



Implementation Of Good Manufacturing Practices (GMP) in The Home Industry of Kampung Lontong Surabaya

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Article Info	ABSTRACT
<p>Article History Received: Jan 31, 2025 Revised: Apr 20, 2025 Accepted: Apr 30, 2025</p> <hr/> <p>Keywords: Good Manufacturing Practices, Home Industry, Kampung Lontong Surabaya</p>	<p>The implementation of Good Manufacturing Practices (GMP) is essential in preventing food contamination caused by biological, physical, or chemical hazards that may pose risks to human health. This study aims to describe the implementation of GMP in Kampung Lontong Surabaya. The research employed a descriptive observational design, which seeks to illustrate existing conditions without administering any interventions to the observed objects. Data were collected using questionnaires and observation checklists. The data were analyzed descriptively through tabulation. The implementation of GMP during the lontong production process was found to have several critical control points, as the production environment presented a relatively high risk of contamination. Overall, the food production practices in Kampung Lontong have not yet fully adopted GMP standards. It is recommended that producers place greater emphasis on personal hygiene and food sanitation, beginning with proper washing of raw ingredients and continuing through to the transportation of finished food products.</p>

INTRODUCTION

Good Manufacturing Practices (GMP) serve as fundamental guidelines within food production systems, aiming to ensure the safety, quality, and suitability of final food products for consumption. GMP is considered a critical prerequisite for the implementation of food safety management systems based on Hazard Analysis and Critical Control Points (HACCP) in production units (Ministry of Industry, 2010). The implementation of GMP enables the control of potential hazards originating from biological, chemical, or physical contaminants and promotes hygienic production practices—beginning from raw material selection and the use of food additives, through processing, storage, packaging, and distribution (WHO, 2020).

In practice, the implementation of GMP in small-scale and household-level food businesses continues to face multiple challenges, particularly in relation to infrastructure, business owners' knowledge, and quality control systems. A notable example is Kampung Lontong in Surabaya, located on Jalan Banyu Urip Lor No.X, Kupang Krajan, Sawahan District, Surabaya City. This area is recognized as a central hub for the production of lontong, a traditional Indonesian rice-based food product that plays a central role in various Surabaya

culinary dishes. The majority of Kampung Lontong residents rely on lontong production as their primary livelihood, which has been passed down through generations (Sari, 2018).

However, food processing practices in this area remain largely traditional, utilizing basic equipment and production spaces that are integrated with residential areas. Such conditions potentially increase the risk of cross-contamination and compromise the quality of food products (Murti & Wahyuningdyah, 2023). Previous studies have demonstrated that the consistent application of GMP principles in micro- and small-scale enterprises can significantly enhance production hygiene and reduce microbiological contamination incidents (Rahmawati et al., 2021). Therefore, examining the extent of GMP implementation in household-scale industries such as those in Kampung Lontong is essential to support community-level food safety system strengthening. Based on this background, this study aims to identify and evaluate the implementation of Good Manufacturing Practices (GMP) principles in the lontong production process in Kampung Lontong, Surabaya.

METHODS

This study is an observational research with a descriptive approach, aiming to describe the implementation of Good Manufacturing Practices (GMP) among home industry business operators in Kampung Lontong. Based on the timing of data collection, the study employed a cross-sectional design, in which data were gathered at a single point in time without any intervention on the research subjects. The population of this study consisted of all home industry operators who are members of the Kampung Lontong community group, totaling 76 individuals. The sample included 10 respondents selected through simple random sampling from the entire population. The sample size was determined by considering the representativeness of business characteristics and the limitations of research resources. Data were collected using two instruments: a structured questionnaire and an observation sheet. The questionnaire was designed to obtain information on respondent characteristics and production practices, while the observation sheet was used to directly assess GMP implementation at the business premises. Both instruments underwent content validity assessment by experts in food safety. Data analysis was conducted descriptively, presenting frequency distributions and percentages for each GMP assessment component. The evaluated aspects included: (1) food ingredient safety, (2) collection and storage of food materials, (3) food processing or preparation, (4) food transportation, (5) storage of finished food products, and (6) food serving. The analysis results are presented in tables and supported by narrative descriptions to enhance understanding of the level of GMP implementation at the study site.

RESULTS

Product and Raw Material Description

Table 1. Description of Lontong Product and Raw Materials in Kampung Lontong, Surabaya

Product Name	: Lontong
Raw Materials:	: Materials:
	1. Rice
	2. Water

Characteristics	: The outer surface of lontong is usually brown or dark green in color, while the inside is white. This appearance is due to the steaming process, where the rice is wrapped in klutuk banana leaves.
Preservation Method	: No preservation method is applied to lontong, resulting in a shelf life of only 1–2 days.
Primary Packaging Type	: Klutuk banana leaves
Storage Conditions	: Lontong is stored wrapped in klutuk banana leaves, secured with small wooden sticks (lidi).
Shelf Life	: 1–2 days
Special Label	: No production label is provided
Usage Information	: No production code is indicated
Distribution Method	: Distribution is carried out using motorcycles
Usage Identification	: This food is classified as “ready to eat”

Source: Primary Data, 2024

GMP Observation Results

Efforts in Food Ingredient Safety

The selection of raw materials for lontong production in Kampung Lontong is based on specific criteria. The rice used is a special imported variety from Myanmar, obtained from a BULOG supplier. It is packaged in 50 kg sacks, stored, and stacked as weekly stock. Additionally, the banana leaves used are of the klutuk variety, sourced from Malang. The use of specific raw material criteria ensures consistent product quality. In terms of food ingredient safety, the lontong producers have established specifications that must be met to maintain quality. Thus, raw materials undergo quality screening prior to use.

Efforts in Collection and Storage

The main raw material, rice, is stored indoors in 50 kg sacks. However, there is no designated storage room (warehouse); hence, the raw materials are stored together with other items. There is no vector or insect control in place, making the storage area potentially vulnerable to contamination.

Efforts in Food Processing

The lontong production process begins with the preparation of raw materials: klutuk banana leaves, specialty rice, water, and bamboo skewers. The banana leaves are cleaned using a dry cloth before being cut and shaped into wrappers. The rice is washed and drained, then wrapped in banana leaves and sealed at both ends with skewers. The wrapped rice is then steamed in a water-filled pot for approximately 6–8 hours. The water used is sourced from the local PDAM, meeting GMP recommendations that water must be potable and free from pathogenic bacteria and other contaminants.

Once cooked, the lontong is drained and directly distributed to vendors in the market. The product remains consumable for up to two days.

However, based on observation, food handlers do not wear personal protective equipment (PPE) such as gloves and masks, which may lead to cross-contamination. Interview results indicate that there has been no hygiene and sanitation education, no routine health checks for food handlers, and no food safety training.

The GMP implementation during the production process has several critical points due to high contamination risk. The production site is semi-outdoor, small, densely populated, and lacks proper cleanliness. The steaming pot used is encrusted with residue and only cleaned once a week. Additionally, the banana leaves used as wrappers are prone to contamination, as they are only wiped with a dry cloth.

Efforts in Food Transportation

The cooked lontong is immediately distributed to market vendors using motorcycles. The transportation process is not sufficiently protected from contaminants, as the products are carried in open baskets without sealed containers.

Efforts in Food Storage

The finished lontong is stored in open storage baskets. During packaging and storage, food handlers do not wear PPE. The storage location is in an open area, making the food easily accessible to vectors and animals, increasing the risk of contamination.

Efforts in Food Serving

The final product is served wrapped in klutuk banana leaves. The packaging lacks branding or labeling. The lontong is directly distributed to markets without any additional food safety measures.

DISCUSSION

The implementation of Good Manufacturing Practices (GMP) was assessed based on six aspects: food safety, food ingredient collection/storage, food transportation, food storage, and food presentation. Field observations in Kampung Lontong revealed that GMP has not yet been applied in the production process. This indicates that Small and Medium Enterprises (SMEs) in Kampung Lontong, Surabaya, have not yet implemented GMP, which undoubtedly affects the quality and competitiveness of the products produced. If this situation persists, it may compromise consumer food safety (Hanidah et al., 2018).

The food safety measures observed in Kampung Lontong have not aligned with GMP guidelines issued by the Ministry of Agriculture. According to these guidelines, raw materials must be derived from healthy agricultural products and must be free from pests/diseases, pesticides, dirt, and other contaminants (Iftitah et al., 2022). Other studies (Condro and Santoso, 2017) have emphasized that hazardous substances can enter the body through contaminated food, causing illness or poisoning. Therefore, it is essential to minimize the risk of processed food contamination, starting from the procurement of raw materials.

Regarding food ingredient collection and storage, Kampung Lontong lacks a dedicated storage facility. This finding is consistent with the study by Iftitah et al. (2022), which noted that most SMEs do not track the origin of raw materials and do not have designated storage rooms. In the current practice, raw materials are simply piled up on house porches, often near bird cages, which increases the risk of contamination from bird droppings.

The food processing practices in Kampung Lontong remain traditional, using basic equipment. Both employees and business owners show limited understanding of GMP. In fact, all personnel involved in production must be aware of proper standard operating procedures to reduce foodborne illness risks arising from contamination by raw materials, tools, or workers. Food industry owners also have a responsibility to ensure their products meet legal standards, so the resulting food products are high-quality and safe for consumers. The implementation of GMP in food processing businesses brings various advantages, including increased customer trust, improved company image and competence, expanded opportunities to enter global markets through non-toxic packaging (free of chemical, physical, or biological hazards), and enhanced product knowledge (Hanidah et al., 2018).

The water used to wash rice as a raw material for lontong comes from the municipal water supply (PDAM), meeting GMP standards from the Ministry of Agriculture, which recommend that the water used in food processing must be potable and free from pathogenic bacteria and other contaminants (Ministry of Agriculture, 2008).

The cleaning process of equipment includes steps such as removing debris, washing with detergent to kill microorganisms, and rinsing with water. Dirty equipment must be cleaned immediately to facilitate the removal of leftover food residues (Sari, 2016). Equipment and utensils in the production area—particularly those in direct contact with food—must have smooth surfaces, be rust-resistant, waterproof, chemically resistant, and easy to clean (Bimantara and Triastuti, 2018).

Transportation tools must be easy to clean and should protect the products from dust and dirt contamination. These tools also need to be cleaned daily by the sanitation team (Sari, 2019). The storage and transportation aspects are generally neglected by SMEs, as most do not pay attention to cleanliness and sanitation during storage and delivery. Additionally, they lack dedicated product storage facilities (Condro and Santoso, 2017).

Final product storage is labeled with stickers indicating the production date, and these labels are attached to storage baskets. The FIFO (First In First Out) system is applied by referring to these dates. Products made earlier are placed on top so they will be used first by employees (Sari, 2019).

Packaging and serving practices in Kampung Lontong do not yet comply with GMP recommendations. For example, workers responsible for packing do not use gloves, allowing potential contamination by bacteria or other agents that can affect product quality. Packaging, both primary and secondary, is a critical method to protect food products from chemical and microbiological contamination, physical damage due to friction, vibration, or impact, oxygen and water vapor from the environment, and animal interference (such as insects), thereby maintaining product quality and safety during storage (Hanidah et al., 2018).

It is essential that home-scale food industries in Kampung Lontong Surabaya receive adequate training and supervision regarding proper food processing practices. This is necessary to ensure the production of high-quality food that is free from biological, chemical, and physical contaminants, which can negatively impact public health (Setiawan, Idayati, and Pramita, 2021).

CONCLUSION

In the food production process in Kampung Lontong, Good Manufacturing Practices (GMP) have not yet been implemented. The application of GMP during the production of lontong is particularly critical, as the production site poses a high risk of contamination. This is due to its semi-outdoor setting, limited space, dense surrounding residential area, and generally poor hygiene conditions. It is recommended that producers pay greater attention to personal hygiene and food sanitation, starting from the washing of raw materials to the transportation of the final products. The local Health Office and Community Health Center (Puskesmas) are expected to provide outreach related to Home Industry Food Certification (PIRT) and deliver food handler training programs targeted at the home industries in Kampung Lontong.

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