
Knowledge, Attitude and Practice of Safe Food Handling Among Food Handlers in Nishter Hospital Multan and Its Premises

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ABSTRACT

Background: Food borne diseases are a growing public health problem worldwide killing estimated 2.2 million people annually. Food handlers are the major risk in causing food contamination because they can transmit the germs to food during the processing of food. A food handler is defined, according to WHO, as any person who directly handles packed or unpacked food, food equipment and utensils or food contact surfaces, and is therefore expected to comply with food hygiene requirements [1]. According to WHO; Food safety is defined as all measures to ensure that food will not cause harm to the consumer when it is prepared and eaten according to its intended use. Food borne illness (also food borne disease) is any illness resulting from the consumption of contaminated food, pathogenic bacteria, viruses, or parasites that contaminate food as well as chemical or

natural toxins such as poisonous mushrooms.

Objective: To determine the knowledge, attitude and practice of measures of food safety among food handlers of Nishter Hospital Multan. **Study Design:** Cross sectional study. Study settings and duration: Hostel mess, cafeterias and dhabas within the premises of Nishter Hospital Multan for 3 months.

Materials and Methods: A cross sectional study was conducted. 100 samples were taken. Sampling was done by simple random method. Data was collected by making a convenient questionnaire by taking informed consent. Data was analyzed by using SPSS version 20. Mean values and standard deviation was calculated.

Results: Overall, 66.5% food handlers have knowledge, 76.2 % have healthy attitude and 63.9% practice principles of hygiene while processing, cooking and serving food.

Conclusion: It was found that many of the food handlers working in various food points lack the

essential knowledge of the basic hygiene principles. Almost 1/3rd don't have the positive attitude towards them and almost 40% don't practice the hygiene principles recommended by WHO. It is proposed that the incidence of food borne diseases can be substantially decreased by increasing the knowledge and practice of basic principles of hygiene.

Key Words: Hygiene principle, food handlers, food borne diseases, safe food handling.

INTRODUCTION

WHO's first ever global estimates of food-borne diseases find children under 5 account for almost one third of deaths- First ever estimates of the global burden of food-borne diseases show almost 1 in 10 people fall ill every year from eating contaminated food and 420 000 die as a result . Children under 5 years of age are at particularly high risk, with 125 000 children dying from food-borne diseases every year-WHO African and South-East Asia Regions have the highest burden of food-borne

diseases (mediacentre).Food handlers are the major risk in causing food contamination because they can transmit the germs to food during the processing of food. A food handler is defined, according to WHO, as any person who directly handles packaged or un-packed food, food equipment and utensils or food contact surfaces, and is therefore expected to comply with food hygiene requirements . According to WHO; Food safety is defined as all measures to ensure that food will not cause harm to the consumer when it is prepared and/or eaten according to its intended use. Food borne illness (also food borne disease) is any illness resulting from the consumption of contaminated food, pathogenic bacteria, viruses, or parasites that contaminate food, as well as chemical or natural toxins such as poisonous mushrooms. Food borne illness (also food borne disease) is any illness resulting from the consumption of contaminated food, pathogenic bacteria, viruses, or parasites that contaminate food, as well as chemical or natural toxins such as poisonous

mushrooms. 113. Waterborne diseases are caused by pathogenic microorganisms that most commonly are transmitted in contaminated fresh water. Infection commonly results during bathing, washing, drinking, in the preparation of food, or the consumption of food thus infected. Various forms of waterborne diarrheal disease probably are the most prominent examples, and affect mainly children in developing countries; according to the World Health Organization, such diseases account for an estimated 3.6% of the total DALY global burden of disease, (wikipedia)

The fourth edition of the World Health Organization's Guidelines for Drinking-water Quality builds on over 50 years of guidance by WHO on drinking-water quality, which has formed an authoritative basis for the setting of national regulations and standards for water safety in support of public health. It is the product of significant revisions to clarify and elaborate on ways of implementing its recommendations of contextual hazard

identification and risk management, through the establishment of health-based targets, catchment-to-consumer water safety plans and independent surveillance.(WHO Guidelines). As part of its global strategy to decrease the burden of food-borne diseases, WHO identified the need to communicate simple global health messages based on scientific evidence to train all types of food handlers, including consumers. The Five Keys to Safer Food explain the basic principles that each individual should know all over the world to prevent foodborne diseases. Over 100 countries have reported using the Five Keys to Safer Food. As a result, millions of food handlers, including consumers, are empowered to prevent food-borne diseases, make safe and informed choices and have a voice to push for a safer food supply.

To ensure the same understanding in practice along the full chain - from farm to table – WHO has developed additional Five Keys materials directed to rural people who grow fruits, vegetables and fish for their own use or for sale

on local markets. WHO's objective is to target those who usually do not have access to food safety education despite the important role they have in producing safe food for their community.(WHO).There is not much data available regarding food safety knowledge and practices of food handlers among college or university in developing countries. This study will determine the knowledge, attitude and practice of food safety measures among food handlers of various medical colleges in Lahore. It will also help improve hygiene standards by provoking awareness among the hostelites hence preventing transmission of diseases by food and promoting health.

OBJECTIVE

To study knowledge, attitude and practice of safe food handling among food handlers in Nishter Hospital Multan and its premises.

MATERIALS AND METHODS

- Materials and Methodology

Study Design: Cross-Sectional Study

Study Area: Hostel mess, Cafeterias, Dhabas and Bakeries within the premises of Nishter Hospital Multan.

Study Duration: 03 Months

Study Subjects: Food Handlers involved in cooking, selling and serving food to consumers.

Inclusion Criteria: Persons involved in processing of raw food; Cooking of food; Serving of food to consumers; Washing of kitchen and eating utensils were included.

Exclusion Criteria: Persons involved in purchase of raw food from market; Delivery of raw food to mess; Sweeping and cleaning of mess; Unwilling to participate; Non-cooperative; Other jobs not fulfilling the inclusion criteria.

Ethical Clearance: All the subjects will be explained the purpose and process of the study. They will be explained the benefits of study.

Assurance will be given to protect the privacy and dignity of human's study subjects.

- **Sampling**

Size: 100

Technique: Simple Random Method

- **Data Collection Tool And Analysis Plan**

Data Collection Tool: Questionnaire survey method (filling by Food Handlers present within premises of Nishter Hospital Multan)

Data Analysis Plan: the data was analyzed using SPSS version 20.

RESULTS:

In our study, we used a self-made convenient questionnaire. Our study pool consisted of 100 individuals, working in the house officers hostel, canteens and cafeterias found within the premises of Nishter Hospital Multan along with the bakeries and dhabas around the hospital. The data obtained was processed using SPSS 20. The data showed that regarding keeping raw and cooked food separate, 69% have knowledge, 77.5% attitude and 68.5% practice it. 94.5% people have knowledge of cleanliness, 90% have positive attitude, and 74% practice it. 38.5% had the knowledge, 51% attitude and 40% practiced the recommended principle of thorough cooking. 70.7% has knowledge, 66.5% attitude, 47.5% practice keeping food at safe temperature. As far as safe water and raw material is concerned, there is 60% knowledge, 96% attitude, 89.5% practice among food handlers. Overall, 66.5% food handlers have knowledge, 76.2 % have healthy attitude and 63.9% practice principles of hygiene while

processing, cooking and serving food.

Category Question no Knowledge Attitude Practice

Category	Question no.	Knowledge	Attitude	Practice
Seperate raw and cooked food	1a	46	83	67
	1b	92	72	70
	Average	69	77.5	68.5
Keep clean	2a	100	83	74
	2b	89	97	74
	Average	94.5	90	74
Cook thoroughly	3a	43	14	32
	3b	34	88	48
	Average	38.5	51	40



Safe Temperature	4a	73	72	47
	4b	57	61	48
	4c	82	-	-
Average		70.7	66.5	47.5
Safe water and raw material	5a	20	96	88
	5b	100	96	91
Average		60	96	89.5

Category	Gross Total (Avg.)
Knowledge	66.5
Attitude	76.2
Practice	63.9

CONCLUSION:

It was found that many of the food handlers working in various food points lack the essential knowledge of the basic hygiene principles. Overall 66.5% food handlers have knowledge, 76.2% have healthy attitude and 63.9% practice principles of hygiene while processing, cooking and serving food. Almost 1/3rd don't have the positive attitude towards them and almost 40% don't practice the hygiene principles recommended by WHO. It is proposed that the incidence of food borne diseases can be substantially decreased by increasing the knowledge and practice of basic principles of hygiene.

RECOMMENDATIONS:

- Public awareness for proper hygiene and its benefits should be

created through media and seminars etc.

- Use of gloves and hair covers should be made compulsory.
- Awareness regarding benefits of hand washing before dealing with food should be created.
- Clean water should be used for washing utensils.
- Food inspectors should monitor food distributors, processors and manufacturers regularly for proper safety and sanitation.

LIMITATIONS.

- Our study area was confined only to Nishter Hospital and its premises.
- Our subjects were illiterate.



- Response rate was not good due to poor participation of subjects.
- Due to illiteracy of food sellers it was bit time consuming and difficult.

ANNEXURES

CONSENT

We are conducting a research study titled as "Knowledge, Attitude and Practice of Safe Food Handling Among Food Handlers in Nishter Hospital Multan and its Premises". You are eligible to participate in this study because you are a part of community involved in handling food in Nishter Hospital and its premises. The purpose of this study is to assess knowledge, attitude and practice of safe food handling among food sellers working in cafeterias of Nishter Hospital, dealing with HO' hostel mess and road side food vendors situated in premises of Nishter Hospital. Your participation in this study is completely voluntary and if u agree to take part in this study, you will be asked

questions about cleanliness, washing hands before cooking food, safe cooking temperature, about quality of water being used for cooking purpose and it will take you approximately 10 minutes to complete. You may not directly benefit from this research. However we hope that your participation in this study may help us to assess knowledge, attitude and practice of safe food among food handlers.

To the best of our ability your data and answers in this study will remain confidential and your data will only be used for research and study purposes. There are no psychological, physical or social risks involved in this study.

Consent Statement:

I agree to take part in this project. I know what I have to do and I know that I can stop it at any time.

SIGNATURE: _____

DATE: _____



QUESTIONNAIRE

Knowledge

Key 1– Separate raw and cooked

1a. The same cutting board can be used for raw and cooked foods provided it looks clean. True
False

1b. Raw food needs to be stored separately from cooked food.

True False

Key 2-Keep clean

1a. It is important to wash hands before handling food.

True False

1b. Wiping cloths can spread microorganisms.

True False

Key 3 – Cook thoroughly

3a. Cooked foods do not need to be thoroughly reheated.

True False

3b. Proper cooking includes meat cooked to 40 °C.

True False

Key 4 – Keep food at safe temperatures

4a. Cooked meat can be left at room temperature overnight to cool before refrigerating.

True False

4b. Cooked food should be kept very hot before serving.

True False



4c. Refrigerating food only slows bacterial growth.

Agree Not sure Disagree

True False

Key 2– Keep clean

2a. Frequent hand-washing during food preparation is worth the extra time.

Agree Not sure Disagree

Key 5 – Use safe water and raw materials

5a. Safe water can be identified by the way it looks.

2b. Keeping kitchen surfaces clean reduces the risk of illness.

True False

Agree Not sure Disagree

5b. Wash fruit and vegetables.

Key 3 – Cook thoroughly

True False

3a. Meat thermometers are useful for ensuring food is cooked thoroughly.

Attitude

Agree Not sure Disagree

Key 1 – Separate raw and cooked

1a. Keeping raw and cooked food separate helps to prevent illness.

3b. Soups and stews should always be boiled to ensure safety.

Agree Not sure Disagree

Agree Not sure Disagree

1b. Using different knives and cutting boards for raw and cooked foods is worth the extra effort.



Key 4 – Keep food at safe temperatures

4a. Thawing food in a cool place is safer.

Agree Not sure Disagree

4b. I think it is unsafe to leave cooked food out of the refrigerator for more than two hours.

Agree Not sure Disagree

Key 5 – Use safe water and raw materials

5a. Inspecting food for freshness and wholesomeness is valuable.

Agree Not sure Disagree

5b. I think it is important to throw away foods that have reached their expiry date.

Agree Not sure Disagree

122Practice

Key 1 – Separate raw and cooked

1a. I use separate utensils and cutting-boards when preparing raw and cooked food.

Always Most times Sometimes Not often Never

1b. I separate raw and cooked food during storage.

Always Most times Sometimes Not often Never

Key 2 – Keep clean

2a. I wash my hands before and during food preparation.

Always Most times Sometimes Not often
Never

2b. I clean surfaces and equipment used for food preparation before re-using on other food.

Always Most times Sometimes Not often
never

Key 3 – Cook thoroughly

3a. I check that meats are cooked thoroughly by ensuring that the juices are clear or by using a thermometer.

Always Most times Sometimes Not often Never

3b. I reheat cooked food until it is piping hot



throughout.

Always Most times Sometimes Not often Never

Key 4 – Keep food at safe temperatures

4a. I thaw frozen food in the refrigerator or other cool place.

Always Most times Sometimes Not often Never

4b. After I have cooked a meal I store any leftovers in a cool place within two hours.

Always Most times Sometimes Not often Never

Key 5 – Use safe water and raw materials

5a. I check and throw away food beyond its expiry date.

Always Most times Sometimes Not often Never

5b. I wash fruit and vegetables with safe water before eating them.

Always Most times Sometimes Not often Never

Thanks