

## THE CORRELATION FACTORS OF WASHING TECHNIQUE EQUIPMENT WITH HEALTH CUTLERY IN DELICATESSENS IN THE WORK AREA PORT HEALTH OFFICE SAMARINDA

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### Abstract

**Background:** Hygiene of food and beverages is influenced by cutlery. Behavioral factor related to the food management is an important factor in food hygiene. The purpose of this study is to determine the relationship of knowledge and washing techniques practice with the hygiene tableware at food stalls.

**Methods:** The design of this study was Cross-sectional. The study was conducted in food stall at the Port Health Office Samarinda using observation method completed by cutlery hygiene inspection. The research samples were 4 to 5 tableware and 30 samples of food handlers. Mann Whitney test was used as the data analysis.

**Results:** The findings showed that there was no relationship between knowledge and hygiene of utensils ( $p$  value = 0370), while there was a relationship between the practice of cleanliness of cutlery ( $p$  value = 0.002) in food stall at The Port health Office area in Samarinda.

**Conclusion:** Food handlers are to soak the cutlery in advance so that the rest of the food stuck or the hardened part can be easily off and cleaned. Do the rinsing with the running water or frequently replace the rinse water. Re-clean the cutlery using a clean cloth or frequently replaced and keep cutlery in proper place, avoid the dust and dirt. To the related institutions are expected to do the regular inspection of the cutlery, do the monitoring and evaluation to coaching and training and the need of local regulations governing cleanliness of food stalls in the port authority.

**Keywords:** the health of cutlery, knowledge, behavior, practice

### 1. Introduction

Food is a basic human needs are required at all times and must be handled and managed properly for the benefit of the body. The processing of food goes through several stages of processing from receipt of raw materials, washing, compounding, cooking until it becomes a meal ready to eat, with good food processing and food properly will produce a clean, healthy, safe and beneficial and long-lasting.<sup>1</sup>

The World Health Organization (WHO) estimates that 1.5 billion cases of illness caused by food resulted in approximately 3 million deaths annually.<sup>2</sup> The number of reported outbreaks of food poisoning in the year 2001-2011 as many as 1392 events in 30 provinsi. Jumlah victims who died was 407 orang. Insiden East Kalimantan diareti disease based on data from the Health Research in 2013 amounted to 2.4%.<sup>3</sup> While the incidence of diarrhea in Samarinda in 2013 there were 55 062 people infected, KLB food poisoning in the city of Samarinda own as many as 31 events (2:23%).<sup>4</sup>

The state of hygiene of food and beverages is influenced by cutlery used in the process of providing food and drink. In any process of managing food hygiene and health practices of power processors / handlers of food is very important. As HL theory Bloom behavioral factors related to the management of food is an important factor in food hygiene and one of the factors that influence the behavior is the knowledge.

Place food processing in Samarinda port other than port visited by the service user is also visited by people around the harbor with a variety of food served. Based on interviews conducted to handlers known that food handlers have never received training or counseling related to hygiene and sanitation of food so that the possibility of handlers do not have enough knowledge regarding hygiene and sanitation of food, especially washing cutlery.

Data Port Health Office Class II Samarinda in 2013 showed that of the swab cutlery made 83.3% of cutlery are examined in a dirty state. Based on surveillance data Port Health Office Class II (KKP) Samarinda sourced from Clinical and non-clinical KKP (Sidomulyo health centers, clinics Komura and hospitals Islam) in the KKP area Samarinda from January to May 2014 every month there are cases of food-related diseases ( food borne disease) are cases of diarrhea which in January 2014 amounted to 19.9% of diarrhea cases, in February 2014 as much as 9.4%, in March 2014, as many as 12.1% and in April 2014 cases of diarrhea increased to 38.5% in May 2014 and increased again to 41.6%.<sup>5</sup>

Background of the writer interested to see whether there is a relationship of knowledge and practices about food handlers washing technique with hygiene tableware tableware in the region of Port Health Office Class II Samarinda.

## 2. Research Method

This study was observational with cross-sectional, according to the time of this study include cross sectional research, because observations of variables is done in a certain period of time and that time of the research implemented in September-October 2014. Sampel research is equipment taken eat each 4-5 fruit and food handlers using purposive sampling method at the food stalls in the region of Port Health Office Class II Samarinda. Analisis by used Mann-Whitney determine the relationship of the study variables.

## 3. Results and Analysis

### A. Knowledge about food handlers relationship Washing Techniques with Health Cutlery

To describe the relationship between variables and variable knowledge of food handlers hygiene tableware can be seen in the following table:

Table 1. Descriptive relationship with hygiene knowledge of food handlers tableware at food stalls in the region of Port Health Office Samarinda

No.	Health Cutlery	N	Median	Min-Max	<i>p value</i>
1.	Not eligible	19	70.00	70-90	0.370
2.	Qualify	11	80.00	70-90	

From the analysis of the Mann-Whitney relationship with hygiene knowledge of food handlers tableware, figures obtained significancy 0370. Because the value of  $p > 0.05$ , it can be concluded that there was no relationship between knowledge hygiene of food handlers with cutlery.

Knowledge of respondents based on an understanding of the techniques of respondents washing cutlery measured by their ability to answer the questions correctly on the questionnaire that includes techniques remove excess dirt, soak in water, wash with detergent, rinse with clean water, membebashamakan equipment, and drying.

Based on the survey results revealed that of the variable knowledge about eating utensils washing techniques majority of respondents know the techniques of washing cutlery tersebut. Dari some questions seen a lot of questions that can be answered correctly by the respondent and it is also seen from the average value knowledge that is 77.67.

Questions about eating utensils washing techniques that can be answered correctly by the respondent is a question about teknikscaping (remove excess dirt), the technique of washing (washing with detergent), wash with detergent, rinsing (rinsing with clean water), and toweling (drying).

While a few questions about eating utensils washing techniques that are less known by the respondents is about flushing technique (soak in water) and sanitizing techniques/desinfection (relieving pests) that need membebashamakan after washing equipment (43.3%) and on the sun that can be used to membebashamakan equipment was washed (36.7%).

Knowledge is the result of human senses, or know someone on the results of the object through its senses (eyes, nose, ears, and so on). With itself on sensing time to generate such knowledge is influenced by the intensity of attention and perception of one's knowledge gained great objek. Sebagian through the sense of hearing (ears), and the sense of sight (eyes).<sup>6</sup> There were several factors that affect a person's knowledge, including education, information/media, social, cultural and economic, environmental, experience and age.

Based on the level of education, most respondents senior high school. Based on classification educated high school education is included in secondary education. With higher education, the person will tend to get information, either from other people or from the media. The more information you enter the more knowledge gained about health. Knowledge is closely associated with education where hopefully someone with higher education, then that person will be more knowledgeable knowledge. Increased knowledge not absolutely obtained in formal education but also obtained in education non formal. Pengetahuan someone about an object also contains two aspects: positive and negative. The second aspect is what will ultimately determine one's attitude toward a particular object. The more positive aspects of the object is known, will foster a positive attitude towards the object. Based on the working lives of the majority of respondents to the service life of 1-5 years and 6-10 years with a percentage of 46.7% respectively. Experience is a way to acquire a knowledge of the truth.<sup>6</sup>

Personal experience can be used as an attempt to gain an understanding knowledge. Experience will produce different for each individual, the experience has to do with knowledge. Someone who has a lot of experience will certainly add to his knowledge.

Based on the age of the respondents most respondents entered in the age group 39-44 years with a percentage of 33.3%. Age influence the perception and mindset of someone. Increasing age will grow anyway perception and thought patterns, so that the knowledge gained is getting better. The older the more thoughtful, more information is found and the more things done to increase their knowledge.<sup>6</sup>

This study is similar to studies conducted Meikawati, et al (2010) in Nutrition Unit RSJD Dr. Amino Gondohutomo Semarang. From research conducted statistical test results showed no correlation between knowledge and practice of hygiene and sanitation of food with value  $p = 0685$  where hygiene practices examined included washing equipment, but the difference with this study is located in different places and situations where. So it can be concluded even though education is at the most senior level but problems hygiene

tableware is not only determined by the education manun also by personal experience, maturity (age) and most importantly also their insights on hygiene and health.<sup>7</sup>

## B. Relations Practice in washing techniques food handlers with Health Cutlery

To describe the relationship between variables and variable food handlers practice hygiene tableware can be seen in the following table:

Table 2. Descriptive relationship with the hygiene practices of food handlers tableware at food stalls in the region of Port Health Office Samarinda

No.	Health Cutlery	n	Median	Min-Max	<i>pvalue</i>
1.	Not eligible	19	40.00	30-50	0.002
2.	Qualify	11	50.00	40-60	

From the analysis of the Mann-Whitney relationship with the hygiene practices of food handlers tableware, figures obtained significancy 0.002. Karena value  $p < 0.05$ , it can be concluded that there was a relationship between hygiene practices of food handlers with cutlery.

Based on observations in mind that the laundering of tableware most respondents do not implement the techniques of washing the cutlery. From observations made on average only 60 maximum observed values with an average value of 44.33 practices. The behavior here is not associated with a good knowledge of the respondents as more influenced by habit or custom respondents.

Based on observations tableware washing technique that has been suitably carried out by the respondents is about technique srcaping (remove excess dirt), the technique of washing (washing with detergent), rinsing (rinsing with clean water) while of some eating utensils washing technique is not implemented by the respondent is about flushing technique (soak in water) and sanitizing techniques/desinfection (relieving pests) and storage of equipment after finished washing that is not free from dust/fouling.

Observations show all respondents first cleaning tableware that will be washed out of the leftovers. This activity is called scraping that separates all the dirt and remnants of food contained in the instrument to be washed. Separation of dirt/leftovers need to be carried out during the pre-wash for washing equipment that there are leftovers may contaminate the sink.

From the observation of all respondents use the washing tub made of material that is easy to clean. Washing tubs used in the food stalls are using plastic sink. Cleanliness washing tub had to be considered as a dirty tub allows cross-contamination between the tub and washed equipment.

Observations show that all respondents do washing equipment using detergent using coir, tapas or smelly discharge substances (ash). Functions include dispersing detergent or break down dirt and mensuspensikannya into the solution, dissolving solids and emulsify the oil contamination, making it easy to remove, suspend insoluble impurities into the solution, and prevent dirt back on the surface.<sup>8</sup>

While the results are not in accordance with the observation washing technique required is where all the cutlery is not soaked before washing, disinfection, washing technique equipment is meant to allow infiltration of water into the rest of the food stuck or hardened due to the possibility of long so that it becomes easy to cleared or released from the surface of the tool.

Soaking effective is the use of hot water (60°C) and the time it takes is 30 minutes to 1 hour. The importance of eating utensils also dikemukakan immersion in research Cahyaningsih, et al (2009) in his research on rural food stalls Caturtunggal Depok Sleman that immersion tableware is highly correlated with the bacteriological quality cutlery. Reasons respondents did immersion is because the amount of cutlery is used only limited and if doing soaking the time used for the washing process will be longer.<sup>9</sup>

Based on the observations of all respondents do not rinse with running water and rinsing with water known to accommodate 30% of the rinse water is not frequently replaced. This is the reason for the savings in water use. Based Kepmenkes (2012) washing cutlery on stage rinsing should use clean water that much, flowing and always replaced. Each tool cleaned rinsed by means of rubbing by hand or tapas clean up was rough (not smooth).<sup>4</sup>

Based on the observation of the entire cutlery not sterilized after finished washing, while the equipment has been completed washed out to ensure safety of microbes by sanitation or known as disinfection. Reasons respondents did sterilized cutlery is washed in the washing process equipment because it is enough to wash using detergent and this is also due to ignorance of the respondents about the need for disinfection or sterile equipment that has been washed. In addition, due to the unavailability of materials and equipment to perform the disinfection process. This is similar to research Febriyani Bobihu (2012) in which none of the observation of the existing restaurant in the city's central market complex Gorontalo using disinfectants.<sup>10</sup>

From observations made all respondents still drying cutlery by using a cloth that is used repeatedly. Repeated use of laps can cause secondary pollution through the cloth used. Lap repeated use can be breeding grounds for pathogenic microorganisms initially dry cloth and clean eventually become wet and moist. Mikroba pathogens can survive and proliferate on a cloth rag kotor. Prinsip using the tools that have been washed in fact this can be done with requirement that the cloth used to be sterile and clean and is often substituted for some of the most well used which is that disposable (single use). In some respondents who diobservasi drying utensils washed with leak up to dry by itself as many as 30%. From observations made most respondents (56.7%) with a storage area that has been washed utensils are not free from dust is to put on the table openly without putting it in a closed rack. Storage equipment improper feeding this will result in the possibility of fouling on tableware.

The results are consistent with research Febriyani Bobihu in 2012 at the restaurant in the city's central market complex Gorontalo which found 11 of 14 home home eating meals not qualify bacteriological because the washing process and storage of equipment in categories not good. The difference is in the study was not conducted bacteriological examination only by observation.<sup>10</sup>

#### **4. Conclusion and Recommendation**

Based on the results of research and analysis that has been done on the relationship between knowledge and practice of washing technique with the cleanliness of utensils at the food stalls in the region of Port Health Office of Samarinda, it could be concluded as follows: 1). Characteristics of respondents, age of respondents ranged between 41-50 years. Respondents mostly female that is equal to 73.3%. Education of respondents varied from school to college with the largest percentage of 56.7% graduated from high school. Period of employment with the largest percentage of between 1-5 years and 6-10 respectively by 46.7%. 2). Most tableware is not eligible in the amount of 63.3% and 36.7% qualified. 3). There is no relationship between

knowledge of hygiene of food handlers with cutlery ( $p$  value = 0.0370). 4) .There is a relationship between hygiene practices of food handlers with cutlery ( $p$  value = 0.002).

The food handlers: Should immersion techniques in washing cutlery for the rest of the food stuck or hardens it becomes easy to be cleaned or detached from the surface of the tool, perform rinsing with water or when using a flushing with water in order to accommodate the way the rinse water frequently replaced, so do pembebashamaan equipment that has been washed, if the drying process using a rag, so menggunakan clean cloth and is often substituted for the amount of use and the most good is that disposable (single use), so eating utensils washed stored in a place free from dust and other fouling. To the general public: With the picture of public hygiene tableware expected more attention to hygiene utensils to be used so as not to cause illnesses.

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