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The Role of Chicken Meat Vendors to the Food Security of Pontianak City

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ABSTRAK

Daging ayam merupakan produk asal hewan yang banyak dikonsumsi dan disenangi oleh masyarakat dengan sifat yang mudah rusak (*perishable food*), karena kaya akan nutrisi. Penjualan daging ayam sebagian besar banyak dilakukan di pasar tradisional namun kondisi pasar yang masih kurang memadai berkaitan dengan lingkungan, fasilitas umum dan penanganan daging ayam tersebut dapat berpengaruh terhadap keamanannya. Oleh sebab itu penelitian ini bertujuan untuk mengidentifikasi pengetahuan sanitasi pangan, penerapan *good handling practice* dan menganalisa pengaruh pengetahuan sanitasi pangan terhadap penerapan *good handling practice* oleh pedagang daging ayam di pasar tradisional Kota Pontianak. Sampel sebanyak 40 pedagang kios daging ayam pada enam pasar tradisional Kota Pontianak (Flamboyan, Mawar, Kemuning, Dahlia, Teratai dan Puring) dilaksanakan pada bulan April 2025. Analisis secara kualitatif dan kuantitatif dengan *software* SPSS 22. Hasil identifikasi pengetahuan sanitasi pangan dan penerapan *good handling practice* memiliki rataan tanggapan responden ialah diatas 4 artinya pedagang memliki pengetahuan sanitasi pangan dan menerapkan *good handling practice.* Sedangkan pengaruh pengetahuan sanitasi pengan terhadap penerapan *good handling practice,* berdasarkan hasil uji t bahwa hasilnya sig 0,00 < 0,05 artinya semakin tinggi pengetahuan pedagang maka semakin tinggi juga penerapan *good handling practice.* Kesimpulan pedagang memiliki pengetahuan sanitasi pangan dan penerapan *good handling practice* namun belum secara menyeluruh serta pengetahuan sanitasi pangan berpengaruh positif dan signifikan terhadap penerapan *good handling practice.*

KEYWORDS:
Good handling practice
Food safety
Food Sanitation

ABSTRACT

Chicken meat is an animal product that is widely consumed and favored by the public with its perishable nature, because it is rich in nutrients. Chicken meat sales are mostly carried out in traditional markets. However, inadequate environment, public facilities and its handling can affect its safety. Therefore, this study aims to identify food sanitation knowledge, the application of good handling practices and the effect of food sanitation knowledge on the application of good handling practices by chicken meat vendor in traditional markets in Pontianak City. A sample of 40 chicken meat kiosk traders in six traditional markets in Pontianak (Flamboyan, Mawar, Kemuning, Dahlia, Teratai and Puring) was carried out in April 2025. Qualitative and quantitative analysis using SPSS 22 software. The results of food sanitation knowledge identification and

the application of good handling practices had an average respondent response of above 4, which means that venders have knowledge of food sanitation and apply good handling practices. Meanwhile, the influence of food sanitation knowledge on the application of good handling practices, based on the results of the t-test, the result is sig 0.00 < 0.05, meaning that the higher the vender's knowledge, the higher the application of good handling practices.The findings indicate that traders possess some knowledge of food cleanliness and the implementation of appropriate handling procedures, although not all of it is thorough, and that knowledge of food sanitation has an impact.

1. Introduction

Foods of Animal Origin (PAH/FAO) such as meat, eggs and milk are good sources of animal protein for human health (Parawanti Opier *et al*., 2023). Chicken flesh is one of the PAHs that the general public enjoys and consumes in large quantities (Susilaningrum *et al*., 2022). According to data from the Central Statistics Agency (2023), the demand for chicken meat is still rising in Pontianak City, the provincial capital of West Kalimantan, as evidenced by the per capita consumption of 0.213 and 0.236 kg in 2022–2023.

As a perishable item that is extremely vulnerable to microbial contamination, the increased demand for chicken meat must be balanced with appropriate management to guarantee food safety and avoid contamination by pathogenic bacteria. This is because it has a lot of nutrients (Nurjanah et al., 2020). In line with a study conducted by Da Costa et al.(2022) that that merchants' understanding of personal hygiene and sanitation hygiene is the primary cause of microbial contamination in the chicken meat sold, and that traders' sanitation hygiene practices at the market affect the level of bacterial contamination (Ardianto et al. 2024).

The safety and quality of chicken sold in traditional markets are largely dependent on the application of Good Handling Practices (GHP) and an understanding of food cleanliness. From killing and packing to storing and delivering to customers, GHP includes a number of appropriate handling practices. According to Zelpina *et al*. (2020) The supply of safe, wholesome, halal food products fit for public consumption can be supported by the appropriate use of sanitation, hygiene, and personal hygiene when handling chicken meat and its derivatives. Sanitation knowledge is concerned with both the product and the environment. The process of shielding food from several types of

contaminants, such as chemical, biological, and others, is known as food sanitation (Indonesian Government, Regulation No. 86 2019).

Preliminary observations regarding good handling practices (GHP) for chicken meat (carcasses) sold in warm or fresh conditions without refrigeration in Pontianak City's largest traditional market, Flamboyan Market, were made by traders suspected of being a source of contamination. These traders include those who do not wear full personal protective equipment (masks, gloves, head coverings, aprons, or aprons and boots), wash their equipment with a cloth or in a container filled with water, use cutting boards or bases for cutting that are cleaned with a cloth, and engage in other inappropriate behaviors like smoking or eating while selling. The research findings of Izwara et al. (2024) reveal that the Flamboyan market does not yet meet the criteria for being a healthy market. One of the indicators of this is the fact that the market does not yet meet the requirements for clean and healthy living. This aligns with the findings of the study conducted by Hidayati *et al*.(2021) that the table utilized by the kiosk was open, had a plastic base, and was situated alongside the major road, leaving it vulnerable to bacterial contamination and compromising the quality of the chicken meat.

In order to ensure the safety of food derived from animals that are ASUH (aman, sehat, utuh, dan halal, or referred to as safe, healthy, intact, and halal) in traditional markets in Pontianak City, it is crucial that this research be conducted in order to learn more about traders' knowledge of food sanitation, particularly with regard to chicken meat, and how they implement GHP (Government of the Republic of Indonesia, Regulation No. 95 of 2012).

2. Material and Method

2.1. Research Location

The six traditional markets in Pontianak City, West Kalimantan Province, are the site of the study (**Table 1**).

Table 1. Location, population and sample of research

No	Market's Name	Location (District)	Population	Sample
1.	Flamboyan	South Pontianak	28	16
2.	Mawar	Pontianak City	7	3
3.	Dahlia	West Pontianak	10	5
4.	Kemuning	South Pontianak	7	6
5.	Puring	North Pontianak	9	5
6.	Teratai	West Pontianak	17	5
Total of Vendors			78	40

Source: Primary Data, 2025

2.2. Forms and Types of Data

This study used a quantitative methodology and was carried out on-site in the field. Primary data is what was used. According to Sulung & Muspawi (2024) data gathered by researchers from primary sources is referred to as primary data. Questionnaires given to vendors at chicken meat stands were used to gather data.

2.3. Sample

A sample is a part of a population that is used to represent the entire population (Amin *et al*., 2023). The study's target sample consisted of chicken meat stall vendors that operate in Pontianak City's traditional marketplaces. Of particular interest were vendors who sell chicken meat in the form of carcasses and do not have a slaughterhouse (just a sales table or stall). Parts of the chicken body that remain after the slaughter process, including the removal of feathers, intestines with or without heads, and/or feet (feet), can be either frozen, chilled, or warm (SNI 3824:2023). Because broiler chicken meat is produced in large quantities and is preferred by many, pay attention to the state of warm carcasses (fresh without chilling) that are derived from broiler chickens (Silvia *et al*. 2022). Sampel of the research is in **Table 1**.

2.4. Research Variable

Food Sanitation Knowledge is the independent variable (X) in this study, and the Implementation of Good Handling Practices is the dependent variable (Y) (**Figure 1**). This study's variables are measured using a Likert scale, which gauges participants' answers to statements or questions about the research object. Strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1) are the possible scores.

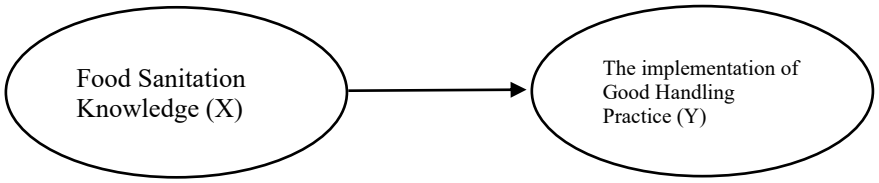

Figure 1. Research model

2.5. Data Analysis

The statistical program for social science or SPSS 22, was utilized in the data analysis method. The objective was to ascertain how traders' understanding of food sanitation affected their use of GHPs for chicken meat at traditional market chicken meat stands.

3. Finding and Discussion

3.1. Overview of the Research Location

Pontianak City, with a population of 680,852,000 people as of 2025, has an area of 118.31 km2. There are six traditional markets officially managed by the Pontianak City Government, namely Pasar Flamboyan, on Jalan Gajah Mada, Benua Melayu Darat Village, South Pontianak District; Pasar Mawar located on Jalan Hos Cokroaminoto, Darat Sekip Village, Pontianak District; Pasar Dahlia, located on Jl. H. Rais A. Rachman, Sungai Jawi Dalam Village, West Pontianak District; Pasar Kemuningan located on Jalan Prof. Muh Yamin, Sungai Bangkong Village, South Pontianak District; Puring Market located in Siantan Tengah Village which operates 24 hours, has been established since 1983 and has been renovated in 2009, and Pasar Teratai located on Jl. Kom Yos Sudarso, Sungai Jawi Luar Village, West Pontianak District (Kalsum & Purnomo 2019). In general, observations prior to the study regarding facilities and infrastructure at the six markets were still inadequate.

3.2. Respondents' Characteristic

As responders, forty chicken meat kiosk merchants received surveys. A predefined sample size of 78 chicken meat kiosk vendors, or 51.3 percent of the total population, served as the basis for this distribution.

The following attributes of the respondents are connected to their understanding of food sanitation and the application of GHPs:

1. The majority of respondents were female, according to the respondent's gender. It is in line with Yahya *et al*. (2022) that there is a relationship between gender and food safety practices, because women are more diligent in maintaining personal and environmental hygiene.
2. According to the respondents' ages, those between the ages of 41 and 50 gave the most responses (strongly agree). It is in line with Septiyani *et al*.(2021) Age and degree of knowledge have a big impact on food safety. According to Nurfikrizd & Rustiawan (2020), there is a correlation between food safety behaviour and age when it comes to the application of GHP.
3. The majority of responses were at the high school or vocational school level, according to the respondents' educational background. It is align with Odetokun *et al*.(2022) that respondents with high school education or higher than elementary school have better food safety practices or implementation and according to Ashuro *et al*.(2023) that understanding of food safety is influenced by educational attainment.
4. Those who have been selling for more than 15 years provided the most responses when asked how long they have been in business. This supports the assertion on food sanitation knowledge made by Aulia *et al*.(2024) that a person who has more work experience has an increased share of knowledge and according to Ashuro *et al*.(2023) The duration of employment in sales has an impact on food safety procedures in relation to the application of GHP.

3.3. Respondents' Descriptive Responses to Research Results

The following are the respondents' reactions to the research findings about the statements pertaining to the food sanitation knowledge variable:

1. The hazardous materials use indicator had an average value of 4.43. This indicates that dealers are aware of the dangers of formalin, borax, and other chemicals and know they shouldn't be used on chicken. This is consistent with studies conducted by Permadi *et al*.,(2024), it claimed that processed beef products offered in Pontianak City's traditional marketplaces had no formalin or borax content.
2. 4.48 was the average score for the food contamination indication. This indicates that traders are aware that bacterially contaminated meat can make people sick and that improperly cleaned equipment can further spread the sickness. They don't know, though, that water can contaminate things. This has to do with people not knowing that water can be contaminated. This is consistent with the findings of studies carried out by Tribudi *et al*.(2020) Salmonella, E. coli, TPC, and Coliform testing from chicken and beef samples revealed high levels of pollutants. Pontianak City's traditional markets provided the samples. Cleaning is indicated by testing for Salmonella, E. Coli, TPC, and Coliform. The usage of tainted water is the cause of the elevated TPC, Coliform, E. Coli, and Salmonella test results (Rahmawati *et al*., 2018).
3. The food chain control indicator has an average value of 4.23. This indicates that traders are knowledgeable about the indicators of food chain regulation. This understanding of food chain regulation aligns with studies conducted by Lestari (2020) that in order to provide safe food, the WHO recommends five technical factors: using water and raw materials that are suitable for consumption, storing food at a safe temperature, preventing contamination, and maintaining cleanliness.
4. The material traceability indicator had an average value of 4.35. This indicates that while traders are aware of the hens' place of origin, they are unaware of the animal health and veterinary control number (NKV). This is consistent with studies carried out by Lestariningsih *et al*.(2020) which claims that a large number of individuals are unaware of the NKV distribution permission, indicating that the public has not been actively involved in maintaining the NKV's quality.
5. The average value of the nutritional decline indicator is 4.45. This means that traders know they must provide boxes filled with ice for temporary storage, but they are not yet aware that chicken meat is easily damaged or spoiled if left unrefrigerated for more than 4 hours and that the water used must be sourced from the Regional Water Company (PDAM). This is related to the importance of knowledge regarding chicken

meat, which is easily damaged if sold unrefrigerated for more than 4 hours. This is also explained in research conducted by Ramadhani *et al*.(2020), that longer the chicken is exposed to air, the greater the number of bacteria in the meat. If it's exposed to air for more than 6 hours, the total number of bacteria is higher than if it's exposed to air for 2 or 4 hours. The water source must be from the local water company (PDAM), based on research conducted by Lakapu *et al*.(2021) that PDAM and other physical quantity and quality requirements must be met by the water used.

The following are respondents' reactions to the study findings about the variable of using proper handling methods:

1. The equipment, facilities, and table indicators have an average value of 4.48. This indicates that sellers utilize easily cleaned concrete and ceramic tables for their sales. Additionally, they make use of cutting boards and knives composed of readily cleaned materials. They do not, however, clean tools and other objects with flowing water. This is in line with study by Lakapu *et al*.(2021) that demonstrates how hygienic and clean equipment can help avoid cross-contamination between carcasses as well as within corpses.
2. The average value of the product handling indicator is 4.47. This means that traders have not implemented good product handling. In line with this, regarding the sale of chicken carcasses that are more than four hours old, according to Hidayati *et al*. (2021) that the longer the chicken carcass is sold in an open condition, the more bacteria from the air will contaminate it. Furthermore, a study conducted by Daka *et al*.(2024) mentioned that equipment sanitation that is not handled properly has an impact on high levels of contamination from E. Coli germs.
3. 4.34 was the average score for the personal hygiene indicator. This indicates that merchants are not selling while smoking or eating and have adopted limited PPE use. They haven't yet adopted hand hygiene, meanwhile, which calls for cleaning hands right away after handling poultry. Personal hygiene is crucial because it can prevent cross-contamination from hands on food. Examples of this include wearing gloves or washing your hands before and after handling food (Daka *et al*. 2024).
4. The hygiene and sanitation indicator have an average score of 4.45. This indicates that vendors have placed trash cans close to their sales tables and clean them with soap

after each sale. Nevertheless, there is still no system in place to drain the water after washing. This is also consistent with studies carried out by Arrazy (2020), Traders in traditional markets often complain about poor environmental sanitation, such as the lack of drainage after washing. Furthermore, there are concerns about the lack of waterproof trash bins and handwashing facilities for each vendor.

3.4. Results of the SPSS Test

According to the reliability analysis, the following outcomes were obtained:

1. Validity Test

   The items received for each question were deemed valid based on the test results since they aligned with the statement Anggraini *et al*.(2022) with calculated r value > r table.

2. Reliability Test

   According to the reliability test findings in Table 37, each variable has a Cronbach's alpha value greater than 0.6. This is in line with Anggraini *et al*. (2022) that the variable can be considered dependable or consistent if the Cronbach Alpha value is greater than 0.60.

3. Classical Assumption Test

   This test consists of multiple tests, such as the following: **Test for normalcy**, with an Asym. Sig. (2-tailed) value of 0.200, the one-sample Kolmogorov-Smirnov test findings showed a significance value higher than 0.05 (0.200 > 0.05). This shows that the data is normally distributed, which satisfies the regression's normality condition. This is consistent with the assertion made by Purba *et al*.(2021).

   Test of linearity, Food Sanitation Knowledge (X) and the Implementation of Good Handling Practice (Y) have a substantial linear relationship, according to the linearity test findings, which indicate that the departure from linearity has a value of 0.478 > 0.05. This is consistent with what was said by Yosepha & Yanthy (2020). As a result, since good data has a linear relationship, data processing can proceed.

   Test for heteroscedasticity, based on the findings of the heteroscedasticity test, the Food Sanitation Knowledge variable (X) has a significance value of 0.711. According to the statement, the Glejser test was employed in this investigation.

Purba *et al*. (2021) bahwa jika hasil uji nilai signifikansi variabel bebas lebih besar dari 0,05 maka dinyatakan tidak terjadi heteroskedastisitas.

4. Hypothesis Test

This test comprises a number of additional tests, such as the following: **Coefficient of determination (R2) analysis**. The R-squared score is 0.656, according to the R2 test findings. In contrast to the statement, this outcome (Hafni Sahir, 2022) that the effect is smaller when the R2 value is smaller, or closer to zero; on the other hand, the effect is higher when it is closer to 1. As a result, this outcome is classified as moderate. This indicates that 65.6 percent, or 0.656 percent, of the Implementation of Good Handling Practices is impacted by Food Sanitation Knowledge, with other factors not covered here accounting for the remaining 34.4 percent. **Basic analysis of linear regression**. The regression equation is derived from the data in Table 42 above: Y equals 0.810 X. This means that the Food Sanitation Knowledge variable has a coefficient of 0.810 and a positive relationship, meaning that if Food Sanitation Knowledge increases, the Implementation of Good Handling Practices also increases.

T-test. A sig value of 0.00 <0.05 was obtained based on the T-test results. This indicates that the application of Good Handling Practices for chicken meat at chicken meat kiosks in traditional marketplaces is somewhat influenced by sellers' understanding of food cleanliness. This indicates that the adoption of Good Handling Practices at chicken meat kiosks in Pontianak traditional marketplaces increases with traders' level of food sanitary expertise. This is consistent with the studies conducted by Ardianto *et al*.(2024) which states that there is a significant relationship between knowledge and food safety practices. This is also the case with research conducted by Hasan *et al*.(2024) which states that there is a significant relationship between knowledge and hygiene practices of meat sold by retailers and slaughterhouse staff in Bogura, Bangladesh.

4. Conclusion

Based on the results and discussion above, in relation to the objectives of this study, it can be concluded that:

a. Water contamination, Veterinary Control Numbers, and the fact that chicken flesh deteriorates or rots after four hours of slaughter are among the food sanitation facts that traders do not yet possess.
b. The implementation of Good Handling Practices that has not been implemented by traders regarding good product handling and the lack of water drainage channels after washing.
c. Vendor knowledge regarding food sanitation has a positive and significant impact on the implementation of good handling practices for chicken meat at chicken stalls in traditional markets in Pontianak City.

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