

# An Investigation into Hand Hygiene Practices amongst Food Handlers Working in Ireland

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## Introduction

Unsafe food is a leading factor in the spread of food borne illness<sup>1</sup>. It is noteworthy that, in Ireland, 50% of all notified foodborne illnesses are traced to food premises<sup>2</sup>, (61% EU European Union<sup>3</sup>, and 78% USA<sup>4</sup>).

The Food Safety Authority of Ireland (FSAI) reported personal hygiene as one of the most frequent reasons for food premises closure<sup>5</sup>.

A previous study by Micheals, *et al* (2021) reported that 50% of FDA food contact gloves, representing n=26 brands (25 nitrile & 1 vinyl), being positive for pathogens and faecal indicators. Notably, a bacterial count range from 102 to ~2 x 10<sup>5</sup> CFU /100 gloves was observed<sup>6</sup>.

## Objective

In general, the literature available on 'hand hygiene practices' among employees in direct contact with food in food establishments in Ireland is sparse. This study aimed to fill knowledge gaps on food safety training, and practices; with a particular focus on handwashing, glove use, food safety culture, and if necessary to provide further recommendations for improvement.

## Methods

Two experimental methods were used to gather data in food establishments. Both employee survey, and a novel 'snapshot audit' using Glo-Germ Oil (8oz) by Glo-germ™ (Figure 1). Data was statistically analysed using SPSS.

### Methods

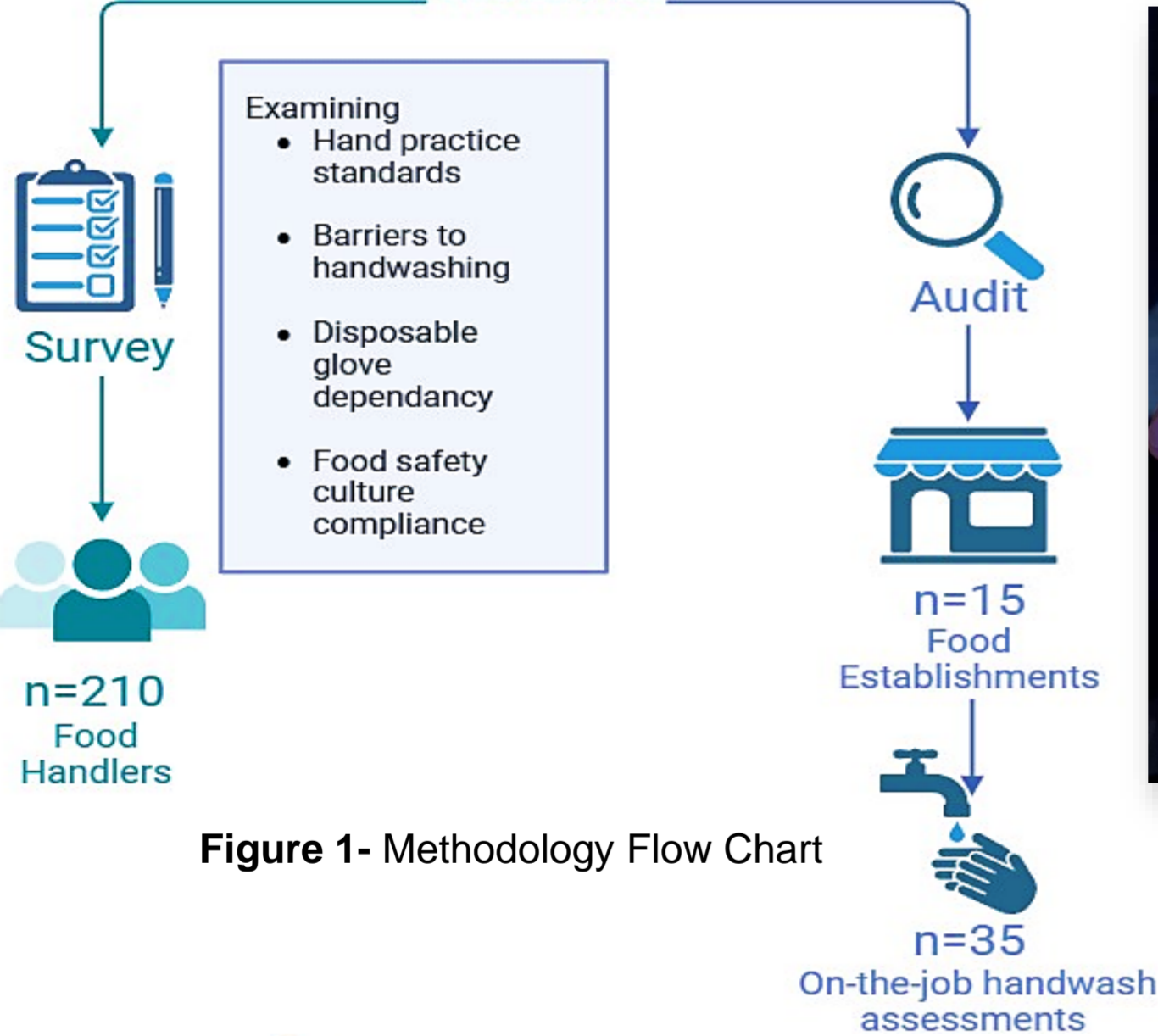


Figure 1- Methodology Flow Chart



Figure 2- Participant No.22 Post Handwash (Step 4)



Figure 3- Snapshot audit handwash procedure breakdown steps (1-4)

## Results

### Food Safety Training



1 in 4 food handlers were not trained in food safety matters

Correlation	Job Status	Age	Years Worked
FS Training P < 0.01 (2-tailed)	Sig	Sig	Sig

### Disposable Gloves



3 in 4 reported to use disposable gloves

Correlation	Handwash before applying gloves
Disposable glove use P < 0.05 (2-tailed)	Sig

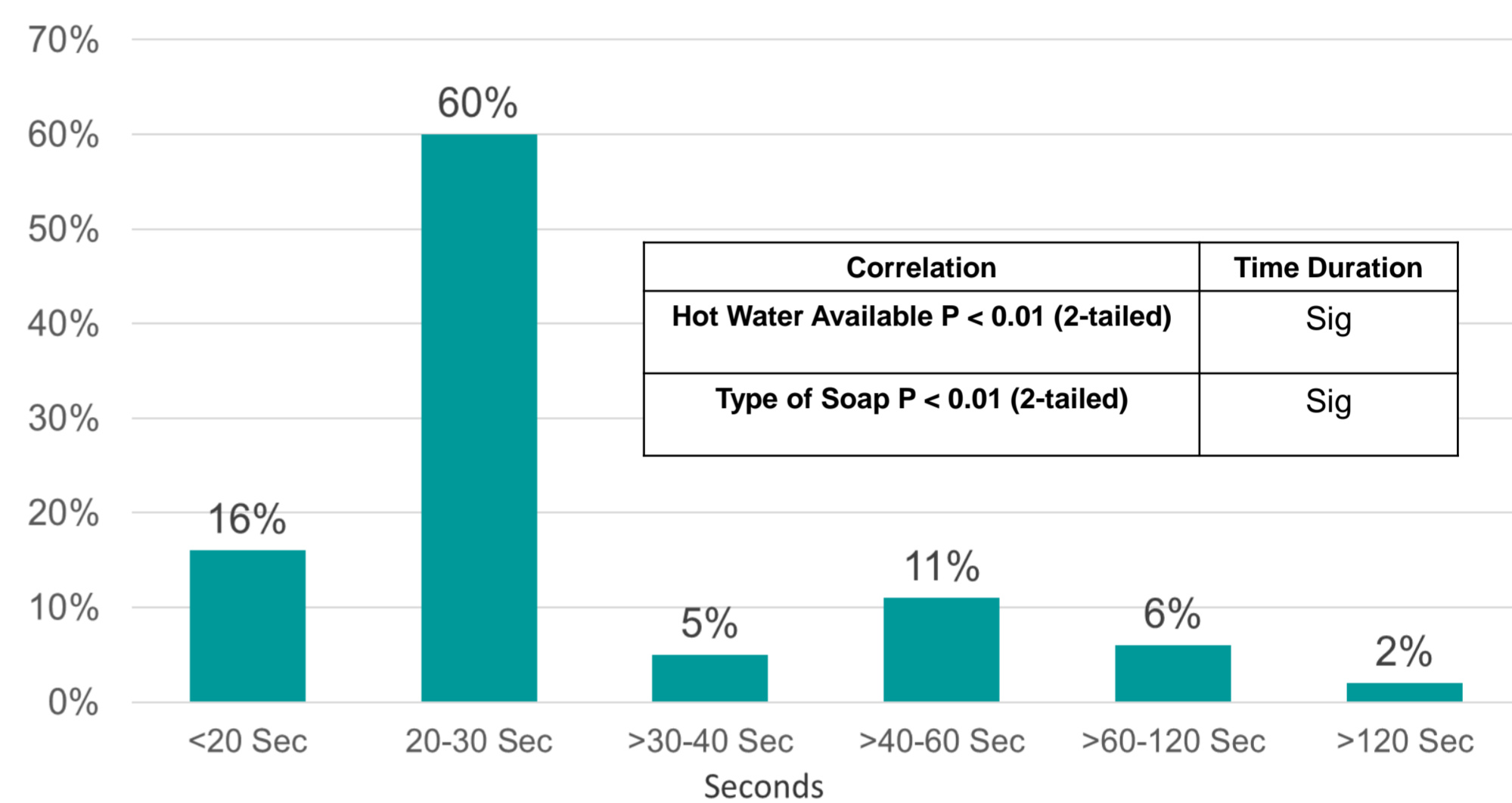


Figure 4 Percentage breakdown of time duration (in seconds) of handwashing reported by respondents who were a food handler employed in the Irish food sector, in a survey conducted between May 2022 and November 2022, in the ROI (≥18 years, n=210)

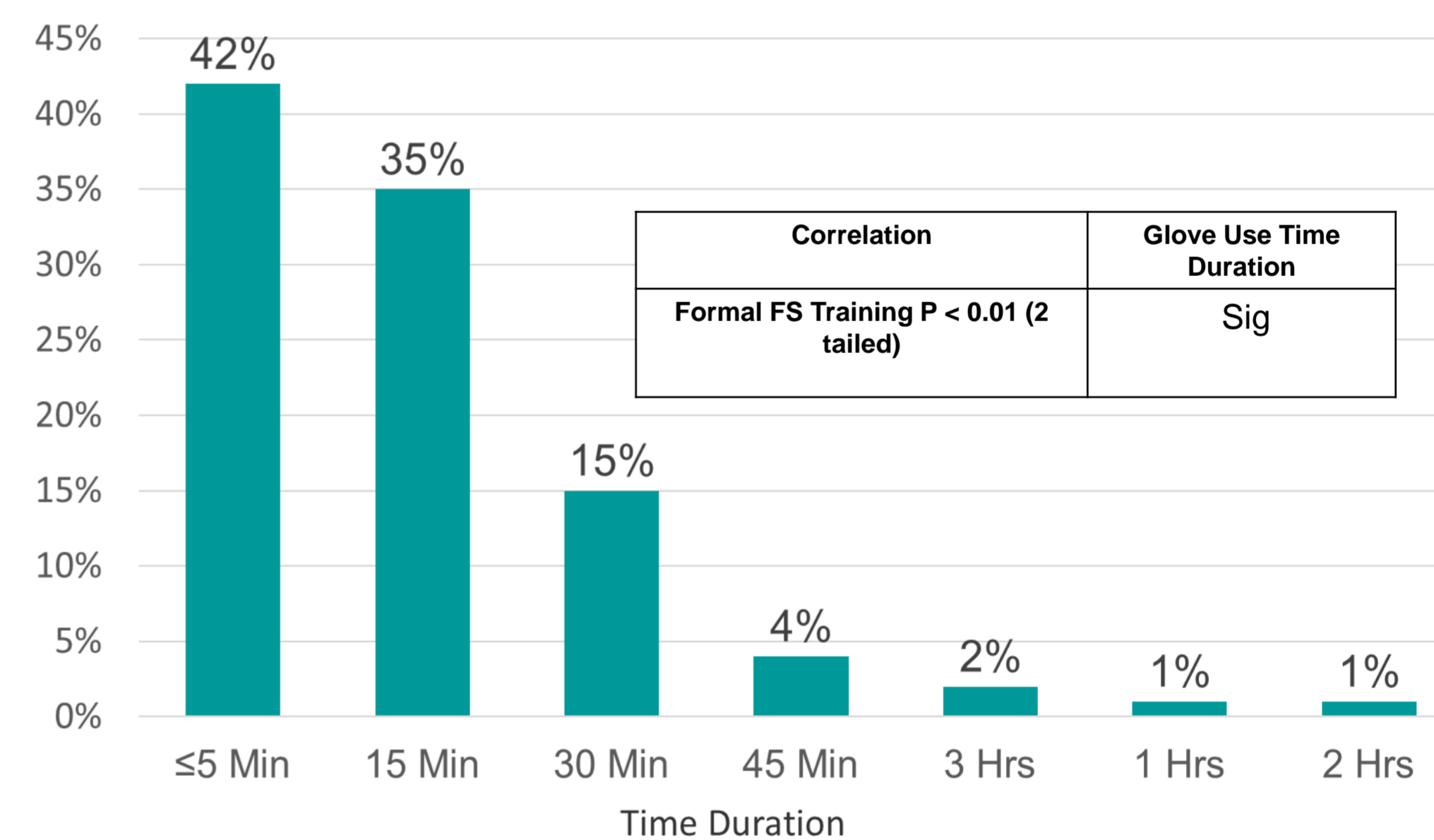


Figure 5 Percentage breakdown of the time duration of disposable glove use, reported by respondents who were a food handler employed in the Irish food sector, in a survey conducted between May 2022 and November 2022, in the ROI (≥18 years, n=210)

## Conclusion

This study indicated that there continues to be insufficient compliance in formal food safety training requirements, and sector wide dependency on disposable glove usage, with a significance observed between FS training, and duration of glove use. It is proposed that the importance of good hand hygiene practices, and hand wash technique, in open product areas is increased, as a significant proportion 97% (P < 0.05) of food handlers failed to adequately remove glowing contamination during the handwash assessment.

### References

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