



International Conference of Sabaragamuwa University of Sri Lanka 2015 (ICSUSL 2015)

Food safety practices in a teaching hospital in Sri Lanka

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Abstract

The concept of food safety becomes critical when the food is prepared and served to hospitalized patients. This study was carried out to assess the knowledge and practices related to food safety and personal hygiene among food handlers in one of the teaching hospitals in Sri Lanka. An interviewer-administrated questionnaire, observations and discussions were used to gather information. All 31 members in food service management system included and out of them 52% were male and 48% were female. Their mean age was 42.6 years (range 21-59) and 52% of them had secondary education (6-11). The results showed that inadequate knowledge of food hygiene practices; 54.8% of workers did not know the correct refrigerator temperature; 51.6% of them thought that chilling or freezing eliminates harmful germs from food; 19.4% responded that fresh milk does not need refrigeration for its storage; 38.7% did not know that prepared food stored without covering can result in contamination. However, 80.6% knew that raw food should be separated from cooked food. The knowledge of workers regarding personnel hygiene was good: all workers responded that washing hands after using toilet is important. The observations revealed availability of two separate tiled floor rooms for the storage of raw materials; a separate place for cutting and washing; a tiled clean kitchen floor; and all workers had trimmed clean nails and short hair. However, there were some drawbacks on their food safety practices: keeping vegetables on the floor during raw material inspection; keeping cooked food containing utensils open prior to distribution; and unavailability of uniforms, gloves and masks for food handlers. Since, the workers' knowledge of food safety aspects and the available safety practices were inadequate, it is important to improve their knowledge by education and training programs on food safety and hygiene to provide safe food for patients.

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Peer-review under responsibility of International Conference of Sabaragamuwa University of Sri Lanka 2015 (ICSUSL 2015).

Keywords: Food safety; hospitalized patients; personal hygiene; safety practices

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1. Introduction

The World Health Organization and Food and Agriculture Organization defined food safety as “food that is free from all hazards, whether chronic or acute, that may make food injurious to the health of the consumer”¹. Nowadays the concept of food safety is in increasing trend, because of the increasing outbreaks of foodborne diseases worldwide². The concept of food safety becomes critical when the food is prepared and served to hospitalized patients, since they are more vulnerable for food borne diseases than general population as most of them have low-immunity. In addition food borne illnesses may cause gastroenteritis which may impair the absorption of nutrients in patients. This may lead to malnutrition condition of patient and in some patient the condition may become worsen³. So these food-borne diseases become very critical issue in hospitals. Food safety is a great concern of the food industry but health institutions such as hospitals pay less attention². Nowadays, the concept of food safety is in increasing trend, because of the increasing outbreaks of food-borne diseases worldwide³. During food preparation, either from raw material or from cooked material, from any point, the contamination can be occurred¹. Due to this, it is important to follow proper food safety practices during food preparation. The study of Loken⁴ revealed that Most of the kitchen staff do not have enough knowledge about the food safety hygienic practices and most of the food serving management systems of hospitals doesn't have any procedure for detecting hazards⁴ &⁵. The National Hospital of Sri Lanka (NHSL) handles patients with all types of diseases and various methods of feeding. Therefore, it is important to be concerned about the food safety in a hospital and to evaluate the food safety practices during food storage, processing and during distribution of foods to patients in the hospital. Therefore, this study was carried out to assess the knowledge of workers on food safety practices of food service management system of the national hospital of Sri Lanka and to identify the food safety practices available in the hospital.

2. Methodology

This descriptive study was conducted in the National Hospital of Sri Lanka (NHSL) to assess the status of food hygiene and food safety issues and practices in the hospital and to assess the knowledge of staff of food serving management system of the hospital regarding food safety.

Prior to commencement of the study, ethical clearance was obtained from the ethical review committee of the NHSL. An interviewer administrated pre tested questionnaire, observations and discussions with relevant staff in food service management system were used to gather information. The questionnaire mainly focused on socio-demographic characteristic of the staffs, knowledge about personnel hygiene, food handling practices, food storage practices, kitchen set up and cleaning and utensil cleaning and knowledge about information regarding Hazard Analysis of Critical Control Point (HACCP) and other food safety standards. Observation was done at all levels involved in food serving management system of the hospital such as personnel hygiene of food handlers, raw materials unloading and storage, structure of the kitchen and other kitchen practices, food handling practices of food preparation and cooking practices, food transportation to wards and food catering service at ward level, waste management, water supply and other sanitary facilities in the kitchen. Data was analyzed descriptively and presented as percentages.

3. Results and Discussion

A total of thirty one staff members, all the staff who are involved in handling of food were included in this study. Among the study sample, 52% of the staff was male and 48% were female. Their mean age was 42.6 years (range 21-59). The majority (52%) of them were educated up to secondary education level (6-11).

The questionnaire based assessment showed the level of knowledge of the staff with regard to food hygiene practices: 54.8% of workers did not know the correct refrigerator temperature, 51.6% of them thought that chilling or freezing eliminates harmful germs from food, 19.4% of workers responded that fresh milk does not need refrigerator for its storage, 38.7% of the study sample did not know the keeping of prepared foods without covering can be contaminated. However, majority (80.6%) of them knew that raw food should be separated from cooked foods. Although 90.3 % of the study sample knew about ISO certification only 12.9 % of the study sample heard about HACCP. The knowledge of workers regarding personnel hygiene was fairly good; almost all the workers responded that washing hands after using toilet is important. The observational information on available food safety practices in the hospital revealed that availability of two separate floor tiled rooms for the storage of raw materials, a separate place for cutting and washing, tiled clean kitchen floor and almost all the kitchen workers had trimmed clean nails and short hair. But there were some draw backs of available food safety practices; keeping vegetables on the floor during raw material inspection,

keeping cooked food containing utensils open prior to distribution and unavailability of uniform, gloves and masks for food handlers were some of them. Further, it was revealed that the kitchen practices such as raw material unloading, cooking practices, utensil cleaning and kitchen cleaning were not in the satisfactory level. Knowledge of workers regarding cleaning procedures of kitchen and utensils were observed. Majority of workers (93.5%) knew the importance of having separate food processing area to ensure food safety. More than three fourths (70.96%) workers thought that separate sink or area is important for utensil cleaning. Large proportion of workers (80.6%) said that only water is enough for kitchen cleaning and only a small proportion (19%) of participants were aware of the importance of detergents and sanitizing solutions.

Improper handling of raw materials was observed and this may lead to contamination of foods. This practice should be corrected to improve the safe food preparation. Storing the fish in the ambient temperature, also may lead to spoilage even though they are mixed with spices, lead to a great problem for patients. Therefore fish should be stored in a refrigerator. Patients (burn patients) receive the raw egg with the shell, it is not good because if the egg contaminated with salmonella, no one can identify this. Therefore without awareness, food borne diseases may cause which further compromise patient's disease condition. The personnel hygiene of the workers should be improved either by educating them regarding food safety or by training them for proper food hygienic practices.

4. Conclusion

This study concluded that the knowledge of workers' on food safety practices and the available safety practices of the hospital were inadequate. Therefore it is important to improve worker's knowledge by training programs on food safety and hygiene to provide safe food for patients.

5. Recommendations

To ensure safe and quality foods from suppliers, the supplier should implement the HACCP system to their company and hospital food serving management system also should implement the HACCP system for the kitchen. The hospital administration should provide necessary supplies for all the workers who involve in food serving management system. Gloves, masks and other adequate clothing should be provided by the hospital. Education level and attitudes of food handlers and kitchen staff should be considered when recruiting them for job. The personnel hygiene of the workers should be improved by educating them regarding food safety or by training them for proper food hygienic practices. Patient's disease condition and utensil cleanliness should be considered before providing foods to patients.

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