

Food safety knowledge and practices of food handlers of various food service establishments of urban Vadodara, India

RENU GURUDASANI AND MINI SHETH

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See end of the article for authors' affiliations

Correspondence to:

MINI SHETH

Department of Food and Nutrition, Faculty of Family and Community Sciences, The Maharaja Sayajirao University of Boroda, VODODARA (GUJARAT) INDIA

ABSTRACT

Survey was conducted on 260 food handlers of 9 different categories of Food Service Establishments FSEs. Semi-structured, precoded questionnaires were used as a tool for eliciting data. Most food handlers were literate with at least primary or higher secondary education. Almost 58% of them earned Rs. <2000 per month. Only a few of them were trained in the job. Better educated and young food handlers were more willing to take training if provided a chance. Most handlers wore clean and fresh clothes everyday, had trimmed nails. However, only few handlers used hand gloves, headgear and apron while cooking/serving and removed rings/bangles/wrist watches before starting work. Most of the handlers reported of washing hands before starting days' work and after using toilet. Personal hygiene and food handling practices of handlers were found to be poor irrespective of their education and wages. Most of the food handlers could not reply when asked about carriers/sources for spreading various food borne diseases. In conclusion, the lack of knowledge of food handlers in food hygiene and sanitation can pose a high risk for the consumers eating in different FSEs.

Key words : Food safety, Knowledge, Personal hygiene, Food handlers, Food establishments, Food handling practices.

Food borne disease has an enormous public health impact, as well as significant social and economic consequences. As described by Linton *et al.* (1998), there are many food handling errors that can cause food borne illness in food retail establishments including poor personal hygiene and cross contamination. Research has also described failure to avoid unsafe foods, neglect of cleaning and sanitation, improperly trained staff and unaware consumers as other threats to food safety (Herrmann and Warland, 2000, Medeiros *et al.*, 2001, Stivers and Gates, 2000). Several factors are known to cause food borne outbreaks. Most often they are preventable with knowledge and care on part of the food handlers. Of the various etiological factors, the food handlers who may harbor the pathogens play a very important role in transmission of food borne diseases. These pathogens may be introduced into foods during production, processing, distribution and preparation. Food handlers may introduce biological hazards when suffering from specified disease, through organisms on the skin, respiratory tract, their intestine and faeces and by cross contamination after handling raw materials. Wearing jewelry, such as bangles, rings, watches, bandages etc., all introduce physical hazards.

Roday *et al.* (1999) stated that food handlers who are ill informed, poorly trained and who do not practice good personal hygiene can be responsible for food contamination. Another study on the knowledge and

attitude of the food handling personnel showed that they had little knowledge regarding the pathogens that cause food borne diseases and the correct temperature for the storage of hot or cold ready-to-eat foods. Most of the personnel had positive attitudes, but disparity between attitude and practice was noted (Askarian *et al.*, 2004). Undoubtedly, adequate personal hygiene practices are essential in reducing the risk of a food borne illness outbreak. Hand washing is one of the most effective and cheapest measures against infection and food borne diseases. It was reported that 31% of the food borne illness in Washington from 1990 to 1999 was because of inadequate hand washing practices of the food handlers (Washington State, Department of Health, 2000). Therefore, inadequate hand washing by food handler is an important contributing factor to food borne diseases outbreak. A survey of retail food service establishments showed that only 52% of the food handlers could describe the hand washing procedure outlined in Minnesota Food Code (Allwood *et al.*, 2004).

It has been noted that unhygienic practices like coughing, sneezing in food preparation area, wearing dirty clothes and caps, spitting and chewing tobacco, pan, etc. all may introduce a variety of microorganisms in food (Kudu and Mishra, 2003). Food samples collected from cafeterias and restaurants yielded strains of enterogenic Staphylococci (Soriano *et al.*, 2002). Illnesses caused by contaminated food are a leading public health problem