

Food Handling Practices in Food Establishments and among Ambulant Vendors: Its Implications to Health Safety of Students

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Abstract— Food safety and sanitation is a practice of keeping foods from contamination, storing perishable food at the appropriate temperature, and heating food to a temperature that will inhibit bacterial growth. It is the responsibility of the food handlers to fully understand the dangers involved in serving food. It has been shown that 90 to 95 percent of food borne illnesses caused by people preparing and handling food. Poor standard of personal hygiene can lead to food being contaminated.

This study assessed the food handling practices of selected food establishment workers and ambulant food vendors operating within the vicinity of Columban College, Inc and its implications to the health safety of students. The descriptive-survey of research was used with 78 workers from 22 food establishments and 14 ambulant food vendors as respondents. Data were gathered through interview, observation and survey-checklist. Percentage, Mean, Weighted Mean and Analysis of Variance were used in the statistical analysis.

The hygiene and food sanitation knowledge and practices of food-handlers was generally unsatisfactory. Inspections should ensure awareness among patrons and food handlers about food sanitation and safety in food establishments. Implementation of new public health laws to include food handling approved by the legislative council in the local government unit is a priority. Upgrading the quality control system, including legislation reform, developing explicit guidelines, improving inspection and laboratory testing and taking appropriate punitive or corrective measures should be a priority. Training in food hygiene that embodies the concept of risk should be implemented in restaurants in order to emphasize to food handlers the level of risk associated with their business.

Keywords—food handling practices, health safety, food establishments, ambulant food vendors, descriptive-survey, Olongapo City

I. INTRODUCTION

Outbreaks of food borne illness because of poor food sanitation are a recurrent problem in many regions of the world. Failure to process foods properly has led to sickness from foods such as peanut butter, spinach, hamburger meat and many other basic staples, and outbreaks have been traced to restaurants, roadside food stands and many other locations where food is sold or served.

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When selecting restaurants, customers increasingly perceive the hygiene and price as the critical determinant. Similar to customers, the owners of restaurants also pointed out that, in selecting the strategic plans for surviving the competitive markets, food quality and hygiene have been regarded as the top priority.

Any establishment that handles the public's food has potential for the development of food borne illnesses to occur within their operations. The prevention of food borne illness through being aware and practicing food safety and sanitation must be stressed by the establishment to their employees. The three most significant contributors of food borne illnesses in restaurants include time-temperature abuse, personal hygiene, and cross contamination [1].

Presidential Decree 856 or the Sanitation Code of the Philippines requires all food establishments to secure sanitary permits from the local health office. It specifies that health certificate will be issued only to persons who have passed the physical and medical examination and have administered immunization. The code also specifies the structural requirements for food establishments, the vermin- control measures to be undertaken, and the proper disposal of refuse [2].

The food safety standards contain requirements that apply only to food handlers. These requirements relate to health and hygiene and have been included to ensure that food handlers take steps to avoid contaminating food. A food handler is anyone who handles food or items that may come into contact with food, such as eating and drinking utensils. All food handlers are legally obliged to comply with the health and hygiene requirements set out in the food safety standards. [3]

II. OBJECTIVE OF THE STUDY

This study assessed the food handling practices (from preparation, making, cooking, serving, transporting, delivering, packing and selling) in selected food establishments and among ambulant food vendors operating within the vicinity of Columban College, Inc and its implications to the health safety of students. These include food safety and sanitation practices in terms of maintenance of physical facilities, grooming and personal hygiene of food handlers, vermin control, disposal of waste, handling, washing and storage of utensils, bactericidal treatment, storage of perishable and non-perishable foods, and food servicing.

III. METHODOLOGY

The descriptive-survey method of research was used. Respondents who were purposively selected include 78 food handlers from 22 food establishments (fastfood chains are excluded) and 14 ambulant food vendors situated within 2 kilometer-radius of Columban College, Inc. Data were gathered through interview, observation and survey-checklist. Percentage, Mean, Weighted Mean and Analysis of Variance were used in the statistical analysis.

IV. RESULTS AND DISCUSSION

A. Profile of the Food Establishments

Majority of the food establishments have 3 – 4 food handlers or workers; categorized as micro-businesses with average capitalization of Php 185,000; operating for 4 – 5 years; and with average monthly net income of Php 23,500. Regarding food handling facilities and equipments, some food establishments have comfort room, have first aid materials, have air-condition units, and all food establishments included in the study have cleaning materials, electric fan, refrigerator, hand washing facilities and food cooler. Few have no sanitary permit issued by the local government.

B. Profile of the Food Handlers and Ambulant Food Vendors

Seventy-two percent of the food handlers working in the food establishments and 68% of the ambulant food vendors were aged 24 – 35 years old. Of the total 92, 64% were female; 81% finished high school; 69% have been working in food service for more than 3 years; 96% have no training (either formal or non-formal) and seminars attended on food handling; and 82% have no health certificate issued by the Municipal Health Officer.

C. Food Handling Practices

1. Maintenance of Physical Facilities

Ninety-one percent of the food establishments always maintain their equipments, utensils and work surfaces cleaned and sanitized and keep processing room, toilets, washing facilities and storerooms cleaned every day. There is no provision for adequate ventilation in the kitchen and with no adequate supply for soap and clean towel for handwashing. Ambulant food vendors do not have compartments to enclose food they sell to public, thus exposing the foods to airborne pollution and contaminants. Their carts/kiosks do not have sink and food preparation area.

2. Grooming and Personal Hygiene of Food Handlers

Workers in the food establishments always washes their hands every time they serve the food and after going to the comfort rooms. Majority do not wear hair net and with no uniform/apron. This is also true to the ambulant food vendors who wear dirty clothes and handle foods without washing hands.

3. Vermin Control

Most of the food establishments, 82% of them maintain the cleanliness of spaces where food and drinks are stored, prepared and served to exclude vermin. They only apply vermin or insecticides once a month for cost saving. They cover

all foodstuffs, utensils and cleaning equipments during disinfecting operations to protect them from toxic chemical substances. Ambulant food vendors do not maintain vermin abatement program.

4. Disposal of Waste

Fifty-five percent of the food establishments always dispose any rejected materials and food in a hygienic manner. Only two establishments practice waste segregation of biodegradable and non-biodegradable materials. Food handlers and ambulant vendors always recycle oil up to seven times in frying foods. Ambulant food vendors place their garbage bin/bag with no tight cover near their carts/kiosks.

5. Handling, Washing and Storage of Utensils

All of the food establishments always store washed utensils in self-draining position to permit ready air-drying and always clean and change frequently the drying cloth on which to store dishes and utensils temporarily. They always store washed utensils in a clean and dry place to protect against vermin and other source of contamination. Ambulant food vendors, on the other hand use disposable food containers and utensils. They clean jars and cooking utensils in pale of water and sometimes just wipe it using cloth.

6. Bactericidal Treatment

Only 3 food establishments clean and sanitize thoroughly all equipments and utensils with 180 °F (82°C) water or using chemical sanitizer; and only one exposes in a steam cabinet eating and drinking utensils at a temperature of at least 170°C for at least 15 minutes. Based on the responses of the ambulant food vendors, they never sanitize their equipments and utensils.

7. Storage of Non-Perishable Foods

Seventy-one percent of the food establishments designate spaces for lockers, racks, shelves and containers for storage of non-perishable items which are kept keep, free from odors and in good repair. Only ten (10) of them observes the recommended temperature range in storing dry foods and nonperishable items. Ninety-two percent of the ambulant food vendors do not do not have separate shelves or containers for storage of non-perishable items.

8. Storage of Perishable Foods

Sixty-four percent of the food establishments keep perishable foods below the recommended temperature except during preparation or when held to immediate serving after preparation. Five of them follow the recommended temperature when foods are to be stored for extended period. All of them are store fruits and vegetable in cool storage/room. Some ambulant food vendors have coolers (closed container with ice cubes) as containers of their perishable items like fish balls, squid balls, hotdog, burger patties, etc.

9. Food Servicing

All of the food handlers working in the food establishments and all of the ambulant vendors strongly agreed that they always avoid hand contact with food and drinks they sell. But as observed, they handle utensils in which come in contact with food and drinks without using gloves or paper towel. It is also

observed that vendors who sell fruits like mangoes do not use plastic gloves in peeling off and in cutting the fruits.

D. Variations in Developed Skills when Grouped According to the Personal Profiles of the Elderly Women

There were significant variations on the food handling practices of the food establishments when grouped according to number of employed food handlers ($P = 0.004$), years of operation ($P = 0.012$) and compliance to sanitary requirements for permit ($P = 0.000$). There were significant variations on the food handling of ambulant food vendors when grouped according to trainings attended ($P = 0.017$) and working experience ($P = 0.029$) in food handling, and possession of health certificate ($P = 0.011$).

E. Implications to Health Safety of Students

Food facilities and equipment must be constructed and be maintained to ensure that they can be effectively and efficiently cleaned and sanitized all the time. The removal of all food materials is critical. This means preventing bacterial increase, survival, growth, and reproduction. This includes product and non-product contact surfaces. Hygiene during handling and cooking of foods should be observed. It has been a fact that vendors who sold fish and chips washed their raw foodstuff only once because they did not have enough water and this is unhygienic that may result to food contamination and food poisoning of students who are considered to be their major market.

Good personal hygiene is the first step in preventing food borne illness and the spread of disease-causing bacteria. It is vital for foodhandlers to follow these simple rules throughout their career in the foodservice industry: (1) They should bathe daily, using deodorant and / or anti-bacterial soap. (2) They should wash hands before, during and after preparing foods. They should wash their hands whenever they finish working with raw products in order to prevent cross-contamination of foods. (3) They should always wash hands extremely well after using the restroom in order to reduce the risk of Hepatitis A contamination. (4) They should also wash their hands after smoking, coughing, sneezing, scratching, etc. in order to reduce the risk of Staphylococcal contamination as well. (5) They should always have their fingernails cut short and kept very clean. Any hangnails should be properly trimmed and covered to prevent infection as well. (6) If they have any cuts, abrasions or other open wounds on their hands, they should have them properly dressed and they should always wear protective gloves over them. (7) They should always wear proper hats, hair nets, etc. to reduce the possibility of hair and / or dandruff falling into the food. (8) They should wear a clean uniform. Although their uniform may be free of visible debris, it can be a carrier for disease-causing microorganisms. (9) They should not wear any jewelry when working with food. Rings, wristwatches, bracelets and necklaces can easily be lost in a working environment, and are much safer if left in the pocket, or even at home. (10) They should never chew gum, toothpicks or tobacco in the kitchen. They should never smoke in the kitchen, spit, or taste your product with your fingers. Besides looking unprofessional, these activities can also promote the spread of *Staph* Infection [4].

V. CONCLUSIONS

Students must be ensure of a clean and safe environment, and that includes places where they buy and eat foods. They are quite susceptible to food borne illness and authorities must take the proper steps to always ensure all foods are safe for consumption. That means practicing safe personal hygiene for all food providers, knowing how to properly store foods, how to keep foods at the proper temperatures, and how to maintain cleanliness [5].

The results implies that food establishment shall improve the level of food safety and sanitation practices. There must be an updated list of PD 856 compliance and systematic renewal of permit.

An effective sanitation program depends on many factors: sanitarian selection and training; effective procedures for daily and regularly scheduled cleaning; selection of the right chemicals for cleaning and sanitizing; implementation of standard cleaning processes; and maintenance of operational sanitation conditions. In addition, food establishments should evaluate inspection reports, microbiological results and, as applicable, to periodically assess sanitation performance.

The objective is to drive continuous improvement in the sanitation process, whether it be retraining of food handlers, rewriting the sanitation procedures, or redesigning plant equipment for more effective cleaning. If all of these processes are implemented, they will go a long way in ensuring the safety, wholesomeness and quality of the products.

The hygiene and food sanitation knowledge and practices of food-handlers was generally unsatisfactory among the restaurants surveyed. Restaurant inspections should ensure awareness among patrons and foodhandlers about food sanitation and safety in restaurants. All factors that influence the uniformity and reliability of routine inspections by health inspectors should be modified. This could be achieved by policies and regulations designed to ensure periodic training, inspection and systematic standardization among inspection evaluations.

Implementation of new public health laws approved by the legislative council in the local government unit is a priority. Upgrading the quality control system, including legislation reform, developing explicit guidelines, improving inspection and laboratory testing and taking appropriate punitive or corrective measures should be a priority. Training in food hygiene that embodies the concept of risk should be implemented in restaurants in order to emphasize to food handlers, especially those in managerial positions, the level of risk associated with their business. This training should be implemented with the supervision of health inspectors.

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