

KNOWLEDGE ATTITUDE AND PRACTICES OF FOOD HANDLERS TOWARDS FOOD HYGIENE

ABSTRACT

Knowledge of food hygiene essentially entails the handlers' awareness or things to be done or things to be put in place, in the course of either acquiring raw food materials, preparing food or serving food to the consumers, so that food safety is achieved. Food hygiene knowledge, attitude and practices are important because inadequate knowledge, poor attitude and poor sanitation practices have life-threatening danger to food safety. It is important to have an understanding of the interaction on prevailing food hygiene knowledge attitude and practices of food handlers in order to minimize foodborne outbreaks. The main objective of this study was to assess the knowledge, attitude and practices of food handlers regarding the aspect of food hygiene in Kanpur. One hundred ten food handlers from fifty food establishments of Kanpur were involved in this study. The data was collected from the street food vendors with the help of structured questionnaire and extensive observation. Analysis of data revealed that Knowledge and attitude towards food hygiene was satisfactory among food handlers, where most of the food handlers have fair knowledge and attitude that was (50.0%) and (40.90%) but fair practice was practiced by only (17.27%) whereas, majority of them had poor practice (46.36). About 53.6 per cent of food handlers always wash their hands before handling food and only (38.1%) of the food handlers had knowledge about hygiene and sanitation. Statistical testing with chi-square at $p < 0.05$ showed that there is no correlation between educational level of the food handlers and practice of food hygiene; like-wise attitude of the handlers towards food hygiene and work experience had no impact on food hygiene practices of food handlers. The present study concludes that practice regarding food hygiene is not satisfactory and therefore there is need to increase the practice level of food handlers towards food hygiene.

Keywords: Food hygiene, Food vendors, Knowledge, Practices, Sanitation, food hygiene, Food safety

INTRODUCTION

Food is the basic requirement for human survival. Food safety is of utmost importance and is a matter of human concern. The health of the people largely depends on the quality of food they eat. (**Pradhan et al., 2018**). Food is the product that is rich in variety of nutrients required by microorganisms and may be exposed to contamination with the major sources from water, air, dust, equipment, sewage, insects, rodents and employees [10,11]. Due to the changes in the production of food, food handling and preparation techniques as well as eating habits, the fact remains that food is the source for microorganisms that can cause illness (**Nee and Sani, 2011**).

When food is cooked on a large scale, it may be handled by many individuals and thus increasing the risks of food contamination. Unintended contamination of food during large scale cooking, leading to food-borne disease outbreaks can pose danger to the health of the consumers and an economic consequence for nations (**Akabanda et al., 2017**). The main diseases which are caused by contaminated foods are typhoid, cholera, hepatitis A, food poisoning and dysentery.

Food hygiene is an essential matter of public health for protecting or preventing disease caused by unsafe food due to lack of good quality from production to consumption (**Azanaw et al., 2021**).

Purpose of the study:

The consumption of contaminated food is correlated with an estimated 70% of diarrheal diseases in developing countries. Inadequate sanitation facilities, unsafe raw food, poor infrastructure, absence of food safety knowledge and awareness, inappropriate food handling methods, poor personal hygiene are the main causes of food borne diseases (Lema *et al.* 2020). The present study was conducted with the objective to assess the Knowledge, Attitude and Practices of food handlers in different five localities of Kanpur city.

MATERIALS AND METHODS

Area of the study: The present study was conducted in different areas of district Kanpur of Uttar Pradesh, India. Kanpur district is divided in to six zones and 110 wards. Five wards were randomly selected (ward no.- 23, 43, 52, 60 and 86).

Population of the study: A total of 110 food handlers working in 50 food establishments.

Sample and Sampling Techniques- Ten food establishments from each ward were randomly selected and from each food establishment 1-2 food handlers were selected. Thus a total of 110 subjects were interviewed regarding the KAP related to food hygiene.

Instrument for data collection- Pre tested structured questionnaire.

Data Collection Method: A cross-sectional study was conducted to evaluate the KAP related to food hygiene and sanitation among food handlers in Kanpur district. The questionnaire was prepared to collect the information. Objectives of the study were explained to the respondents before the information was collected. A self-administered questionnaire was designed to obtain general information of the respondents and covering the aspects of KAP of food handlers about food hygiene and Sanitation.

The data was analyzed for percentage, mean, standard deviation, chi square test of independence of two attributes.

RESULTS AND DISCUSSION

General information of the respondents

A total of 110 street food vendors were surveyed after their consent. Results of the survey indicated that there was only one female food handler out of total and 109 (99.09%) were male. About 60 per cent of food handlers were in the age group of 29-39 years and 53.6 per cent of food handlers were educated up to primary level and none of food vendors were found to have education above intermediate level.

Knowledge, Attitude and Practices towards Food Hygiene and Sanitation

Results of the study revealed that 59 per cent of street food vendors had knowledge that eating improperly washed raw vegetables and fruits pose threat to health and 35.4 per cent never heard about food borne illnesses. Out of 110 none of the food handler had training in hygiene and sanitation. Tuglo *et al* 2021 reported that street cooked food vendors who have completed food safety training courses had gained the awareness necessary to handle food safely.

About 64.5 per cent respondents agreed that food should always be covered and protected when not being served. Only 37 per cent food handlers agreed with the fact that food handlers should wear apron and head-cover when working while 63.6 per cent disagreed (Table -1).

Table 1: Knowledge and attitude of food handlers regarding food hygiene (n=110)

| Variables | Category | Frequency | Percentage |
|-----------|----------|-----------|------------|
|-----------|----------|-----------|------------|

| | | | |
|---|----------------|-----|-------|
| Eating improperly washed raw vegetables & fruits poses a threat to health | Yes | 65 | 59.0 |
| | No | 45 | 40.9 |
| Ever heard about food borne diseases | Yes | 71 | 64.5 |
| | No | 39 | 35.4 |
| Using same cutting board for veg and non-veg food cause cross contamination | Yes | 38 | 34.5 |
| | No | 72 | 65.4 |
| Do you have any training in hygiene and sanitation | Yes | 0 | 0.0 |
| | No | 110 | 100.0 |
| Know about hygiene and sanitation | Yes | 42 | 38.1 |
| | No | 68 | 61.8 |
| Food should always be covered and protected when not being served | Strongly agree | 2 | 1.8 |
| | Agree | 71 | 64.5 |
| | Disagree | 37 | 33.6 |
| Food handlers should always wear apron and head-cover when working | Strongly agree | 3 | 2.7 |
| | Agree | 37 | 37.0 |
| | Disagree | 70 | 63.6 |
| Leftover food should be discarded | Strongly agree | 10 | 9.1 |
| | Agree | 21 | 19.1 |
| | Disagree | 79 | 71.8 |

When food hygiene practices of the subjects was assessed it was found that most of the foodhandlers used tap water (55.4%) for washing fruits and vegetables. Care of used utensils was poor due to poor accessibility of water. WHO reported that the most critical problems in street food vending are the supply of water of acceptable quality for drinking and washing. Therefore, water supply need close attention in street food operation. The food handlers were asked about their sanitation practices in storage area, it was found that (44.5%) respondents clean their storage area every week, (32.7%) every day, (14.5%) twice a week and (8.1%) once a month. This indicates that the sanitary practices of food vendors regarding storage area are moderate.

About 97.2 per cent food vendors were serving food in washed and dried plates. None of the respondents took measures for pest control in food service area. About 91.8 per cent respondents clean their cooking counters after cooking the food while (8.1%) did not do so. The practices of food vendors regarding refuse disposal was 44.5% respondents disposed their refuse by open dumping method while (36.3%) uses covered dumping. Sanitation facilities in the implementation of the food stalls not met the health requirement so that food handlers should pay attention to the requirements of sanitation facilities (Kim and Yoon 2022). Majority of the participants (60.9%) know that washing of hands before preparing food reduce transmission of food borne illness while (39%) did not know washing hands before food preparing reduce the risk of food borne illness (Table-2). Karn et al 2012 reported that in rural village of Morang district of Nepal 65 % of the respondents used soap with water after defecation, 31 % used water alone and 4 % ash/soil with water for hand washing.

Table 2: Food hygiene and sanitation practices of food handlers in Kanpur n=110

| Variables | Category | Frequency | Percentage |
|---|----------|-----------|------------|
| Do you always serve foods to washed and properly dried plates | Yes | 107 | 97.2 |
| | No | 3 | 2.7 |
| Do you always clean the cooking counters after cooking the food | Yes | 101 | 91.8 |
| | No | 9 | 8.1 |
| Do you clean your kitchen area regularly | Yes | 93 | 84.5 |

| | | | |
|---------------------------------------|-----------------|----|------|
| | No | 17 | 15.5 |
| How frequently you clean storage area | Everyday | 36 | 32.7 |
| | Everyweek | 49 | 44.5 |
| | Twiceaweek | 16 | 14.5 |
| | Onceamonth | 9 | 8.1 |
| How you dispose off the refuse | Covered dumping | 40 | 36.3 |
| | Open dumping | 49 | 44.5 |
| | Burying | 17 | 15.4 |
| | Burning | 4 | 3.6 |

Survey results revealed that 89% respondents had adequate knowledge of hand washing. Only 53.6 per cent food vendors agreed that they wash their hands after using toilet while 14.5% claimed that they wash their hands after blowing nose, (4.5%) when they start cooking food and (27.2%) wash hands whenever they like (Table-3)

Table 3: Knowledge, Attitude and Practices of food handlers regarding hand washing

| Variables | Category | Frequency | Percentage |
|--|------------------------|-----------|------------|
| Washing of hands before preparing food reduces transmission of foodborne illness | Yes | 67 | 60.9 |
| | No | 43 | 39.0 |
| Washing hands with water, and soap most preferable than water and ash | Yes | 72 | 65.4 |
| | No | 38 | 34.5 |
| Hand washing is important to prevent food borne diseases | Yes | 98 | 89.0 |
| | No | 12 | 10.9 |
| Under which conditions do you wash your hands while working | After blowing nose | 16 | 14.5 |
| | After using the toilet | 59 | 53.6 |
| | Before cooking food | 5 | 4.5 |
| | Whenever I like | 30 | 27.2 |

Knowledge assessment of the food handlers done by scoring in which knowledge of the food handlers categorized into three categories: Good, Fair and Poor (Table-4) Among the 110 food handlers who were interviewed for the knowledge assessment, the majority (50.0%) of the respondents had fair knowledge (answered 60-80% of the questions correctly). **Thakur and Singh 2018** reported that hygiene practices and food safety were minimal in food vendors of Chandigarh.

Table 4: Knowledge, Attitude and Practice Assessment of Food Handlers by scoring method

| | Level of Knowledge | | Attitude towards Food hygiene | | Practices towards Food Hygiene | |
|--------------|--------------------|------------|-------------------------------|------------|--------------------------------|------------|
| | Frequency | Percentage | Frequency | Percentage | Frequency | Percentage |
| Good | 38 | 34.5 | 27 | 24.5 | 19 | 17.2 |
| Fair | 55 | 50.0 | 48 | 40.9 | 40 | 36.4 |
| Poor | 17 | 15.5 | 35 | 31.8 | 51 | 46.4 |
| Total | 110 | 100.0 | 110 | 100.0 | 110 | 100.0 |

CONCLUSION

Knowledge is the key element to influence food handling practices among food handlers. Overall results concluded that food handlers in Kanpur district having fair knowledge of food hygiene. Proper hygiene and sanitation prevent the spread of diseases and infections. It is required to provide training to food vendors regarding hygiene and sanitation to control the food borne illnesses.

Consent

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

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