



A Comparative Study to Assess the Knowledge and Practices of Homemakers on Food Hygiene at Dhemaji District of Assam, India

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

Article Information

DOI: 10.9734/AJAEES/2023/v41i71970

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/100312>

Original Research Article

Received: 22/03/2023

Accepted: 25/05/2023

Published: 26/05/2023

ABSTRACT

A comparative study was conducted to assess the knowledge and practices among homemakers on food hygiene at Dhemaji District of Assam. The objectives of the study were to find out correlation between knowledge and practices of food hygiene among homemakers and to compare knowledge and practices of food hygiene practices among homemakers. In this research study descriptive research design was used. The sample selected for the present study was homemakers who have at least one refrigerator in her household. The sample size for the study was 120, out of which 60 from rural area, and 60 were from urban area were selected by simple

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sampling technique. The data was collected by using structured interview schedule developed by the researcher. The data was tabulated, analyzed and interpreted by both descriptive statistics on the basis of the objectives and hypothesis of the study. The study findings suggest that the knowledge is better in urban respondents than rural respondents & urban respondents are better in practices than rural respondents regarding food hygiene practices. The study was concluded that there was highly positive significant relationship the knowledge of urban respondents and their practice on food hygiene.

Keywords: Knowledge; practice; food hygiene; homemakers.

1. INTRODUCTION

Food poisoning is no new disease and has been recognized throughout the ages. Unsafe food has been a human health problem in all over the world. According to WHO (2006) "each year 1.8 million people die as a result of diarrhoeal diseases and most of these cases can be attributed to contaminated food or water. More than 200 known diseases are transmitted through food" [1]. Proper food preparation can prevent most food borne diseases. Food hygiene covers the proper handling of every variety of foodstuff and drink and all the utensils and apparatus used in their preparation, servings and consumption. Food hygiene is also the conditions and measures necessary to ensure the safety of food from production to consumption. Lack of adequate food hygiene can lead to food poisoning, food borne diseases and death of the consumer. The health and well-being of an individual, families and nation are obtained by the good quality hygienic diet. It is important that whatever we eat it reflects our health status of our body [2-4]. To increase our lifetime and improve our health, always we must eat clean and hygienic diet. Food hygiene also prevents stomach infections and body illnesses. Disease spread through food still remains a common and persistent problem resulting in morbidity and mortality rate. Food can become contaminated at any point during harvesting, processing, storage, distribution, transportation and preparation. Adequate knowledge and proper food hygienic practices help the individual maintain good health status and free from diseases [5-7]. "The health status of the family mainly depends on the women or homemakers of the house. If they are given adequate knowledge about personal hygiene, environmental hygiene and different aspects of food hygiene such as cleaning, storing, preparing, cooking and serving of food etc., their quality will be increased to provide good hygienic diet and improve the health status of the family" [4]. Sometimes though the homemakers have knowledge about food

hygiene, they do not maintain proper food hygienic practices as they do not understand its importance. Therefore, it is essential to make them realize the importance of food hygiene and practice it in daily life.

2. MATERIALS AND METHODS

The study was conducted in the Dhemaji district of the State of Assam. For selecting the representative samples for the study, a simple random sampling method was used. There are two sub-divisions in Dhemaji district namely, Dhemaji and Jonai. Out of two sub-divisions, Dhemaji sub-division was selected randomly. The Dhemaji sub-division comprises of four rural development blocks, namely Dhemaji Development Block, Machkhowa Development Block, Bordoloni Development Block and Sissiborgaon Development Block. Dhemaji sub-division comprises of only one municipality area i.e. Dhemaji municipality area. All four blocks and Dhemaji municipality area of Dhemaji sub-division were considered for the present study. One gaon panchayat from each block was selected by using simple random sampling method. All ten municipality wards of Dhemaji municipality area were considered for the present study. From the selected gaon panchayat, five villages from each gaon panchayat were selected by using simple random sampling method. Thus, all total 20 numbers of villages were selected for the present study. For selection of respondents, three numbers of homemakers belonged to well to do family, possessing at least a refrigerator were selected from each village by using simple random sampling method. Thus, all total 60 numbers of homemaker from the selected villages were the respondents for the present study. Six numbers of homemakers possessing at least a refrigerator were selected from each municipality ward by using simple random sampling method. Thus, all total 60 numbers of homemakers representing all the wards were the respondents for the present study. Thus, altogether, 120 numbers of

homemakers from both rural and urban area of Dhemaji district were selected as respondents for assessing food hygiene knowledge.

The following statistical measures used for studying the background information of respondents and for interpreting the data-frequency, percentage, Co-relation co-efficient and t test.

3. RESULTS AND DISCUSSION

3.1 Statements Known and Practiced by the Respondents on Food Hygiene

The Table 1 indicates that all the respondents under study had knowledge that peeling of vegetables just before cooking reduces the risk of food contamination and improper storage of foods may cause health hazards to family, hence the respondents might practice this habit based on their existing knowledge.

It is interesting to note in the Table 1 that not a single respondent adopt the practice of wearing cap while cooking food in spite of having knowledge of most of the respondents. It might be due to the fact that the respondents might not find comfortable to wear cap while cooking though most of them knew the fact. This finding had conformity with the findings of Sharma K. [8] that the practices of wearing cap while cooking was found to be a least adopted practice by the respondents.

Table 1 also revealed that 75 per cent respondents under study knew the fact that hot water is to be used to rinse plates, bowls, glasses etc. before using to reduce food contamination. But very negligible percentage of respondents practiced this. Respondents might rinse the plates, bowls, glasses etc. with cold water instead of using hot water; they might not give importance on the effect of hot water.

It is evident from the Table 1 that a large majority of respondents knew the fact that there is a chance of transmission of bacterial growth, when the nose, mouth, hair, or eyes are touched during cooking, but a very negligible percentage that is 4.67 per cent of respondents practiced of avoiding touching of nose, mouth, hair or eyes etc. during cooking. This might be due to the lack

of consciousness during cooking. Similar finding was reported by Siau et al. [9] that all the respondents under study rubbed their hands on face, hair etc. while preparing food item.

It is interesting to note in the Table 1 that only 43 per cent of respondents under study knew the fact that bacterial growth of food item would not get completely stopped in the refrigerator, but 75 per cent respondents did practice of keeping food items in the refrigerator. The respondents might use the refrigerator without having knowledge on the fact that the cool temperature of refrigerator slows down bacterial growth but do not stop the growth completely.

It is observed in the Table 1 that more than 37 per cent of the respondents in the present study knew the fact that a potato would not be safe if its only green portion of the potato is removed. But, nearly 60 per cent of the respondents did not adopt this practice and consumed potato after removing its green portion only. The respondents might think that removal of green portion only would help to get rid of harmful effect.

3.2 Relationship between Knowledge and Practice of Respondents on Food Hygiene

The relationship between knowledge and practice of the respondents on food hygiene are presented in the Table 2.

It is revealed from the Table 2 that there was highly positive significant relationship the knowledge of urban respondents and their practice on food hygiene. It might be due to the fact that the respondents of urban area with high education, more exposure to mass media might help to practice based on their existing knowledge on food hygiene. This finding had conformity with the study conducted by Ismail et al. [10] where they revealed that there was positive relationship between food safety knowledge, personal hygiene and food hygiene practices among mobile food handlers. Therefore, the null hypothesis that there is no significant relationship of knowledge of urban respondents with their practice on food hygiene practice was rejected.

Table 1. Percentage of respondents according to their existing knowledge and practice on food hygiene (N=120)

Sl. No.	Statements	Percentage	
		Known	Practiced
1.	Peeling of vegetables just before cooking reduces the risk of food contamination.	100	80.00
2.	Improper storage of foods may cause health hazards to family.	100	94.00
3.	Dumping of cartons, boxes in same place for longer periods are responsible for spreading germs through rodents, cockroaches etc.	99.16	87.50
4.	Packed food items if used after its expiry date affect on health	98.33	73.33
5.	Wearing cap while cooking food decreases the risk of food contamination.	97.50	0
6.	Any water used for cleaning edible items are potential source of food contamination.	94.16	76.67
7.	Thoroughly rinsed and scrubbed fruits and vegetables reduce the risk of consuming unhygienic food.	87.50	78.33
8.	Removing outer leaves of vegetables such as cauliflower, cabbage (while sorting) reduces the chance of food contamination.	83.33	72.17
9.	Use of lid during cooking is an important to maintain food hygiene.	80.33	77.50
10.	Covering of cooked food with netted food cover has less risk of food Contamination.	78.33	70.00
11.	Before serving food items, rinsing plates, bowls, and glasses with hot water helps to reduce the chance of food contamination.	75.00	4.67
12.	Cleaning of soiled crockery immediately after used reduces the micro- bacterial growth.	71.67	69.50
13.	Cleaning of floor of dining area, tables, chairs etc. at the end of every meal reduces spread of any contamination.	68.33	64.33
14.	There is a chance of transmission of bacterial growth, when the nose, mouth, hair, or eyes are touched during cooking.	67.50	4.67
15.	To maintain food hygiene, fruits and vegetables are to be sorted out before storing.	65.00	60.00
16.	Purchasing of packed food items with incomplete instruction on its packet has risk.	62.50	46.17
17.	Chopping of vegetables long before cooking increases the risk of food contamination.	61.67	52.33
18.	Wearing jewellery or other costume accessories during cooking helps in transmission of harmful pathogens.	59.16	47.5
19.	Cooked food kept in refrigerator or cool chamber helps to slow down bacterial growth.	59.16	58.33
20.	Reusing of oil in cooking risk of contamination.	58.33	44.17
21.	If a knife is to be used for several purposes, only rinsing of knife (in between two purposes) does not help to reduce the risk of cross contamination.	56.67	42.33
22.	Cleaning, interior and exterior of the refrigerator once in six months does not help to control bacterial growth.	54.17	47.5

Sl. No.	Statements	Percentage	
		Known	Practiced
23.	Before serving food items, only rinsing hands do not help to reduce the chance of food contamination	53.33	49.17
24.	There is a chance of food-borne illness (eg: vomiting, diarrhea etc) if one consumes food prepared in the previous day (keeping without refrigerator)	53.33	51.67
25.	Cleaning of cooking area once in a day is not sufficient for maintaining food hygiene.	49.16	45.00
26.	Cooked food if kept in refrigerator needs more cool temperature than the raw foods.	45.00	42.67
27.	The cool temperature of refrigerator slows down bacterial growth but don't stop the growth completely.	43.33	75.00
28.	To maintain food hygiene, fruits and vegetables are to be stored after washing it.	40.83	35.17
29.	Cooked food and raw food are not to be kept in the same shelves of a refrigerator.	39.16	23.33
30.	Potato is not safe if its green portion is removed.	37.50	40.83

Table 2. Relationship between knowledge and practice of respondents on food hygiene (N=120)

Variables	Rural (N=60)		Urban (N=60)	
	'r'	't'	'r'	't'
Knowledge vs. practice on food hygiene	0.090	0.69	0.671**	7.13

** Significant at the 0.01 level

4. CONCLUSIONS

The findings showed that few percentages of respondents under study had high knowledge on some aspects of food hygiene but very negligible percentage of respondents practiced this and there was highly positive significant relationship the knowledge of urban respondents and their practice on food hygiene. Hence, emphasis should be given to increase respondents' knowledge and practice on food hygiene in all the stages to reduce the occurrence of food borne disease, which is a common and persistent problem. Therefore, an intervention programme on food hygiene with the help of different method like discussion, demonstration etc. and media such as radio, T.V., training, advertisement etc. is needed for the homemakers in order to equip them with right information for adopting correct practices on food hygiene to help the society as a whole to get rid of different food borne diseases.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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