

An Exploration of Consumer Food Safety Concerns in Lebanon

Vicky J. Gould^{1*}, Ellen W. Evans², Elizabeth C. Redmond², Nisreen Alwan³ and Laura Hjeij³

¹Cardiff School of Sport and Health Sciences, Cardiff Metropolitan University, Cardiff, United Kingdom.

²ZERO2FIVE Food Industry Centre, Cardiff Metropolitan University, Cardiff, United Kingdom.

³School of Health Sciences, Modern University for Business & Science (MUBS), Beirut, Lebanon.

*Corresponding author: vjgould@cardiffmet.ac.uk

Introduction

Food safety in Lebanon is a major public health issue (El Fadel *et al.*, 2003), 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 (El Fadel *et al.*, 2003.)

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 regulations (Ghadia *et al.*, 2014). Many food businesses operate without a licence of regulation (Ministry of Tourism, 2013) and studies on food safety knowledge of food business owners has been found to be inadequate (Faour-Klingbeil *et al.*, 2015). Other factors such as unstable power supply causing households and retail outlets to face electricity shortages throughout the day (Hassan *et al.*, 2014) potentially 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 behaviour (Redmond and Griffith, 2005).

A study by Hassan and Dimassi (2014), showed that Lebanese university students had low levels of food safety knowledge. 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 >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.

Acknowledgements

Cardiff Met., the ZERO2FIVE Food Industry Centre and MUBS, wish to acknowledge the interview participants and members of the team responsible for attending the Health Day to facilitate data collection.

Results

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 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, the need for food safety information was also identified.

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.

"In Lebanon, we do not have electricity 24/24 hrs and this is a huge defect when storing food in fridges because the temperature in those fridges goes up"

(Participant 42)

"The electric current is not always available so food in the fridge gets poisoned sometimes"

(Participant 7)

"Supermarkets and restaurants do not abide by the expiry dates"

(Participant 48)

"Concern over non-inspected distributed water to houses and food service organizations"

(Participant 15)

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 illness (Hassan et al 2014), particularly with the climate in Lebanon.

Food safety concerns at home

As indicated in figure 2, many consumers indicated they believed that foodborne illness was less likely to occur from food prepared in the home than when eating out.

Many believed considered themselves to follow good hygiene and sufficient food safety practices to prevent the incidence of foodborne illness.

"Very rare to get food poisoning as I always take care of the food produced at home and the cleanliness in the kitchen"

(Participant 11)

"At home, I always wash my vegetables, meat, poultry- I follow all proper cleaning and sanitation guidelines"

(Participant 44)

Figure 2. Consumer food safety concerns when preparing food at home

Food safety concerns outside of the home

Restaurants were cited by many consumers as a very 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.

"Restaurants and food related organisations do not abide by the necessary guidelines of food safety"

(Participant 3)

"It is when I eat out I worry the most since I am not sure about the sanitation level in restaurants"

(Participant 44)

"There is no supervision in restaurants"

(Participant 33)

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

The need for food safety information

Participants frequently indicated a considerable need for food safety information (figure 4). A number of respondents believed that the provision of food safety information was very important to enable them to protect their health. Some participants expressed the wish for information on food safety to be provided by the Lebanese government and others felt it should be provided via the media or other sources.

"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"

(Participant 33)

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

(Participant 26)

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

Having access to food safety knowledge would enable consumers to be able to consider whether their own food safety behaviors should be changed (Redmond and Griffith, 2005).

Significance of study

- 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 have been identified and these 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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Furthermore, completion of the study also identified the need for food safety information for consumers.

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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.