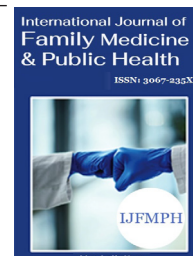


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A Cross-sectional Study to Assess the Knowledge, Attitude and Practices Regarding Food Safety Measures and Food Borne Diseases Among Mess Workers in RIMS, Ranchi, Jharkhand.

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ABSTRACT

The aim of the study is to assess the knowledge, attitude and practices regarding food safety measures and food borne diseases among mess workers in RIMS, Ranchi, Jharkhand. The study was quantitative and cross-sectional with 100 mess workers selected by non-probability convenient sampling technique. The study was conducted in mess functioning under RIMS, Ranchi, Jharkhand after ethical committee approval, provided subject information sheet and informed consent taken from participants. Structured questionnaire, 5- point likert scale and observational checklist were used as research instruments. The analysis of study depicts that majority of the mess workers (55%) had poor knowledge, favourable attitude (59%) and poor practice (50%) regarding food safety measures and food borne diseases.

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Introduction

Food is a basic human need for the survival. Through centuries, food has been recognized as an important need for human in health and disease. It is one of the basic requirements of man as also of all living being. Every activity of man is first aimed at procurement of food [1].

The health of people depends to a large extent on the food they eat. However, food is frequently subjected to contamination by the variety of microorganisms resulting in to human illness and has a direct extensive and important bearing on public health. This contamination may occur at any point during the journey of food from the producer to the consumer [1].

Mess workers with poor personal hygiene and lack of awareness of important issues on preventing food borne diseases, working in food establishments could be potential sources of infections of many intestinal helminths of protozoa and enterogenic pathogens.

In developing countries, food safety standards are not strictly followed due to the poor implementation of food safety regulations and poor personal hygiene and practices of food handlers. With an increase in population, the risks associated with foodborne diseases are also increasing. Therefore, it is essential to conduct a food safety survey in developing countries to assess the food safety conditions in various mess and to propose suitable remedial measures for improvement.

Since medical institutions are supposed to provide a model for healthy practices including food services, it is expected that the food service establishments there should not act as source of infection for food-borne diseases.

However, a number of outbreaks of food-borne illnesses have been reported from different medical college hostels from time to time resulting in illness and hospitalization of medical students and doctors. Any incidence of food-borne diseases that affect medical students and doctors can result not only in sickness absenteeism but also in case of transmission of pathogen to patients and their relatives which ultimately affect the health-care services to a great extent. This explains the importance of maintaining high food safety levels at food establishments in medical colleges and hospital campus [1].

Education, training, and the development of food safety certification examinations are the key components in the process of ensuring that food handlers are proficient in and knowledgeable about food safety and sanitation principles [1].

Therefore, the present study has been conducted to assess knowledge, attitude, and practices regarding food safety measures and food borne diseases among mess workers in RIMS, Ranchi, Jharkhand. The results of this study may help in identifying proper and suitable methods for planning health education programs for food handlers that will improve their knowledge, attitude, and practices.

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Background and need for the study

Food borne illnesses have been a recognized hazard for decades. Recent promulgation of Food Safety and Standards Act (FSSA), 2006, indicates the concern of our government for food safety. Research on effectiveness of food safety intervention in our country is remarkable scarce.

The World Health Organization (WHO) estimated that in developed countries up to 30 % of the population suffer from food borne diseases each year, whereas in developing countries up to 2 million deaths are estimated per year. Moreover, in developing countries up to an estimated 70 % of cases of diarrheal diseases are associated with the consumption of contaminated food. WHO estimated 16 million new cases and 60,000 deaths of typhoid fever each year [2]. It estimates of the global burden of food borne diseases have shown almost 1 in 10 people in the world fall ill after eating contaminated food and 4,20,000 die every year resulting in the loss of the 33 million healthy life years [3].

According to U.S. Food and Drug administration (FDA)(2006) the top three factors contributing to food contaminated illness are: a) poor personal hygiene b) cross contamination and c) time/ temperature control. Unsafe food hygiene practices pose global health threats and endangering everyone. The problem of food borne diseases are more prominent in developing countries due to prevailing poor food hygiene, inappropriate food handling practices, inadequate food handling practice and lack of education for food handlers [4].

According to a surveillance of food borne disease outbreak in India: 2009-2018: During the ten-year period ranging from 2009 to 2018, a total of 2688 foodborne disease outbreaks, resulting in 153,745 illnesses, and 572 deaths were reported to IDSP (Integrated Disease Surveillance Program). An average of 269 (range: 67–383) outbreaks, 15,375 (range: 5147–23,425) illnesses and 57 (range: 26–109) deaths were reported each year. The average annual rate of foodborne disease outbreak was 2.2 outbreaks per 10,000,000 individuals with a maximum of 3.2 in 2016. Maximum cases of illness were reported in 2013 and 2016 [5].

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 [6].

Combating such events with adequate food safety and hygiene practices is achievable. Therefore, we must give due emphasis to good hygienic practices to prevent and reduce food borne diseases. Systematic collection of data can help to develop food safety policies that could reduce the burden of foodborne diseases [7-10].

Objectives

Primary Objective

- To assess the Knowledge, Attitude and Practices regarding food safety measures and food borne diseases among mess workers in RIMS, Ranchi, Jharkhand.

Secondary Objectives

- To correlate Knowledge and Practices regarding food safety measures and food borne diseases among mess workers in RIMS, Ranchi, Jharkhand.
- To determine the association of knowledge, attitude and practices with sociodemographic variables regarding food safety measures and food borne diseases among mess workers in RIMS, Ranchi, Jharkhand.

Operational Definitions

Knowledge: In this study knowledge refers to the level of food handling, food safety measures and respondent knowledge regarding food borne diseases.

Attitude: In this study attitude refers to perception of mess workers towards food safety measures and Food borne diseases.

Practices: Practices is defined as to perform or work at repeatedly so as to become proficient.

Food Safety: In this study food safety refers to proper preparation, handling and storage of food by mess workers in order to prevent food borne diseases.

Food borne diseases: Foodborne diseases refer to the diseases caused by contaminated food that are prepared by mess workers due to lack of knowledge.

Material and Methods

The present study aimed at assessing the knowledge, attitude and practices regarding food safety measures and food borne diseases among mess workers. Quantitative approach and cross-sectional research design was adopted for this study. The study was conducted in mess functioning under RIMS, Ranchi, Jharkhand. 100 mess workers were selected by non-probability convenient sampling technique based on inclusion and exclusion criteria. Permission was taken from Head of Department and approval from Institutional Ethical Committee. Subject Information Sheet about the study was given to the clients and informed consent was obtained in the prescribed form. We explained to the participants the importance of response to the study. Anonymity and confidentiality of the response was assured. Level of knowledge, attitude and practices of mess workers regarding food safety measures and food borne diseases was assessed using self-structured questionnaire, 5-point Likert scale and observational checklist. Data collection was done in one-month duration.

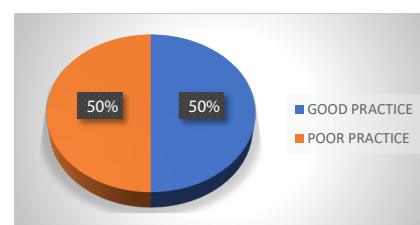
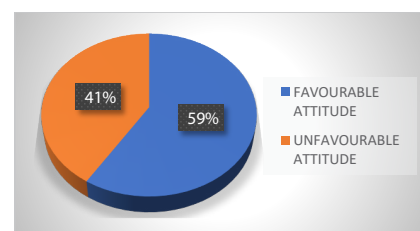
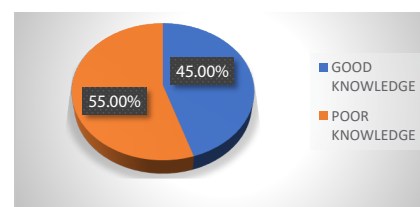
Result and Discussion

According to the study findings, most of the participants were in the age group of 20-60 years. Both male and female participated in the study as 71.0% and 29.0% respectively. This shows that majority of the male participated in the study. 38% of them had education up to primary level, majority of the participants were of Hindu religion (83.0%). 80% of them were from rural area, 41% had previous information on food safety measures and food borne diseases through friends/colleague. This suggest that there is need for proper education of mess workers regarding food safety measures and food borne diseases.

S.No	Variables	Grade	Frequency/Percentage
1.	Knowledge	Good	45
		Poor	55
2.	Attitude	Favourable	59
		Unfavourable	41
3.	Practices	Good	50
		Poor	50

Table 1: Description of level of knowledge, attitude and practices regarding food safety measures and food borne diseases among mess workers N=100.

Table 1: Shows that majority of the mess workers (55.0%) had poor knowledge and (45.0%) had good knowledge, (59.0%) had favorable attitude and (41.0%) had unfavorable attitude, equal percentage of (50.0%) good practices and (50.0%) poor practices regarding food safety measures and food borne diseases.



Domain	Pearson's r value	df	p-value
Knowledge and Practices	r= -0.101	df= 98	0.320

Table 2: Description of correlation between knowledge and practice regarding food safety measures and food borne diseases among mess workers.

The data in Table 2 shows that $r = -0.101$ indicates a very weak negative correlation between Knowledge & Practices.

This suggests that the observed correlation is not statistically significant, means there is no strong evidence to conclude a meaningful relationship between knowledge and practices regarding food safety measures and food borne diseases among mess workers.

Domain	Knowledge (p value)	Attitude (p value)	Practices (p value)
Age in years	0.970	0.082	0.880
Gender	0.364	0.022*	0.826
Religion	0.453	0.796	0.052
Education Status	0.096	<.001*	0.007*
Marital Status	0.161	0.036*	0.079
Income	0.179	0.006*	0.380
Area of Residence	0.481	0.788	1.000
Work Experience	0.118	0.522	0.275
Previous source of Information	0.102	0.012*	0.356

*Significant at $p = 0.05$ level

Table 3: Description of association between knowledge, attitude, practices and socio-demographic variables: N =100.

Findings of this study are supported by a study: knowledge, attitude and practice regarding food hygiene among food handlers of eating establishments of a Medical college, Pune, Maharashtra {Sakore DN et, al (2023)}. This study shows that maximum study participants (67.6%) had good knowledge, followed by (30.5%) study participants were having average knowledge and only (1.9%) had poor knowledge. With respect to attitude, maximum participants (70.5%) have favourable attitude and rest 29.5% had unfavourable attitude. With respect to practice, maximum study participants (78.1%) had good practice followed by (21.9%) study participants had average practice while none of the study participants had poor practice. It shows that there was positive relationship between both knowledge and attitude ($r = 0.539$, $p = <0.0001$) and knowledge and practices ($r = 0.349$, $p = <0.0001$) and also attitude and practices ($r = 0.394$, $p = <0.0001$). Based on the study the conclusion was drawn that the findings may help in planning health education intervention plans for food handlers to have improvement in KAP towards food borne diseases and food safety.

Conclusion

Education, demonstration, monitoring and reinforcement through posters and mass media, skill training regarding food handling and food hygiene measures should be given to enhance their knowledge, attitude and practices regarding food safety measures and food borne disease.

Acknowledgments: In this regard the present study helps to assess the knowledge, attitude, and practices of mess workers regarding food safety measures and food borne diseases in RIMS, Ranchi, Jharkhand.

Conflict of Interest: Not Declared.

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