Original Article

Sanitation practices among food handlers working in street restaurants in Rawalpindi, Pakistan

Abida Sultana, Amna Awan, Iffat Tehseen

Department of Community Medicine, Rawalpindi Medical College; Rawalpindi, Pakistan

Objective: To assess sanitation practices among food handlers working in street restaurants of Satellite town, Rawalpindi.

Methodology: In this descriptive study,100 food handlers working in street food establishments of Satellite Town area of Rawalpindi were included in the sample. Information regarding their sanitation practices was collected using a structured questionnaire supplemented with an observation checklist.

Results: Of the total respondents, 20% stated not using soap in hand washing. 85% took leave from work when reported sick whereas out of 15% who did not take leave, 46.7% feared cut in wages, 20% feared loss of job, 6.7% were not allowed by employer. Only 78% of the food handlers had access to toilet facility at their workplace. 37% reported waste disposal in covered bins. Only 68% appeared to be wearing clean clothes, 30% wore wearing aprons during work, 1% wore gloves, 3% wore hair covers.

Conclusion: Practices regarding waste disposal and storage of cooked food were not optimal. The use of protective wear like aprons, hair covers and gloves was practically non-existent. (Rawal Med J 2013;38: 425-427).

Key words: Food, sanitation, restaurants, hand disinfection.

INTRODUCTION

Food borne diseases remain responsible for high levels of morbidity and mortality in the general population. Assessment of impact of food safety measures require reliable epidemiological estimates while no precise and consistent data exists regarding burden of food borne illnesses. As stated by WHO, each year over two million people die from diarrheal diseases, many of which are acquired from eating contaminated food from food service establishments.[3] Major factors in food contamination are food handling during preparation process by food handlers, food purchases from unsafe sources, inadequate cooking or reheating, storage at room temperature, cross-contamination from other foods, poor personal hygiene or improper food handling practices. Safe handling of food especially in restaurants is a basic element in the reduction of food borne illnesses.

Thus, in order to decrease food borne illnesses it is essential to understand the sanitary practices of food handlers. The education and training of food handlers working in such street food eat outs may offer the most cost-effective way to reduce the incidence of morbidity and mortality from food borne diseases. Unlimited and unregulated mushrooming of these street food joints has caused severe strain on resources like water, sewage system and city planning with congestion and littering, adversely affecting daily life. In Pakistan, it is necessary to first understand the current food safety practices among food handlers working in these restaurants so their existing knowledge and practices can be assessed. The aim of this study was to presents data regarding self reported practices of workers in street restaurants in a commercial hub in Rawalpindi.

METHODOLOGY

This descriptive cross sectional study was carried out at the Commercial area of Satellite Town, catering to a middle class residential area of Rawalpindi and included 100 food handlers working in street restaurants. Data were collected for a period of two months. Non-probability convenience sampling was done. Male food handlers, presently employed in street restaurants were included and personnel not directly involved in food handling were excluded from the sample. Information was collected using a structured questionnaire supplemented with an observation checklist. Questionnaire was translated in Urdu before approaching the respondents. Data analysis was done using SPSS version 17

RESULTS

The mean age of food handlers was 30.9 ±11.3. 24% were illiterate, 47% had primary education, 26% had secondary education while 3% were bachelors or above.36% were waiters, 55% were cooks, 3% were home delivery boys and 6% were managers in the restaurants.64% of the workers reported getting their medical checkups only when sick, 10% got it done once in three months, 4% once in six months, 7% every year while 15% had never had medical check up.85% took leave from work when reported sick whereas 15% of the workers didnot take leave when sick.40% stated that they washed hands using water and soap and drying them with towel, 40% used water and soap but did not dry hands. 13% used water only and dried hands with clothes due to non-availability of towel and soap at work place, 7% used water only and did not dry hands. On countercheck, it was seen that 70% of the workers who claimed not using soap for hand washing, had access to soap. 27.5% of the workers who claimed always used soap were observed not having soap available in workplace. Personal hygiene factors are shown in Table 1.

31% of the food handlers were smokers or niswaar chewers,45.2% smoked only during break and/or after work, whereas 38.7% smoked only after work. "No smoking" sign was not seen in any of the facilities visited. Only 78% had access to toilet facility at their workplace. Of these 78%, only 31.8% had access to wash basin.

Table 1.Self reported and observed practices regarding personal hygiene (n=100).

Variable		Percentage (%)
Workers' frequency of washing work clothes/ uniforms	Once every week	9%
	Twice a week	29%
	Three times a week	43%
	When it is dirty	7%
	Everyday	12%
Trimming of nails	Weekly	78%
	Fortnightly	20%
	Monthly	2%
Workers having access to facilities at work place*	Mandatory Dress code/uniform	28%
	Soap	72%
	Wash basin	83%
	Smoking area	20%
	Toilet	77%

*as noted with the help of observatory checklist

55% reported that waste was collected in open bins in the restaurants, 37% reported collection in covered bins, 6% claimed throwing trash openly on roads, whereas 2% had no knowledge of the method of waste collection. 34% claimed storing food out in the open in covered pots at their restaurants, 27% stored in kitchen in uncovered pots, 19% stored food in cupboards, 2% didn't know where food was stored and only 19% claimed storing food in refrigerator. 68% were wearing clean clothes, 28% were wearing rings at work, only 30% were wearing aprons during work, 1% wore gloves, 3% wore hair covers. Out of those who reported trimming their nails weekly, 6.4% had untrimmed nails, while persons reporting trimming their nails fortnightly, 20% had untrimmed nails. All the respondents reporting trimming their nails monthly had untrimmed nails.

DISCUSSION

Our findings suggest an overall deficiency in the standards of sanitation being practiced by food handlers. There was no emphasis on improving sanitary conditions in any of the facility visited. There was no concept of washing hands before touching food items. As none of the food handlers had ever been formally trained in food sanitation, we compared basic education of the food handlers with their sanitation practices; however not much of a difference was seen in their practices regarding general sanitation like trimming of nails and washing of hands between illiterate and literate groups. This emphasizes on proper training of food handlers regarding food sanitation focusing on behavior modification before placement regardless of the nature of their initial qualifications. Such trainings have shown to have a positive impact on the level of knowledge and practices of the workers.

80% of the sample reported washing their hands with soap and water. However, somewhat over reporting was suspected in this regard when responses were counter checked with our checklist. These results were comparatively lower than those found in a study done on food handlers in Ramallah and Al-Bireh district of Palestine.[6] Availability of soap and wash basin for food handlers was better

than a study of Bangkok street restaurants.

The most cost effective strategy to is " proper hand washing technique" by the food handlers. Even if good hand washing facilities are present at these restaurants, unfortunately it is seen that workers refrain from complying. Posting of information sheets and posters onwalls of workplace, especially kitchen, has shown to marked increase in handwashing of workers.

Inadequate sanitation practices can not only be blamed on insufficient knowledge as Clayton pointed out in his paper that barriers preventing implementation of these practices despite adequate knowledge are lack of time, lack of staff and lack of resources. Thus, infrastructure modification and strengthening is required where training of food handlers is advocated.

In our study, it was seen that there were no set protocol regarding sick leave of workers. Workers were denied leave by employers in form of threats like loss of job or cut in salary. This is contrary to recommendations made by Food standards agency in UK, which requires managers to exclude any person from food handling duties with gastrointestinal complaints like diarrhea, vomiting or skin lesions and further recommends that practices like penalizing workers for being ill in the form of cutting their wages can lead to them to working while ill causing food safety problems.

CONCLUSION

Observed practices were generally unsatisfactory. Practices regarding waste disposal and storage of cooked food weresuboptimal.The use of protective wear like aprons, hair covers and gloves was practically non-existent. It is recommended that restaurant inspections by health authorities should be made mandatory at regular intervals and awareness among food handlers about food sanitation and safety in restaurantsbe ensured by having regular workshops or seminars. Policies and regulations needs to be designed to ensure periodic food hygiene trainings and pre-placement medical examination should be made mandatory.

REFERENCES

Author Contributions:
Conception and design: Abida Sultana, Amna Awan
Collection and assembly of data: Amna Awan, Iffat Tehseen
Analysis and interpretation of the data: Amna Awan
Drafting of the article: Amna Awan
Critical revision of the article for important intellectual content: Abida Sultana, Iffat Tehseen
Statistical expertise: Amna Awan
Final approval and guarantor of the article: Abida Sultana
Corresponding author email: amnadoc13@yahoo.com
Conflict of Interest: None declared
Rec. Date: Jun 12, 2013 Accept Date: August 29, 2013

1. Food borne disease [Internet] 2013[updated 2013 Mar 6]. Available from http://food sanitation/WHO Foodborne disease.mht
2. Burden of food diseases [Internet] 2013 [updated 2013 Mar 6]. Available from : http://www.who.int/foodborne_disease/burden/en/
3. Lee H, Chik W, Baker F, Saari N, Mahyudin AN. Sanitation practices among food handlers in a military food service institution, Malaysia. Food NutrSci 2012;3:1561-6.
4. Park HS, Kwak KT, Chang JH. Evaluation of the food safety training for food handlers in restaurant operations. Nutr ResPract 2010;4:58-68.
5. Kramer J, Scott WG. Food safety knowledge and practices in ready-to-eat food establishments. Int J Environ Health Res 2004;14:343-50.
6. Al-Khatib IA, Al-Mitwalli SM.Food sanitation practices in restaurants of Ramallah and Al-Bireh district of Palestine. East Mediterr Health J 2009;15:951-8.
7. Basic steps to improve safety of street vended food [Internet] :World Health Organisation;2010 June 30. Available from:www.who.int/foodsafety/fs.../No_03_StreetFood_Jun10_en.pdf
8. Nicolas B, Razack AB, Yollande I, Aly S, Tidiane CO, Phillipe AN. Street vended foods improvement: Contaminationmechanismsandapplicationof food safety objective strategy: Critical review. Pak J Nutr 2007;6:1-10.
9. Bas M, Ersun SA, Kivanc G. The evaluation of food hygiene knowledge, attitudes and practicesof food handlers'in food business in Turkey. Food Control 2006;17:317-22.
10. Cuprasitrut T, Srisorrachatr S, Malai D. Food safety, knowledge, attitude and practiceof food handlers and microbiological and chemical food quality assessment of food for making merit for monks in Ratchathewi district, Bangkok.
11. Gul R. Hand washing practices of food handlers in the hospitality establishments of Peshawar city. J Med Sci 2012;20:22-5.
12. Chapman B, Eversley T, Fillion K, Maclaurin T, Powell D. Assessment of food safety practices of food service food handlers (risk assessment data):testing a communication intervention (evaluation of tools). J Food Prot 2010;73:1101-7.
13. Clatton DA, Griffith CJ, Price P, Peters AC.Food handlers belief and self reported practices.Int J Environ Health Res 2002;12:25-39.
14. Food handlers: Fitness to wok.United Kingdom: Food Standards Agency; 2004