



KNOWLEDGE, ATTITUDE & PRACTICE AMONG THE FOOD HANDLERS OF BAHAWAL VICTORIA HOSPITAL, BWP

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Abstract:

Introduction: Food is an important basic necessity for life. It's procurement, preparation and consumption is vital for the sustenance of life. Food borne illnesses have an impact on both developing and developed countries. Ensuring safe food handling and preparation is of paramount significance. This study seeks to examine the awareness of food handlers' personal hygiene knowledge on food handling practices.

Objective: The aim of this study is to assess the knowledge, attitude and practices regarding food hygiene among the food handlers of canteens in BVH, Bahawalpur.

Methodology: A cross sectional descriptive study was conducted from January to April 2018. Sample size is 100 due to economic and time constraints. Data is collected through a preformed questionnaire. Data was analyzed on SPSS worksheet. All results were presented in tabulated forms

Results: Mean age of 100 food handlers was 32 years. Majority were males (93%) and the maximum number of participants in the age group of 21-30 years (40.4%). Majority of the food handlers had poor knowledge regarding food borne diseases (64%). Most of the participants have the attitude of serving hot food (89%). All (100%) the food handlers wash hands before food preparation while (58%) use gloves for food preparation. Majority of the food handlers clean their workplace twice a day (57%). There is adequate protection of food from flies in most of the canteens (85%). Most of the food handlers had clean hands (69%) and finger nails (84%).

Conclusion: Majority of the study participants have poor knowledge related to food borne diseases but positive attitude and practices towards food hygiene while food preparation.

Key words: Food hygiene, Food handlers, Food borne diseases

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INTRODUCTION:

Food is defined as: "An early article - manufactured, sold or represented for the use as an edible or drink for human consumption" OR "any item, that enters into or is used in composition, preparation or preservation of any food or drink".¹ Food handler is defined as: "A person in food trade or someone professionally associated with it, such as an inspector, who in his routine work comes into direct contact with food, in the course of production, processing, packaging or distribution."² Accordingly, food handlers with poor personal hygiene and lack of awareness of important issues in preventing food borne diseases, working in food establishment could be a potential source of many intestinal helminthes, protozoa and enterogenic pathogens.³ There are more than 250 food borne diseases, which are either caused by: Bacteria - (Clostridium, Botulinum, Escherichia coli, Salmonella, Listeria, Vibrio. cholera); Viruses - (Enterovirus, Hepatitis. A virus, Rotavirus, Norovirus); Parasites - (E. histolytica, Cryptosporidiosis, Giardia, Trichinosis) .⁴ The World Health Organization (WHO) estimated, that in developed countries upto 30% of population suffer from food borne diseases each year, whereas in developing countries upto 2 million deaths are estimated per year.⁵ Moreover in developing countries upto an estimated 70% of cases of diarrheal diseases are associated with consumption of contaminated food.⁶ WHO estimated 16 million new cases and 600,000 deaths by typhoid fever each year.⁵

Legislation governing food safety enacted in Pakistan are worst according to Pakistan pure food ordinance 1960.⁷ There is no such inspection of food preparatory processes or of food handlers that either they are observing food hygiene practices or not. So due to current status of the issue, a research was conducted in Quaid-e-Azam Medical College, hostels & Bahawal Victoria hospital canteens. The aim of study was to assess the current knowledge, attitude & practices regarding food hygiene among the workers of college and hospital canteens and to procure information about various foods handling practices and spread awareness about the prevention of food borne disease. The required data was obtained by pre-designed questionnaire. The data collection includes - Food handling practices, Environmental and Personal hygiene, Knowledge of food hygiene and safety measures taken for controlling and preventing food borne illness and Incidence of food borne diseases & their attitude towards food hygiene. The personal hygiene was assessed by observing, general cleanliness, general appearance of clothes & nails condition. Also health practices such as acquisition of cooking skills, cleanliness of place of preparation, methods of washing utensils and preservation observed by

the food handlers were noted in the study. This study will tell us about the current status and by this way proper steps can be taken to reduce the morbidity and mortality associated with lack of knowledge, attitude and practice of food hygiene among the food handlers.

LITERATURE REVIEW

A Cross sectional study was carried out among food vendors in educational intuitions of Ghana in June 2013. Data was collected by Questionnaires, interviews and observation during the interviews from 60 vendors of 20 schools. Study showed that food vendors in educational intuitions adhere to hygienic practices like regular examination (93%), people serving food have hygiene (63%) etc. The training instead of education had significant association to hygienic. ($P < 0.05$). The study indicates that efforts should be geared to develop learning program for food vendors.⁸

Another descriptive cross-sectional study was carried out in Jos, Plateau state, North Central Nigeria in March, 2017. The study involves 500 food vendors of primary schools. The mean age of food handlers was 25.8 ± 5.3 years. 106 (60.9%) had good knowledge. The study also showed that the level of knowledge and practice need improvement through training.⁹

A same type of descriptive cross-sectional study was carried out among two secondary school students and food vendors in Johar Bahru, Johar, Malaysia in March, 2012. Data was collected by questionnaires & interviews. 339 students & vendors were involved. Study showed that knowledge and practice among vendors and students were good for both schools (79.1%). Results showed equal knowledge and practice of food hygiene in males and females. Correlation b/w food safety and knowledge indicate small positive correlation with ($r = 0.148$, $n = 221$, $p < 0.05$) for Sekolah Tingii Arab Maahad and ($r = 0.053$, $n = 178$, $P < 0.5$) for Sekolah Menengah Kebangsaan Gelang Patah.¹⁰

Similar to this descriptive cross-sectional study, a study was carried out among food handlers in the hospitality establishment of Peshawar city in January, 2012. 250 food handlers were involved from lower, middle and upper tier restaurants. Results showed that hand washing facilities are good in upper restaurants (100%), 94% in middle and 11% in lower restaurants. It was concluded that majority of food handlers in lower restaurants do not wash their hands before and after handling of food leading to contamination and food-borne diseases.¹¹

On the same pattern, a descriptive cross-sectional study was carried out among food vendors at Rawalpindi, the fourth largest city of Pakistan in August, 2017. 223 vendors from six clusters of Rawalpindi were selected. Majority of them showed unhygienic food preparation and maintenance. 80% of stalls were exposed to flies. 75% used tap water, 98% handled food with bare hands. 80% were contaminated with microbes, insects, dust particles and food coloring.¹²

Another cross-sectional study was carried out among 100 vendors during the chain of street food productions Florianopolis, Brazil in October 2015. The study investigated demographic profiles of street vendors and hygiene practices used for production of food. 43 were males. 12% vendors did not provide ice, 95% did not wash hands during food handling, and 33% did not wash their hands at all. 24% washed their hands with water. The study indicated that need for improvement of environmental conditions to prevent food-borne diseases.¹³

In Kuala Pilah, Malaysia in April 2012, a descriptive cross-sectional study was carried out among food handlers to determine food hygiene in restaurants of Kuala Pilah, Malaysia. 64 handlers were involved. Results showed that handlers had excellent knowledge towards food hygiene. Educational level influenced knowledge and practice of food hygiene. Research results showed satisfactory levels of practice of some aspects of hygiene measures like refreezing food items & clean working area.¹⁴

In Malaysia, another cross-sectional study was carried out for assessment of food safety and microbiological hand hygiene of food handlers in Kuala Lumpur, in January 2017. The study involved 85 food handlers. Hand-swabs were tested for aerobic count, coliforms, E. coli etc. The food handlers had moderate levels of food safety knowledge (61.71%) with good attitude (51.9/60) and self-reported practices (53.2/60). 65% food handlers had a total aerobic count of ≥ 20 CFU/cm². Study suggested that food handlers had adequate food safety knowledge.¹⁵

Another cross-sectional study was carried out for hygienic practices among food handlers in Dubai in June 2015. 425 respondents using questionnaires and interviews were involved. Overall hygienic practices had a mean \pm SD Value of 81.74 ± 5.29 with lowest score of personal hygiene and highest for FOOD handlers received adequate food training. Those working in restaurants or as housemaid and not trained were more likely to had bad hygiene score. The prevalence of parasitic

infections among handlers were 2%, in which males are more affected.¹⁶

A community-based cross-sectional study was carried out among food handlers in plant sector Sri Lanka in February 2016. 375 food handlers from 18-63 years were enrolled of which 88% of them were female. 59.6% of participants had good

knowledge and good medical practices.¹⁷

METHODOLOGY:

A cross sectional descriptive study was conducted from January to April 2018. Sample size is 100.

Data is collected through a preformed questionnaire. Data was collected from **Eight canteens in Bahawal Victoria Hospital and Quaid-e-Azam medical college**. There were 2 parts of the questionnaire. First part comprises of questions relating to knowledge, attitude and practices of food handlers. Second part comprises of the information observed by the researchers, regarding the hygiene of the food handlers and their surroundings. Data was analyzed on SPSS worksheet. All results were presented in tabulated forms. All the workers were included in the study on the basis of their accessibility and proximity to the researchers by convenience sampling. All food handlers who were willing to participate were included in the questions related to knowledge, attitude and practices of food handlers regarding food hygiene. Questions were asked regarding food hygiene which included whether the participant had ever heard about food borne diseases, the way food borne diseases are transmitted and can these be prevented. Data was analyzed through SPSS. Mean was calculated for age. Frequencies and percentages were calculated for gender, educational status, place of canteen, participants' training regarding food preparation, if participants had heard about food borne diseases, their source of information, the way food borne diseases are transmitted and if they can be prevented, whether the participant served hot food, consult a doctor when ill, whether the participant uses gloves for food preparation, wash hands before food preparation, refrigerate leftover food, check the expiry date on food items before preparation, the number of times they clean the place, whether there is adequate protection of food from flies, dust, method of dishing out food, presence of debris on vendor's hand, cleanliness of finger nails of food handlers.

Mean age of the respondents: 32 years

contaminated water	23	23.0	85.0
Others	5	5.0	90.0
Don't know	10	10.0	100.0
Total	100		
Is prevention possible	Frequency	Percent	Cumulative Percent
yes	96	96.0	96.0
no	4	4.0	100.0
Total	100		

Table No. 02: KNOWELDEGE OF THE PARTICIPANTS (N=100)

Knowledge of food borne Disease	Frequency	Percent	Cumulative Percent
Good	36	36.0	36.0
Bad	64	64.0	100.0
Total	100		
Transmission of the disease	Frequency	Percent	Cumulative Percent
contaminated hands	62	62.0	62.0

RESULTS OF THE STUDY:

In the study, we conducted, **100** food handlers working in canteens of **Bahawal Victoria Hospital/Quaid-e-Azam Medical College (BVH/QAMC)** were included. The **mean age** of the participants was **32 years**. Out of 100 participants, **93(93%)** were **males** and **7(7%)** were **females**. **10.1%** of the participants were in the **age group** of **11-20 years**, **40.4%(40)** were in the age group of **21-30 years**, **21% (21)** were in the age group of **31-40 years** while **28% (28)** of the participants were in the ages of **>40 years**. When participants were asked about their **education**, it was revealed that **15%** had **never been to school** for education, **21%** had received **primary education**, **18%** had done **matric** while only **7%** had education **above matric**. The participants were taken from **8 different canteens of BVH/QAMC**.

When the participants were asked if they had **heard about food borne diseases**, **36%** had **good knowledge** of food borne diseases while **64%** had **poor knowledge**. **96%** of the participants thought that **prevention of food borne diseases is possible**

while **4%** thought that it was **not possible**. **62%** of the participants believed that **transmission** of the diseases takes place via **contaminated hands**, **23%** believed it is via **contaminated water**, **5%** thought via **other methods**.

Assessing the attitude of the food handlers, **89%** of the participants **serve the food hot** while **11%** **serve it cold**. **93%** of the participants think it **necessary to consult a doctor when ill** while **7%** **do not prefer** to go to a doctor. When the participants were questioned regarding their food handling practices, **58%** claimed they **use gloves** for food preparation while **42%** said they **do not**. **79%** of the participants have the **practice of checking the expiry date** of the ingredients before food preparation whereas **21%** **do not** check the expiry date. **All the participants said that they wash their hands before food preparation**. **64%** of the participants **store the leftover food in the refrigerator** while **36%** **don't use** a refrigerator. **All the food handlers clean their work place**, **9%** among them clean it **once a day**, and **57%** **twice a day** while **34%** clean their work place **more than 2 times a day**.

Observed conditions of the hygiene of the participants were assessed. **84%** **had clean finger**

nails while 16% had unclean nails. 31% of them had food debris on their hands while 69% had clean hands. 44% of the participants were dishing out food using bare hands, 6% were wearing gloves while dishing out food whereas 50% were using a spoon. 85% of the food handlers had means for adequate protection of food from flies while 13% did not have adequate protection of food.

CONCLUSION:

Positive attitude & practice is reported by a great majority of food handlers, who agrees that wearing caps, protective gloves and adequate clothing reduce the risk of food contamination. They know that food handling relates to the food safety and if it is ignored i.e. Improper cleanliness or storage, it may be hazardous to the health. One factor which is observed in them is the **poor knowledge & less awareness** among the food handlers. It is **because of the fact that most of them are uneducated**. So, it is necessary that the food handlers ought to be educated about the importance of cleanliness, good food hygiene & personal hygiene measure like washing hands before touching food or wearing gloves while distributing the food during their work. It is an individual's behavior or practice which dependent on their knowledge and by educating them will lead to change in attitude and consequently change in practice.

DISCUSSION:

This study was done in Quaid-e-Azam medical college and BV hospital Bahawalpur's canteen to assess the knowledge, attitude and the level of practice of food hygiene among food vendors working there. In this study, the respondents were mainly the males (93.0%) within the age group of 21-30 (40.0%) and minimum were found below 20 years of age (10.0%). Studies conducted at national and international level also affirms that maximum food handlers are in the young age group.¹

The education level of the respondents was not good. Majority of the food handlers working in QAMC & BVH were under matric (39.0%). 15% were totally illiterate. A research conducted in Hyderabad showed the similar results where 31.3% food handlers were illiterate and overall education level was also found to be very low. Only a few were literate or above matric.

But irrespective of the education, most of the respondents had good practice and attitude. 100% of

food handlers washed their hands before handling the food as was found during a study in south Africa 2007 where it was claimed that 94% of the food handlers washed their hands during food processing.¹⁸

In this study a positive practice was observed about using gloves during food handling. Similar to the study in Malaysia where 52.3% always used gloves during food handling, 58.0% food handlers used gloves and threw them after removal. When personal hygiene was assessed it was found that 16% food handlers had long, unclean nails but in comparison to our results a study done in South Africa reported only 6% kept their finger nails long and unclean.¹⁸ As concerns about knowledge, 49.0% acquired their knowledge from mass media. 62.0% believed that transmission of food born disease occur through hands but overall it was found that the 64% participants had bad knowledge about the food hygiene which clearly tells that level of knowledge is significantly low as compared to the level of knowledge of participants found in study conducted by Zain M Met al.; which reported that 83.3% of food handlers had good knowledge about food hygiene.³

So at the end by comparing with the studies conducted nationally and internationally our study shows that the knowledge of food vendors working here is not good as compared to others at different places but attitude and practices is good.

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