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Introduction

Food safety in Lebanon is a major public health issue¹, potentially associated with the countries' unique public health infrastructure and political challenges regarding policy and strategy. Foodborne illness is reportedly widespread in Lebanon, but the absence of a proper disease reporting mechanism makes incidence difficult to quantify

There is a lack of routine inspection and control measures as set by The Lebanese Food Safety Authority to ensure compliance in advised food hygiene regulations². Many food businesses operate without a licence of regulation³ and studies on food safety knowledge of food business owners has been found to be inadequate⁴.

Other factors such as unstable power supply may cause households and retail outlets to face electricity shortages during the day⁵, having potential impact on the safe storage of food.

Implementation of safe food preparation, storage and handling behaviours is critical to reduce the risk of foodborne illness to health. Research has established that food safety knowledge as well as attitude towards food safety practices influences behaviour⁶.

A study by Hassan and Dimassi, showed that Lebanese university students had low levels of food safety knowledge⁶. Further research is required to establish consumer food safety concerns in Lebanon.

Purpose

The aim of the research was to determine and explore Lebanese consumers' risk perceptions, concerns and perceived adequacy of food safety information.

Methods

Recruitment: Consumers (aged \geq 18 years) who approached the MUBS 'Health Day' stand at a shopping mall in Beirut, Lebanon on 9th September 2017 were invited to participate in the study.

Data Collection: Qualitative face-to-face interviews were undertaken with a piloted interview schedule to explore the food safety perceptions of consumers. Demographic data were captured and informed consent was obtained prior to interviews.

Data analysis: Thematic analysis of data was conducted using NVivo to identify themes in food safety perceptions.

Ethical Approval: Approval was obtained from the Health Care and Food, Ethics Panel at Cardiff Met. (reference no: 9299) and the Ethics Panel at MUBS, Lebanon.

Public Worry Regarding Specific Food Safety Issues in Lebanon. Vicky J. Gould¹*, Ellen W. Evans², Elizabeth C. Redmond², Nisreen Alwan³, Laura Hjeij³ & David C. Lloyd²

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Content analysis

A total of 43 Lebanese consumers took part in the study, 58% were male and 42% were female. The age range was between 18-69 years.

Thematic analysis of the interview transcripts identified areas of consumer food safety concerns that were unique to Lebanon, and two key areas of concern which related to:

- Food safety practices in the home
- Food safety concerns outside of the home

Furthermore, completion of the study also identified the need for food safety information for consumers.

Consumer food safety concerns unique to Lebanon

A common perception of consumers interviewed perceived overall personal risk of foodborne illness to be 'very high.' This appeared to be due to the many and varied food safety concerns which are unique to Lebanon.

Frequently reported concerns amongst the participants included electricity interruptions which were believed to be associated with unsafe food storage practices both at home and in shops and restaurants.

Concerns regarding the accuracy and adherence of expiry dates on food products purchased from retail outlets, and issues around the quality and safety of water in Lebanon were all major discussion points, indicating the unique food safety risks in Lebanon, as illustrated in Figure 1

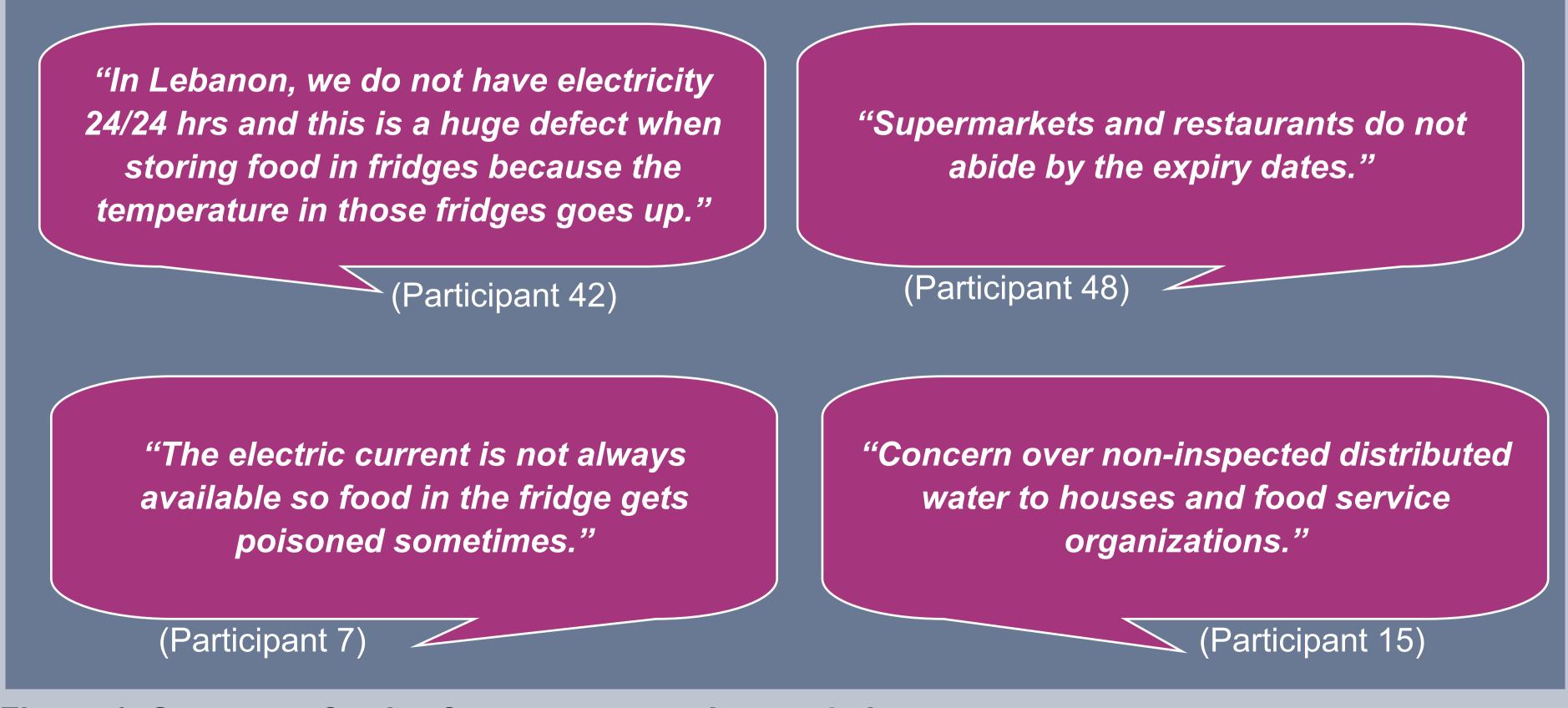


Figure 1. Consumer food safety concerns unique to Lebanon

The reported concerns regarding the electricity problems have particular impact on the ability of individuals and business's to safely store perishable foods, increasing the risk of foodborne illness⁴, particularly with the climate in Lebanon.

Results

Food safety concerns at home	
As indicated in Figure 2, many consumers indic less likely to occur from food prepared in the considered themselves to follow good hygiene ar incidence of foodborne illness.	home than when eating out. Many believed
"Very rare to get food poisoning as I al- ways take care of the food produced at home and the cleanliness in the kitchen." (Participant 11) Figure 2. Consumer food safety concerns when produced	"At home, I always wash my vegetables, meat, poultry- I follow all proper cleaning and sanitation guidelines." (Participant 44)

Food safety concerns outside of the home

Restaurants were cited by many as a likely place to contract a foodborne illness, with some participants reporting to avoiding eating outside of the home altogether (Figure 3). Respondents perceived that restaurants fail to ensure supervision of staff and adherence of food safety guidelines. Furthermore, concerns regarding hygiene standards were expressed.



Figure 3. Consumer food safety concerns when eating outside of the home

The need for food safety information in Lebanon

Participants indicated a considerable need for food safety information (Figure 4). A number of believed that the provision of food safety information was very important to enable them to protect their health. Some expressed the wish for information on food safety to be provided by the Lebanese government and others felt is should be provided via the media or other sources. Having access to food safety information would enable consumers to be able to consider whether their own food safety behaviours should be changed⁵.

"I need more information regarding food
safety for sure-, there is a lot of
unexplained missing information in
Lebanon and this is affecting the safety
of Lebanese people"

"Our media do not highlight this topic and our schools do not emphasize on this issue despite its importance"

(Participant 33)

(Participant 26)

Figure 4. Perceived need for consumer food safety education in Lebanon



International Association for Food Protection



Significance of study

Completion of this study has addressed a lack of current research regarding consumer food safety concerns in Lebanon. Consumers in Lebanon indicated different food safety concerns outside of the home compared with inside of the home.

Food safety concerns which are particularly unique to Lebanon including electricity disruptions and concerns regarding the accuracy and adherence of expiry dates on food products have been identified. Identified consumer concerns require consideration when developing future consumer training, education and prevention strategies.

There is a need for further research to determine Lebanese consumers cognitive and behavioural influences related to food preparation/storage as well as food-safety education.

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Handouts

All posters from the ZERO2FIVE Food Industry Centre are available for download from: www.cardiffmet.ac.uk/health/zero2five/research