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Determinants Affecting Mariyai Village Housewives' Practice of Food Sanitation Hygiene

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ABSTRAK

Latar belakang: Hygiene sanitasi makanan (HSM) merupakan upaya untuk menjaga kebersihan yang dapat dilakukan agar makanan yang diolah tidak tercemar oleh kotoran, bakteri dan lainnya. Makanan yang terkontaminasi oleh bakteri dapat menyebabkan gangguan kesehatan. Hal tersebut dapat disebabkan karena pengelolaan makanan yang tidak higienis. Tujuan penelitian ini yaitu untuk mengetahui faktor-faktor yang berhubungan dengan penerapan hygiene sanitasi makanan ibu rumah tangga di Kelurahan Mariyai.

Metode: Jenis penelitian kualitatif dengan metode observasional analitik dan desain Cross-Sectional. Sampel penelitian yaitu ibu rumah tangga sebanyak 234 orang di Kelurahan Mariyai, Distrik Mariat, Kabupaten Sorong, Provinsi Papua Barat. Proportional random sampling technique digunakan untuk menentukan sampel pada penelitian ini. Instrumen penelitian yaitu kuesioner dan lembar check list. Analisis data menggunakan analisis univariat, analisis bivariat dengan uji statistik *Chi-Square*, dan *Binary Logistic Regression*.

Hasil: Hasil dari penelitian menunjukkan bahwa, ada hubungan antara pengetahuan (p-value = 0,002) dan fasilitas sanitasi (p-value = 0,000) dengan penerapan hygiene sanitasi makanan. Tidak ada hubungan antara usia (p-value = 0,918), tingkat pendidikan (p-value = 0,193), status bekerja (p-value = 0,634) dan sikap (p-value = 0,110) dengan penerapan hygiene sanitasi makanan.

Simpulan: Penelitian ini menemukan bahwa tingkat pengetahuan dan fasilitas sanitasi merpakan variabel yang berhubungan dengan penerapan hygiene sanitasi makanan ibu rumah tangga. Oleh karena itu, diharapkan kepada petugas kesehatan Puskesmas Mariat untk lebih aktif dalam memberikan inovasi penyuluhan tetang hygiene sanitasi rumah tangga di wilayah kerja puskeamasnya.

Kata kunci: *Hygiene* sanitasi; Makanan; Ibu rumah tangga

ABSTRACT

Title: Determinants Affecting Mariyai Village Housewives' Practice of Food Sanitation Hygiene

Background: *Food sanitation hygiene is an effort to maintain cleanliness that can be done so that the food that is processed is not contaminated by dirt, bacteria, and others. Food contaminated by bacteria can cause health problems. This can be caused by unhygienic food management. The objective of this study was to determine the variables associated with housewives' implementation of food sanitation hygiene in Mariyai Village.*

Method*: This type of qualitative research with the analytic observational method and Cross-Sectional design. The research sample was 234 housewives in the Mariyai Village, Mariat District, Sorong Regency, West Papua Province. A proportional random sampling technique was used to determine the sample in this study. The research*

instruments are questionnaires and checklist sheets. Univariate analysis, bivariate analysis with the Chi-Square test, and multivariate analysis with the Multiple Logistic Regression test all had been used for the data analysis.
Result: *The study's findings indicated that the practice of food sanitation hygiene was correlated with knowledge (p-value = 0.002) and access to sanitation facilities (p-value = 0.000). Age (p-value = 0.918), education (p-value = 0.193), employment (p-value = 0.634), and attitude (p-value = 0.110) do not correlate with the use of food sanitation hygiene.*
Conclusion: *This study found that the level of knowledge and sanitation facilities were variables related to the application of housewife food sanitation hygiene. Therefore, it is hoped that Mariat Health Center health workers will be more active in providing counseling innovations about household sanitation hygiene in their work area.*

Keywords: Hygiene sanitation; Food; Housewives

BACKGROUND

If food is prepared or stored in an unclean manner, it may be one of the main causes of diarrhea. There are 1.7 billion instances of diarrhea in children worldwide each year, and 525,000 of those cases result in fatalities. For the most part, cases of diarrhea are caused by contaminated food and air[1]. Coverage of services for diarrhea sufferers in Indonesia at all ages in 2020, amounting to 44.4%[2]. In the province of West Papua, Sorong District has the 3rd highest cases of diarrhea with 1,267 cases with a prevalence of 5.51%[3].

Previous research stated that most food poisonings were caused by household processed food, reaching 265 cases[4]. This shows that the practice of hygiene and sanitation in food management at the household level is still not fulfilled. In its application, sanitary hygiene in food is an effort to maintain cleanliness that can be done so that processed food is not contaminated by dirt, bacteria, and others.

Food handlers play an important role in food processing activities, because food handlers have the opportunity to transmit disease[5]. Food handlers must have good knowledge regarding the practice of food sanitation hygiene. High education of food handlers can affect the level of knowledge gained, so that they are able to apply it in food processing[6]. An increase in maternal age is also directly proportional to an increase in knowledge regarding the provision of nutritious family food[7]. The work of housewives can also affect the practice of food sanitation hygiene in the kitchen, because mothers who work outside the home due to limited time are not able to apply maximum sanitation hygiene[8].

The degree of knowledge and attitudes towards food sanitation hygiene can also affect how food handlers behave; the better the knowledge and attitudes, the better the application of sanitary hygiene[9]. Sanitary facilities can also affect food sanitation hygiene. Sanitation facility requirements are expected to meet 100% of the requirements, namely the availability of clean water, latrines and urinals, bathrooms, trash cans, and hand washing areas [10].

Based on data on the incidence of diarrhea recorded at the Mariat Health Center, the highest number of cases of diarrhea occurred in 2020 for all age groups in the working area of the Mariat Health Center, namely in the Mariyai Village, as many as 51 cases. The incidence of diarrhea in the family is closely related to the application of food sanitation hygiene, especially in housewives who often play a role in processing food. Based on a preliminary study on October 13, 2021 of 7 housewives, it yielded data that 2 out of 7 respondents did not know if food could be contaminated from improper food management, 1 respondent did not store food ingredients separately, 2 respondents had not implemented hand washing with clean water both before and after preparing food, 2 respondents using jewelry when preparing food, 3 respondents still preparing food for their families when they had a cold, and 1 respondent who did not have sanitation facilities with smooth clean water facilities. Based on these problems, researchers have an interest in conducting research related to the determinants of the use of food sanitation hygiene for housewives in the Mariyai Village, Working Area of the Mariat Public Health Center.

MATERIALS AND METHODS

This research is a quantitative type of research using analytic observational methods and cross-sectional designs. It was carried out in the Mariyai Village, Mariat District, Sorong Regency, West Papua Province in July-August 2022. A sample of 234 housewives was taken using the Proportional Random Sampling technique. The use of food sanitation hygiene is the dependent variable in this study, and the independent variables include: age, education level, occupation, knowledge, attitudes, and sanitation facilities. The research instruments were knowledge, attitude and sanitation questionnaires and a checklist sheet to measure sanitation facilities. With the Regulation of the Minister of Health of the Republic of Indonesia with the number 1096/MENKES/PER/VI/2011 concerning food sanitation hygiene as the reference source, the measurement questionnaires and checklist sheets in this study were created by the researchers themselves and in the form of closed questions. The questionnaire was first tested for validity and reliability before being used on 30 housewives, in the Klasuluk Village, Mariat District, Sorong Regency with demographic and environmental criteria similar to the study location. Obtained Cronbach's Alpha value on the knowledge level questionnaire was 0.738, on the attitude

questionnaire was 0.880 and on the food sanitation hygiene questionnaire was 0.748. Knowledge, attitude, and food sanitation hygiene variables are categorized as good if ≥ mean and not good if < mean.

After receiving approval from the Faculty of Public Health, Ahmad Dahlan University, Yogyakarta, with Permit No. F10/051/D.66/VI/2022, the research was carried out. In this study, univariate analysis, the Chi-Square statistical test, and Binary Logistic Regression were employed for data analysis.

RESULT AND DISCUSSION

The following table 1 shows the frequency distribution of the research variables from the findings of the univariate analysis of the research.

Based on table 1, it was found that the majority of housewives were in the adult age category (<46 years), namely 149 respondents (63.7%). For the education level of housewives, most of them fall into the primary-secondary education category, namely 200 respondents (85.5%) and the majority of housewives do not work outside the home, amounting to 158 respondents (67.5%). Regarding the knowledge of housewives, most of them are good, namely 129 respondents (55.1%), while the sanitation facilities available are also good, some are 128 respondents (54.7%), while the attitudes of housewives are partly in the bad category, namely 128 respondents. (54.7%). For food sanitation hygiene for housewives, it is in the good category with 138 respondents (59%).

Table 1. Frequency Distribution of Respondents to Food Sanitation Hygiene

No	Variable	Frequency	Percentage
1	**Age**		
	Adult (<46 year)	149	63.7
	Elderly (≥46 years)	85	36.3
2	**Level of education**		
	Elementary-secondary	200	85.5
	Higher	34	14.5
3	**Employment status**		
	Have job	76	32.5
	No have job	158	67.5
4	**Level of knowledge**		
	Good	129	55.1
	Poor	105	44.9
5	**Level of attitude**		
	Good	106	45.3
	Poor	128	54.7
6	**Sanitation facility**		
	Good	128	54.7
	Poor	106	45.3
7	**Food Sanitation Hygiene**		
	Good	138	59.0
	Poor	96	41.0

Source: Primary Data (2022)

The following table 2 presents the results of a bivariate study using the Chi-square test on the use of housewife food sanitation hygiene.

Based on table 2, it was discovered that the adoption of food sanitation hygiene for housewives in Mariyai Village was related to knowledge (p-value = 0.002) and sanitation facilities (p-value = 0.000). Other findings revealed no association between the use of food sanitation hygiene and age (p-value = 0.918), education level (p-value = 0.193), occupation (p-value = 0.634), or attitude (p-value = 0.110). Housewives in the Mariyai Village, the Mariat Health Center's working area.

Table 2. Independent Variable Bivariate Test Results with Food Sanitation Hygiene

No	Variable	Food Sanitation Hygiene				Total		*p-value*
		Poor		Good				
		n	%	n	%	**n**	**%**	
1	**Age**							
	Adult (<46 year)	34	14,5%	51	21,8%	85	36,3%	0,918
	Elderly (≥46 years)	62	26,5%	87	37,2%	149	63,7%	
2	**Level of education**							
	Elementary-secondary	86	36,8%	114	48,7%	200	85,5%	0,193
	Higher	10	4,3%	24	10,3%	34	14,5%	
3	**Employment status**							
	Have job	29	12,4%	47	20,1%	76	32,5%	0,634
	No have job	67	28,6%	91	38,9%	158	67,5%	
4	**Level of knowledge**							
	Good	55	23,5%	50	21,4%	105	44,9%	0,002
	Poor	41	17,5%	88	37,6%	129	55,1%	
5	**Level of attitude**							
	Good	59	25,2%	69	29,5%	128	54,7%	0,110
	Poor	37	15,8%	69	29,5%	106	45,3%	
6	**Sanitation facility**							
	Good	62	26,5%	44	18,8%	106	45,3%	0,000
	Poor	34	14,5%	94	40,2%	128	54,7%	

Source: Primary Data (2022)

The following table 3 provides an overview of the key variables influencing how housewives apply food sanitation hygiene after multivariate analysis using the binary logistic regression test.

Based on table 3, it was found that knowledge and sanitation facilities had a strong relationship with the implementation of food sanitation hygiene for housewives in Mariyai Village. The intercourse between knowledge and the use of food sanitation hygiene for housewives in Mariyai Village obtained an Exp(B) value of 0.509, which means that knowledge affected the practice of food sanitation hygiene by 0.5 times greater with a 95% CI, namely 0.290-0.891. Then, the relationship between sanitation facilities and the practice of food sanitation hygiene (FSH) for housewives in the Mariyai Village obtained an Exp(B) value of 0.284, which means that sanitation facilities affect the practice of food sanitation hygiene 0.2 times greater with a 95% CI, namely 0.162-0.497.

Table 3. Multivariate Test Results for Knowledge and Sanitation Facilities with Food Sanitation Hygiene

No	Variable	B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I.for EXP(B)	
								Lower	Upper
1	Level of knowledge	-0,676	0,286	5,583	1	0,018	0,509	0,290	0,891
2	Sanitation facility	-1,260	0,286	19,418	1	0,000	0,284	0,162	0,497

Source: Primary Data (2022)

Relationship between age and use of food sanitary hygiene by housewives

According to the test results, there was no correlation between age and housewives in Mariyai Village's implementation of food sanitation hygiene, with a p-value of 0.918 (p <0.05). In accordance with earlier studies, handlers between the ages of 41 and 50 are really more adept at implementing food safety than their younger colleagues[11]. In other words, there are still people aged ≥46 who are able to apply good food sanitation hygiene. This insignificant age impact was also strengthened in other studies which even examined a sample of 979 respondents with a p-value = 0.330[12].

The majority of housewives who are adults (<46 years) in this study apply good food sanitation hygiene. This can be because this age is still classified as a productive period and is able to optimize its performance. On the other hand, at certain ages, be it too young <30 years or ≥46 years, a person has a condition of being unable to respond positively to information to optimal practice [13]. Thus, housewives aged <46 but classified as too young also do not allow them to have a good application of food sanitation hygiene.

The association between education level and the use of food sanitary practices by housewives

According to the test outcomes, there was no correlation between level of education variabel and housewives' adoption of food sanitation hygiene in the Mariyai Village, with a p-value of 0.193 (p <0.05). In this survey, the majority of the housewives had completed elementary or secondary school. Although it is known that the practice of food sanitation hygiene is more frequently in the good category, such results do not inevitably result in poor practice. Reinforced by previous research that food handling practices were not influenced by education because respondents with basic education were even better at handling food[14,15].

Formal education basically improves one's literacy skills. Through this ability information will be more easily understood and realized by someone[16]. Therefore, education is a factor that can influence a person to behave positively. Conceptually, a high level of education is directly proportional to good behavior[8]. Contrary to this theory, this study is not in line with not finding a correlation between education level and the use of food sanitation hygiene.

Thus, it is highly probable that the education level of a housewife is not the only determining factor for someone to behave, in this case, namely implementing food sanitation hygiene. Respondents with primary/secondary education levels can apply good food sanitation hygiene. This can be because the majority of housewives are in the productive age period, at which time they can more easily receive and gather information, for example through the mass media and searching the internet.

The relationship between working status and the use of housewife food sanitation hygiene

In accordance with the test results, if housewives in Mariyai Village do not adopt food sanitation hygiene, their employment status has no association with it with a p-value of 0.634 (p <0.05). In line with previous research in both areas (urban and rural) Rourkela City, Sundargarh District, Odisha which also stated that employment status had no relationship with housewife hygiene practices[17]. Contrary to other results from previous research in Nigeria which revealed that mother's work is related to the level of food security[18]. The conditions found based on the results of the study, both housewives who have other jobs or not, equally apply good food sanitation hygiene.

Other research states that working mothers are more able to implement better food safety practices, especially regarding food utensils and equipment[19]. In other words, the wages from the jobs they have are able

to fulfill the fulfillment of safe equipment so that the practice of food sanitation hygiene is not constrained. Therefore, a mother who does not work has the possibility of not being able to apply food sanitation hygiene related to sanitation infrastructure.

Possible other factors that influence the results of this study, for example, such as the adequate level of mother's knowledge. The existence of social media and the ease of accessing information with digital media makes it faster and easier for housewives to find information related to the application of sanitary hygiene. Therefore, mothers are able to carry out their roles both as housewives and careers to make a living. This can be done every day by dividing the time between the two. The division of working time consists of time for earning a living, household affairs and social activities[20].

The relationship between knowledge and the use of housewife food sanitation hygiene

The findings of the test results, there is a significant association between housewives in Mariyai Village's level of knowledge and use of food sanitation hygiene, with a p-value of 0.002 ($p < 0.05$). This conclusion somewhat corroborates earlier studies' findings that mothers with higher awareness levels are more likely to practice food safety[21]. This is also in line with several previous studies[22–24].

Knowledge is able to influence behavior, that is, when the knowledge is good, then the mother's behavioral decisions are also of good value[9]. The majority of housewives, according to this study's findings, had adequate understanding and practiced good food cleanliness. In line with Lawrence Green's notion that predisposing elements like knowledge influence individual[25]. Housewives who have good knowledge can because they get access to information related to the practice of food sanitation hygiene through electronic media, namely the internet, television and others. In housewives with poor knowledge and followed by the practice of food sanitation hygiene that is not good too, this can be due to the fact that some housewives have entered old age and have low education. This can be a cause of limitations for mothers to read or find information.

The association between views and the use of food sanitation and cleanliness by housewives

Based on the test results, there is no relationship between attitudes and the implementation of food sanitation hygiene for housewives in the Mariyai Village with a p-value = 0.110 ($p \geq 0.05$). In line with previous studies which also stated that food safety attitudes did not significantly influence food safety behavior with a p-value = 0.223 ($p > 0.05$)[26]. On the other hand, there is a discrepancy in the results with previous studies which significantly the practice of food handling to prevent poisoning is strongly influenced by the attitude of the handler[27].

According to Lawrence Green's theory, attitude is one of the predisposing factors that can determine the formation of individual behavior[25]. Attitudes affect behavior as a form of a person's tendency to act or not, as well as prior knowledge[28]. Attitude is also referred to as an invisible response but leads to the emergence of behavior, which if the attitude of the food handler is good then it is likely that the behavior of the food handler applies food hygiene[29]. Contrary to this theory, this study does not show any agreement with the test results.

Based on the research findings, the attitude of housewives who are not good does not necessarily mean that they do not apply good food sanitation hygiene either. Likewise, housewives who have a good attitude do not necessarily apply good food sanitation hygiene. The attitude of housewives in implementing food sanitation hygiene can be influenced by the habits that are carried out every day. Bad habits from mothers can cause them to take bad actions in implementing food sanitation hygiene every day[30]. So that this will continue to be done repeatedly and considered normal by mothers. As long as there are no adverse events for the health of his family, he will assume that his behavior is fine.

The connection between sanitation facilities and housewives' adoption of food sanitation hygiene

As demonstrated by the test results, there is an association between sanitation facilities and housewives' utilization of food sanitation hygiene in the Mariyai Village, with a p-value of 0.000 ($p < 0.05$). As previous research stated that sanitation facilities are substandard or may not be available at home, positively causing mothers to be unable to apply food sanitation hygiene[31]. The presence of separate areas for cooking and storing raw foods, as well as three compartment dishwashing facilities, all of which support the implementation of food sanitation hygiene for mothers who feed their toddlers complementary foods, also demonstrated the same results[32].

Sanitation facilities are one of the supporting components for implementing food sanitation hygiene. Lawrence Green's theory states, if a person's behavior is determined by one of them, namely by enabling factors. This factor concerns the availability of health support facilities, so that sanitation facilities can be one of these supporting facilities[25]. The findings of this study stated that the sanitation facilities for the majority of housewives were in the good category followed by the application of good food sanitation hygiene as well. This is because most of the housewives have adequate and qualified clean water facilities, both for food processing, equipment cleaning and hand washing. Requirements related to the quality of clean water physically must be colorless, odorless or tasteless[33]. If the water does not meet these requirements, contamination from water to food is likely to occur[34].

The primary aspect influencing the usage of housewife food sanitation cleanliness

Based on the results obtained from the multiple logistic regression test, it was found that knowledge had 0.509 times more influence on the application of housewife food sanitation hygiene. Meanwhile, sanitation facilities are 0.284 times more influential on the implementation of food sanitation hygiene for housewives. Thus, the knowledge and sanitation facilities owned by housewives are the dominant factors in implementing food sanitation hygiene for housewives in Mariyai Village.

Knowledge about food safety quality is a very influential factor for handlers to be able to maintain food quality[35]. Knowledge has an important and fundamental role in shaping behavior. With the knowledge gained, it will motivate someone to play an active role in forming new behaviors that lead to the right behavior[36]. If the knowledge gained by housewives is getting better, then there will also be more information and knowledge about the application of proper food hygiene and sanitation. So that this can affect the behavior of housewives in implementing food sanitation hygiene every day.

Sanitation infrastructure can be crucial in adopting food sanitation hygiene in addition to education. According to the Regulation of the Minister of Health (MoH) of the Republic of Indonesia Number 1096/Menkes/Per/VI/2011 regarding the hygiene and sanitation standards for catering services, sanitation facilities are deemed to be adequate if they include a place to wash hands, clean water, latrines, bathrooms, and trash cans[10]. In implementing the action to implement food sanitation hygiene, it requires these sanitation facilities. If sanitation facilities in the household are not good, then the behavior of implementing food sanitation hygiene for housewives can also be poor. If the sanitation facilities available in the household are good, then the practice of food sanitation hygiene for housewives will also be good. Due to the availability of complete supporting facilities to carry out this behavior[37].

CONCLUSION

In conclusion, based on the findings of this study, it was discovered that the practice of food sanitation hygiene to housewives in Mariyai Village had a relationship between knowledge variables and sanitation facilities. The usage of housewife food sanitation hygiene is unrelated to other factors including age, education level, occupation, and attitudes. Further research is expected to examine other variables such as the role of information media and the role of health workers, in this case health cadres or puskesmas in supporting the implementation of food sanitation hygiene on a household scale.

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