

# Analysis of personal hygiene and sanitation facilities in the implementation of food stalls serving on campus

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## Analysis of personal hygiene and sanitation facilities in the implementation of food stalls serving on campus

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### Abstract:

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Food security in Indonesia is one of the health problems due to the lack of knowledge and food producers responsibility of quality, hygiene and food safety. This study aims to analyze personal hygiene and sanitation facilities in the implementation of food stalls serving on campus. This study applied a qualitative approach. Data collection through observation and depth interview using checklist sheet and photo voice relate to the personal hygiene and sanitation facilities, according to regulation standard of Health Minister Regulation of Republic of Indonesia or Permenkes RI No. 907/Menkes/SK/VII/2003. Results depicted that personal hygiene and sanitation facilities in the implementation of food stalls serving on campus observed not appropriate with the standard. Most of the informants did not use apron and hair coverings, when they process food and have of lack of practice washing hands with soap when they serving food. All informants have storage of food opened, so that the possibility of food contamination with potential hazards. All canteen, do not have garbage's and waste disposal and facility control of flies, cockroaches and mice. The respondents do not have latrines approximately 90%. To sum up, it needed effort to do counseling, supervision and guidance about the importance of implementation personal hygiene and sanitation facilities and medical checks up for employee to improve the knowledge, health behavior and health food handlers, in order to obtain food stalls serving on campus that the standardized.

**Key words:** personal hygiene, sanitation facilities, consumer product safety, food handling.

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## Introduction

Food borne disease becomes a global problem, that requires a public health concern, the problem is more noticeable in the developing countries due to poor food handling and sanitation practices, food safety laws are inadequate, weak regulatory systems and the lack of health education of food handlers. Persistently high food problems, due to lack of knowledge of how to process food and drinks in a safe and healthy as well as lack of control over food hygiene and safety. The need an increase in knowledge, attitudes and perceptions related to food safety [1,2]. The existence of campus stalls very useful especially within the academic community of students, staff and faculty, but on the other hand has the potential to cause food borne diseases. Sriwijaya University campus located in Inderalaya, there are more than 10 official canteens (which represents 10 current faculties). So far, no data are available for personal hygiene and sanitation facilities, the organization of food stalls. Food served more hand directly in gathering and presenting merchandise. This makes it very vulnerable to getting bacterial contamination of food, both derived from vegetable materials used, plates, spoons, cups, cloth wipes, washing water and the behavior of unhealthy food handlers. Based on the above, researchers interested in conducting analysis of personal hygiene and sanitation facilities, the implementation of food stalls on campus.

Street food sold by hawkers (street food) according to the Food and Agriculture Organization (FAO) defined as food and beverages are prepared and / or sold by vendors on the streets and in public crowded places. Food can also be a medium for the spread of disease, breeding media of microorganisms, which can produce toxins harmful to the body and naturally some foods already contain chemicals that are toxic. [3]. Personal hygiene has a lack of understanding, among others, as knowledge, attitude and proactive measures to maintain and prevent the risk of disease protect themselves from the threat of disease while food sanitation hygiene is an attempt to control the factors of food, people, places and equipment that can or may be able to cause disease or health problems [4]. Personal hygiene, which will minimize the entrance (portal of entry) microorganisms that exist everywhere and ultimately prevent disease. [5]. Provision of education about food safety and proper food handling will help increase a better understanding of the food safety [6]. The application of HACCP in the implementation of food stalls on campus is important, especially in the academic community,

considering the organization of food is closely related to health [7,8]. With the HACCP approach, the food security surveillance managed, can be assured quality, because each step in the process is controlled risks and dangers that may arise [9].

## Materials and Methods:

### A. Study Design

This study applied a qualitative approach. The collection of data through observation and in-depth interview with the observation sheet / checklist and photo voice personal hygiene of food handlers that PHBs aspects, including hand hygiene, hair, nails and clothes, wearing an apron, wash your hands frequently when handling food and handling food use tools / equipment or by hand pads canteen and sanitary facilities, covering aspects of equipment (equipment cleaning eating and drinking vendors), aspects of vendor facilities, as well as aspects of sanitation facilities seller / merchant centers, using standard of *Kepmenkes RI No. 942 / Menkes / SK / VII / 2003* on the hygiene requirements of food sanitation guidelines hawker [10]. Qualitative research methods are often referred to as naturalistic methods because research conducted on natural conditions (natural setting) as well as a method called ethnography, because initially this method is widely used to study cultural anthropology, also called qualitative method, the data were collected and more qualitative analysis. Methods in qualitative research including in-depth interviews, participant observation, and textual analysis [11].

### B. Source Informant

The sampling technique used was non probability sampling, purposive sampling technique that is based on a particular considerations made by the researchers themselves [12]. The sample consisted of informants totaling 11 people. The sample consists of besides those associated with the process of the food stalls on the campus of the University of Sriwijaya, either directly or indirectly. Tested the validity through the triangulation of sources, methods and triangulation of data. The researchers desired sample criteria are as follows:

**Table 1:** Information to be obtained of informants

Informant Status	Number	Expected information
Element of the University leaders	1	Policy implementation rules of hygiene and sanitation facilities handlers for street food.
Hawker food handlers	10	Analysis of hygienic behavior and healthy snack food handlers. Analysis of sanitation facilities, the handling of foodstuffs, hygiene and drinking utensils

## Results and Discussion

From the results of in-depth interviews and field observations, obtained specific information to answer the following research objectives:

### Clean and Healthy Life Behavior of Food Handlers

Various types of food consumed by various means of processing are very likely to be contaminated, causing consumers to fall ill. It is generally caused by the food handlers have not or less in implementing the practice clean and healthy living behavior (PHBs). Based on in-depth interviews and observations, personal hygiene of the 10 informants, about 90% of informants have hand hygiene, hair, nails and clothes but on 69.20% were wearing aprons. There are 30% who do not wash their hands frequently when handling food and the other 70% wash their hands, but do not use soap. Not all informants handling food use tools / equipment, or by hand pads. The above data confirmed the results of in-depth interviews of the informant as follows:

"... not use soap. Because working in hurry. But, still clean ..." (NV)

"... I do not know, since I have been selling here, there is no ..." (RN)

Data enhanced personal hygiene of the photovoice results indicate that food handlers do not use gloves and aprons as well as many handlers do not cover the head when touched and process food. Observation results also showed that handlers do not wash their hands after handling money beforehand and after handling food such as crackers holds a direct holding of money if at that time there are buyers who want to pay, then after holding the money back again holds groceries, which allows for

physical contamination of hands to food handlers. From other studies concluded that the practice of washing hands with soap when serving food is still lacking. A total of 96.7% did not wash their hands, 60% of traders do not use a spoon or tongs to take food in the food and 50% of traders do not clean the rice wrapper with sherbet / lap. Food sold in public places prone to the incidence of disease transmission when food handlers do not know and do not pay attention to hygiene and food sanitation. Most of the rice processing does not use an apron and a hair cover while preparing food [13]. Several other studies also supports, among others, known habit of washing hands after defecation food handlers, but do not use soap [14]. Results of other studies also show that some informants, have personal hygiene, sanitation equipment, facilities and processes serving snacks still in a state which is not good. [15]. The procedures performed are not guided by the SOP because the informant never got SOPs or referrals from related parties. Since the cafeteria was first established, there was never any parties formally monitor food processing in the cafeteria and no socialization SOP. This is in accordance with the statement of the informants: "... we have not been given education or guidance, but from the lab (students) for the examination of water sample ..." (LM)

"...There was no direction but only informed if the canteen is rent..." (DM)

Not to be sanitary food hygiene counseling, supervision and monitoring of food processing to informants, by the related parties. This is consistent with the results of in-depth interviews to the informant as follows:

"... No guidance, cook has been done in home..." (DS)

"... Not socializing health to us..." (DM)

The absence of counseling and supervision both oral and written observations seen at the canteen where on any side not visible rules are written and written permission should be affixed to the side of the cafeteria. Likewise, food sanitation hygiene research results, which do not meet the requirements due to a medical examination has not been carried out on food handlers and they have not received training particularly sanitary food hygiene training [16]. Various types of food consumed by various means of processing, perhaps once contaminated, causing consumers to consume them fall sick. It is generally caused by the food handlers have not or less in implementing hygiene practice properly [17]. In the other study known to the employee hygiene conditions that need attention is the habit of not

washing hands before carrying out the work and do not wear special work clothes. The existence of sanitation facilities such as hand washing following [68]ipment, which is not available [18]. Likewise, a study to determine the hygienic practices and sanitation street food vendors in Nairobi, indicates that the vendor does not have the food preparation trainin[48] Lack of personal hygiene, most vendors never cover their heads, handle money and food at the same time and they do not wear an apron and do not realize hygienic and sanitation practices [19].

From national surveys that have been conducted, it was reported that the food hygiene practices are still not safe, for exam[51]e, does not wash his hands or the absence of precautions to prevent cross-contamination of raw meat. Unsafe practices were reported more frequently by men [20]. From the results of other studies also show, that the activities within the school snack shop, where students, teachers and principals have [73]tributed to changes in behavior, which can affect t[12] quality of the end-products of food served [21]. The level of hygiene practices among those involved in the preparation, cooking and serving food as well as the quality of food offered for sale in the high school cafeteria in four different urban areas [22]. Although food borne illness can be prevented, more than 56,000 people per year become ill in the United States, creating a high economic cost, loss of productivity and reduced quality of li[72] for many people. Health professionals need to be aware of the importance of food safety of consumers [23]. In other studies it is known that the informant / consumers are still confused with the concept of nutrition to food safety, inadvertently food security related. So that the necessary provision of food safety information through health education in schools. [24]. For it is advisable for the relevant agencies need to provide outreach to merchants who are in the central market in order to give priority to particular scrutiny snack cakes can be quality assured in accordance with health standards [25]. The low quality of street food, was associated with lower levels of education and knowledge of food handlers who handle it. Therefore canteen as a means of public places should require a qualified health standards [26]. Some determinant factors of food poisoning can be caused by food-processing aspects, equipment, groceries and food management. contamination of food is mainly caused by various factors such as low food handler knowledge including healthy behavior, food handlers body hygie[64] cleanliness of utensils and food sanitation. The role of food handlers is very

important and is one factor in the provision of foods that meet the health requirements.

### **Sanitation Facility, Food Handling, Health Equipment for Eating and Drinking.**

Sanitation facilities are building physical facilities and equipment used to maintain the quality of the environment or controlling the physical environmental factors that can harm human health such as clean water, latrines, sewer line, hand washing, garbage bins, bathroom, wardrobe work (locker), prevention equipment against flies, rats and other animals as well as hygiene kits [27], who in the organization of street food in the campus environment, its presence is often still far from meeting the health requirements. The results of in-depth interviews and observations related aspects of equipment (equipment cleaning eating and drinking vendors), approximately 70% of the canteen has been cleaning equipment that has been worn, washed with clean water with soap, but only 30% of informants were drying with a dryer / wipe clean / draining tool (after washing), while 70% dried using a clean cloth or less repeatedly. The use of water during washing, also look less good, as seen in the current observation using only a canteen of water rinse once and used repeatedly. Cloths used for drying equipment even make a living physically look less clean. None of the cafeteria, the equipment that is clean, stored in a place free of pollution, all of the storage in an open state. Based regulation tool / a perfect transport food must be covered, made of water-resistant material, the surface is smooth and easy to clean. [28]. Related aspects of vendor facilities, food storage and food storage so / ready to serve all of the canteen not eligible and only 40% are eligible in terms of washing facilities (equipment, hand, groceries). From the aspect of sanitation facilities seller / merchant center, although 100% canteen has been using water that is physically, meet the standards, but all the canteen, do not have a garbage disposal. Based regulation canteen page should be clean, not bushy, not many flies and available clean bins and lids. Dumpster lids must be available in sufficient quantity and placed as close as possible to the source of waste production, but can avoid the possibility of contamination of food by rubbish [28].

Photovoice results support the statement that the absence of visible storage tanks organic and inorganic waste. Looks garbage bags collected in front of the road leading to the cafeteria, or in the kitchen washing dishes in place. Results depth interviews with informants as follows:

"... . most garbage collected continuously in the plastics, afternoon brought out ... "(NV)

All cafeteria, do not have sewer and wastewater control facilities flies, mice, and 90% do not have latrines and peturasan. Conditions cutlery and drinking despite physical looks clean, but very vulnerable to contamination by rats, flies and cats. Based on the observation of most of the cafeteria just let the cat roam around the kitchen and dining area. Cutlery used is also not meet health standards, due to the canteen owner has no special storage closet so cookware and tableware drained in the open. Canteen that use well water, but there is also the use of tap water. This is in accordance with the statement of the informant following:

"Water from wells, join with other sellers, before we use water pipe, but now it rarely get out "(DY). "we have to "

In the aspect of the use of water, food ingredients, additives and presentation. Approximately 30% of canteen use water that is not flowing in the handling of street food and not all of the cafeteria, the food sold in the state wrapped or covered. This situation strengthened from photovoice sheet where physical parameters, water use, has been qualified health, looks clear and odorless and tasteless. Some canteens using cistern water used, in large drums and then used when needed. Drums used are not covered thereby allowing certain materials contaminated in mosquito larva. From other research that aims to determine the relationship between the quality of food sanitation hygiene snack food at street vendors, obtained results also varied where sanitation facilities and equipment to get a low score. Presentation of food get enough scores. In other studies, that the handling and storage of food, about 30% of the locations studied, consider less sanitary conditions, where processed foods mashed potatoes, chicken and beef processed high risk. These findings also show there is still a lack of basic knowledge regarding the handling of public health concerns food [29]. Other research results show that all of the ice pieces of sanitary hygiene principles not apply where the processing of fruit ice preparation, as well as equipment and materials not yet qualified iced fruit health [30]. Practice safe food hygiene process should be an integral part of the vendor [31]. Public health interventions can be the key to preventing Shiga-toxin-producing organisms, particularly E. coli O157: H7 (STEC) and Hemolytic Uremic Syndrome (HUS), which can cause high morbidity and mortality [32]. In its implementation should be supported by the approach and the application of good practices good hygiene by food

handlers (food handler). On the other different studies by David, Nancy and Richard, it was concluded that the application has been implemented sanitation infrastructure implementation eating, in an effort to prevent the occurrence of diseases caused by food poisoning method has been adapted to the Essentials of Food Safety and Sanitation.

reduce the problems of public health hazards posed by the street food industry in Africa, to further improve consumer education and food vendors in particular, on matters of food safety using the basic approach of Hazard Analysis Critical Control Point (HACCP) [33]. Likewise, other studies, structured interviews in mind that knowledge and attitudes towards food security vendors, influenced by education level [34]. It required counseling, guidance and supervision of the implementation and enforcement of regulations related to hygiene and sanitation as well as food snacks systematic identification and assessment of the health hazards associated with different types of foods and operating as embodied in the HACCP approach has been recognized by Codex as the most cost-effective way to promote food safety [35]. This is supported by the input of leaders UNSRI, when the interviews were conducted, policies related to the implementation of hygiene sanitation regulations hawker food handlers are planned to be carried out standardization organization of food stalls on campus, while specifically both from the aspect of sanitation facilities, the handling of foodstuffs, hygiene equipment eat and drink and it is advisable to involve the academic community of faculty of Public Health in UNSRI as an extension activities, monitoring and supporting them. Budgeted physically healthy stall manufacture, year 2014 budget.

That for improving sanitation and personal hygiene facilities, better cooperation is needed between governments, regulators and traders, for example, by providing workshops on food safety, personal hygiene and sanitation [36]. Among the factors that affect food risk management among others are increasing the budget and the importance of organizational behavior [37]. The integrated approach in an effort to prevent the risk of food borne illness is through education and training for food handlers about two (2) security aspects, namely the principles of good hygiene and the application of HACCP concepts in the implementation of food [38]. Other studies that aim to explain the process of elaboration of the risk-based instrument to evaluate the hygienic and sanitary conditions and food services in the host cities of the FIFA World Cup

2014, dihasilkan five categories of classificati<sup>7</sup> when using the evaluation instrument that will be applied to food service to allow evaluation and assessment of corporate food<sup>7</sup> service sanitation aspects concerning food handling has the potential to improve food service in the areas covered by the Brazilian sanitation laws [39,40].

### Conclusion

To sum up, it is found that the personal hygiene of food handlers PHBs include snacks, still tend to be unhealthy. Most of the informants did not use an apron and a hair cover while preparing food and do not engage in the practice of washing hands with soap when serving food. Sanitation facilities in the implementation of the food stalls in the campus also has not met the health requirements so that food handlers should pay attention to the requirements of sanitation facilities canteen, covering aspects of equipment (equipment cleaning eating and drinking vendors), aspects of vendor facilities, as well as aspects of sanitation facilities seller / merchant center.

### Suggestion

Required counseling, supervision and coaching facilitated by the leadership of the University, on about PHBs hawkers<sup>67</sup> food handlers canteen and sanitary facilities, so the snack food marketed to meet the health requirements. Necessary to check the health of the food handlers and food sanitation hygiene training, in order to increase knowledge and change behavior. In addition, the person in charge needs to be trained as well as the use and maintenance of the more leverage existing infrastructure.

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