

What are the unique food safety concerns among Lebanese consumers?

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Introduction

Foodborne illness is reportedly widespread in Lebanon although exact figures are unknown due to a lack of a proper disease reporting mechanism.¹ Enabling consumer food safety through appropriate infrastructure and education is critical to reducing health risks from foodborne illness, however, little is known about Lebanese consumer concerns. There has been scant research into this area, although one study found that Lebanese university students had low levels of food safety knowledge.² Exploring concerns of consumers and understanding a country's unique public health challenges is paramount to tackling food safety issues.³

The location of food consumption may have an impact on consumer concerns regarding food safety, and this may be particularly pertinent in Lebanon where there is a lack of routine inspection and control measures to ensure compliance in food hygiene regulations set by the Lebanese Food Safety Authority.⁴ Furthermore, food safety knowledge of food business owners have been found to be inadequate.⁵ There is also the issue of the unstable electricity supply causing both households and retail outlets to encounter potential difficulties with the safe storage of food, which is necessary to prevent occurrence of foodborne illness.²

Purpose

This study aimed to explore qualitative and quantitative data denoting Lebanese consumers' attitudes towards food safety risks and perceptions associated with acquiring food poisoning.

Methods

Recruitment and data collection: The study consisted of two phases of data collection:

- Qualitative face-to-face interviews using a semi-structured interview schedule were conducted with Lebanese consumers ($n=43$) who attended a health day at the university in Beirut.
- Quantitative self-complete questionnaires were distributed to a convenience sample of Lebanese consumers ($n=97$).

All participants were provided with a participant information sheet and gave consent to participating in the study.

Data analysis: Thematic analysis of qualitative data was undertaken using NVivo 12 (QSR). 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, and the Ethics Panel at MUBS.

References

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Results

A total of 43 Lebanese consumers participated in the qualitative interviews and 97 Lebanese consumers completed the questionnaire. Thematic analysis of qualitative data identified two key areas of consumer concerns related to food safety at home and the safety of food consumed outside of the home. Specific concerns related to electricity outages and the safety of water. Quantitative findings further explored these themes.

Qualitative findings regarding consumer food safety concerns

Consumers perceived their overall personal risk of foodborne illness in Lebanon to be high. Restaurants in particular were cited by many as a very likely place to contract a foodborne illness, with some participants reporting to avoiding eating outside of the home altogether.



Figure 1. Consumer food safety concerns regarding restaurants.

As indicated in figure 1, respondents perceived that restaurants fail to ensure supervision of staff and adherence of food safety guidelines. Furthermore, concerns regarding hygiene standards in restaurants were expressed.

Consumer reported that the consumption of foods prepared outside of the home environment was a major concern with consumers reporting more perceived control over food safety inside the home. As indicated in figure 2 care was taken and cleaning practices implemented.

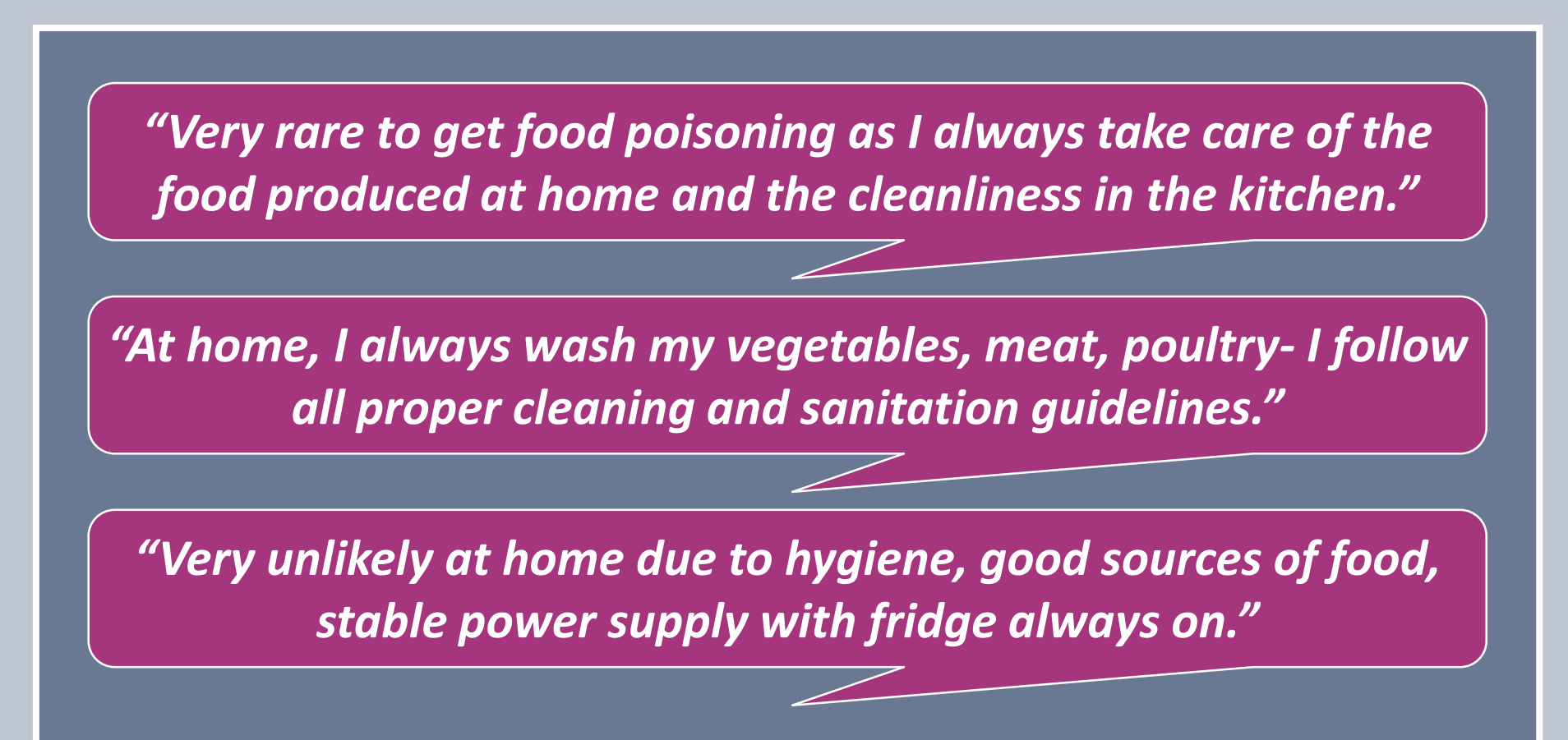


Figure 2. Food safety in the home

Frequently reported food safety concerns within the home included electricity interruptions, which were believed to be associated with unsafe food storage practices both at home, in shops and restaurants. Water contamination issues were also a concern.

Quantitative findings regarding consumer food safety concerns

More than half (60%) of consumers reported that they had experienced food poisoning in the last five years. The vast majority of consumers (87%) believed foodborne illness to be common in Lebanon, however, potential severity of foodborne illness may be underestimated as 66% believed foodborne illness to be inconvenient but never serious and 50% believed symptoms never last longer than 48 hours. The perceived risk of food poisoning varied according to the location of food consumption.

Table 1. Perceived risk of food poisoning with regard to food location ($n=97$).

Location of food preparation	Perceived likelihood of foodborne illness	
	Very likely – likely	Unlikely – very unlikely
Own home	33%	53%
Friends home	35%	41%
Restaurant/cafe	63%	18%
Takeaway establishment	70%	13%
Deli (supermarket)	76%	6%

As indicated in table 1, food prepared and consumed at home or in the home of friends were perceived to be the locations least likely of causing foodborne illness. Consumption of food prepared and purchase from supermarket deli counters, restaurants and takeaway establishments were perceived to be the locations most likely of resulting in foodborne illness. Correspondingly, it is indicated in table 2 that 70% of consumers were not confident that food outlets follow necessary food safety guidelines, and indicated concern regarding the storage of food in shops (57%).

Table 2. Confidence in the food safety practices of restaurants and food outlets ($n=97$).

Food safety concern statements	Attitudinal response		
	Strongly agree – agree	Neither agree or disagree	Disagree – strongly disagree
I am confident that restaurants/ food outlets always follow food safety guidelines	32%	22%	46%
I am confident that food safety is supervised in restaurants and food outlets	26%	73%	47%
When I buy food from the shop I am concerned about how it has been stored	57%	24%	18%
I know all of the food safety precautions necessary for safe food preparation	59%	22%	19%
It is difficult to store refrigerated food safely due to interruptions in electricity supply	79%	14%	7%
I am concerned about the safety of drinking water in my home	76%	9%	15%

The majority of consumers (59%) perceived themselves to know all food safety precautions necessary for safe food preparation. With regards to food safety concerns in the home, 42% indicated they have an unstable electricity supply, and 40% reported they may not always be aware if an electricity outage has turned their refrigerator off, consequently as indicated in table 2, 79% of consumers reported difficulty in storing refrigerated foods safely due to unstable electricity supply. The majority of consumers (76%) were concerned about the safety of drinking water in their home.

Significance of study

- Qualitative and quantitative data collated using separate research approaches with different consumers in Lebanon concurred to highlight food safety concerns unique to Lebanon.
- Consumers indicated greater confidence in their own food safety practices than in food outlet establishments. Within the home, factors beyond the control of consumers such as the storage of food purchased from shops, electricity outages and the safety of drinking water caused concern.
- Further research is required to explore how consumer food safety concerns in Lebanon can be addressed to help overcome these unique food safety challenges and reduce the risk of foodborne-illness.