Journal of Culinary Technology and Education

Volume 1, No. 1, Inaugural Issue 2024 (1-11)

Online: https://journal.uny.ac.id/publications/jcte

Sanitation and Hygiene Practices of Culinary Entrepreneurs in Tourist Villages During the New Normal Era

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Received: 22 June 2024 **Accepted:** 29 June 2024 **Published:** 30 June 2024

ABSTRACT

This study investigates the implementation of hygiene and sanitation practices by culinary entrepreneurs in Mulo Tourism Village, focusing on food, equipment, personal, and environmental hygiene. It also explores tourist perceptions of these practices. Utilizing a mixed-methods approach with a case study design, data were gathered through observation, interviews, documentation, and questionnaires. The study involved Mulo Tourism Village managers, culinary entrepreneurs, and 100 tourists or consumers sampled from a population covering 2020 to 2022. The findings reveal that while food hygiene practices are generally well-implemented, some standards are not met, such as leaving food uncovered. Equipment hygiene is compromised due to the use of damaged tools, and personal hygiene is insufficient as some entrepreneurs neglect mask-wearing and proper attire. Environmental hygiene meets standards given the available facilities. Notably, 55% of respondents rate the overall hygiene and sanitation practices as moderate. These findings highlight areas needing improvement to enhance food safety and tourist satisfaction in Mulo Tourism Village.

Keywords: Hygiene and sanitation ımplementation, tourism village, culinary entrepreneurs

INTRODUCTION

The COVID-19 pandemic, originating in Wuhan, China in late 2019, rapidly escalated into a global health crisis. On January 30, 2020, the World Health Organization (WHO) declared COVID-19 a Public Health Emergency of International Concern. By March 2020, Indonesia had reported its first cases, and by May 2021, confirmed cases exceeded 1.7 million. The Indonesian government responded with stringent measures, including Large-Scale Social Restrictions, significantly affecting various sectors, particularly tourism. The tourism sector, including culinary businesses, faced substantial financial setbacks due to reduced activities and temporary closures.

The economic downturn was stark, with a survey indicating that culinary entrepreneurs experienced the most significant revenue declines, contributing to a 5.32% contraction in the second quarter of 2020. In

https://doi.org/10.21831/jcte.v1i1.503

response, the government introduced health protocols under the new normal era to resume economic activities while preventing virus transmission. A notable initiative was Minister of Health Decree HK.01.07/Menkes/382/2020, which mandated health protocols for public places, including physical distancing, mask-wearing, and personal hygiene. Mulo Tourism Village in Gunungkidul, Yogyakarta, known for attractions like Goa Ngingrong and a tourism market, faced the challenge of adhering to these guidelines while reopening.

Despite its strategic location and facilities, Mulo Tourism Village's culinary sector faces the critical challenge of implementing strict hygiene and sanitation practices to prevent COVID-19 transmission. Ensuring proper hygiene is essential for maintaining food quality and consumer safety. However, inadequate adherence to these practices among culinary entrepreneurs could result in new COVID-19 clusters, posing a significant public health risk.

To address this issue, the government and various organizations have emphasized the importance of promoting hygiene and sanitation among culinary MSMEs (Alexandra, 2023). The implementation of health protocols and community outreach initiatives are vital steps towards achieving these goals. This study aims to fill the gap in understanding the actual implementation of hygiene and sanitation practices among culinary entrepreneurs in Mulo Tourism Village.

Training programs have proven essential in educating communities on hygiene, sanitation, and work safety practices related to culinary activities (Juniari & Pranadewi, 2021). These programs offer insights into hospitality, hygiene, and sanitation, providing individuals with the knowledge and skills necessary to maintain high standards of cleanliness in their culinary ventures. Such educational initiatives are crucial for ensuring that culinary entrepreneurs are well-equipped to adhere to health protocols.

Research emphasizes the significance of hygiene and sanitation in culinary tourism destinations. Culinary tourism contributes to the local economy and requires a focus on hygiene, sanitation, and hospitality to ensure a positive visitor experience (Antara, 2022). Restaurant owners must prioritize cleanliness and sanitation practices to enhance the dining experience and promote sustainable tourism development.

Additionally, studies on women empowerment in culinary enterprises underscore the role of training, coaching, and empowerment in standardizing culinary practices, including hygiene and sanitation protocols (Salain, 2024). Empowerment efforts are vital for ensuring food quality and safety in culinary establishments, particularly in tourist villages. These findings highlight the need for comprehensive training and support for culinary entrepreneurs to improve hygiene standards and promote sustainable tourism.

Research on food hygiene and sanitation practices among culinary MSMEs indicates a significant variation in adherence to standards. While some entrepreneurs follow strict protocols, others lack the necessary knowledge or resources to implement effective practices (Firdani, 2022). Factors such as personal hygiene, equipment sanitation, and environmental cleanliness are critical but often inadequately addressed (Rahman et al., 2018).

In Mulo Tourism Village, the challenge is compounded by the need to balance traditional culinary practices with modern health protocols. Studies have shown that training and community outreach can significantly improve hygiene practices among culinary entrepreneurs (Jores et al., 2018). However, there is a lack of specific data on the effectiveness of these interventions in the context of tourist villages during the new normal era.

By addressing these aspects, this research contributes to the existing body of knowledge on hygiene and sanitation practices in the tourism sector, particularly in the context of the COVID-19 pandemic. The findings will inform policy-making and the development of targeted interventions to enhance hygiene standards among culinary entrepreneurs, ultimately promoting safer and more sustainable tourism practices.

PURPOSE OF THE STUDY

The study aims to assess (1) food hygiene, (2) equipment hygiene, (3) personal hygiene, (4) environmental hygiene, and (5) tourist perceptions of these practices. This research provides critical insights for improving hygiene standards, ensuring public health, and supporting the sustainable reopening of tourist destinations during the pandemic.

METHOD

This study employs a mixed-methods approach with a case study design. Mixed methods involve the simultaneous use of both qualitative and quantitative research methods (Sugiyono, 2011). A case study is a detailed and systematic data collection process about individuals, events, or social settings using various methods, techniques, and sources to effectively understand how these elements function within their context (Arikunto, 2010). This research uses an embedded design in mixed methods, where one set of data supports the other by integrating different data sets (Arikunto, 2010). The research was conducted from November 2021 to November 2023 in Mulo Tourism Village, Mulo Village/Kelurahan, Wonosari District, Gunungkidul Regency, Yogyakarta Special Region.

Participants

The subjects of this research include the managers of Mulo Tourism Village as key instruments, culinary entrepreneurs as primary instruments, and the Tourism Office as a supporting instrument. The population of this research comprises consumers or tourists of Mulo Tourism Village. The research uses purposive sampling, selecting participants who have visited Mulo Tourism Village, particularly the Tourism Market area, during the pandemic from 2020 to 2022. The sample size was calculated using the Lemeshow formula, resulting in 100 samples.

Data Collection and Analysis

The research utilizes interviews, observations, documentation, and questionnaires for data collection. The instruments include interview guides, observation guides, documentation guides, and digital questionnaires. The study describes data obtained from interviews, observations, and documentation, as well as the results of the questionnaire analysis. Qualitative data from interviews, observations, and documentation will be analyzed using data reduction to simplify the findings by extracting the essence of the data until conclusions are drawn. Data display involves presenting data using tables, graphs, or charts for clear visibility, followed by drawing conclusions from the available data (Sugiyono, 2018) and describing them descriptively.

Quantitative data analysis using descriptive statistics provides an overview of the data in terms of mean, minimum, maximum, and standard deviation (Ghozali, 2018). Data processing includes calculating the mean and standard deviation using Microsoft Excel 2010 and then categorizing the results. The categories used are low, medium, and high, based on a three-tier scale.

FINDINGS AND DISCUSSION

Food Hygiene and Sanitation Practices of Culinary Entrepreneurs in Mulo Tourism Village Market

The data shows that the raw food materials used are fresh and of good quality. Dry and wet ingredients are stored separately. However, despite the culinary entrepreneurs' claims of proper food

storage, observations and documentation reveal that some food items are not adequately covered during the presentation.

Using high-quality ingredients results in good-quality food. According to the Minister of Health Decree No. 1096/Menkes/Per/VI/2011 on Food Services, processed food ingredients must be of good quality, fresh, not rotten, free of hazardous substances, and registered with the health department. This aligns with previous research by Hapsari (2018), which emphasizes the importance of processing high-quality ingredients.

Proper storage of food ingredients prevents contamination. The same decree states that food ingredients should be stored separately according to their characteristics and handled carefully from processing to serving. This finding is supported by Syafran (2020), who asserts that stored food should be placed in designated areas.

Good food presentation requires covering to prevent contamination from dust, germs, viruses, or bacteria. The Minister of Health Decree No. 1096/Menkes/Per/VI/2011 specifies that food must be properly covered and packaged to avoid contamination, as consuming contaminated food can be dangerous.

Equipment Hygiene and Sanitation Practices of Culinary Entrepreneurs in Mulo Tourism Village Market

Data from interviews indicate that the equipment used is mold-free. However, observations reveal some rattan equipment is moldy. While most equipment is made from safe materials, some culinary entrepreneurs use damaged tools. The equipment is cleaned with running water and soap, and wet and dry items are stored separately. Single-use items for packaging are disposed of after one use.

The Minister of Health Decree No. 1096/Menkes/Per/VI/2011 stipulates that equipment must meet hygiene and sanitation standards, be undamaged, and made of safe materials. Field observations indicate that the implementation of equipment hygiene and sanitation requires further guidance.

The same decree states that equipment cleaning must use appropriate cleaning agents or detergents. Syafran (2020) highlights that cleaning is essential to maintain equipment hygiene and sanitation, ensuring their usability.

Personal Hygiene and Sanitation Practices of Culinary Entrepreneurs in Mulo Tourism Village Market

Data collected through interviews, documentation, and observations show consistency across most aspects. The findings indicate that all culinary entrepreneurs are in good health and maintain personal hygiene, including clean nails, hair, and clothing. While they claim to wear the necessary protective gear, observations show some entrepreneurs do not wear aprons or masks during food preparation.

The Minister of Health Decree No. 1096/Menkes/Per/VI/2011 requires food handlers to be free of contagious diseases and cover any open wounds. This is consistent with Hapsari's (2018) study, which references the Minister of Health Decree No. 942/Menkes/SK/VII/2003 on Food Hygiene and Sanitation Requirements, stating that food handlers must not have easily transmissible diseases such as coughs, colds, or diarrhea. Therefore, culinary entrepreneurs must be in excellent health when handling food.

The same decree also mandates food handlers to wear aprons and head coverings. The government has also recommended wearing masks to prevent disease transmission, particularly during the pandemic. There is a need to reinforce the importance of wearing masks, as the virus spreads easily through the air. Food handlers must maintain personal hygiene, including washing hands before directly handling food.

Environmental Hygiene and Sanitation Practices of Culinary Entrepreneurs in Mulo Tourism Village Market

Data from interviews, documentation, and observations indicate consistency. The market has good air circulation, handwashing facilities with running water and soap, separate bins for organic and inorganic waste, and clean toilets. Overall, the market environment is clean, comfortable, and well-maintained.

The Minister of Health Decree No. 1096/Menkes/Per/VI/2011 specifies that business premises must have good air circulation, adequate lighting, waste disposal facilities, handwashing stations with soap, and clean toilets. Hapsari (2018) also notes that achieving environmental hygiene and sanitation involves clean water and soap, waste disposal facilities, and clean work areas.

Hygiene and Sanitation Practices According to Tourists/Consumers

Food Hygiene and Sanitation

Based on Table 1, 15% fall into the low category, 50% in the moderate category, and 35% in the high category, totaling 100%. The average scores for each sub-indicator were calculated using the average formula to identify the highest points. The quality of ingredients scored in Figure 1 was 3.56, presentation scored 3.45, and storage scored 3.38.

Table 1. Evaluation of Food Hygiene and Sanitation

Category Interval	Category	Frequency	Percentage
X < 15	Low	15	15%
15 ≤ X < 20	Moderate	50	50%
20 ≤ X	High	35	35%

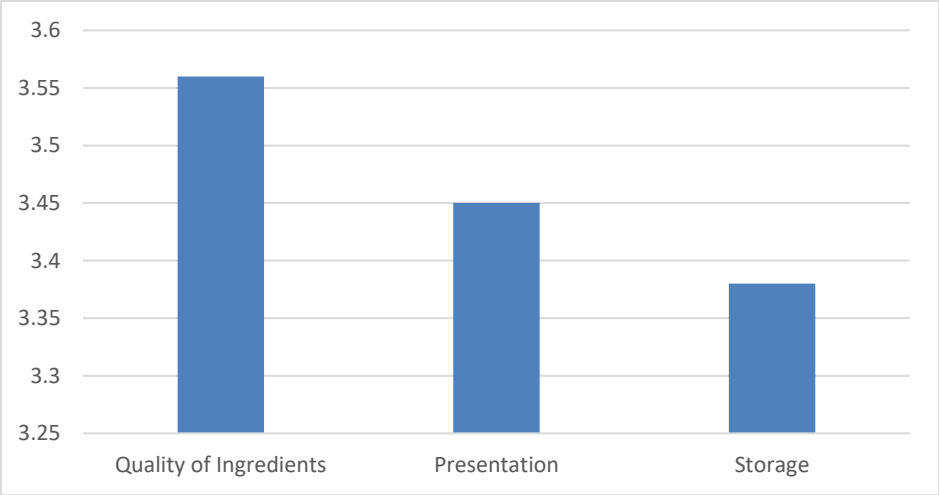

Figure 1. Sub-Indicator of Food Hygiene and Sanitation

Food Hygiene and Sanitation

Based on Table 2, 14% fall into the low category, 46% in the moderate category, and 40% in the high category, totaling 100%. The average scores for each sub-indicator were calculated using the average formula to identify the highest points. The equipment quality scored in Figure 2 was 3.38, and equipment usage and treatment scored 2.44.

Table 2. Evaluation of Equipment Hygiene and Sanitation

Category Interval	Category	Frequency	Percentage
X < 17	Low	14	14%
17 ≤ X < 23	Moderate	46	46%
23 ≤ X	High	40	40%

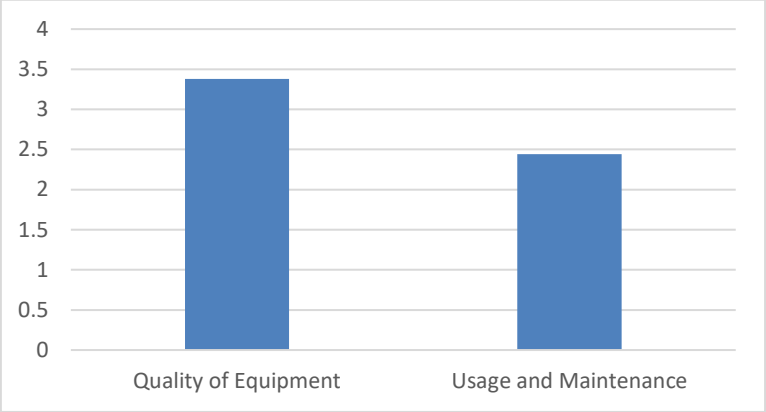

Figure 2. Sub-Indicator of Equipment Hygiene and Sanitation

Personal Hygiene and Sanitation

Based on Table 3, 17% fall into the low category, 51% in the moderate category, and 32% in the high category, totaling 100%. The average scores for each sub-indicator were calculated using the average formula to identify the highest points. The personal preparation scored in Figure 3 was 3.37, and cleanliness behavior scored 3.43.

Table 3. Evaluation of Personal Hygiene and Sanitation

Category Interval	Category	Frequency	Percentage
X < 23	Low	17	17%
23 ≤ X < 32	Moderate	51	51%
32 ≤ X	High	32	32%

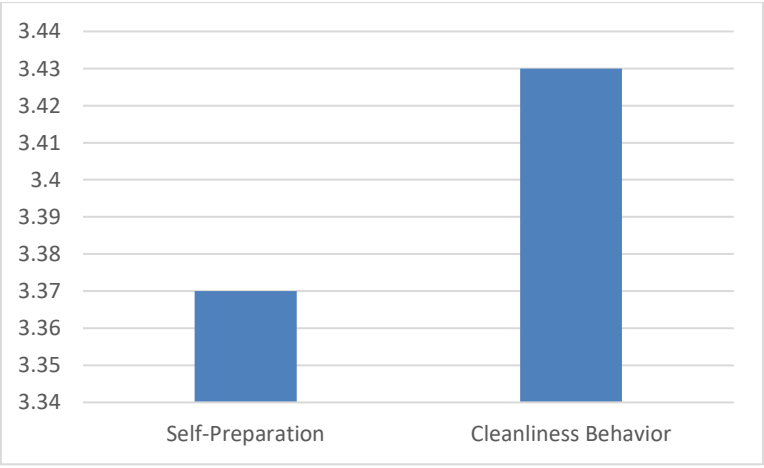

Figure 3. Sub-Indicator of Personal Hygiene and Sanitation

Hygiene Environment Sanitation

Based on Table 4, 8% of the hygiene environment sanitation falls into the low category, 59% into the moderate category, and 33% into the high category. No average point calculations were performed because there are no sub-indicators for environmental hygiene sanitation in this study.

Table 4. Evaluation of Hygiene Environment Sanitation

Category Interval	Category	Frequency	Percentage
X < 20	Low	8	8%
20 ≤ X < 28	Moderate	59	59%
28 ≤ X	High	33	33%

Overall Hygiene Sanitation

For the overall hygiene sanitation in Table 5, 14% falls into the low category, 55% into the moderate category, and 31% into the high category. The average scores for each sub-indicator in Figure 4 were calculated using the average formula to identify the highest points, resulting in 3.44 for food, 3.41 for equipment, 3.40 for personal hygiene, and 3.47 for the environment.

Table 5. Evaluation of Overall Hygiene Sanitation

Category Interval	Category	Frequency	Percentage
X < 76	Low	14	14%
76 ≤ X < 102	Moderate	55	55%
102 ≤ X	High	31	31%

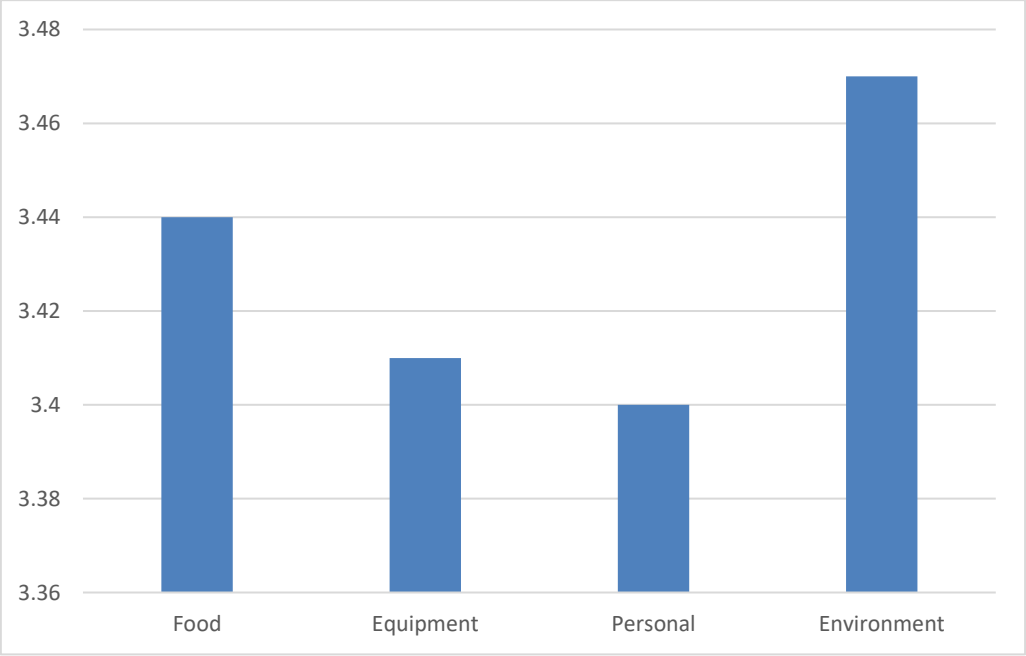

Figure 4. Sub-Indicator of Overall Hygiene Sanitation

The implementation of food hygiene and sanitation is still not optimal, falling into the moderate category with 50%. The average point calculation showed that storage has the lowest score, with consumers reporting that some food items were not covered. This contrasts with the statements of culinary entrepreneurs who claimed to have fully implemented hygiene and sanitation practices. The observations align with the questionnaire results given to tourists, revealing that not all aspects of food presentation are

properly covered. This finding is supported by documentation showing that some food presentations were indeed not adequately covered.

The aspects of equipment hygiene and personal hygiene also fall into the moderate category. This finding is consistent with observations and documentation, which indicate that some aspects do not meet the standards set by the Minister of Health Decree No. 1096/Menkes/Per/VI/2011.

The environmental aspect also falls into the moderate category. However, observations and documentation show different results. Facilities and the surrounding environment meet the requirements of the Minister of Health Decree on Food Service Hygiene Sanitation. The open space provides good air circulation and lighting, clean toilets, and an adequate number of trash bins and handwashing stations with soap.

DISCUSSION

The implementation of food hygiene and sanitation practices by culinary entrepreneurs in Mulo Tourism Village Market revealed significant gaps. Despite claims of proper food storage, observations showed that some food items were left uncovered, posing contamination risks. While high-quality ingredients were used, the presentation and storage practices need improvement. Equipment hygiene and sanitation were also inadequate, with some tools found to be damaged or moldy. This lack of adherence to guidelines highlights the necessity for better equipment maintenance and cleaning protocols. Personal hygiene among culinary entrepreneurs showed mixed results; although most maintained good hygiene, some did not consistently use protective gear such as aprons and masks. Environmental hygiene practices were generally satisfactory, featuring good air circulation, handwashing facilities, and waste management systems. However, overall implementation was moderate. Tourists' perceptions underscored the need for improved food and equipment hygiene, reinforcing the necessity of enhanced training and stricter enforcement of health protocols.

The implementation of food hygiene and sanitation practices by culinary entrepreneurs in Mulo Tourism Village Market revealed significant gaps. Despite claims of proper food storage, observations and documentation showed that some food items were left uncovered, posing contamination risks. This discrepancy highlights the need for continuous monitoring and stricter enforcement of food hygiene standards. High-quality ingredients were found to be used, but the presentation and storage practices need improvement. These findings align with previous research (Hapsari, 2018) and support the necessity of maintaining high standards in food handling to prevent health hazards.

Equipment hygiene and sanitation also fell short of standards, with some tools found to be damaged or moldy. This suggests a lack of adherence to the guidelines set by the Minister of Health Decree No. 1096/Menkes/Per/VI/2011, emphasizing the importance of using safe and undamaged equipment. The cleaning and maintenance of equipment must be enhanced to ensure hygiene and prevent contamination, corroborating the findings of Syafran (2020).

Personal hygiene among culinary entrepreneurs showed mixed results. While most entrepreneurs maintained good personal hygiene, some did not consistently use protective gear such as aprons and masks. This gap indicates a need for reinforced training and awareness programs about the importance of personal hygiene in food safety, as supported by the Minister of Health Decree No. 942/Menkes/SK/VII/2003 and the findings of Hapsari (2018).

The environmental hygiene and sanitation practices were generally satisfactory, with good air circulation, handwashing facilities, and waste management systems in place. However, the overall implementation was still categorized as moderate, indicating areas for improvement, particularly in maintaining consistent hygiene practices across all aspects of the market environment.

The moderate implementation of hygiene and sanitation practices in Mulo Tourism Village is consistent with findings from other studies in similar settings. For instance, Annas et al. (2021) reported that hygiene and sanitation practices in small food establishments often fall short of optimal standards due to limited resources and awareness. Similarly, Syafran (2020) highlighted that equipment and personal hygiene practices in traditional markets are frequently inadequate, leading to potential health risks. However, the relatively higher scores in environmental hygiene in this study contrast with Dewi (2022), who found that environmental sanitation in restaurants during the new normal era often remained substandard due to inconsistent adherence to health protocols.

The findings align with existing literature emphasizing the importance of maintaining high standards in food hygiene to prevent health hazards (Wulandari, 2023; Tiwari & Banerjee, 2019). Similar studies have found variations in adherence to good hygiene practices, indicating a need for continuous improvement and monitoring (Muchtar, 2020). Equipment hygiene is critical, as noted by Ndungu et al. (2015), who stress the importance of clean and sanitized equipment in food production settings. Observations from Nurlena (2024) also support the need for targeted enhancements in equipment hygiene. Personal hygiene practices are crucial for preventing foodborne diseases, as highlighted by Gulumbe et al. (2019) and Lawan et al. (2015), who found that good personal hygiene is essential for ensuring food safety. However, consistent use of protective gear remains a challenge, as indicated by Husain et al. (2016), who reported that training significantly improves personal hygiene practices among food handlers.

The importance of these findings lies in their implications for public health and the sustainability of tourism in Mulo Tourism Village. Effective implementation of hygiene and sanitation practices is essential for ensuring food safety and enhancing consumer confidence, especially during the ongoing pandemic. Addressing gaps in food storage and personal hygiene through targeted training and stricter enforcement of health protocols could mitigate health risks and promote safer dining environments. The study suggests that infrastructure improvements in environmental hygiene can significantly enhance overall sanitation outcomes, offering a potential area for policy focus and investment. These findings contribute to the broader understanding of hygiene and sanitation practices in tourism contexts, providing valuable insights for policymakers and stakeholders in the tourism and culinary sectors (Wulandari, 2023; Tiwari & Banerjee, 2019; Muchtar, 2020; Ndungu et al., 2016; Nurlena, 2024; Gulumbe et al., 2019; Lawan et al., 2015; Husain et al., 2016).

CONCLUSION

This study sufficiently answers the research objectives by investigating the implementation of food, equipment, personal, and environmental hygiene and sanitation practices by culinary entrepreneurs in Mulo Tourism Village Market. The findings indicate that while high-quality ingredients are used, food presentation and storage practices need significant improvement. Equipment hygiene is compromised by the use of damaged tools, and personal hygiene is inconsistent, with some entrepreneurs not using protective gear. Environmental hygiene practices meet standards but still fall into the moderate category. These conclusions are based on comprehensive data collection and analysis, highlighting the importance of continuous monitoring and enforcement of hygiene standards to ensure food safety and public health. The study's implications suggest the need for targeted training programs, stricter regulatory enforcement, and ongoing research to improve hygiene practices in tourism markets, ultimately contributing to better health outcomes and economic stability.

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