

# Food safety attitudes of trainee dietitians in Wales, Ohio, and Lebanon

Vicky J. Gould<sup>1\*</sup>, Ellen W. Evans<sup>2</sup>, Elizabeth C. Redmond<sup>2</sup>, Sanja Ilic<sup>3</sup>, Nisreen Alwan<sup>4</sup>, and Laura Hjeij<sup>4</sup>

<sup>1</sup>Cardiff School of Sport and Health Sciences, Cardiff Metropolitan University, Cardiff, Wales, UK.

<sup>2</sup>ZERO2FIVE Food Industry Centre, Food and Drink Research Unit, Cardiff Metropolitan University, Cardiff, Wales, UK.

<sup>3</sup>Human Nutrition, Department of Human Sciences, The Ohio State University, Columbus, Ohio, USA.

<sup>4</sup>Modern University for Business and Science, Beirut, Lebanon.

\*Corresponding author: vjgould@cardiffmet.ac.uk

## Introduction

In Europe and the U.S, consumers see healthcare professionals such as Doctors and Dietitians as the most trusted sources of food safety information.<sup>1</sup>

Dietitians have access to groups and individuals who are at risk of foodborne illness due to immunosuppression or medical treatments<sup>2</sup>, and are therefore well placed to deliver food-safety information to reduce the risk of foodborne-illness in vulnerable patients.

Provision of food safety information by registered dietitians can inform susceptible patient groups of risk-reducing food safety behaviours resulting in reduced risk of foodborne illness.<sup>3</sup> Dietitians require appropriate information and training to allow them to deliver effective food safety advice to susceptible patients.

Attitudes towards food-safety may influence trainee-dietitians' likelihood to engage with and deliver food-safety advice to patients.<sup>4</sup> Understanding trainee-dietitians attitudes towards food-safety is required to enable delivery of effective food-safety education to those in need.

## Purpose

The purpose of this study was to determine the attitudes of trainee-dietitians in Wales, Ohio, and Lebanon towards the role of the dietitian in providing food safety information.

## Methods

**Recruitment:** Trainee dietitians (aged >18 years) studying between 2016 – 2018 at Cardiff Metropolitan University in Wales; Modern University for Business and Science (MUBS) in Lebanon, and the Ohio State University in Columbus, were invited to participate in the study. An information sheet informing them about the study was provided with consent implied by completion of the questionnaire.

**Data Collection:** Paper based and online versions of an anonymous, quantitative questionnaire were completed by 210 trainee dietitians at Cardiff Met ( $n=78$ ) MUBS ( $n=30$ ) and Ohio State ( $n=102$ ).

**Data analysis:** Quantitative data analysis was undertaken using Microsoft Excel 2016 and IBM SPSS Statistics version 22.

**Ethical Approval:** Approval was obtained from the Health Care and Food, Ethics Panel at Cardiff Met, the Ethics Panel at MUBS, Lebanon and ethics panel at The Ohio State University.

## Acknowledgements

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## References

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## Results

### Attitudes towards food safety education and training

From the 210 student dietitians that participated, 70% recalled having received food safety training/education as part of their degree course. Recall differed significantly ( $p<0.05$ ) between the institutions, as indicated in Table 1. All student dietitians in Cardiff participated in a one-day food safety training programme, students in Beirut attended food service practicums and food microbiology lectures, whereas in Ohio, 69% of students completed microbiology and foodservice sanitation courses, and 39% completed ServSafe certification.

Table 1. Recall of food safety education and training among trainee dietitian in Wales ( $n=78$ ), Lebanon ( $n=30$ ) and Ohio ( $n=102$ ).

Cardiff Met., Wales ( $n=78$ )	MUBS, Lebanon ( $n=30$ )	Ohio State University, USA ( $n=102$ )
<ul style="list-style-type: none"><li>100% reported completing a one-day food safety training programme (Royal Society for Public Health Level 2 Award in Food Safety).</li></ul>	<ul style="list-style-type: none"><li>100% reported studying food safety as part of degree course modules: 'food microbiology and parasitology', 'food hygiene' or 'food service management'.</li></ul>	<ul style="list-style-type: none"><li>39% reported completing Servsafe food handler or protection manager certification.</li><li>69% reported attending classes that included food safety: 'food service systems', 'food service sanitation' and 'basic microbiology'.</li></ul>

Although all institutions provided food safety training/education, cumulative findings indicate a need for targeted training:

- 40% indicated that they would find it difficult to identify individuals at a high risk of foodborne illness.
- 40% worried that they did not know the correct food safety information to provide to patients.
- 93% of trainee dietitians reported they would like to learn more about food safety for vulnerable populations.

On average, only 43% agreed that they felt confident to give an immune-compromised patient food safety information. This varied significantly across the three institutions (Table 2). Trainee dietitians in Wales (30%) and Ohio (45%) were significantly ( $p<0.001$ ) less confident than those in Lebanon (72%). Consequently, significantly more of those in Wales, (whereby one-day food safety training is delivered) perceived that the food safety education they had received was not clinically applicable (31%) compared to Lebanon (14%) and Ohio (9%).

Table 2. Attitudes towards food safety training and education among trainee dietitian in Wales ( $n=74$ ), Lebanon ( $n=29$ ) and Ohio ( $n=94$ ).

Proportion of trainee dietitians that agreed/strongly agreed that...	Wales ( $n=74$ )	Lebanon ( $n=29$ )	Ohio ( $n=94$ )	Significant differences
... I would be confident to give an immune-compromised patient food safety information	30%	72%	45%	$\chi^2(8, n=197) = 46.243, p<0.001, \text{Cramer's } V = 0.343$
... the food safety education I have received is not clinically applicable.	31%	14%	9%	$\chi^2(8, n=197) = 31.086, p<0.001, \text{Cramer's } V = 0.281$

### Attitudes towards food safety and the role of the dietitian

Although 24 – 76% believed that dietitians do not have time to provide food safety information and 17 – 63% believe it to be the responsibility of doctors to teach food safety, positive attitudes were expressed towards the role of dietitians in the delivery of food safety advice and information. Only 7 – 16% felt the role of dietitians is solely to provide nutritional advice not food-safety information. As indicated in Figure 1, significant differences were determined between perceptions of trainee dietitians from the three different institutions.

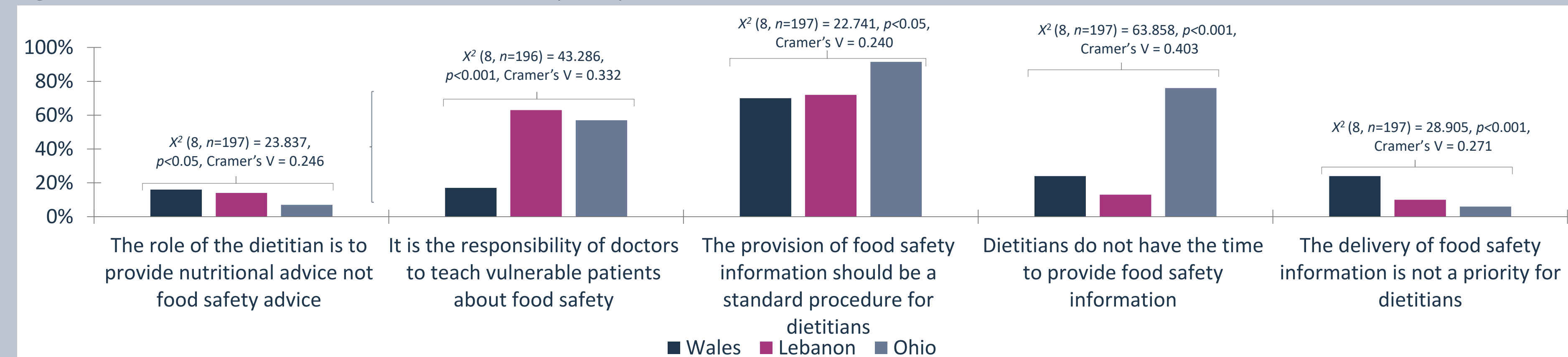


Figure 1. Attitudes towards the role of dietitians in the provision of food safety information among trainee dietitian in Wales ( $n=74$ ), Lebanon ( $n=29$ ) and Ohio ( $n=94$ ).

### Attitudes towards food safety and vulnerable patients groups

Student dietitians expressed positive attitudes towards the risk of foodborne illness to vulnerable patients groups, their need to receive food safety information and the potential impact dietitians can play in mitigating the risks associated with foodborne illness (Table 3).

Table 3. Trainee dietitians attitudes towards the importance of food safety for vulnerable patient groups in Wales ( $n=74$ ), Lebanon ( $n=29$ ) and Ohio ( $n=94$ ).

Proportion of trainee dietitians that...	Wales ( $n=74$ )	Lebanon ( $n=29$ )	Ohio ( $n=94$ )	Significant differences
... disagreed that vulnerable patient groups are at no more risk of foodborne illness than the general population	81%	77%	82%	$p>0.05$
... disagreed that vulnerable patients do not need to be given any food safety information	97%	79%	98%	$\chi^2(6, n=197) = 21.694, p<0.001, \text{Cramer's } V = 0.234$
...agreed educating dietitians to inform vulnerable patients of the importance of food safety may reduce the risk of foodborne illness	93%	79%	95%	$\chi^2(8, n=196) = 19.128, p<0.05, \text{Cramer's } V = 0.221$
... disagreed that vulnerable patients should be more concerned about diet and nutrition than food safety	69%	86%	79%	$\chi^2(8, n=197) = 16.050, p<0.05, \text{Cramer's } V = 0.202$

## Significance of study

Trainee dietitians are aware that vulnerable patients require food safety information to enable them to reduce their risk of foodborne-illness. However, there is some uncertainty around the role of the dietitian in providing food safety information to vulnerable patients. Further research is required to explore the inclusion of food safety in undergraduate dietetic degree courses to determine how dietetic food safety education can be improved to enhance their role in vulnerable-patient care and in turn reduce the risk of foodborne illness.