



Original Research

Profile of food handlers working in food service establishments located within the premises of a medical college in Delhi, India

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Summary Objectives: To find out: (1) the socio-demographic and professional characteristics of food handlers working in food service establishments located in the campus of a medical college in New Delhi, (2) the prevalence of morbid conditions among them and their health-care-seeking behaviour and immunization status.

Study design: Cross-sectional study

Methods: A total of 151 food handlers working in 18 food service establishments were interviewed regarding their socio-demographic and professional characteristics, history of substance use, disease if any and health care sought for it, immunization status and pre-placement and in-service medical examination. They were also subjected to clinical examination. Stool examination was done for 129 study subjects.

Results: The majority were less than 40 years of age (60.3%), male (97.4%), Hindu (95.3%), literate (80.1%) and had the habit of substance use (75.5%). Most of them (94.7%) had one or more morbid conditions, important ones being dental caries (50.3%), worm infestation (41.1%) and injuries/burns on hands (39.7%). The health seeking behaviour, immunization status in relation to enteric group of fevers and tetanus and pre-placement and in-service medical examination were observed to be unsatisfactory.

Conclusion: The findings of the study highlight the need of creating awareness among food handlers about various measures of maintaining food hygiene and ensuring their good health through pre-placement and inservice medical examination.

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Introduction

Food service establishments that prepare and provide food on a mass scale are important from the point of view of epidemiology of foodborne diseases. Eating at locations other than home, such as restaurants and cafeterias, significantly increases the risk of diarrhoea among consumers.¹ Food handlers working in food service establishments have been identified as an important source for contamination of food and foodborne disease outbreaks.^{2,3} They have also been reported to suffer from a variety of morbid conditions,⁴⁻⁶ some of which have the potential to contaminate food.

Delhi, the capital of India, has four medical colleges of allopathic medicine that cater to the needs of hundreds of medical and nursing students, doctors, healthcare workers and patients. Many of them consume food prepared in food service establishments operating in these institutions. As medical institutions are supposed to provide a model for healthy practices for the society, it is expected that their food service establishments and the food handlers working there should not act as sources of foodborne diseases. Therefore, the present study was carried out to determine: (1) the socio-demographic and professional characteristics of food handlers working in food service establishments located on the campus of a medical college in New Delhi; and (2) the prevalence of morbid conditions, healthcare-seeking behaviour and immunization status of the food handlers.

Methods

Approximately 55 food service establishments, employing nearly 800 food handlers, operate in the four medical colleges of allopathic medicine in Delhi. The present cross-sectional study was carried out between April 2002 and August 2002 in the food service establishments operating within the premises of Maulana Azad Medical College and its associated hospitals, where approximately 1600 medical students, doctors and faculty pursue learning, teaching and practice in various disciplines of medicine, and provide services to more than 1 million patients annually.⁷ The majority of students, doctors, patients and relatives/attendants consume a wide variety of snacks and meals prepared in 20 food service establishments (excluding hospital kitchens meant solely for patients) located in the premises of the college and associated hospitals. The present study covered 18 of these establishments; the remaining two

establishments were not willing to take part. The protocol committee of Maulana Azad Medical College approved the study.

In total, 151 food handlers engaged in the preparation and/or serving of food were included in the study. Each study subject was interviewed at his/her workplace with the help of a pretested, semi-structured schedule after obtaining their informed consent. Data were collected from all the study subjects by a single interviewer (RM) in order to reduce interobserver bias. Information collected included socio-demographic and professional characteristics such as age, gender, religion, native place, literacy status, nature of job, duration in the profession, substance use and whether they had received any formal training on any aspect of food hygiene; history of disease if any (recall period of 1 month) and healthcare sought for it; immunization received in the last 3 years; and history of pre-employment and in-service medical examination. Information about the food service establishment, including the type of ownership, number of meals served per day, training status of the manager, whether licensed by the local health authority and the frequency of inspection by college/hospital authorities, was also collected from the manager of each establishment.

Each individual was subjected to a clinical examination and investigated accordingly. Female subjects were examined in the presence of a female attendant. Standard criteria as per the medical literature were followed to make a diagnosis. One hundred and twenty-nine (85.4%) study subjects gave their informed consent for stool samples to be examined for the presence of cysts, eggs and vegetative forms of enteroparasites. Stool examination was not undertaken for 22 study subjects (14.6%), as 14 (9.3%) were not willing and eight (5.3%) had left their job before the stool samples could be collected. A single freshly passed stool sample was collected in a wide mouthed plastic container from each willing study subject, and slides prepared from the sample were examined within 2–3 h of sampling. No stool concentration techniques were used. The individuals found to be positive for enteroparasite infestation were given appropriate medical treatment.

All the checklists and schedules were checked for completeness of the information, and responses were coded before entry into the computer. Data analysis was performed using EpiInfo Version 6.0. The difference in proportions between qualitative variables was tested using χ^2 test and Fisher's exact test. Student's *t*-test was used to compare means of quantitative data. A *P*-value of <0.05 was considered to be significant.

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