

Status of Education and Training among Food Handlers from Selected Catering Establishments

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Abstract

Food handler's training is an important key to food safety management system. To understand the requirements of training of food handlers, the study was conducted in the city of Bengaluru and the education level and awareness regarding food safety was captured. A total of 16 Food Business operators (FBO's) with 284 food handlers (FH) were selected. Two questionnaires were used for collecting information on the department of work, their literacy level and food safety trainings undergone. The result showed that the majority, 50% of the food handlers were in the department of chef and washing & cleaning, followed by the rest of the department consisting of manager, cashier, storekeeper, helper and service. The subjects comprised of 83% literate and 17% illiterate population. Most of the FH were middle school educated followed by secondary, senior secondary, primary and graduates. The cashiers and managers were 100% educated and on the other side the washing and cleaning staff had more than 50 percent illiterate members. The rest of the team had a mix of education levels but more than 50% were literates. Nearly 88 percent of food handlers had never undergone food safety training. There is a need for the right training intervention program as the gap between the law makers and the followers is big. The loss due to water and food poisoning can affect the economy of the country through direct effect like medical expense, absenteeism, unhealthy human resource and waste of valuable resources resulting in increase of carbon footprints in the food chain.

Keywords: Food Safety; Food Handlers; FSSAI; Training; Food Poisoning.

Introduction

Food is nourishment. Eating the right kind of food at home and outside is important for good health. Eating habits of human beings have evolved with time and with the present lifestyle constraints our dependency on food cooked outside home has increased. Right handling of food at home and commercial establishment is important for wholesome and safe food. It is easier to handle food at home since procurement, cooking and serving is limited to small numbers in comparison to commercial handling. In commercial set ups Food business operators (FBOs) require adequate understanding of food safety along with culinary skills to ensure customer satisfaction and compliance fulfilment. India has a rich culinary

expertise as well as many hotel management institutions to train food handlers on the culinary skills. Food Safety and Standards Authority of India (FSSAI) regulations has been implemented in 2012 in India. The government is creating awareness in this regard as it is a mandatory compliance requirement to run a FBO. This means that the government has to market the regulations, strengthen policies, regulate the frame work and ensure adequate enforcement of standards under FSSAI along with support from all municipalities based on market structure [1].

A transparency in the food chain helps in ensuring traceability. The tracking mechanism can help in identifying early warnings and avoid food poisoning [2]. Episodes of food poisoning are common to all countries regardless of its development stage and in most cases is due to inadequate training provided to food handlers. There are so many cases of food poisoning that at times it becomes a part of everyday life [3].

The malpractices followed due to lack of training is known as a major cause of food borne illness among customers and food handlers themselves. Studies

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have shown that the training was inaccessible as it came at a cost and required time. Most of the food handlers are uncomfortable with formal training [4]. Without knowledge on the basics of scientific food handling methods, it is not possible to achieve food hygiene which is a critical part of food safety.

With rapid growth in industrialization and globalization, it is critical that the people involved in entire food chain be trained to achieve the vision to food safety. This includes the training of food handlers too. It is important to understand their education level to develop the right aids for their training. Since the education level varies from being illiterate to basic schooling or higher studies, it helps determine the approach required to train them. They need trainings on the food chain, food preparation, global food – urbanization, changing customer demand to name a few. The trainings are aimed at improving the knowledge, attitude and practice of the food handler [5]. Hence, the present study was planned to understand the level of education and training among food handlers from different type of catering establishments, which could serve as a future database to develop appropriate training materials in food safety.

Material and Methods

The present study was undertaken to determine the status of education and trainings in Food Handlers in the city of Bangalore. There were 16 FBO's identified that included seven medium size restaurants, two catering establishments serving cooked food away from the base kitchen, one school, one hospital and a food court that consisted of six tuck shops. Data was collected with regard to the education and training undergone by the FH and a total of 284 food handlers from all FBO's were studied.

A questionnaire regarding the classification of the FBO, the department of work, literacy, qualification and whether the FH had undergone training or not was framed. The FBO was classified based on whether it was a medium size restaurant, catering establishment, school, hospital or a tuck shop in food court. The FH based on department of work were classified as Cashier, Chef, Helper, Service, Storekeeper, Washing & Cleaning and Manager. The literacy was classified as literate or illiterate. The education classification was Illiterate, Primary school, Middle school, Secondary school, Senior Secondary school and Graduate. The training was captured as rarely or never.

The questionnaire was filled up on a one on one interview with the food handlers. The data is then analysed for the distribution of food handlers in various departments, the relationship between the levels of education in each of the department of work, between the food handlers of the same department, distribution of literates and illiterates and the food safety training undergone to understand and infer on the future training requirements.

Result and Discussion

The results of the study are summarized in Figures 1-4 and Table 1. Figure 1 shows the distribution of food handlers in various food departments. The personnel coming under 'Chef' and 'Service' departments were the highest number covering more than 50 percent of the total food handlers followed by 'Washing & Cleaning' at 17 percent, 'Helpers' at 14 percent, 'Managers' at 7 percent, 'Cashier' at 5 percent and 'Storekeeper' at 3 percent. These data tell us that the maximum number of employees belong to these two departments in any catering unit, and thereby are most important for working of the unit. They also are involved in maximum food handling as they undertake the job of cooking and serving. In India studies have shown that there has been a concern for food safety but limited effort has gone into controlling it. Though World Health Organization has considered food safety as an integral part of health there is still a lot of work required to strengthen this system [6]. Training plays a critical role in food safety. All work departments need to undergo training which includes basic and work specific. It has been observed that the meaning of 'risk' and 'hazard' is not understood by most of the food handlers. The knowledge of the each department of work on the responsibility they hold has to be specified. The subject should be relevant to their area of work so they are open about learning of compliance and safety [7]. The information on the distribution thus was helpful to understand the course material specifically required for training each department and the allotment of time for each of the department.

The distribution of all food handlers based on educational level given in Figure 2 shows that the highest number of food handlers were middle school educated followed by secondary, senior secondary, primary and graduates. An important point to be noted was an overall 17 percent were illiterate. This leads us to a point on the content of the food safety course material. It has been established that an effective course material can instil a positive attitude

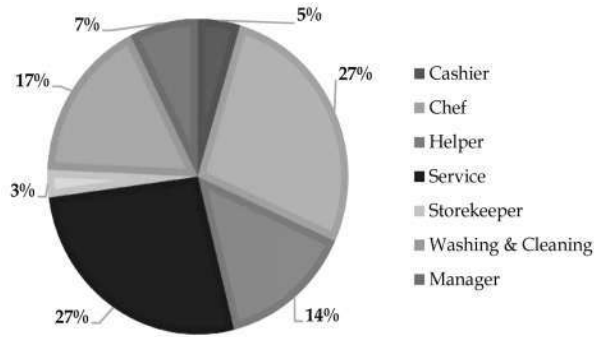


Fig. 1: Distribution of all food handlers in different departments

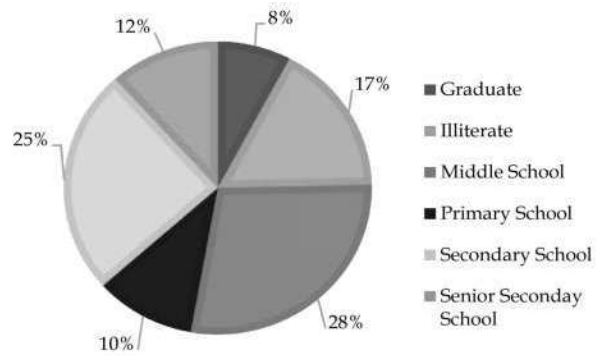


Fig. 2: Distribution of all food handlers based on educational level

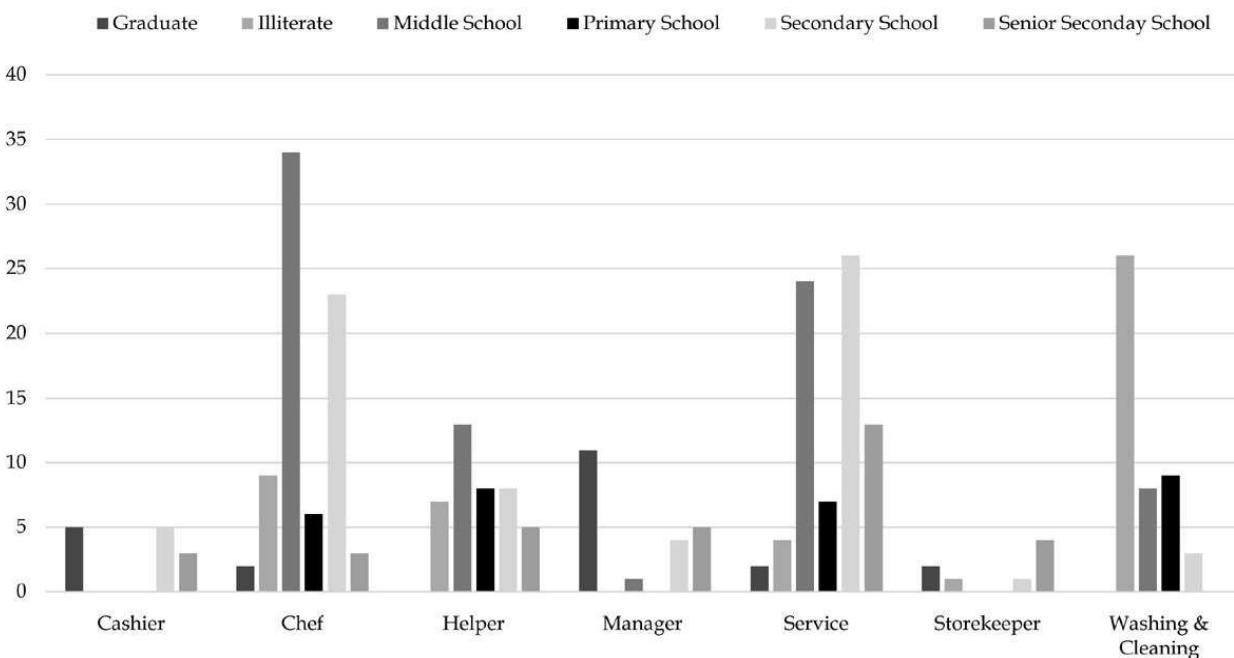


Fig. 3: Distribution of food handlers in different department based on educational level

among food handlers leading to better food safety practices personally like personal hygiene and food handling at all stages of operations [8].

A study conducted in 2011 in Tamil Nadu showed that the 47% of chef's and waiter's carried food poisoning bacterium in their hand and the percentage rose to 87 percent in case of street hawkers. The risks associated with low level knowledge of food handlers was observed [9]. To educate the food handlers in the present study their literacy levels was also analysed as number of workers in each department and the results are compiled in Figure 3. As expected the Managers belonged to the category of highest number of educated workers with highest level of graduates, but also had secondary, senior secondary and one illiterate personnel. The managers were also observed to know few basics on food safety. Since this is a group of literate personnel, the education material

can be planned accordingly. The cashiers also were all literate, either graduates, or with secondary or senior secondary school education. Their involvement in physical food handling was minimal but was important as the transactions of inventory and sale had to be maintained by them and a training for FIFO (food in, food out) and invoice maintaining is required for them. The chefs were a mix of all but were mostly middle schoolers followed by secondary schoolers. A classroom session followed by an on the job training would suite them the best. The helpers were both literate and illiterate. Among the literates, higher percentage were middle school educated. Since they were directly involved with helping the chef, they require a training for food handling and also support activities like washing and servicing. The service staff had very few illiterate, most of them were educated expect four. There were few graduates and

senior secondary schoolers, a high percentage of middle school and secondary followed by primary. Since service staff are directly involved in interaction with customers, an overall class room session with on the job training is appropriate for them. The washing and cleaning staff had more than 50 percent illiterate members and this meant that their training had to be through videos and on the job trainings.

The total number of study subjects could be

divided as 83% literate with having any level of education and the rest (17%) were illiterate. Specifically the highest number of illiterates were in washing & cleaning department, followed by chef, helpers, service and store as shown in Figure 4. This is one of the factors limiting them to follow food safety practices. This is further affected with the low socio background they come from and the lack of basic awareness of hygiene and safety [10].

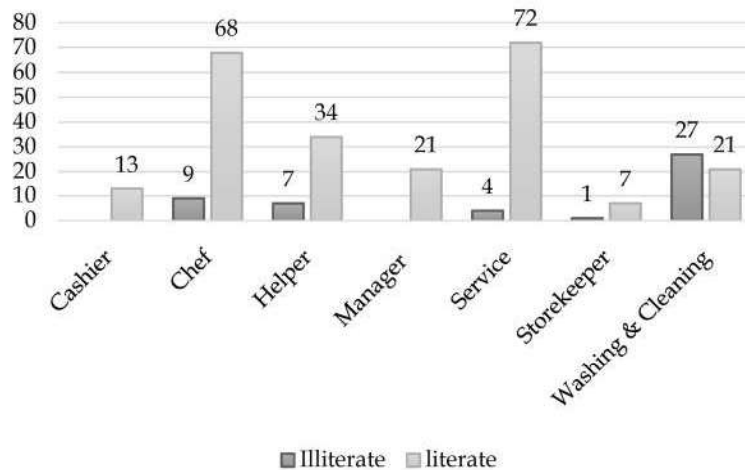


Fig. 4: Number of literate and illiterate in different department

The level of training undergone on food safety was studied for the study subjects and as shown in Table 1, nearly 88 percent of food handlers had never undergone food safety training. It is known that formal food training is required at all levels to implement and sustain food safety. Access to

information from the appropriate source in an appropriate format is critical [11]. Since a huge percentage have never been exposed to training, the material built should be basic and then advanced to accommodate all the challenges like small/big FBO's, literate/illiterate and department of work.

Table 1: The number of subjects who attended any training of food handling based on catering unit

Department of Work	Never Attended Training	Rarely Attended Training
Catering	60	8
Food Court	47	8
Hospital	14	-
Restaurant	123	18
School	6	-
Grand Total	250	34

Conclusion

With the rapid speed at which the economy is growing and the opportunity available for the food industry, it is critical that the government supports in the ensuring compliance. Loss due to water and food poisoning can affect the economy of the country through direct effect like medical expense, absenteeism, unhealthy human resource and waste of valuable resources resulting in increase of carbon footprints in the food chain. There is a need for the

right intervention as the gap between the law makers and the followers is big. The biggest challenge for food safety failure is the lack of foundation which is the lack of awareness among the food handlers. There is a need to build a training system/module that covers and helps in overcoming the challenges of low awareness, illiteracy/low literacy levels, demographic trends and other factors at the FBO's affecting the implementation of food safety management system. The approach needs to be simple and studied systematically to understand the

effectiveness for successful food safety management system.

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