A Qualitative and Quantitative Analysis of Consumer Food Safety Concerns in Lebanon.

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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 countries unique public health challenges is paramount to tackling food safety issues.

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.3 Furthermore, food safety knowledge of food business owners have been found to be inadequate.4 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.5

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.

Acknowledgements

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References


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.

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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.

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.

Table 1. Perceived risk of food poisoning with regard to food location (%).

<table>
<thead>
<tr>
<th>Location of food preparation</th>
<th>Perceived likelihood of foodborne illness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own Home</td>
<td>Very likely – likely</td>
</tr>
<tr>
<td>Friends</td>
<td>Very likely – unlikely – very unlikely</td>
</tr>
<tr>
<td>Restaurant/Cafe</td>
<td>Very likely – unlikely – very unlikely</td>
</tr>
<tr>
<td>Takeaway Establishment</td>
<td>Very likely – unlikely – very unlikely</td>
</tr>
<tr>
<td>Deli (supermarket)</td>
<td>Very likely – unlikely – very unlikely</td>
</tr>
</tbody>
</table>

As indicated in table 1, food prepared and consumed at home or in the home of friends were perceived to be the locations most likely to cause foodborne illness. Consumption of food prepared and purchase from supermarket deli counters, restaurants and takeaway establishments were perceived to be the locations most likely to result 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, consumers also indicated concern regarding the storage of food in shops (7%) and restaurants (15%).

Table 2. Confidence in the food safety practices of restaurants and food outlets (%).

<table>
<thead>
<tr>
<th>Food safety concern statements</th>
<th>Strongly agree – agree</th>
<th>Neither agree or disagree</th>
<th>Strongly disagree – disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am confident that restaurants/food outlets always follow food safety guidelines</td>
<td>32%</td>
<td>22%</td>
<td>46%</td>
</tr>
<tr>
<td>I am confident that food is supervised in restaurants and food outlets</td>
<td>38%</td>
<td>21%</td>
<td>41%</td>
</tr>
<tr>
<td>When I buy food from the shop I am concerned about how it has been stored</td>
<td>57%</td>
<td>24%</td>
<td>18%</td>
</tr>
<tr>
<td>I know all of the food safety precautions necessary for safe food preparation</td>
<td>59%</td>
<td>22%</td>
<td>19%</td>
</tr>
<tr>
<td>It is difficult to store refrigerated food safely due to interruptions in electricity supply</td>
<td>75%</td>
<td>14%</td>
<td>7%</td>
</tr>
<tr>
<td>I am concerned about the safety of drinking water in my home</td>
<td>70%</td>
<td>15%</td>
<td>15%</td>
</tr>
</tbody>
</table>

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.