

HAND WASHING PRACTICES OF FOOD HANDLERS IN THE HOSPITALITY ESTABLISHMENTS OF PESHAWAR CITY

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ABSTRACT

Objective: The purpose of this study was to assess the hand washing practices of the food handlers in the restaurants located in District of Peshawar.

Material and Methods: A descriptive cross-sectional study was conducted across different restaurants of Peshawar that were selected using a simple random selection process. This study adapts the World Health Organization's (WHO) Five Keys to Safer Food check list that are implemented using face-to-face interview via open and close ended questions. The results presented are based on a total sample of 250 food handlers that are spread as follows: 83 lower tier restaurants; 83 middle tier restaurants; and 84 upper tier restaurants.

Results: Results show that hand washing facilities are available as follows: 100% in upper, 94% in middle and 11% in lower restaurants. However, only 27.6% of the total population washes their hands regularly before the activity or after the activity, for the reason that the food handlers are not given training on food safety.

Conclusion: It is concluded that majority of the food handlers do not wash their hands before or after handling food because of a lack of training on food safety leading to contamination of food and sporadic food borne illnesses.

Key Words: Hand, washing, food-handlers, food, safety.

INTRODUCTION

Because of a boom in food service establishments, greater numbers of people are patronizing restaurants, canteens, fast food outlets and street food vendors. While these establishments are an important source of ready to eat at times low cost meals, it remains to be seen whether there is significant health risk associated with them. This is because unhygienic preparation of food provides ample opportunities for contamination and cross-contamination through harmful micro-organism which are carried on hands, leading to growth or survival of pathogens¹ in food thereby causing food borne diseases. Poor sanitary conditions, lack of knowledge of food handlers about hand washing, under staffing, failure of the staff to follow international protocol, use of unhygienic material even lack of use of safe water, and keeping food at safe temperature are seen and noticed commonly in our restaurants. As it has been reported that food borne illnesses outbreaks originate in food service establishments², and sporadic food borne illnesses have been associated with having eaten outside the home^{3,4}, therefore, food handler's poor

hand washing practice is an important contributor to food borne illness^{5,2}. As food handlers play an important role in ensuring food safety through out the chain of production, processing, storage and preparation of food⁶.

Poor hand washing practices of the food handlers often contributes to food borne-illness outbreaks, which indicates that improvement of food handler's hand washing practices is needed. It has been reported that a range of personal, social, and environmental factors influence food handlers practices and that these factors need to be addressed in order to change food handlers' behaviour^{7,8,9}. The purpose of this study was to assess hand washing practices of the food handlers in the restaurants located in the district of Peshawar.

MATERIALS AND METHODS

A descriptive Cross-sectional study was conducted from 1st June to 30th June 2010. Before the start of the study, the study protocol was reviewed and approved by an ethical review committee. The focus of the study was to identify hand washing practices. The restaurants were selected by simple random sampling technique using draw from the hat technique. The study area comprised of randomly selected restaurants located in designated geographical areas of Peshawar City. Restaurants located on University Road, Food Street in Ghanta Ghar, Namak Mandi, food shops located in vicinity of Speen Jumat and Soekarno

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Chowk were selected. Inclusion criteria for upper class restaurants were those with reserved parking area and dining area. Middle class restaurants were those that had no reserved parking area but had a dining area. Lower class restaurants were those who neither had a parking area nor a dining area. Food handlers were randomly selected 83 each from upper and middle tier restaurants while 84 from lower restaurants, a total of 250 subjects were included in the sample. An inclusion criterion of the food handlers was those who were working in the food industry for the last two years. Those who did not want to participate in the study were excluded from the study.

Data collection tool was a structured questionnaire consisting of open and close ended questions to be asked from the cooks and food handlers using WHO Five Keys to Safer Food check list which comprised of: keep clean; separate raw and cooked; cook thoroughly; keep food at safe temperatures; and use safe water and raw materials. However, due to the limited resources available the study focuses only on hand washing practices of the food handlers; for the variables used for hand washing. Additionally given the afore outlined limitation, it was decided to study the hand washing practices of the food handlers in the local restaurants of Peshawar District.

RESULTS

It was found that only 62%, 32% and 5% of the employees of upper, middle and lower class restaurants respectively had formal education, of which 10% had primary and 52% had middle class education in upper class restaurants; 2% of middle class restaurant employees had middle class education, while the rest had primary level education. The employees of lower class restaurants had only primary level of education. The criteria for proper hand washing facilities was the availability of soap and running water. In upper class restaurants the availability was 100% (83/83), 94% (78/83) in middle class and 11% (9/84) in lower class restaurants.

It was observed that hand washing facilities were present in many restaurants; however, a great number of the workers did not wash their hands before handling food, after touching their body parts, and after the use of toilets. Hand washing frequency is as follows: in the upper class restaurants only 60% (50/83) of the workers washed their hands regularly; while 20% (17/83) in the middle class restaurants and 2% (2/84) in lower class restaurants washed their hands regularly. The reason for the above being that there is absolutely no formal training of the food handlers regarding the importance of hand washing before and after food handling activity in middle and lower class restaurants. Only 8% of food handlers in upper class restaurants were taught verbally on their day of induction into the service about hand washing before

or after food handling activity. After that there is no in service training or supervision of these food handlers about proper hand washing practices. Management certificate to regularly check the food handlers health to ensure that they are not suffering from communicable diseases was the most lacking component in our study; only 23% upper class restaurants had a management certificate while all other restaurants were lacking such certification.

DISCUSSION

Food safety is an increasingly important public health issue. Governments all over the world are intensifying their efforts to improve food safety in response to an increasing number of food related problems and rising consumer concerns. Food borne infections and infestations are very common in our setting. Globally, food-borne illness affects an estimated 30% of individuals annually. Meals prepared outside of the home are a risk factor for acquiring food borne illness and have been implicated in up to 70% of traced outbreaks¹¹. Food borne diseases depend upon the standards of hygienic measures taken in restaurants during food handling. The health status and hygiene of the employees of restaurants contributes directly to the outbreak of food borne diseases.

Unhygienic conditions have an intimate link in the chain of transmission of food borne diseases to consumers. Especially proper hand washing facilities if available would show a rapid decline in the transmission of food borne disease. Adaptation of proper hand washing method by the food handlers significantly decreases both aerobic mesophilic and staphylococci counts¹². Knowledge, awareness and behavior change attitude are the keys to proper use of hand washing facility in kitchens. After the introduction of food safety info sheet food handlers demonstrated a significant increase in hand washing attempts, and a significant reduction in indirect cross-contamination events¹³. Hand washing is one of the FDA's recommended preventive methods, for it can significantly reduce transmission of pathogens from hands to food and other objects^{14,15,16}. Therefore washing hands after any process that contaminates the skin and before food preparation is imperative.

Employees of food service establishments must not work when they are suffering from illnesses that are likely to be transmitted through food. These include gastroenteritis, hepatitis A, and hepatitis E. They should not return to work if they are suffering from vomiting or diarrhoea and until symptoms have stopped for 48 hours¹⁷. Employees performing duties during illnesses like diarrhea, mild fever, flu etc. increase the chances of transmission of such illness to the customer base. The main reason for this is that our food handlers and food industry does not have a proper registration authority in Peshawar and only multinational food outlets are registered with the Tourism Department,

which has no jurisdiction over health matters. The employees and owners of food industry are given only verbal instructions by the food inspector. There is no formal pre-placement training, in-service training, and supervision or monitoring.

Employee's education is a major determinant in raising the standard of personal and working area hygiene. It was also observed in the study conducted that employees of good standard restaurants' are mostly literate up to middle level and therefore have better personal hygiene in comparison to those workers that are lesser educated. On other hand the vast majority of the food handlers do not adhere to hand washing as a practice, which significantly influences the food hygiene and safety. There is no agency or organization to teach, train and supervise the employees of restaurants. This is important as regular monitoring and training influences their knowledge about hand hygiene and cross contamination¹⁸.

Appropriate hand washing was also more likely to occur in restaurants where food handlers received food safety training that includes hand hygiene taught to the food handler and also health certificate of the management¹⁹. This finding is consistent with other findings on associations between knowledge, training and safe food preparation practices²⁰. The same is true for our food handlers as they are often poorly educated and untrained in food safety and on top of this they work in unsanitary conditions with little or no infrastructure support which leads to food contamination and food borne diseases. Research has shown that the majority of food-related illnesses and death could be controlled, or eliminated, by the use of proper food handling techniques¹⁸. Therefore, hand hygiene education and training of food handlers may offer the most cost-effective way to reduce the incidence of food borne disease in our setting.

CONCLUSION

It is concluded that more information is needed to unravel the association between specific behaviours and risk of food borne illness in our regional setting. Secondly, research is needed to focus on how to change the culture and behaviour of the food handlers, and to improve their adherence and compliance with hand washing.

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