

The Influence of Socialization of Food Hygiene and Sanitation for Food Handlers on the Level of Germs in the Food Served in Nutrition Institute of Dr. Ernaldi Bahar Hospital Palembang 2012

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Abstract: *The service of food that is not sanitary and hygiene may cause health problems in patients who are being treated, because the patients are very susceptible to diseases caused by germs on food. The main objective of this study was to find out the influence of socialization of food hygiene and sanitation for food handlers on the level of germs in the food served in Nutrition Institute of Dr. Ernaldi Bahar Hospital Palembang 2012. The method of this study was quasi-experimental. The population of the study is all food handlers in Dr. Ernaldi Bahar Hospital Palembang. Twelve of them were taken as the sample of the study. The data of the level of the germs were obtained by studying the result of laboratory test done within three days in a row before the socialization, and three days after the socialization. The data of food hygiene and sanitation were gained by administering the pre test before the socialization and the posttest after the socialization. The results show that the hygiene of the samples before the socialization is 16.7%, after the socialization is 50%, the experimental group before the socialization is 33.3%, the average level of germs in the sample group is 1588.33 or 1.6×10^3 /gram of food and in the experimental group is 4538.33 or 4.5×10^3 of food. After the socialization was conducted in sample groups, the average level of germs in the sample group is 1188.33 or 1.2×10^3 /gram of food whereas the average level of germs in the experimental group is 3766.67 or 3.8×10^3 /gram of food. There is no significant influence on the decrease of level of germs in food served. In the sample group, the score is $p > 0.05$ (0.452), while in the experimental group $p > 0.05$ (0.730). This study concluded that there is an increase of the knowledge of hygiene and sanitation for the food handlers, but the influence on the decrease of level of germs has been found yet.*

Keywords : Higiene, food sanitation, level of germs, food handlers

1. Preliminary

The hospital is a health institution that serves to provide services such as the provision of food for patients so that the food given to patients can be useful and not harmful.

According to MOH (2000), efforts should be made to control the factors that allow contamination of food from the process of processing food in the hospital itself. It is intended that the food served for the patient is really safe, good food and healthy and hygiene contains the nutritional value that has been determined for healing and complete the chain of disease transmission from food (Krisnamurni 2007).

Good food should contain enough nutrients needed, look attractive with a variety of food forms and meet the organoleptic elements so as to improve the appetite of the patient. In order for it to be produced properly, the foodstuffs selected for processing should have good specifications and use appropriate equipment of both type and cleanliness.

Implementation of unhygienic and hygienic foods may cause health problems in patients being treated, as patients are particularly susceptible to diseases of germs in foods. In order for food processing process to avoid the growth of germs originating from food, it is necessary to control the factors that influence the growth of germs in food by systematic hygiene and sanitation approach from micro germ in processing process, so that food health technique in hospital can guarantee food safety At all stages of provision.

Distribution of healthy foods will play a role in preventing the occurrence of food contamination. Pollution on cooking food is higher risk than food contamination (Yuniyanti, 2010).

Factors that greatly affect hygiene and sanitation are food handlers. Most diseases through food come from ill food handlers or carrying germs, lack of individual hygiene measures or serving food that does not meet sanitation. Foods that do not meet hygiene and sanitation principles can be seen in food quality. One indicator to know the quality of food is to know the presence of bacteria in food.

Research Djarismawati et al (2004) who examines the knowledge and behavior of handlers on food processing sanitation at the nutrition agency of hospitals in Jakarta concluded that in the processing of food handlers less attention to the workings of the sanitary.

Research in RS Tangerang 2004 there are 4 of 10 positive food samples containing E. Coli reinforced with hygiene data sanitation food handlers and cooking utensils are still in the category of less meet the requirements KEMENKES No. 715 Th 2003. Based on the above data, the researchers wanted to conduct research in RS Dr. Ernaldi Bahar, because in this hospital has never done similar research. The usefulness of this research will be expected to motivate hospital management to do the planning up to the evaluation of the improvement of hospital feeding activities, healthy and safe way in food processing of patients by applying hygiene and sanitation extension gradually.

2. Formulation of the problem

In the implementation of food can occur various contamination starts from the selection of foodstuffs, storage, until the presentation of food to the patient. Source of contamination can come from the place of processing, storage, food equipment and food itself that do not meet health requirements and can cause health problems. Therefore, hygiene and sanitation counseling in food administration in RS Dr. Ernaldi Bahar Palembang in order to produce safe and healthy food for patients on the application of the method in the end. The research question is whether there is a difference of sanitation hygiene knowledge of food of handlers and the number of germs in the food presented before and after hygiene and sanitation extension in the nutrition installation of RS Dr. Ernaldi Bahar Palembang.

3. Research purposes

General purpose

Knowledge Influence Giving Counseling Hygiene and Food Sanitation On Food Scripture Against Numbers Food Germs Served In Nutrition Installation Rs. Ernaldi Bahar Palembang Year 2012.

Special purpose

- Knowledge of hygiene and sanitation of food handlers before and after counseling in nutrition installations RS Dr. Ernaldi Bahar Palembang.
- Knowledge of the number of germs in the food served before and sesudah extension of hygiene and food sanitation at the handler at the nutrition installation RS RS. Ernaldi Bahar Palembang.
- Knowledge of the influence of the provision of hygiene and food sanitation on food handlers to the number of food germs presented in Nutrition Installation Rs. Ernaldi Bahar Palembang in 2012.

Hypothesis

There is an effect of giving hygiene counseling and food sanitation to food handlers on the number of food germs presented at Nutrition Installation Dr. Rs. Ernaldi Bahar Palembang in 2012.

Benefits of research

As an ingredient to add insight and experience in developing a research especially in Institute of Nutrition science, as well as to become reference material for other advanced researcher and expected to motivate hospital management to do planning up to evaluation to increase of hospital food implementation activity. And with this research can add insight and is expected to change the behavior of more work to hygiene and sanitation in order to create good food, nutritious and healthy.

4. Research Methods

Research design

The research design used was the design of quasi experimental pretest of posttest treatment by doing comparison group, the scheme as follows:

O_1 ----- X ----- O_2

Pretest of Posttest Treatment

Eater : P_1 X P_2

Sample : M_1 ----- X ----- M_2

Location and Time

This research was conducted at Nutrition Installation of Dr. Ernaldi Bahar Palembang in October 2012

Population and Sample

Population

The population of this research is all food handlers in nutritional installations RS RS. Enaldi Bahar Palembang.

Sample

The samples in this study were all food handlers in nutrition installations RS Dr. Ernaldi Bahar Palembang is 12 people.

Limitations of Research

- The time owned by the researcher is too short, so it has not been able to examine the number of germs in place other than the distribution in the hospital nutrition installations and the frequency of extension is still lacking to form awareness work in accordance with sanitary hygiene standards.
- The sample in this study amount is too small, because the number of food handlers that exist in nutrient installations has not been in accordance with the ratio of the number of patients.

5. Results and Discussion

Respondents' Overview

Characteristics of Respondents by Sex The food handlers who became respondents in this study consisted of male and female food handlers with a total sample of 12 handlers shown in the following table:

Table 1: Frequency Distribution of Research Respondents by Sex

Gender	n	%
Man	4	33.3
Women	8	66.7
Total	12	100

Table 1 shows that of the 12 food handlers studied, most of the female sex is 66.7% while the remaining 33.3% are male.

The results linked differences in one's behavior based on sex characteristics. Surveys on telephone and observation safety in the United States involving 7,000 and 2,130 residents. The survey revealed differences between men and women in hand washing. In all major cities where the survey was conducted, women were more often than men to wash their hands, respectively by 74% and 61% (Agustina, 2009).

a. Characteristics of respondents by level of education.

Food handlers sampled in this study were categorized into 3 categories: SMA, SMP, and SD as seen in table 2 below:

Table 2: Frequency Distribution of Research Respondents by Level of Education

Level of education	n	%
SMA	10	83.4
SMP	1	8,3
	1	8,3
Total	12	100

From table 2 it is known that from 12 food handlers examined, the highest education level of respondents is SMA which is 83.4%.

Several studies have linked the level of education of food handlers with the cleanliness of food handlers. The Marsaulina study (2004) concluded there was a relationship between hygiene and education, especially after reaching junior high school level.

b. Characteristics of respondents by age level

Food handlers who became respondents in this study is a food handler aged 20 years and above, then the data is categorized into 3 age categories as shown in table 3 below:

Table 3: Frequency Distribution of Research Respondents by Age

Age	N	%
21 – 30	2	16.7
31 – 40	6	50
41 – 50	4	33.3
Total	12	100

From table 3 it can be seen that from 12 respondents, the most respondents aged 31 - 40 years that is equal to 50%.

Marsaulina (2004) in DKI Jakarta which concluded the relationship between personal hygiene with the age of food handlers. The higher the age of the food handlers the better the cleanliness of food handlers.

c. Characteristics of respondents based on hygiene and sanitation

Prior to the counseling to the sample respondents and comparison, it can be known knowledge of respondents to hygiene and sanitation as follows:

Table 4: Frequency Distribution of Hygiene and Sanitation of sample groups

Category	n	%
Good	1	16,7
Less	5	83,3
Total	6	100

Based on table 4 can be seen the distribution of hygiene frequency and sanitation group of samples before the extension of good category equal to 16,7%.

Table 5: Distribution of Hygiene Frequency and Comparative Group Sanitation

Category	n	%
Good	2	33,3
Less	4	66,7
Total	6	100

Based on table 5 can be seen the distribution of frequency hygiene and sanitation comparison group before the extension of good category of 33.3%.

Hygiene and food sanitation tend to be poor in the absence or lack of monitoring of knowledge upgrading. Increase of such knowledge for example by giving counseling training or to evaluate repair regularly. By doing activities to improve knowledge of safe and healthy way during food processing, higien and sanitation also increase.

After doing the counseling knowledge of the sample group can be seen in table 6 below:

Table 6: Frequency Distribution of Hygiene and Sanitation of sample groups

Category	n	%
Good	3	50
Less	3	50
Total	6	100

Based on table 6 can be seen the distribution of hygiene frequency and sanitation of the sample group after the extension of good category has increased to 50%.

Pretty good hygiene and sanitation after counseling, generally associated with success in doing counseling. This is supported by the theory that knowledge improvement can be gained through teaching and learning, both through formal and informal. Formal health education for example, through the knowledge gained during the learning process in the classroom using a particular curriculum, while the informal can be obtained by following training, counseling, reading Standard Operating Procedures (SOP) on how to

healthy and safe process food and others (Notoadmojo , 2007).

Bivariate Data Analysis

a. Sample Group (Test T dependent)

Table 7: Average number of germs before and after in the sample group

	MA	MK	t	p
AK	1588,33 ± 1443,058	1188,33 ± 1494,127	0.815	0.452

AK = Angka Kuman

MA = Mean Awal ± SD

MK = Mean Akhir ± SD

The results in Table 7 show that the number of germs in the sample group decreased after hygiene and sanitation counseling. The average decrease in the number of germs in the sample group was 400 or 4×10^2 / gram of food.

The result of statistical test (Tend Dependent test) got the germ in group of sample $p > 0,05$. So it is concluded that there is no effect of hygiene and sanitation extension on the number of germs in the food presented.

d. Reference Group (Test T dependent)

Table 8: The average number of germs before and after in the comparison group

	MA	MK	t	p
AK	4538,33 ± 5114,96	3766,67 ± 2456,55	0.365	0.730

AK = Angka Kuman

MA = Mean Awal ± SD

MK = Mean Akhir ± SD

The results in table 8 indicate that the germs in the comparison group had an average decrease of 770 or 7.7×10^2 / gram of food. The result of statistical test (Tend Dependent test) got the number of germs in the comparison group $p > 0,05$. So it is concluded that there is no significant effect on the decrease of germ in food presented.

The results showed that there was a significant decrease in the sample groups and comparison groups. In the sample group the average decrease in germ rate was 400 or 4×10^2 / gram of food. While in the comparison group the average decrease in germ rate was 770 or 7.7×10^2 / gram of food.

Based on the tables 7 and 8 it can be seen that there is a decrease in the number of germs on the menu presented, but the decrease has not bermakana significantly, meaning that in the class III menu there are still germs that must be diminalisir. Efforts that can be done to minimize the number of germs is to conduct training and counseling regularly about the importance of hygiene and sanitation for food handlers. It is suggested for the next researcher to be able to do research about what kind of germ or microorganism contained in class III menu presented.

Based on observations, most respondents did not wash their hands when they want to touch food, this is because hand washing place is far from food preparation. The results of

this study was similar to Susanna's (2003) study which stated that 43% of food handlers did not wash their hands before touching the food. The habit of not washing hands before touching food is a source of contaminants that are quite influential on hygiene and food sanitation (Agustina, 2009).

Based on observations, food handlers still use equipment that has been gompel. According to MOH RI (2000) equipment that has been cracked, gompel or broken apart can cause accidents (injure hands) also become a source of collecting dirt because it will not be cleaned perfect.

Observation results obtained by food handlers still use an unclean apron, although it has been given a new work clothes but food handlers keep using old clothes. Apron is a cloth cover that is used as a protector to keep clothes clean. According to Moehyi (1992) in Agustina (2009) clean work clothing will ensure sanitation and hygiene of food processing because there is no dust or dirt attached to clothing that can indirectly cause food contamination.

Based on observations, food handlers served food in poor sanitation conditions. The food served is directly poured from the cooking utensils directly into the container in a hot state, then if the food served has not been taken, then the food is left in an open state without being closed. According to Arisman (2000) food in an open state can increase the risk of food contamination by the environment, either through air, dust, and even insects.

Efforts to secure food for always clean, safe and healthy in a hospital should pay attention to three factors namely physical factors, chemical factors, and biological factors. Physical factors associated with the condition of the room that does not support food security, such as poor air circulation, hot and humid room temperature, and most. To avoid food damage caused by physical factors, it is necessary to note the arrangement of kitchen construction, as well as food storage.

6. Conclusions and Recommendations

Conclusion

1. Before hygiene and sanitation counseling the sample group of 16.7% had good hygiene and sanitation, and the comparison group of 33.3% hygiene and good sanitation, after counseling to the sample group, increased hygiene and sanitation to 50% .
2. before the counseling, the average number of germs in the sample group as much as 1588.33 or 1.6×10^3 / gram of food, and the average number of germs in the comparison group as much as 4538.33 or 4.5×10^3 / gram of food. After counseling in the sample group, the average number of germs in the sample group was 1188.33 or 1.2×10^3 / gram of food. While in the comparison group the average number of germs as much as food.
3. There is no significant effect on the decrease of germs on food served before and after hygiene and sanitation counseling of the food served. In the sample group

obtained p value > 0.05 (0.452), the comparison group p > 0.05 (0.730).

7. Suggestion

1. Food handlers are trained on hygiene and food sanitation.
2. During the food processing process the food handlers should not talk much.
3. Supervision by nutritionists is essential for proper workings with food hygiene and sanitation.
4. Need to be given punish and reward to food handlers whose work is less appropriate with hygiene and sanitation of food and the appropriate hygiene and sanitation in the form of promotion of participation in the Hospital which makes concerned more well known by the Hospital.
5. Extension time needs to be added because to change the behavior of at least at least 4 times in 2 weeks.

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