraints of static broadcasting schedules⁷. YouTube is widely used by consumers to access and engage with video-recipes^{9, 10} and has the opportunity to incorporate food safety communication.

Purpose

The aim of the research was to review the inclusion of food-safety information in amateur cook and celebrity chef YouTube video-recipes.

Methods

- Content analysis of YouTube 'chicken salad' video-recipes (n=38) was performed using an electronic observational checklist based upon the Partnership for Food Safety Education (PFSE) 'Safe Recipe Style Guide' (see
- Ethical approval was obtained from the Health Care and Food, Ethics Panel at Cardiff Metropolitan University (Ethics reference number: UG-2886).

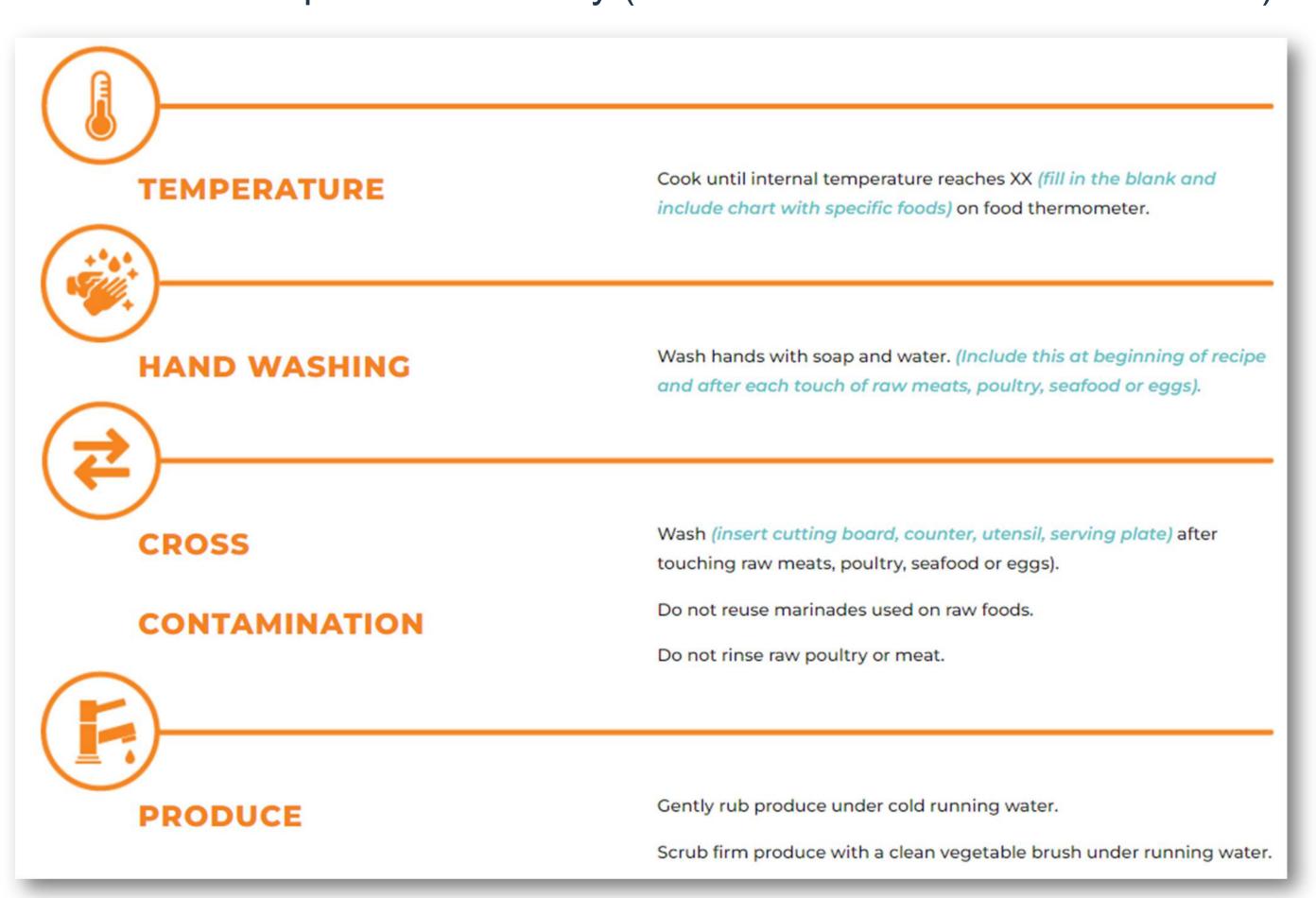


Figure 1. PFSE 'Safe Recipe Style Guide'11 denoting various safe food recommendations.

Results

Content analysis of chicken-salad YouTube video-recipes (n=38) was performed to assess the verbal and visual communication of food safety information in video-recipes between amateur cooks (n=25) and celebrity chefs (n=13). An observational checklist was designed to include common food safety practices (n=9) linked to the PFSE 'Safe Recipe Style Guide' (see Fig. 1) including 'Temperature', 'Hand Washing', 'Cross-contamination' and 'Produce'. The findings of the study indicated that there was no significant difference between amateur cooks and celebrity chefs in the communication of food-safety practices.

Temperature

Cooking of high-risk ingredients, such as poultry, at the right temperature will allow for the reduction and elimination of harmful bacteria reducing the risk of foodborne illness^{2, 3}.

- 8% of video-recipes demonstrated temperature-probe usage with amateur cooks more frequently communicating the practice than celebrity chefs (see Fig. 2). However, while it referred to temperature, it did not demonstrate the appropriate use of a temperature probe.
- 11% of recipes demonstrated unsafe cooking practices, either visually or verbally, related to the correct cooking of poultry (see Fig. 3 and Fig. 4).



reduce the risk of foodborne illness 13.

after handling poultry.

down with the same cloth.

Figure 2. Example of on-screen food safety



Figure 3. Example of food safety prompt that may promote unsafe cooking practices

Cross-Contamination

Cross-contamination occurs through the incorrect handling of foods, equipment and utensils allowing the spread of

bacteria. Avoiding transferring bacteria from raw foods on to RTE foods and other surfaces during food preparation can

• 16% of recipes communicated malpractice of cross-contamination related to the washing of equipment and utensils

Amateur cooks communicated the malpractice of washing raw chicken with 5% of video-recipes including verbalisation,

demonstration, and/or on-screen prompts regarding the practice. No recipes explained 'why' poultry should not be

As indicated in (see Fig. 6) there was inadvertent cross-contamination after the use of a cloth to wipe down a chopping

Figure 6. Sequence related to the food safety malpractice of cross-contamination of a chopping board during food preparation.

board that had previously been used to prepare raw chicken. The chopping board was then turned over and wiped



Figure 4. Example of food safety malpractice. Red circle denotes visibly undercooked chicken

Produce

Harmful bacteria can be removed from the outside of produce such as fruit and vegetables when washed under running water¹. This practice is particularly relevant if the produce is to be consumed raw, such as a salad, as the cooking process is absent and will not eliminate any harmful bacteria present. This study established that:



Figure 7. Recommended food safety practice related to the washing of produce under running water.

Hand Washing

Hand washing effectively reduces and eliminates harmful bacteria on the hands. Recommendations of best practice include the use of hot water and soap, palms, fingers and the back of hands should be rubbed and hands should be rinsed and dried well with paper towels¹². Hand washing can help reduce the spread of harmful bacteria being transferred to objects¹² (i.e. cross-contamination) (see **Fig. 5**).

- None of the observed video-recipes showed visual hand washing <u>before</u> commencing food preparation
- Only 8% of video-recipes visually demonstrated hand washing <u>after</u> handling raw chicken and none were best practice.



Figure 5. No handwashing communicated after handling poultry. Subsequently, food-safety malpractice such as contamination of the salt well was observed.

- Washing produce was partly communicated in 11% of video-recipes
- Only one video-recipe appropriately demonstrated how salad produce should be washed (see Fig. 7).



Significance of study

- This is the first study to utilise the 'Safe Recipe Style Guide' as a tool to assess inclusion of food safety messages.
- The study has determined a lack of visual and verbal food safety communications within video-recipes.
- Completion of this study has established one limitation of the 'Safe Recipe Style Guide' is that it does not include refrigeration as a food safety practice.
- The inclusion of positive food safety information could potentially help to inform consumers of the risks and safeguarding practices when preparing food in the domestic kitchen.

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