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Analysis of Determinant Factors of Hygiene Behavior: The handler Food in the Home Food Industry (P-IRT)

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ABSTRACT

Problem health, specifically problem hygiene and sanitation, food is a very complex problem. Around 70% of cases of poisoning from food in the world are caused by food Ready dining. Research objectives. This For analyze factor determinant behavior hygiene handler food in the Home Food Industry (P-IRT). Study: This use type study survey analysis with Cross Sectional approach. The population that is all over Home Industry Food Places (P-IRT) and handles food in the *Puskesmas* area, Source Cirebon Regency in 2024. The sample used in the study. This is the total sample, totaling 90 samples handler food. Data collection with interviews and observations through a tool measuring questionnaire. Research results: There is a connection between knowledge (p-value 0.005) and facilities and infrastructure (p-value 0.008) with behavior hygiene handler food. There is no connection between training with behavior hygiene handler food (p-value 1.000). Officer health should increase activity effort promotion with give education to handlers about behavior hygiene and handler food. Handler food should expand his knowledge with further training, and management should provide the means to lack of support.

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INTRODUCTION

Health is a fundamental matter for all individuals. Suboptimal health will affect the productivity of somebody in operating activity every day (Yetty Septiani Mustar, Indra Himawan Susanto, 2018). Every man is entitled to get safe and quality food. Safe and suitable food consumed is appropriate food of quality and safe food (Anna S. Wahongan, Yumi Simbala, 2021). Food is food/drink that saves source of energy for humans to be able to perform activities. It's good food and Drink determined by hygiene and sanitation. Proper food has balanced and non- fatty nutrition dangerous for humans if consumed (Permatasari et al., 2018).

To increase the quality of food to be maintained safely, one can apply hygiene and sanitation in food, which includes: handling food, preparing food, and serving food (Desandri et al., 2024). There are several factors affecting the processing of hygienic food, including: human factors, environment, and factors food. Human factors or handling food is a main Because capable change oneself as well as the environment, become better or, on the contrary (Hidayati, 2022). The handler's role is central in the chain of security food. Because behavior they in a way direct determine occurrence of contamination during the processing of food (Akabanda et al., 2017). Hygiene and sanitation are business for controlling risk factors and preventing contamination of food, whether it comes from material, people, places, or equipment, to be safely consumed. It is expected that users' service culinary is protected from various health problems caused by contaminated food and food that is not properly prepared (Fauziah, 2022).

According to the WHO, in the United States every year, there are 76 million case disease, default food causing 325,000 deaths, hospitalizations, and 5,000 deaths (Pitri & Husaini, 2020). Around 70% of cases of poisoning from food in the world are caused by ready-to-eat food. Ready-to-eat food is food that has been processed, especially by businesses catering to households, restaurants, and food snacks (Akbar & Hadiansyah, 2021). Based on data from Indonesia's Health Profile in 2023, an Extraordinary Event incident poisoning food in Indonesia is increasing significantly compared to the total number of cases in 2022, which amounted to as many as 3,514 (Sahani, 2024).

Based on the Indonesia Health Profile 2022 percentage of Place Food Management (TPP) that meets the condition in accordance with the standard nationally namely 59.5%. West Java Province is the fifth-lowest province with a percentage 44.3%, figure the still below the national average. Percentage of TPP that meets the condition in accordance with the standard in a way national in the Certain TPP category, namely 67.2%, West Java, with a percentage 55.1%, still below the national (Herawati et al., 2025). Based on the Cirebon Regency Health Office's coverage in 2022 was 4,342 registered TPPs, and 1,734 (39.94%) were eligible for HSO. In 2023, the number of registered TPPs was 4,342, as many as 2446 pieces, and those that meet the condition of health or HSP (Hygiene Food Sanitation) were 1,428 units (58.38%), with a target of 70% (Dinkes Kabupaten Cirebon, 2023).

Environmental Health Program coverage data at Community Health Centers Source at 3 years final known percentage of TPP that meets condition 2021 (61%), 2022 with percentage (64%), and in 2023 the TPP percentage (52%) is still far below the percentage of TPP that meets condition in accordance with the standard, in a way national namely 59.5% (Sumber, 2023). One of the place management foods are the Food Home Industry (IRTP). In Indonesia, supervision towards P-IRT is still low, with the number of P-IRTs who do not do so causing a very high pollution (Tirtawati et al., 2024). The bad hygiene and sanitation in the industry food in Indonesia is something absence ability power Work in organized food, and can cause more serious problems, big that is occurrence of foodborne diseases (Nadhiroh et al., 2023).

Main factors to determine the prevalence of disease include the default food that is low in knowledge, as well as the attitude of party organizer business food, and a lack of care in the process of safe and healthy food. Results of the disease outbreak survey default food prove that part case happen consequence error handling in preparation food good at services catering, home eat, canteen school, or at the time parties and banquets food (Febriyani, Putri Ronitawati, Vitria Melani, Mertien Sa'pang, 2022). And there are a number of factor supporters who caused the TPP being widely disapproved fulfil condition health there are aspects of employee hygiene, facilities hygiene, sanitation, side building physique, processing, and training employees (Djaga et al., 2025). Knowledge handler Eat about hygiene, sanitation, moment process food own influence big to safety and quality food that will be served. Lack of knowledge can become a source of contamination, which can result in abuse of the material standard moment process food, that is also trigger danger (Kayyis Alwi, Elza Ismail, 2019). The results of research conducted by Susiana (2024) showed that knowledge is connected with hygiene handling food, with p-value = 0.000 (Desandri et al., 2024). According to Rezi et al.'s (2020) research shows results of the study obtained a p-value = 0.040, there is a connection between the means of infrastructure and practice hygiene handler school food basics (Pitri & Husaini, 2020). Results of Mustaffa et al. (2017) participation in training security food to handlers will increase the attitude handler food security in the canteen campus (Febriyani, Putri Ronitawati, Vitria Melani, Mertien Sa'pang, 2022).

Based on a survey, the beginning of what was done researchers began on September 21, 2024, on 10 handlers' food. From 5 P-IRT, the results show that the handler food has not

yet applied behavior hygiene in the process of food with good, looks good, that the handler food. Still, many know around 75%. There are still many facilities and infrastructure that do not fulfil condition hygiene and sanitation as much as 60%. And still there is an untouched person do training as much as 85%.

Problems with hygiene and sanitation in the Household Food Industry (P-IRT) are still become issue in a healthy society, especially Because height risk contamination of food and events poisoning food. National and regional data show that coverage of Place Food Management (TPP) that meets the health Still be under the standards, including at research locations. Handlers' food own role central role in ensure security of food, so that the behavior hygiene they are very decisive in ensuring the quality and safety of food produced. The low knowledge, limitations of facilities and infrastructure, as well as lack of adequate training on P-IRT has the potential increase the risk of polluted food. Although a number of studies has study factors that influence the hygiene behavior of handlers of food, the results obtained still show inconsistencies, especially related to role training, as well as limitations of studies that focus on P-IRT. In addition, empirical data local that can be made into a base planning intervention for the health environment is still limited. Therefore, research is important to analyze the connection between knowledge, means infrastructure and training with behavior hygiene handler food on P-IRT, so that it can give a base scientific for strengthening efforts promotive and preventive in improving food.

METHOD

This was a quantitative study with a survey design, survey analytic use approach. Cross-sectional research aims to analyze the connection between knowledge, facilities and infrastructure, and training with behavior hygiene handler food in the Home Food Industry (P-IRT). Research held in January 2025 in the work area UPTD *Puskesmas*, Source: Cirebon Regency**.** Population study is all over the handler food for P-IRT registered in the UPTD *Puskesmas* work area, Source 2024. The technique of taking a sample uses total sampling**,** so that the entire population is made into a sample with a sample size of 90 respondents**.**

Variables independent in the study include covering knowledge**,** facilities and infrastructure**,** and training**,** whereas variables dependent are behavior hygiene handler food**.** Data collection was carried out use questionnaire to measure knowledge and training, as well as a sheet observation checklist to evaluate the means of infrastructure and behavior hygiene handling food. In addition, secondary data was obtained from the health program report environment, Community Health Center Source, for the January–October 2024 period. In this study, a standardized questionnaire was used based on previous research results, so no further validity and reliability tests were carried out on the questionnaire.

Data analysis was carried out univariately to describe the frequency distribution of each variable and bivariate to analyze the relationship between independent and dependent variables using the Chi-square test at a significance level of $\alpha = 0.05$ and a confidence level of 95% because the data scale is categorical or ordinal.

This has notice principles ethics research, including confidentiality, identity of respondents**,** justice**,** and consideration of benefit as well as risk study**.** All respondent data is guarded in confidentiality and used only for research, and with permission from the Institute for Development, Research, and Community Service to the Community (LP3M) STIKes Cirebon, with number permit 142/B/STIKes Crb /IX/2024.

RESULTS AND DISCUSSION

Table 1. Distribution frequency knowledge, facilities and infrastructure, level training, and behavior hygiene handler food in the Home Food Industry (P-IRT)

Variables	Frequency	Percentage (%)
Knowledge		
Not good	60	66.7
Good	30	33.3
Facilities and infrastructure		
Does not meet the Condition	69	76.7
Fulfil Condition	21	23.3
Training		
No Training	25	27.8
Training	65	72.2
Behavior Hygiene: The handler Food		
It is not in accordance with	32	35.6
In accordance	58	64.4
Total	**90**	**100**

Based on Table 1. Of the 90 respondents who know not enough good 23 (25.6%) and knowledge well 67 (74.4%), who have facilities and infrastructure No fulfil requirements 69 (76.7%) and fulfilled conditions 21 (23.3%), respondents who did not Once follow training as many as 28 (31.1%) and those who did training 62 (62%), and respondents who have behavior No appropriate 32 (35.6%) and appropriate behavior 58 (64.4%).

Table 2. Relationship knowledge, facilities and infrastructure, level training, with behavior hygiene handler of food in the Home Food Industry (P-IRT)

Variables	Behavior Hygiene the Worshipper Food				Amount		*P value*
	In accordance		It is not in accordance with				
	n	%	n	%	n	%	
Knowledge							0.005
Not good	45	75.0	15	25.0	60	100	
Good	13	43.3	17	56.7	30	100	
Infrastructure							0.008
Does not meet the Condition	50	72.5	19	27.5	69	100	
Fulfil Condition	8	38.1	13	61.9	21	100	
Training							1,000
No Training	16	64.0	9	36.0	28	100	
Training	42	64.6	23	35.4	62	100	
Total	**58**		**32**		**90**		

From table 2, it is obtained that respondents who have knowledge not enough **Good** part big in accordance with behavior hygiene handler food as many as 45 (75.0%), and respondents who have knowledge **Good** part big No in accordance with hygiene handler food as many as 17 (56.7%). Obtained a mark *p-value* 0.005, there is a connection between knowledge and behavior hygiene handler food in the Home Food Industry (P-IRT). Respondents who have facilities and infrastructure No fulfil condition part big in accordance behavior hygiene handler food as many as 50 (72.5%) and respondents who have facilities and infrastructure fulfil condition part big No in accordance with hygiene handler food as many as 13 (61.9%), obtained mark *p-value* 0.008, there is significant relationship between facilities and infrastructure with behavior hygiene handler food in the Home Food Industry (P-IRT). Respondents who do not do training part big in accordance behavior hygiene handler food as many as 16 (64.0%) and respondents who have do training part big No in accordance with hygiene handler food as many as 23 (35.2%), were obtained mark *p-value* 1,000, no There is significant relationship between training with behavior hygiene handler food in the Home Food Industry (P-IRT).

Knowledge of behavior hygiene handling food

Research result: This obtained an existence connection between knowledge and behavior hygiene handler food in the Home Food Industry (P-IRT) (p-v*alue* 0.005). Research results. This is in line with research conducted by Hidayati (2022), where knowledge relate with behavior hygiene handler food with a mark p = 0.030 (Hidayati, 2022). In Isabela's (2023) research, knowledge (p= 0.008) had a connection with behavior hygiene handler food.) This is caused by the handler's food, No understand about things that need to be done at the time of processing, not understand with benefit from personal hygiene, and not understanding personal hygiene.

Study this in accordance with L. Green's theory, behavior is influenced by 3 factors main factors, were knowledge, including in factor trigger or the main reason for the formation of behavior. Knowledge results from knowing; it happens through five senses, that is, sight, hearing, smell, touch, and taste (Darsini, Fahrurrozi, 2019).

In the research, this is what is not enough. As many as 60 (66.7%), based on results of interviews and observations in the field, due to low-level education from the handler, where the average education is the highest, namely, elementary and middle schools. Besides that, existence of respondents in answering questionnaires, such as a lack of understanding of the function tool protector self (PPE). And the majority of respondents only focused on results, interesting and delicious dishes, as well as not paying enough notice factor risk of contamination of food. Most of the material food is cut; moreover, formerly, before washed using water that had been collected in a tub water reservoir. The container was used several times to store different foods without being washed thoroughly. On the other hand, respondents know that a healthy self will influence the cleanliness of processed foods. The risk assessment results for food processing facilities (TPP) and food safety standards (IKL) indicate moderate and high-risk levels. Therefore, for high-risk facilities, additional monitoring is required every six months, and for moderate-risk facilities, annually. Food processing facility handlers and owners must also be educated on food health and safety issues (Herawati, 2022).

Infrastructure with behavior hygiene handler food

Research result: This obtained existence connection between means infrastructure with behavior hygiene handler food in the Household Food Industry (P-IRT) (p-v*alue* 0.008). Research This is in line with what was done by Kasman (2025), that practice workers' personal hygiene, food cleanliness, the environment, kitchen, and equipment play a significant role in increasing quality and reducing the risk of contaminated food (Kasman,

Lestaluhu & Junieni, 2025). And in line with the results study by Rezi (2020) shows results obtained are 0.040, so it can be concluded that there is a meaningful relationship between the means of infrastructure and practice hygiene handler school food basic (Pitri & Husaini, 2020).

Availability of facilities or means of infrastructure is one of the factors influencing enablers' behavior. Availability of adequate facilities and infrastructure, such as facility wash hands, protective tools, protective clothing, and clean work, plays a role in support practice of good hygiene in food. Absence facility the can hinder the implementation of optimal hygiene (Andini et al., 2025)

In the research, this is what has facilities and infrastructure that do not fulfil the condition as many as 69 (76.7%), based on results, field observations caused by Because still not enough availability of adequate facilities and infrastructure, which can increase the risk of contamination by bacteria and germs. Maintaining proper sanitation and food handling practices is crucial in determining food quality (Herawati et al., 2023).

Training level with behavior hygiene handler food

Research result: No existing connection between training with behavior hygiene handler food in the Home Food Industry (P-IRT) (p-v*alue* 1,000). This is contradictory to the results of Anisa's research (2021), that there is a connection between training with behavior of food (Yetty Septiani Mustar, Indra Himawan Susanto, 2018). According to Dewi (2021), Training can increase behavior to create a habit, Good behavior hygiene in everyday life (Taqia et al., 2021).

According to Sri Handajani (2020), training that is not in accordance with behavior hygiene handler food caused by a lack of implementation, practical, minimal monitoring and evaluation, low attitudes and motivation, as well as an environment that is not supportive.

In the research this is not do training as many as 25 (27.8%), based on results field observations caused by Because handler food that has been follow training still behave No hygienic, even though handler food has get training about hygiene and sanitation, they still do habit bad, like No wash hand with right, using equipment that is not clean, or No use sarong hand moment handle food. Many handlers follow training, but no apply knowledge gained Because factor environment work environment. Formal training alone is not enough, needed monitoring and evaluation to be sustainable. Facts on the ground show that places that have strict system supervision, strict on cleanliness, employees tend to maintain their own standard of better hygiene, compared to a place that only depends on training.

CONCLUSION

Respondents who know not enough **Good** 23 (25.6%), have facilities and infrastructure No fulfil 69 (76.7%), respondents did not receive training as many as 28 (31.1%), and respondents who have behavior No according to 32 (35.6%). There is a relationship between knowledge (*p-value* 0.005), facilities and infrastructure (*p-value* 0.008), with behavior hygiene handler food in the Household Food Industry (P-IRT), and there is a connection between training (*p-value* 1,000) with behavior hygiene handler food in the Home Food Industry (P-IRT). The handler Food expected to increase awareness will cleanliness self, apply hygienic work, maintain cleanliness and sanitation equipment, provide clothing and equipment for handlers, as well as follow training-based hygiene and sanitation, safety, and handling food. Officer health increases activity effort promotion with give education to handlers about behavior hygiene and handler food.

REFERENCES

Akabanda, F., Hlortsi, E. H., & Owusu-kwarteng, J. (2017). Food safety knowledge , attitudes and practices of institutional food-handlers in Ghana. *BMC Public Health*, *17*(40), 1–9. https://doi.org/10.1186/s12889-016-3986-9

Akbar, H., & Hadiansyah, M. I. (2021). Edukasi Tips Memilih , Mengolah , dan Menyajikan Makanan yang Aman pada Mahasiswa STIKES Graha Medika Secara Daring. *Jurnal Pengabdian Untuk Mu NegeRI*, *5*(1), 12–16.

Andini, P., Hidayati, F., Fitri, A., S, O. L., & S, H. D. (2025). Faktor-Faktor yang Berhubungan dengan Perilaku Penerapan Higiene Sanitasi Makanan pada Rumah Makan di Kecamatan Sekayu Tahun 2025. *Pubhealth Jurnal Kesehatan Masyarakat*, *4*(2), 0–6.

Anna S. Wahongan, Yumi Simbala, V. Y. G. (2021). Strategi Mewujudkan Keamanan Pangan Dalam Upaya Perlindungan Konsumen. *LaxetSocietatis*, *IX*(3), 41–66.

Darsini, Fahrurrozi, E. A. C. (2019). Pengetahuan; Artikel Review. *Jurnal Keperawatan*, *12*(1), 95–107.

Desandri, S., Rahmawati, A., & Nurbaeti, T. S. (2024). Hubungan Pengetahuan dan Sikap Penjamah Makanan dengan Penerapan Hygiene Sanitasi Makanan pada Rumah Makan di Wilayah Anjatan Tahun 2024. *Jurnal Ilmiah Gizi Dan Kesehatan (JIGK)*, *6*(01), 56–63.

Dinkes Kabupaten Cirebon. (2023). *Profil Dinas Kesehatan Kabupaten Cirebon*.

Djaga, A. B., Nafisah, N., & Mone, J. R. (2025). Inpeksi kesehatan lingkungan tempat pengolahan makanan (IKL TPM) di BBKK Wilker Gresik. *Media Husada Journal of Environmental Health*, *5*(1), 14–18.

Fauziah, R. (2022). Penerapan hygiene sanitasi pengelolaan makanan dan pengetahuan penjamah makanan. *Jambura Health and Sport Journal*, *4*(1), 11–18.

Febriyani, Putri Ronitawati, Vitria Melani, Mertien Sa'pang, L. P. D. (2022). Differences in Knowledege , Attitudes , Personal Hygiene and Microbial TContamination in Urban and Rural Islamic Boarding Schools. *Darussalam Nutrition Journal*, *6*(1), 8–18.

Herawati, C. (2022). Inspeksi Pangan Berbasis Risiko Dalam Rangka Pencegahan Penyakit Bersumber Pangan. *Dimasejati: Jurnal Pengabdian Kepada Masyarakat*, *4*(2), 155–173.

Herawati, C., Endayani, H., Indragiri, S., & Kristanti, I. (2023). Sanitary Hygiene and Behavior of Food Handlers in the Presence of Escherichia coli Bacteria. *Journal of Pure and Applied Microbiology*, *June*. https://doi.org/10.22207/JPAM.17.4.05

Herawati, C., Sutarsih, C., Indragiri, S., & Dani, A. H. (2025). Implementasi Pengawasan Tempat Pengelolaan Pangan (TPP) dalam Rangka Penerapan Higiene Sanitasi di Industri Tahu Kedelai. *Abdi Wiralodra Jurnal Pengabdiad Kedapa Masyarakat*, *7*(September), 305–317.

Hidayati, F. (2022). Faktor yang berpengaruh terhadap higiene penjamah makanan di rumah makan yang ada di wilayah kerja kantor kesehatan pelabuhan padang. *Jurnal Endurance : Kajian Ilmiah Problema Kesehatan*, *7*(1), 138–147.

Kasman Lestaluhu, K. K., & Junieni. (2025). " The Relationship between Hygiene and Sanitation Practices in Restaurants and Food Quality and Safety : A Literature Review ". *Jurnal Inovasi Pangan Dan Gizi*, *1*(1), 39–51.

Kayyis Alwi, Elza Ismail, I. R. P. (2019). Pengetahuan keamanan pangan penjamah makanan dan mutu keamanan pangan di Pondok Pesantren. *Darussalam Nutrition Journal*, *3*(November), 72–83.

Nadhiroh, N., Jati, D. R., Pramadita, S., & Tanjungpura, U. (2023). Analisis Higiene Dan Sanitasi Pada Industri Roti Berdasarkan Permenkes RI Nomor 1096 Tahun 2011. *Rekayasa Hijau: Jurnal Teknologi Ramah Lingkungan*, *7*(November), 239–251.

Permatasari, T., Briawan, D., & Madanijah, S. (2018). E fektivitas Program Suplementasi Zat Besi pada Remaja Putri di Kota Bogor Effectiveness of Iron Supplementation Programme in Adolescent girl at Bogor City. *Jurnal MKMI*, *14*(1), 1–8.

Pitri, R. H., & Husaini, A. (2020). Faktor Yang Berhubungan Dengan Praktik Hygiene Penjamah Makanan Di Sekolah Dasar Wilayah Kerja *Puskesmas* Tanjung Pinang Factors Related to Food Handling Hygiene Practices in Primary Schools in the Work Area of the Tanjung Pinang Health Center. *Journal of Healthcare Technology and Medicine*, *6*(2), 732–741.

Sahani, W. (2024). Kondisi Sanitasi Tempat Penggilingan Daging dan Kualitas Bakteriologis Daging Bakso di Pasar Pabaeng-baeng , Kota Makassar. *Media Kesehatan Politeknik Kesehatan Makasar*, *XIX*(1), 96–105.

Sumber, P. (2023). *Data Tahunan Puskesmas*.

Taqia, M., Handajani, S., Nurlaela, L., Romadhoni, I. F., & Katering, P. M. (2021). Kajian tentang pelatihan higiene sanitasi untuk meningkatkan pengetahuan dan perilaku penjamah makanan katering. *Jurnal Tata Boga*, *10*(2), 351–360.

Tirtawati, D., Fanani, M. Z., Jumiono, A., Haris, H., & Tirtawati, D. (2024). Pelaksanaan Pengawasan Keamanan Pangan Dalam Rangka Penerbitan Izin Edar P-IRT Di Dinas Kesehatan Kabupaten Tanggerang. *Jurnal Ilmiah Pangan Halal*, *6*(April).

Yetty Septiani Mustar, Indra Himawan Susanto, A. P. B. (2018). pendidikan kesehatan kepada murid SD N I Tandes Kidul guna meningkatkan pola hidup bersih dan sehat. Jenis penelitian yaitu. *Jurnal Ilmu Sosial Dan Pendidikan*, *2*(2), 89–95.