An Assessment of Knowledge and Self-Reported Behavior Regarding Food Safety Among Reproductive Age Women

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ABSTRACT

Background: According to the WHO (2007), the increase in the incidence of foodborne diseases is a public health concern in both developed and developing countries. The objective of Study: The objective of the study was to: assess “Knowledge and Self-Reported Behavior Regarding Food Safety Among Reproductive Age Women.” Study Design: It was a cross sectional descriptive epidemiological study. Setting: The study was conducted in three areas:

- Shadra Basti, Bahawalpur
- Outpatient department BVH, Bahawalpur
- Quaid-e-Azam Medical College Girls Hostel, Bahawalpur

Duration: 15th January 2016 to 14th June 2016. Study Population: The study was conducted on females of reproductive age group. Sampling Technique: It is a non-probability convenience sampling. Sampling Size: According to the available time and resources, it was decided to take a sample of 150 women of reproductive age group. Tools of Data Collection: A questionnaire was designed, tested, finalized and then used for data collection. Our questionnaire consisted of three parts. The first part included questions about socio demographic profile; second part carried questions regarding knowledge and third comprised questions on self-reported behavior on food safety. Data Analysis: Data was coded and entered into SPSS version 21. Interpretation has been presented in the form of tables and figures. Results: The study found that 88.7% of respondents had good knowledge of food safety, whereas, 11.3% merely had satisfactory knowledge of food safety. The data collected from respondents revealed that only 39.3% respondents fell into the good category of practice / self-reported behavior regarding food safety. We found a statistically significant association (p = 0.001) between education of respondents and knowledge regarding food safety. There is a statistically significant association between respondent’s education (p = 0.009), respondent’s occupation (p= 0.043), and practice / self-reported behavior regarding food safety. Conclusion: The study found a significant correlation between education of the female and knowledge regarding food safety. Moreover, a significant correlation was found between education of the female, occupation of the female, family’s monthly income and self-reported behavior regarding food safety. Our results confirm the need for ongoing educational initiatives to improve the relatively low food safety awareness among reproductive age women. Information gained from this study can be utilized to formulate essential messages for many educational programs.

Keywords: Knowledge, Practice, Food Safety, Reproductive Age Women

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1. INTRODUCTION

“The food you eat is either the safest and the most powerful form of medicine or the slowest form of poison.” Ann Wigmore(1).

Food safety is a scientific discipline that describes food handling, preparation and storage of food in such a way that food borne diseases can be prevented, as food borne diseases take a major toll on health. Millions of people fall ill, and numerous die due to eating unsafe food. Food safety encompasses actions aimed at ensuring that all food is as safe as possible. Food safety policies and actions need to cover the entire food chain, from production to consumption(2). Food can transmit diseases from person to person as well as can serve as a growth medium for bacterial growth. Information is needed on how food becomes unsafe in the home and on what changes in environmental conditions, and in beliefs and behavior, must be accomplished in order to reduce food hazards(3).

Awareness, knowledge, and judgment on foods can be affected by the habits and other perceptions that result from social, cultural, and environmental influences such as food fade and food taboos(4).

Numerous surveys have been conducted to determine food safety attitudes, knowledge and practices among reproductive age women and unsafe food handling practices were found despite acceptable food safety knowledge(5,6). Knowledge and practices of mothers of infants and children indicate a need for food safety messages(7).

Although the public is increasingly concerned about food-related risks, the rise in food poisoning cases suggests that people still make decisions of food consumption, food storage and food preparation that are less ideal from a health and safety perspective(8).

Food safety, an increasingly important public health issue (WHO, 2004), refers to the conditions and practices that preserve the quality of food to prevent contamination by microbes or toxic chemicals resulting in food borne illness(9). Most food borne illnesses are preventable if food protection principles are followed from production to consumption to ensure safety, these are:

1. Prevent contaminating food with pathogens spreading from people, pets, and pests.
2. Separate raw and cooked foods to prevent contaminating the cooked foods.
3. Cook foods for the appropriate length of time and at the appropriate temperature to kill pathogens.
4. Store food at the proper temperature.
5. Do use safe water and safe raw materials(10).

Most of the teaching and training programs are based on the knowledge, attitude, and practice (KAP) model, which is based on the premise that an increase in knowledge will translate to a positive attitude and appropriate practices. While knowledge is a prerequisite for positive attitudes and practices, there are many other factors (environmental, social, cultural, belief systems, and so on) that determine whether food handling knowledge positively impacts attitudes and practices in the workplace(11). The level of education is very important factor in improving intentional behavior regarding food safety. We conducted this study on three places in Bahawalpur city to access knowledge and practices regarding food safety in women of reproductive age group.

2. METHODS

It was a cross sectional descriptive epidemiological study.

The study was conducted in three areas:

1. Shadra Basti, Bahawalpur
2. Out Patient Department (OPD) BVH, Bahawalpur
3. Quaid-e-Azam Medical College Girls Hostel, Bahawalpur

Duration of study: 15th January 2016 to 14th June 2016.

The study was conducted on females of reproductive age group. Respondents selected by non-probability convenience sampling. Informed consent was taken from all participants. According to the available time and resources, it was decided to take a sample of 150 women of reproductive age group. After taking informed consent from all those fulfilling inclusion criteria; A questionnaire was designed according to the requirement of the study. Those who were not willing to participate were excluded from the study. The questionnaire was used for data collection. Every woman was interviewed after explaining the study and taking their verbal consent. Our questionnaire consisted of three parts. The first part included questions about socio demographic profile; second part carried questions regarding knowledge and third comprised questions on self-reported behavior on food safety.

Data were coded and entered into SPSS version 21 and analyzed.

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3. **RESULTS**

The study found that 88.7% of respondents had good knowledge of food safety, whereas, 11.3% merely had satisfactory knowledge of food safety. The data collected from respondents revealed that only 39.3% respondents fell into the good category of practice / self-reported behavior regarding food safety, whereas, 58.7% respondents fell in the satisfactory category and only 2% respondents fell into the poor category. The age group which showed the highest knowledge of food safety was 21-25 (43/150), whereas, the group which produced the least good knowledge was 46-50 (6/150). There is no statistically significant association between age and knowledge regarding food safety. Married women showed the highest knowledge of food safety (Figure 1).

![Bar Chart](image1)

**Fig. 1: Frequency distribution of knowledge according to marital status**

There is no statistically significant association between marital status and knowledge & practices regarding food safety. The women who had education till matriculation showed the best knowledge among the rest. While the least knowledge was shown by females, who had no education at all. While females who had a few years education showed the least good practices. Practices were found good in those having a high level of education. Working woman category showed the best knowledge & practices among all the women interviewed.

<table>
<thead>
<tr>
<th>Age</th>
<th>Satisfactory (17-20)</th>
<th>Good (21-24)</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>16-20</td>
<td>1</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>21-25</td>
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<td>44</td>
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<td>26-30</td>
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<td>28</td>
</tr>
<tr>
<td>31-35</td>
<td>5</td>
<td>24</td>
<td>29</td>
</tr>
<tr>
<td>36-40</td>
<td>1</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>41-45</td>
<td>2</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>46-50</td>
<td>2</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
<td><strong>133</strong></td>
<td><strong>150</strong></td>
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<table>
<thead>
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<th>Marital status</th>
<th>Frequency</th>
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<tr>
<td>Single</td>
<td>31</td>
<td>20.7</td>
<td>20.7</td>
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<tr>
<td>Married</td>
<td>116</td>
<td>77.3</td>
<td>98.0</td>
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<tr>
<td>Widow</td>
<td>3</td>
<td>2.0</td>
<td>100.0</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>150</strong></td>
<td><strong>100.0</strong></td>
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<th>Knowledge regarding food safety</th>
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<th>Percent</th>
<th>Cumulative Percent</th>
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</thead>
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<tr>
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<td>17</td>
<td>11.3</td>
<td>11.3</td>
</tr>
<tr>
<td>Good (21-24)</td>
<td>133</td>
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<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>150</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
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<table>
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<th>Practice</th>
<th>Frequency</th>
<th>Percent</th>
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<td>2.0</td>
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<td>58.7</td>
<td>60.7</td>
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<tr>
<td>Good (28-34)</td>
<td>59</td>
<td>39.3</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>150</strong></td>
<td><strong>100.0</strong></td>
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4. DISCUSSION

The WHO (2010) identified five key food handling factors associated with foodborne disease outbreaks:

A. Improper cooking.
B. Temperature abuse during food storage.
C. Cross contamination between raw and cooked foods.
D. Poor sanitation and hygiene.
E. Using unsafe water and raw materials.

Four out of these five factors were directly linked to food handlers. Food handlers have been directly linked to a number of food-borne disease outbreaks\(^{12,13}\).

In our study, 26.7% of the women had education till secondary or above that, and 69.3% were not working. The study found that 88.7% of respondents had good knowledge of food safety while only 39.3% respondents had good practices regarding food safety. This tells that the knowledge of the women was better than their practices regarding food safety.

Taking in view a study by Mohamed F Farahat, Mona M. El-Shafi and Mostafa I. Waly on Saudi Women which included 811 women. The educational level of about 80% of the interviewed women was secondary and Bachelor and 72.4% not working. Exploring food safety knowledge and practices of these 811 women revealed that their practices were better than their knowledge concerning overall food safety\(^{14}\).

According to our study, it was seen that the education of the women (p=0.001) is a significant factor in determining the knowledge of the women regarding food safety.

A study in Putrajaya by Mohd. Firdaus Siau, A. Son, R., Mohhiddin, O., Toh, P.S. and Chai, L.C. showed the results that the level of knowledge increased accordingly to the level of age group and decreased when it reached the age group >48 years. The level of food safety knowledge and food safety handling among young food handlers is low and similar findings were reported by Byrd-Bredbenner et al.\(^{15}\). Earlier studies have shown that the food safety knowledge and practice tend to increase with age. Additional food safety education should be given to younger respondents\(^{16}\).

Our study has clearly indicated that women had far better knowledge regarding food safety than their practices. There is evidence that knowledge is not a significant predictor of safe food-handling practices\(^{17}\). This is consistent with our study as well.

5. CONCLUSION

The study found a significant correlation between education of the female and knowledge regarding food safety on all tests. Moreover, a significant correlation was found between education of the female, occupation of the female, and self-reported behavior regarding food safety.

Launching a food safety education program and repeating it at specific intervals is recommended to ensure that learned information is put into the daily life practices.

Continuous education and training should be organized to strengthen food handlers' knowledge in areas which seem to be lacking.

REFERENCES


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