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# HYGIENE AND SANITATION OF PADANG RESTAURANTS IN THE KALIMANAH COMMUNITY HEALTH CENTER AREA, PURBALINGGA REGENCY

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**ABSTRACT**

***Hygiene and Sanitation of Padang Restaurants in the Kalimanah Community Health Center Area, Purbalingga Regency.*** *Data from the Central Bureau of Statistics (Badan Pusat Statistik, BPS) and various culinary industry surveys indicate that Padang restaurants are among the most widely distributed traditional food businesses in Indonesia, being found in almost all provinces as well as urban and semi-urban areas. Food processing practices that do not comply with health requirements may lead to foodborne illnesses. Environmental Health Inspections are conducted to supervise food safety in processing, ensure that food products are safe for consumption, and identify potential hazards during processing. National data show that, based on the 2023 inspection standards, only 60.7% of food processing establishments in Indonesia meet the required criteria. In Purbalingga Regency, of the 1,460 restaurants, only 186 have met the established requirements. In the service area of the Kalimanah Community Health Center (UPTD), there are 452 food processing places (TPPs), many of which do not comply with the standards. This study aimed to determine the characteristics of food processing practices in Padang restaurants within the Kalimanah Community Health Center area of Purbalingga Regency. A quantitative descriptive study with a cross-sectional approach was conducted. The sample consisted of 33 Padang restaurants, and data were collected through observations and interviews. The results showed that Padang restaurants exhibited high risk across several assessment criteria. Of the eight criteria evaluated, the cooked food packaging area showed a 100% high-risk classification. In addition, the external area of the food processing places and the kitchen/food storage area were also classified as high risk based on mean and mode values. Therefore, follow-up supervision is required for food handlers and restaurant owners to improve food processing practices.*



## INTRODUCTION

Food processing practices that do not meet health standards and are contaminated by biological or chemical agents are among the leading causes of foodborne diseases, including food poisoning that often triggers outbreaks (Kejadian Luar Biasa, KLB). This issue constitutes a global public health concern. The World Health Organization (WHO) estimates

that approximately 600 million people, or one in ten individuals worldwide, fall ill each year due to the consumption of contaminated food, with an estimated 420,000 deaths annually. In the Southeast Asia region, the burden of foodborne diseases ranks second highest after Africa, with an estimated 175,000 deaths per year.[1]

In developed countries such as the United States, the risk of foodborne diseases is mitigated through strict and continuous food safety surveillance systems. Environmental health inspections of food processing establishments, including restaurants and food service outlets, are routinely conducted to assess facility hygiene, ingredient storage, and food handling practices. The inspection results are used to classify business risk levels as low, medium, or high, thereby enabling more targeted preventive measures.[2]

Conversely, in Indonesia, challenges in food safety control remain substantial. Food contaminated with bacteria, viruses, parasites, or chemical substances is known to cause more than 200 types of diseases, ranging from diarrhea to cancer.[3] As a control measure, the government has established environmental health quality standards through Regulation of the Minister of Health Number 14 of 2021 concerning Standards for Business Activities and Products in Risk-Based Business Licensing in the Health Sector. This regulation stipulates hygiene and sanitation requirements for commercial Food Processing Places (TPPs), including restaurants.[4] Compliance with these standards is assessed through Environmental Health Inspections (IKL) and serves as the basis for issuing a Hygiene and Sanitation Feasibility Certificate by the health authority.

Nevertheless, compliance with hygiene and sanitation standards among TPPs in Indonesia remains suboptimal. National data from 2023 indicate that only 60.7% of TPPs meet IKL requirements. In Central Java Province, the compliance rate is 81.83%, while in Purbalingga Regency it reaches 94.20%. However, when specifically examined by business type, the compliance rate among restaurants in Purbalingga Regency is considerably lower, at only 52.5%.[6] This finding highlights a discrepancy between aggregated TPP performance and the actual conditions within specific business categories, which may be overlooked without more focused evaluations.

Within the service area of the Kalimanah Community Health Center, as of the end of 2023, a total of 452 TPPs were under routine supervision through annual IKL inspections. Among these establishments, Padang restaurants represent the most prevalent type. The operational characteristics of Padang restaurants, such as large-scale food preparation, the frequent use of coconut milk, and the practice of serving cooked dishes that are stored and reheated repeatedly, make them a relevant context for examination from a food hygiene and sanitation perspective. However, these characteristics are presented as contextual factors rather than sole risk determinants, given that hygiene and sanitation standards apply uniformly to all restaurant types.

Preliminary survey results indicated a gap between regulatory supervision and actual field conditions. Of the 33 Padang restaurants surveyed in the Kalimanah Community Health Center area, none possessed a Hygiene and Sanitation Feasibility Certificate. In addition, community complaints were reported regarding foul-smelling food and the presence of larvae in one menu item purchased in July 2024.[7] These conditions suggest potential public health risks and underscore the need for a more comprehensive evaluation of food processing practices in these establishments.

Based on the above considerations, a research gap is identified in the limited availability of empirical studies that specifically describe food processing conditions in restaurants at the primary health care level, particularly in business types that dominate numerically within a given area. Therefore, this study aims to examine the characteristics of food processing practices in Padang restaurants within the service area of the Kalimanah Community Health Center, Purbalingga Regency. In general, this study seeks to identify food processing characteristics in Padang restaurants based on hygiene and sanitation standards. Specifically, the objectives are to: (1) describe the results of Environmental Health Inspections (IKL) in

Padang restaurants; (2) assess the conditions of external areas, consumer service areas, and kitchens; and (3) evaluate processes related to food ingredient selection, food processing, equipment use, food serving, and cooked food packaging.

## MATERIALS AND RESEARCH METHODS

This study employed a quantitative descriptive design aimed at describing the characteristics of food processing practices in Padang restaurants within the service area of the Kalimanah Community Health Center, Purbalingga Regency. The study was not intended to compare groups or to analyze relationships or effects between variables, but rather to provide a description of existing conditions based on applicable hygiene and sanitation standards. A cross-sectional design was used, with data collection conducted at a single point in time, namely in October 2024.

In this descriptive study, variables were not conceptualized within a cause–effect framework. Therefore, the study did not distinguish between independent and dependent variables. The research variables were defined as components of hygiene and sanitation assessment for restaurant food processing, measured based on the criteria listed in the Environmental Health Inspection (IKL) Form. These components included the condition of the external area, consumer service area, kitchen, selection of food ingredients, food processing procedures, equipment used, food serving, and cooked food packaging.

Primary data were collected using three methods. First, direct observation was conducted to assess the conditions and food processing practices of Padang restaurants using the Environmental Health Inspection (IKL) Form in accordance with applicable regulations. Second, structured interviews were carried out with restaurant owners or managers to obtain supporting information related to food processing practices based on the eight IKL criteria. Third, a survey was conducted to complement data on the general characteristics of Padang restaurants, including facility conditions and operational practices relevant to food hygiene and sanitation.

The study population comprised all Padang restaurants located within the service area of the Kalimanah Community Health Center, Purbalingga Regency, totaling 33 establishments. A total sampling technique was applied, whereby the entire population was included as the research sample.

The research instrument used was the Environmental Health Inspection (IKL) Form for commercial Food Processing Places, which refers to Regulation of the Minister of Health Number 14 of 2021. The IKL Form consists of several assessment indicators, each assigned a specific weight and score. Each indicator was evaluated based on compliance with hygiene and sanitation requirements, with any non-compliance resulting in a reduction of the total score obtained by the restaurant.

The total IKL score was subsequently categorized into levels of environmental health risk, namely low risk, moderate risk, and high risk, in accordance with IKL assessment guidelines. The greater the number of non-compliant findings, the lower the score achieved and the higher the assigned risk level. This risk categorization was used as the basis for describing the level of compliance with food hygiene and sanitation standards among Padang restaurants.

Data analysis was conducted using univariate analysis to describe the distribution of inspection results. The analysis included the calculation of frequencies and percentages for each IKL assessment category and each food processing component. In addition, mean, median, and mode values were used to describe overall trends in IKL scores. The results of the analysis were presented in the form of tables and figures to facilitate interpretation and to provide an overview of the hygiene and sanitation conditions of food processing practices in Padang restaurants within the study area.

## RESEARCH RESULTS AND DISCUSSION

The results of the environmental health inspections conducted on 33 Padang restaurants in the service area of the Kalimanah Community Health Center indicated that none of the restaurants fully complied with all hygiene and sanitation requirements. The assessment based on the Environmental Health Inspection (IKL) Form categorized environmental health risk levels into high, moderate, and low risk according to the number and weighted scores of non-compliance identified.

Overall, the majority of food processing components were classified as moderate risk, indicating that several non-compliant conditions remain and may pose potential health risks if corrective actions are not implemented.

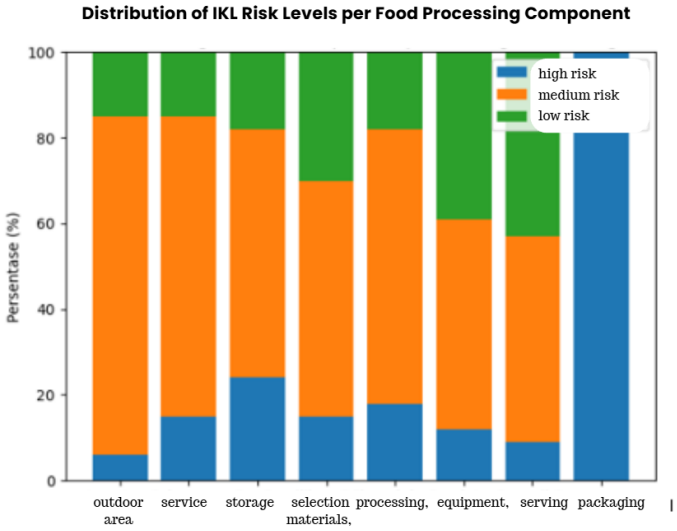


Figure 1. Distribution of IKL Risk Levels by Food Processing Component

### External Area of the Food Processing Place (TPP)

Most Padang restaurants were classified as moderate risk (79%), indicating that the surrounding environmental conditions were generally adequate; however, several non-compliant conditions were still identified, such as open drainage channels, stagnant water, and the presence of vectors.

### Consumer Service Area

The moderate risk category predominated (70%), with commonly identified non-compliances including the cleanliness of dining tables, waste management practices, and insufficient protection of food from exposure to dust and insects.

### Kitchen and Storage Area

This component showed a relatively higher proportion of high risk (24%) compared with other components, indicating problems related to kitchen layout, ventilation, floor and wall cleanliness, and the separation of raw and cooked food.

### Selection of Food Ingredients

Most establishments were classified as moderate risk (55%), suggesting that food ingredients were generally acceptable but did not fully comply with food safety principles, such as appropriate temperature control and shelf-life management.

### Food Processing and Cooking Practices

Moderate risk also predominated in this component (64%), indicating that food processing practices were generally implemented but still showed non-compliance, including the

inconsistent use of personal protective equipment by food handlers and inadequate hygiene during cooking processes.

**Food Processing Equipment**
The risk distribution showed a combination of moderate risk (49%) and low risk (39%), indicating that some equipment met the required standards, while others were poorly maintained or did not meet food-grade material requirements.

**Food Serving Practices**
Nearly half of the restaurants were classified as low risk (43%), indicating that serving practices were relatively better compared with other components, although the proportion of moderate risk remained substantial (48%).

**Cooked Food Packaging**
All restaurants (100%) were classified as high risk, indicating that cooked food packaging represents the most critical point in food processing practices among Padang restaurants in the study area.

The results of this study indicate that hygiene and sanitation issues in Padang restaurants are not concentrated at a single stage, but rather distributed across nearly all components of food processing. The predominance of the moderate risk category in most components suggests that food processing practices are generally implemented but have not fully met the standards stipulated in Regulation of the Minister of Health Number 14 of 2021. [(4)]
The most prominent finding was observed in cooked food packaging, where all restaurants were classified as high risk. This condition indicates that packaging is often conducted without adequate protection, using materials that do not meet standards, or in areas prone to contamination. This stage is particularly critical because cooked food no longer undergoes reheating processes that could eliminate microorganisms.
The high risk observed in kitchen and storage areas further emphasizes that the physical environment and spatial management remain major challenges. These conditions may increase the potential for cross-contamination, especially in restaurants with high production volumes and mass-prepared menus.
In this study, the characteristics of Padang restaurants, such as large-scale food processing, repeated serving, and the dominance of coconut milk–based dishes, function as operational contexts that may amplify the impact of sanitation non-compliance rather than serving as primary causal factors. This finding underscores that the hygiene and sanitation problems identified may also occur in other types of restaurants if standards are not applied consistently.
Overall, the findings highlight the importance of strengthening routine supervision, improving food handler training, and enhancing food processing practices, particularly at stages identified as high risk, in order to minimize the potential for foodborne diseases.

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## CONCLUSIONS AND RECOMMENDATIONS

Based on the results of environmental health inspections conducted on 33 Padang restaurants in the service area of the Kalimanah Community Health Center, Purbalingga Regency, it can be concluded that food processing practices have not yet achieved optimal compliance with hygiene and sanitation standards. All restaurants (100%) were classified as high risk in the cooked food packaging component, indicating that this stage represents the primary critical control point in food processing practices.

Most other components, including the external area of the food processing place, consumer service area, and kitchen and food storage areas, were dominated by the moderate risk category, indicating the presence of non-compliance with hygiene and sanitation standards despite the availability of basic facilities. In addition, high-risk conditions were identified in certain aspects of food processing, such as food ingredient selection, processing procedures, and equipment conditions, although these were not uniformly observed across all establishments.

Overall, the findings demonstrate that Padang restaurants in the Kalimanah Community Health Center area require improvements in compliance with hygiene and sanitation standards, particularly at stages of food processing that pose a high risk of contamination.

Based on these findings, it is recommended that the Purbalingga Regency Health Office and the Kalimanah Community Health Center prioritize hygiene and sanitation guidance for Padang restaurants, especially at the cooked food packaging stage, which was entirely classified as high risk. These efforts may be implemented through standardized technical training for restaurant owners and food handlers, accompanied by routine supervision based on periodic Environmental Health Inspections.

Furthermore, Padang restaurant owners are expected to consistently apply the outcomes of such guidance in daily food processing practices, particularly with regard to food ingredient selection, processing procedures, equipment use, and cooked food packaging in accordance with established hygiene and sanitation standards. Future studies are recommended to develop interventional or evaluative research designs to assess the effectiveness of training and supervision in improving IKL scores and reducing hygiene and sanitation risk levels.

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