

# Knowledge and Attitude regarding Food Hygiene among Food Handlers

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**Abstract:** A quantitative non experimental descriptive study was conducted to assess the knowledge and attitude regarding food hygiene among food handlers of a tertiary care hospital in Lucknow. The sample consisted of 50 which comprised of food handlers involved in cooking and distribution of food in cook houses/kitchen of tertiary care hospital. Non probability convenient sampling method was used. The tool used was interview schedule with Questionnaire which consisted of three part, section A with the socio demographic data, Age, Gender, Educational qualification Trade/occupation & Years of experience, Section B about the knowledge regarding food hygiene among food handlers and Section C on Likert scale for the assessment of attitude of food handlers towards food hygiene. Study findings revealed that majority 26(52%) were belonging to the age group of 21-30 yrs. males were more in number than females ie 31(62%) and 19(38%) respectively. Almost 19(38%) had education up to >10+2 above. Majority 24(48%) of their trade was food distributors. 17(34%) had food handling experience of 5 yrs and below. Almost 22(44%) had very good knowledge only very few 11(22%) had excellent knowledge score and 07(14%) had average knowledge level. 48%(24) of the respondents had excellent attitude regarding food hygiene. 36%(23) of them had very good attitude and 10%(5) had average attitude level regarding food hygiene and its practices. A very few . 6% of the subjects were with poor attitude. Though the attitude level of food hygiene among the subjects were good but more emphasis is required for the improvement of knowledge level of the subjects. 48%(24) of the respondents had excellent attitude regarding food hygiene. 36%(23) of them had very good attitude and 10%(5) had average attitude level regarding food hygiene and its practices.

**Keywords:** Knowledge, Attitude, food hygiene, foodhandlers

## 1. Introduction

Food is the primary necessity of life. Safe food handling practises and assurance of food safety reduces the number of illness caused due to food contamination

In 2015, WHO highlighted the challenges and opportunities associated with food safety under the slogan “**From farm to plate, make food safe**”. Food production has been industrialized and its trade and distribution have been globalized.

The increasing number of food poisoning outbreaks and food related issues has led to calls for better hygiene and quality practices. More than 200 different food borne diseases have been described, they are classified as bacterial, viral, parasites, chemical poisoning, and food toxins. The common infectious diseases transmitted by food handlers are diarrhoea, dysenteries, typhoid and paratyphoid fever etc.<sup>6</sup>

These changes introduce multiple new opportunities for food to become contaminated with harmful bacteria, viruses, parasites, or chemicals. Investigation of an outbreak of foodborne disease is vastly more complicated when a single plate or package of food contains ingredients from multiple countries. Unsafe food can contain harmful bacteria, viruses, parasites or chemical substances, and cause more than 200 diseases - ranging from diarrhoea to cancers. Examples of unsafe food include undercooked foods of animal origin, fruits and vegetables contaminated with faeces, and shellfish containing marine bio toxins transmission.

According to WHO's Food borne Disease Burden Epidemiology Reference Group (FERG) figures, from 2010, show that:

- There were an estimated 582 million cases of 22 different food borne enteric diseases and 351 000 associated deaths;
- The enteric disease agents responsible for most deaths were *Salmonella Typhi* (52 000 deaths), Enteropathogenic *E. coli* (37 000) and norovirus (35 000);
- The African region recorded the highest disease burden for enteric food borne disease, followed by South-East Asia;
- Over 40% people suffering from enteric diseases caused by contaminated food were children aged less than 5 years.<sup>2</sup>

Food is the product that is rich in nutrients required by microorganisms and may be exposed to contamination with the major sources from water, air, dust, equipments, sewage, insects, rodents and employees. Due to the changes in the food production, handling, and preparation techniques as well as eating habits, the facts remain that food is the source for microorganism that can cause illness.

The food handlers need to be given education imparting knowledge regarding safe food handling practises so as to prevent any food borne illness. The improved knowledge and practise among food handlers have found to reduce the incidence of food borne illnesses. The knowledge imparting strategies need to be planned so that it can be accessible and applicable in day today life of the food handler. So therefore it is relevant to investigate the food hygiene related knowledge and attitude among food handlers.

## 2. Literature Review

A descriptive cross-sectional study was carried out to assess the knowledge and practice of food hygiene and safety among food serving staff of UBTH Nigeria. A total of 155 available food service staff was studied. Majority (71.03%)

had heard about food hygiene and safety but only 12.2% had correct knowledge of it. Most of them demonstrated a positive attitude towards food safety. Hand washing before food was done by 83.2%, after handling food by 61.3% and after using toilet by 96.8% respondent's. The knowledge of food hygiene and safety was poor among the respondents. However they exhibited a positive attitude towards food safety while their practice was fair. The hospital should institute training programs for all food services staff to improve their knowledge and practices of food handling<sup>1</sup>

An organizational based cross sectional study was carried out by Saurabh R. Kubde, Jaysree P, Prashant R. and Koiwar in areas like Suraram, Shapur, Jeedimetla, Gajulramaram, Chintal, and Gandimaisamma in Hyderabad. A total of 86 food handlers in food establishments were interviewed within stipulated time. Results revealed that maximum food handlers were not certified in food training (82.5%). Only 27.9% of food handlers reported that they heard of food borne diseases so they were aware that food can be a source of infection if not handled properly. Awareness or knowledge were better in females (36.8%) compared to males (25.3%). Majority of food handlers acquire their knowledge through mass media. It is seen that overall the attitude of food hygiene were very well followed by majority of the food handlers in the study.<sup>4</sup>

A community based cross-sectional study was conducted on health status and personal hygiene among food handlers working at food establishment around a rural teaching hospital in Wardha District of Maharashtra, India. Total 160 food handlers of both gender were selected randomly. Stool examination and nail culture was also done. Point prevalence of morbidity was 54(33.75%) and period prevalence 26.25%. 21.87% were anemic. Microbial positivity rate for their stools and nail culture was 97%. The study findings recommended that pre placement and periodical medical checkup is the key to improve health status of food handlers for better food safety.<sup>7</sup>

### 3. Objectives

- 1) To assess the knowledge regarding food hygiene among food handlers.
- 2) To assess the attitude regarding food hygiene among food handlers.

### 4. Methodology

A quantitative non experimental descriptive design with survey approach was used in this study. The sample size was 50. The samples comprised of food handlers involved in cooking in cook houses/kitchen of tertiary care hospital, Lucknow. Non probability Convenient sampling method was selected. The researcher explained the purpose of the study and written consent was obtained. Interview schedule with Questionnaire consisted of three parts section A covered the socio demographic data, Age, Gender, Educational qualification Trade/occupation & Years of experience

Section B about the knowledge regarding food hygiene among food handlers and section C on Likert scale for the

assessment of attitude of food handlers towards food hygiene. To ensure content validity of the tool, it was given to seven experts in the field of Nursing, Nutrition, and community medicine. Ethical clearance for conducting the study was taken from Research Ethical committee of tertiary care Hospital, (CC) Lucknow. Permission was also obtained from concerned administrative authorities. Knowledge level was divided as score of 13-15 as excellent, 10-12 as very good and 7-9 as good and < 7 as poor and Attitude level score 70-75 as Excellent 65-70 as very good 60-65 as good and <60 as

### 5. Results

Out of 50 subjects majority 26(52%) were belonging to the age group of 21-30 yrs. Males were more in number than females i.e. 31(62%) and 19(38%) respectively. Almost 19(38%) had education upto >10+2 above. Majority 24 (48%) of their trade was food distributors. 17(34%) had food handling experience of 5 yrs and below

S.No	Attributes	Parameters	Frequency	%
1	Age	<20 yrs	3	6%
		21-30 yrs	26	52%
		31-40 yrs	11	22%
		>40 yrs	10	20%
2	Gender	Male	31	62%
		Female	19	38%
3	Education qualification	Illiterate	4	8%
		Primary education	13	26%
		Secondary education	14	28%
		>10+2	19	38%
4	Trade /occupation	Cook	11	22%
		Dishwasher /helper	3	6%
		Bearer	24	48%
		Food distributor	12	24%
5	Food handling experience	0-5 yrs	17	34%
		6-10 yrs	12	24%
		11-15 yrs	8	16%
		>15 yrs	13	26%

Out of total 50 samples, 66% (33) had excellent knowledge i.e. understands food hygiene to be the hygiene maintained while preparing, storing and serving the food. 42% (21) of samples were able to answer correctly that food hygiene is important to prevent food contamination, food adulteration and food borne diseases. 70% (35) of them were able to answer correctly wash with soap and water is the correct method of maintaining hand hygiene. 88% had excellent knowledge regarding the ideal method of washing utensils i.e., with soap and water. Majority 88%(44) responded regarding the care of utensils after termination of meals i.e., utensils should be immediately washed after meals. 92%(46) of samples have excellent knowledge regarding the ideal way of using vegetables before cooking i.e., wash in water first and then cut the vegetables. 90%(45) of the respondents were answered correctly that boiling is the best method of killing microorganisms from milk. 66% (33) considered that the wheat dough to be used immediately after kneading. Only 46% (23) has the basic knowledge regarding nutrient loss of vegetables when stored for longer time in refrigerator. Majority of the respondents had good knowledge regarding identification of fresh egg before cooking i.e., 82% (41) of respondents had the knowledge of

fresh egg to get immersed in water. Only 26 % ( 13) of the samples answered correctly that the fresh meat to be neither pale pink, nor deep purple, hard to touch. More than half i.e., 56 % (28) of them told that meat should be stored at the top shelf. Most of them had knowledge regarding the consumability of stored bread in refrigerator. 58% (28) answered presence of fungus to be the prime reason for non consumption of refrigerated bread.62% of the samples answered correctly that during the occurrence of disease conditions such as diarrhoea, worm infestation and skin infection, the food handler should avoid food handling

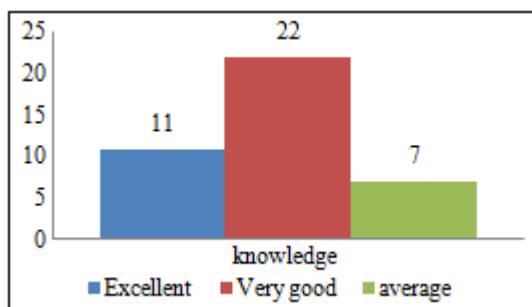


Figure 1: Assessment of knowledge level

Almost 22(44%) had very good knowledge only very few 11(22%) had excellent knowledge score and 07(14%) had average knowledge level.

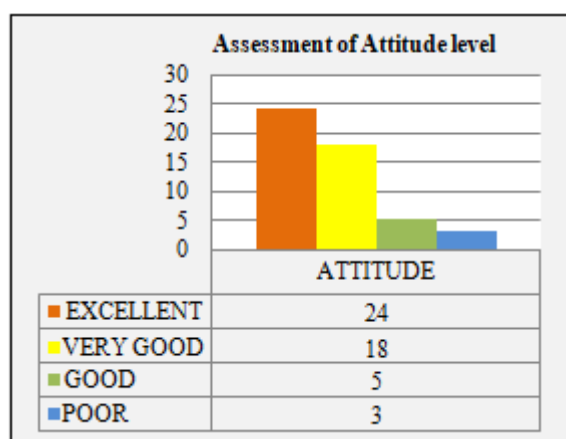


Figure 2: Assessment of Attitude level

48% (24) of the respondents had excellent attitude regarding food hygiene. 36% (23) of them had very good attitude and 10% (5) had average attitude level regarding food hygiene and its practices. A very few of 6% of the subjects were with poor attitude and needs improvement.

## 6. Conclusion

The above observations concluded from the study can only be applied to the study population and cannot be generalised to other populations. Food handlers interviewed in the study could be expected to have better knowledge in virtue of the basic training sessions given for service requirements. The studied population of food handlers in the tertiary care hospital revealed that majority of samples had good knowledge and excellent attitude regarding food hygiene, but it remains a scope for improvement in the association of good knowledge to excellent attitude and practises. Mass media and health educations sessions in the work places can

be used to impart good knowledge regarding food hygiene. Food hygiene is not something only to be taken care at hospital setting. Food hygiene has its origin from home. Though it is concluded from the study that in the selected hospital setting food handlers were found to be maintaining better standards, there is always a scope for improved hygiene and excellent practises. A lot more of efforts from the administrative level an individual is required to uplift the status and practice levels of food handlers.

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