

ORIGINAL ARTICLE

ASSESSMENT OF PERSONAL HYGIENE OF CANTEEN WORKERS OF GOVERNMENT MEDICAL COLLEGE AND HOSPITAL, SOLAPUR

Anant Arunrao Takalkar¹, Anjali P. Kumavat²

¹Associate Professor, Department of Community Medicine, Kamineni Institute of Medical Sciences, Narketpally ²Professor and Head, Department of Community Medicine, Dr. V. M. Government Medical College, Solapur

Correspondence:

Dr. Anant Arunrao Takalkar

Associate Professor, Department of Community Medicine,

Kamineni Institute of Medical Sciences, Narketpally.

Sreepuram, Narketpally- 508254 Nalgonda district, Andhra Pradesh

Email: ananttakalkarpsm@gmail.com Mobile No. 09704823229

ABSTRACT

Background: Major risk of food contamination lies with the food handlers. Pathogenic organisms present in or on food handlers' body multiply to an infective dose when come in contact with food and could be a potential source of food poisoning to its clients.

Methodology: Cross sectional observational study involving all 83 food handlers presently working were included. With structured proforma, details of socio-demographic data, general physical examination for personal hygiene and assessment of knowledge about food hygiene carried out.

Results: 45.8% were from 15 to 35 years age group while child labours were found to be 6.0%. Only 28.9% were having good personal hygiene whereas 32.5% were having poor personal hygiene. Commonly observed dermatological morbidities were fungal infection (21.4%), dermatitis (20.4%) and scabies (9.3%). 95.2% were aware about food borne diseases. 86.7% responded that contaminated foods transmit disease. 56.6% responded role of vectors in disease transmission. **Conclusion:** There is lot of scope for improving the standards of personal hygiene of canteen workers. Owners of establishments should be made aware of importance of pre-placement and periodical medical examination in order to protect the health of consumer.

Key words: hotel workers, food handlers, personal hygiene, food establishments etc.

INTRODUCTION

Food-borne illnesses have an impact in both developing and developed countries. Most of the annual 1.5 billion episodes of diarrhoea in children under five years of age occur in developing countries. A significant proportion of diarrheal cases are food-borne in origin, and the more than 3 million resultant deaths per year are an indication of the magnitude of this problem. Moreover, in developing countries, up to an estimated 70% of cases of diarrheal disease are associated with the consumption of contaminated food. ^{1,2}

Though reliable statistics on food borne diseases are not available due to poor or non-existent reporting systems in most developing countries, such diseases take a heavy toll in human life and suffering, particularly among infants and children, the elderly and other susceptible groups. They also create an enormous social, cultural and economic burden on communities and their health systems. ³

Food handler is any person who handles food, regardless whether he actually prepares or serves it. Food handlers are the most important sources for the transfer of microorganisms to the food from their skin, nose, and bowel and also

from the contaminated food prepared and served by them. ⁴ Food handlers may transmit pathogens passively from a contaminated source, for example, from raw poultry to a food such as cold cooked meat that is to be eaten without further heating. They may also, however, themselves be sources of organisms either during the course of gastrointestinal illness or during and after convalescence, when they no longer have symptoms. During the acute stages of gastroenteritis large numbers of organisms are excreted and by the nature of the disease are likely to be widely dispersed; clearly, food handlers who are symptomatically ill may present a real hazard and should be excluded from work. Good hygiene, both personal and in food handling practices, is the basis for preventing the transmission of pathogens from food handling personnel to consumer.⁵

Medical and paramedical staffs, students, patients and their relatives were consuming food from the messes and canteens, so they should be aware of health status of food handlers in order to prevent food borne diseases. Few studies were conducted in past focusing the hygienic aspect of food handlers and eating environment. Therefore this study was aimed at assessing personal hygiene of food handlers presently working in different eating establishments of medical college and hospital as well as their knowledge in the areas of food borne diseases and food hygiene.

MATERIALS AND METHODS

The present cross sectional observational study was conducted amongst 83 food handlers working in various canteens and messes that come under Dr. V. M. Government Medical College and Hospital, Solapur city during year 2005.

Total 83 food handlers were included in our studies who were presently employed. All food handlers working in college and hospital canteens, boys and girls hostel messes and resident doctors mess. Data regarding socio-demographic profile, general and clinical examination for personal hygiene was collected by using pretested and predesigned proforma. Assessment of personal hygiene was done by using Jacob M. scoring system (which includes condition of hairs, hands, nails, use of gloves, apron, cap, bathing etc.)⁶. Maximum score for assessment was 10 (Good = 8-10, Average = 5-7

and Poor = 0-4) Social class grading was done by using modified B. G. Prasad's classification. Knowledge about food borne diseases and food hygiene was assessed with the questionnaire. Data thus collected was entered and analyzed by using appropriate statistical tool.

RESULTS

Table 1: Distribution according to socio-demographic variables (N=83)

Variables	Number (%)
Age (years)	
Below 14	05 (6.0%)
15-25	19 (22.9%)
26-35	19 (22.9%)
36-45	21 (25.3%)
46-55	14 (16.9%)
Above 55	05 (6.0%)
Sex	
Male	51 (61.4%)
Female	32 (38.6%)
Socio-economical status	
Lower class	29 (34.9%)
Upper lower	35 (42.2%)
Lower middle	14 (16.9%)
Upper middle	05 (6.0%)
Upper class	00 (00%)
Educational status	
Illiterate	19 (22.9%)
Primary	17 (20.5%)
Secondary/High. Secondary	46 (55.4%)
Graduate	01 (1.2%)

Maximum numbers of food handlers 45.8% were from 15 to 35 years age group while child labours were found to be 6.0%. 61.4 % were males and 38.6% were females. 77.1% were from lower socioeconomic class. 22.9% were illiterate and 55.4% were studied up to Secondary School.

Table 2: Distribution according to grade of personal hygiene

Grade	Number (%)
Good	24 (28.9)
Average	32 (38.5)
Poor	27 (32.6)
Total	83 (100)

Personal hygiene grading revealed that only 28.9% were having good personal hygiene whereas 32.5% were having poor personal hygiene.

Table 3: Dermatological morbidities amongst food handlers

Skin morbidity	Number (%)
Scabies	08 (9.6)
Boils and furunculosis	14 (16.7)
Fungal infection	20 (24.1)
Dermatitis	17 (20.4)

General examination of study population with respect to personal hygiene revealed some dermatological morbidity. Prevalence of fungal infection was 24.1%, dermatitis (20.4) and scabies (9.6%).

Table 4: Knowledge of study population regarding food borne diseases and personal hygiene

Knowledge	No. (%)
Have you ever heard about food borne diseases?	
Yes	79 (95.2)
No	04 (4.8)
What is your source of information?	
Mass media	58 (69.9)
Health professionals	14 (16.9)
Formal training and written display	11 (13.2)
How can food borne diseases be transmitted?	
Contaminated foods	72 (86.7)
Contaminated hands	25 (30.1)
Contaminated water	28 (33.7)
Vectors	47 (56.6)
Don't know	11 (13.2)
How disease can be prevented from food handlers to consumers?	
Washing hands before serving	80 (96.4)
Washing hands after defecation	83 (100)
Regular trimming of nails	72 (86.7)
Minimum handling of cooked food	36 (43.4)
Keeping unhealthy food handlers away from service	55 (66.3)

(* indicates multiple responses)

95.2% were aware about food borne diseases. Main source of information was mass media (69.9%). 86.7% responded that contaminated foods transmit disease. 56.6% responded role of vectors in disease transmission. Almost all food handlers were aware about importance of hand washing before serving and after defecation in prevention of food borne diseases (96.4% and

100% respectively). Only 43.4% were aware about minimum handling of cooked food.

DISCUSSION

The food handler in restaurants are the sensitive group of population that can be a focus for contamination by various infectious agents as they are in direct contact with the clients especially when they are in asymptomatic stage.

Table 1 revealed majority i.e.45.8% were in young age group (15-35 years), followed by middle age group (25.3%) i.e.36-45 years. Chitnis UKB⁷, Kale AB⁸ and Sangole SS⁹ stated that majority of population in their study were from 15 to 35 years age group.

Prevalence of child labour in our study was 6.0%. In India, according to Factory Act (1948), Sec.172 of Bombay Factories Rules (1950) prohibits employment of young person below 14 years of age.¹⁰ In spite of various acts/rules, prohibiting employment of child labour; they are still being exploited in many countries including India and are frequently to be found in eating establishments.

77.1% food handlers were from lower socioeconomic class. 22.9% were illiterate and 55.4% were studied up to Secondary School. Many of the food handlers are from poor families, jobless and with low level of education whereas a job of food handler in such hotels offers them some income, free food and shelter.

Table 2 depicts personal hygiene status of food handlers. Personal hygiene was graded based on the scoring system of Jacob M.⁶ and revealed that only 28.9% were having good personal hygiene whereas almost one third i.e. 32.5% were having poor personal hygiene. Our findings are consistent with findings of other authors^{7,9,12}. However Rathore AS¹¹ observed 60% food handlers with good personal hygiene. Mohan V, Mohan U and Raj K¹³ observed far better personal hygiene among their study subjects in Amritsar city.

Poor personal hygiene in our study can be attributed to lack of sanitary facilities and majority from lower socio-economical class. A high standard of personal hygiene is expected that will reduce the risk of contamination and help to prevent food poisoning.

Table 3 depicts dermatological morbidities amongst food handlers. Prevalence of fungal

infection was 24.1%, dermatitis 20.4% and scabies 9.6%. Mudey A et al¹⁴ observed same prevalence of scabies (9.25%) amongst food handlers in their study from Maharashtra. Pawar AT¹⁵ carried out health survey of hotel workers in Pune and observed that prevalence of fungal infection is most common (15.1%) that matches with our findings. However, Kale AB⁸ observed less prevalence of skin morbidities comparatively eczema & scabies 3.5% each, furuncle 1.4%, fungal infection 1.9%. This means good personal hygiene and stringent supervisory control on food handlers.

Skin diseases are direct reflection of lack of personal hygiene. Since majority of workers in our study were from rural area with lower socioeconomic status, there was gross negligence regarding minor skin ailments. Also they were afraid of losing the job if found by hotel owner, and so use to hide it.

Table 4 depicts Knowledge of study population regarding food borne diseases and personal hygiene. 95.2% were aware about food borne diseases. Main source of information was mass media (69.9%). 86.7% responded that contaminated foods transmit disease. 56.6% responded role of vectors in disease transmission. Almost all food handlers were aware about importance of hand washing before serving and after defecation in prevention of food borne diseases (96.4% and 100% respectively). Only 43.4% were aware about minimum handling of cooked food.

Since they were working in institutional establishments, knowledge about food hygiene and personal hygiene was found satisfactory, but there is a vast gap between knowledge and their practices. Same observations were made by different authors^{16, 17}. Very few Indian studies conducted knowledge survey of food handlers regarding personal and food hygiene.

CONCLUSION

There is lot of scope for improving the standards of personal hygiene of hotel workers. Owners of eating establishments should be made aware of importance of pre-placement and periodical medical examination in order to protect the health of consumer. Health education in these areas will help to early detection of any morbid state. Child labour should be strictly prohibited. Though it is not risky to work in hotels for

children, they should be prohibited because their educational and other rights are hampered. So parents and general population should be made aware of it.

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