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Chitra Prabhakar

Dept. of Food Nutrition and Public Health, Ethelind College of Home Science, SHUATS, Prayagraj, Allahabad, Uttar Pradesh, India

Alka Gupta

Dept. of Food Nutrition and Public Health, Ethelind College of Home Science, SHUATS, Prayagraj, Allahabad, Uttar Pradesh, India

Street vended foods: it's risk factor for foodborne diseases in Mahewa Town of Prayagraj (Allahabad)

Chitra Prabhakar and Alka Gupta

Abstract

Street food vending has become an important public health issue and a great concern to everybody. This is due to widespread food borne diseases, due to the mushrooming of wayside food vendors who lack an adequate understanding of the basic food safety issues. Major sources contributing to microbial contamination are the place of preparation, utensils for cooking and serving, raw materials, time and temperature abuse of cooked foods and the personal hygiene of vendors. Various studies have identified the sources of food safety issues involved in street foods to be microorganism belonging to the genus Bacillus, Staphylococcus, Clostridium, Vibrio, Campylobacter, Listeria, Salmonella. Application of sound risk analysis policies is being advocated to provide a scientific base to the host of risk management option which India may need to explore to ensure public health and safety.

Keywords: Public health, hygiene, food safety issue

1. Introduction

Street food vending has become an important public health issue and a great concern to everybody. This is due to widespread food borne diseases, due to the mushrooming of wayside food vendors who lack an adequate understanding of the basic food safety issues. Major sources contributing to microbial contamination are the place of preparation, utensils for cooking and serving, raw materials, time and temperature abuse of cooked foods and the personal hygiene of vendors. Various studies have identified the sources of food safety issues involved in street foods to be microorganism belonging to the genus Bacillus, Staphylococcus, Clostridium, Vibrio, Campylobacter, Listeria, Salmonella. Application of sound risk analysis policies is being advocated to provide a scientific base to the host of risk management option which India may need to explore to ensure public health and safety.

This document focuses on "street-vended foods" or its equivalent "street foods" which are defined as foods and beverages prepared and/or sold by vendors in streets and other public places for immediate consumption or consumption at a later time without further processing or preparation. This definition includes fresh fruits and vegetables which are sold outside authorized market areas for immediate consumption. Because of socioeconomic changes in many countries, this sector has experienced significant growth during the past few decades. Urbanization and population growth, especially in developing countries, are expected to continue into the next century and street-vended foods, which are largely but not exclusively an urban phenomenon, will expand accordingly.

By way of definition, street vended foods are ready-to eat foods and beverages sold by vendors and hawkers on the street or prepared in the home and consumed on the street without subjecting it to further preparation (FAO,1990) [5].

Consequently, there has been increasing migration of youth to the urban centers. The migration has continued to create a high demand for ready-to-eat foods by the migrants. In the face of the harsh socio-economic situation, these foods are relatively cheap and readily available for the teeming unemployed. Though street vended foods are relatively cheap and accessible, their safety and quality have remained a serious issue of concern to health experts and international bodies (Agu, 2011) [2].

Unfortunately, most of the street foods vendors appear less conversant with the best practices of food preparation, presentation, packaging and preservation. But considering the above positions and the continued increase in the number of operators of street foods, one hazards urban resident are being exposed to food hazards. How are street foods handled in the course of preparation? What is the hygiene status of these foods at the time of customer intake? This paper explores safety and hygiene status of street vended foods in Mahewa, Prayagraj.

Correspondence

Chitra Prabhakar

Dept. of Food Nutrition and Public Health, Ethelind College of Home Science, SHUATS, Prayagraj, Allahabad, Uttar Pradesh, India

2. Materials and Methods

This research used a survey research design which is a procedure in qualitative research in which investigator administer a survey to a sample in order to describe the attitudes, opinions, behaviors or characteristics of the population (Cresswell, 2002) [4] Data was sourced from the street food vendors and key personalities at the forefront of Public and Environmental Health making use of both simple random and purposive sampling techniques. Semi structured questionnaire, in depth oral interviews (IDOI) and personal observation were employed in data collection. In all twenty three (23) street food vendors and ten (10) customers responded simple randomly to the questionnaire. The information obtained is presented in descriptive and thematic forms.

3. Results

The study sought to identify the most common street foods vended in the study area. Among them, Majority (63.9%) of the food vendors were female. This finding conforms with Adayio-Schandorf (2007) [1] observation of gender specialization of livelihood activities. In terms of age, the vendors were between 20 and 60 years. The majority of them (67%) were between the ages brackets of 31 to 40 years. Only 12.4% of the vendors were in the age bracket of 41 to 50. This result supports Yaro (2006) [15] assertion of a poor correlation between age and engagement in manual livelihood activities. On the basis of educational training, only 13.4% of the vendors had post-basic education. Majority of the vendors (53.6%) reported acquiring no formal education while 32.9% had basic education.

This suggests a low intellectual training of Mahewa street food vendors including personal hygiene and social skills imparted from formal training institutions. In depth interviews with the food vendors revealed that they had formal training in food preparation (catering) and food handling but rather got their cooking skills through their parents and later improved upon them through self-training. Gross temperature abuses were discovered. Some vendors provide good quality of street food and take care of personal hygiene. This was confirmed in the interview with the Municipal environmental health officer. With regards to operation site, it was observed that 52.5% of the food vendors sold their foods in wooden stalls along the principal streets. It was observed that besides operations under umbrellas, all the other vendors prepare their foods at permanent sites with the help of unskilled hands. It was seen that most of the vendors (especially the relatively sedentary ones) operated in less clean environments. Wastes and garbage were sighted lying indiscriminately as many of them had far away garbage receptacles. The vendors prepared their foods on visibly dirty surfaces.

The observation showed that while cooking or serving food, only 11% of the vendors including their assistants either wore aprons or covered their hair. Most of the women vendors (65%) had fairly long nails and wore jewelries. Most of the food vendors also handled money while cooking and serving food while public toilet facilities were eight meters away on average from 70% of vendors. Most customers interviewed (70%) admit patronizing the street foods regularly though they claim full awareness of the potential safety issues associated with street foods.

4. Discussion

The population of Mahewa town of Chaka block, Prayagraj

continues to increase since the establishment of the Sam Higgin Bottom University of Agriculture technology and sciences. Due to this, street food industry has been playing an important role in meeting the food demands of the inhabitants. Hundreds of Mahewa settlers are fed daily with a variety of relatively cheap street foods. Studies by Muleta and Ashenafi (2001) [7] and Omemu and Aderoju (2008) [10] concluded that street foods are sources of cheap food and nutrition for many low-income groups. However, public health experts have continued to argue that several health hazards are associated with these street vended foods: that life threatening diseases are associated with these streets foods. The Food and Agricultural Organization (FAO, 1990) [5] for instance, maintains that street foods are largely unsafe because the vendors are often untrained in food safety, food hygiene and sanitation and most often work in unsanitary conditions.

In the context of Mahewa, only a handful of the vendors had formal training up to the senior high school level while the majority had no formal training. And few of the vendors had basic training in food handling and preparation. This implies that knowledge about food vending was acquired by self-teaching - trial and error. But for food safety and hygiene to be assured, the food handlers must of necessity possess the knowledge and skills to enable them handle food hygienically (Sharmila, 2011) [12].

The case of Mahewa has established that due to the low level of literacy, lack of proper training and guidance on food vending, vendors prepared their foods in less hygienic and sanitary conditions. The study also observed that most of the food vending sites were poorly constructed and located thereby exposing the foods to flies, dust and vehicular emissions. In addition, refuse, garbage and waste water were observed to be recklessly thrown around. This attitude has made most of the food sites breeding places for flies and other related infections, contaminations and hazards.

Studies by Muinde and Kuria (2005) [8] have confirmed that the lacks of facilities for liquid drainage and waste water, and garbage disposal lead to garbage accumulation which provides harborage for insects and animal pests that are linked to enteric disease transmission. The study established that access to portable and potable water is costly to Mahewa street food vendors. But water is an important raw material in many street vended operations. Due to cost accessibility challenges of clean potable water, most of the vendors re-used the water especially for cleaning utensils and used dishes. But studies by Angula *et al.* (2008) has shown that contaminated water creates a public health risk when it is used for drinking, washing of foods, used in the processing of food or used for washing equipment, utensils and hands. Instances of gross temperature abuses were also discovered.

WHO (1989) [14] maintained that inadequate heating and under cooking can contribute to food poisoning. The study also discovered risk factors relating to food packaging. For instance, it was observed that many of the foods were presented and delivered without protective packaging. For example, the meat snacks, the beans cake, burger were wrapped in old newspapers and cement bags. But the heaps of newspapers and cement bags usually serve as good breeding places for cockroaches and other insects that can cause serious illness. Moreover, in the houses where these newspapers and cement bags are kept, deadly chemicals or insecticides like nuvan or hit sprays are applied to ward off the menace of the cockroaches and other insects that breed in the homes because of the papers and bags. These papers are

later used to wrap the food. It was also observed that many of the vendors in the process of packaging, clean off the dust on the newspapers and cement bags by blowing air and in the process pass on a number of pathogens to the consumers. This is what Sharmila (2011) ^[12] calls the introduction of hazards by cross contamination. This is usually done with less regard to what the bottles were subjected to. The safety of any food is dependent on the personal hygiene of individuals. This position is strongly emphasized by Marriot (1985) as he states that personal hygiene is important because human beings are the main sources of food contamination (Akinyele 1987; Sharmila, 2011) ^[12].

In the study context, it was observed that toilet facilities were not available in most of the vending sites visited. Vendors passed out body wastes in near-by hidden places and returned to business without washing their hands wear long nails and this is a sure way of contaminating and introducing microbes on food. It is the position of this study that the chemicals women apply on their hair and fingernails are harmful. Besides, the long nails are sure places for the incubation and breeding of germs. Therefore, exposing these into contact with food can have severe health implications for the people.

5. Conclusion

This study examined the safety and hygienic status of street vended foods in Mahewa. The study observed that street food vendors prepare food in not so hygienic and less sanitary conditions. It was particularly noted that these street foods are generally less safe for human consumption as most of them are exposed to dust and vehicular emissions due to the poor location and construction of the vending sites. It was observed that most of the food preparation sites are breeding places for flies, rodents and other insects as they are generally littered with waste water, garbage and refuse. In addition, most of the food vendors lack basic food handling skills as most of them handle money, hardly cover their hair or use aprons while serving food. More so, the women vendors prepare food with long and painted nails.

6. Recommendation

The study recommends that the local government in Mahewa should activate the regulation of activities of street food vendors by strictly enforcing codes of practice for the street food business. The necessary conditions should be put in place to ensure that food vendors comply with hygienic and sanitary standards. Talk shows or training programs should be regularly organized to expose the street food vendors to basic hygiene and sanitary practices necessary for food handling and preparation to ensure the safety and quality of street food. Again to ensure compliance to environmental sanitation laws, staff of the environmental health unit of local government authorities in all major towns in India should be empowered and equipped to operate effectively and efficiently. The presence of the sanitation officers is believed would compel food vendors to clear their sites of refuse and garbage. Above all, the synergy between the Consumer Protection Council, the National Commission of Civic Education (NCCE) and other relevant bodies should be strengthened particularly in the area of training of street food vendors on appropriate food preparation methods, presentation as well as the maintenance of good personal hygiene.

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