BE AWARE MGA SUKI: PRACTICES OF FOOD SAFETY AND APPROPRIATE HYGIENE AMONG SIDEWALK VENDORS IN BALAYAN, BATANGAS

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Abstract

This study emphasizes the importance of enhancing food safety and hygiene practices among sidewalk vendors to safeguard public health in Balayan Public Market. Employing a mixed-methods approach, with both quantitative and qualitative components, a diverse sample of 55 consumers, 5 sidewalk vendors, and 5 market administrators was selected using a combination of purposive and random sampling techniques under non-probability sampling. Microbial investigations were conducted during both the initial sampling and testing phase (A) and subsequent sampling and testing phase (B) on popular street food items at Lipa Quality Control Inc., including chicken nuggets, chicken nugget sauce (sweet and vinegar), Isaw, Isaw sauce, Proben, Proben sauce, Calamares, Calamares Vinegar Sauce, Kwek-Kwek, and Kwek-Kwek sauce. The findings reveal that "Isaw and Chicken Nuggets Sauce (Sweet)" had a result of "Too Numerous To Count (TNTC)," indicating an extraordinarily high bacteria count. This underscores the imperative need to raise awareness and provide targeted guidance to sidewalk vendors regarding essential food handling, storage, and sanitation practices. Therefore, a sanitary action plan is developed to promote community engagement, educational initiatives, and regulatory support, enhancing food safety practices among sidewalk vendors and ensuring a safer and healthier food environment.

Keywords: *Food Safety, Appropriate Hygiene, Microbial Investigation, Too Numerous To Count (TNTC)*

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Introduction

Street food vending has emerged as a prominent and integral component of the informal food sector, particularly within the bustling urban landscapes of developing countries. The phenomenon experienced a significant surge, driven by the dual forces of urbanization and globalization, thereby embedding itself as a ubiquitous presence in the daily lives of city residents. Despite its widespread popularity, the dynamism of street food vending was accompanied by a set of challenges, notably in the realm of public health, as underscored by Kg (2021). While street foods played a pivotal role in meeting the culinary needs of urban populations, particularly those facing economic constraints, persistent concerns regarding hygiene cast a shadow over their otherwise celebrated role.

At its core, street food vending involved the preparation and sale of food from mobile or portable setups, typically situated on sidewalks or within public spaces. Catering to individuals seeking swift, economical, and convenient meal options on the go, this culinary commerce manifested itself in a diverse array of offerings, ranging from regional specialties to universally cherished favorites like barbeque and hamburgers. The operational modes adopted by street food vendors varied, utilizing carts, trucks, or stalls strategically positioned during specific times, gatherings, festivals, or popular sites to captivate potential customers. The success of such ventures hinged on meticulous planning, culinary proficiency, effective marketing, and unwavering adherence to health and safety guidelines.

However, the popularity of street food did not shield it from concerns associated with food safety. The makeshift and often open-air nature of street food stalls exposes consumers to potential health risks, including the transmission of foodborne pathogens. Issues such as improper food handling, inadequate waste disposal, contaminated water sources, and suboptimal storage conditions contributed to these risks, resulting in the occurrence of foodborne illnesses (Tefari, 2020).

Recognizing the paramount importance of food safety within the context of street food vending, this study was devoted to investigating the food safety and hygienic practices of street food vendors in the vibrant locale of Balayan, Batangas. Positioned as a first-class municipality, Balayan boasted a dynamic street food scene, particularly evident in its 'población' during peak hours. This research aimed to scrutinize the practices among street food vendors in the area, shedding light on their approaches and challenges. Such insights were deemed crucial to addressing current issues and ensuring the safety of the food available. By examining the methods and processes employed by street food vendors, valuable insights could be gleaned to promote better food safety practices, ultimately contributing to the overall improvement of the street food vending industry in Balayan, Batangas, and benefiting both vendors and consumers alike (Fernandez, 2019).

The imperative for this study became even more apparent when considering the observed lack of substantial experience and knowledge among street food vendors. Numerous studies have exposed the failure to adhere to fundamental hygiene regulations, such as the appropriate use of attire and hand cleanliness. Additionally, a significant portion of vendors remained unaware of essential practices, including the separation of cooked and raw food, thorough food preparation, and safe storage. The unhygienic circumstances prevalent among street food vendors posed a

substantial threat to food safety, highlighting the need for targeted training programs and awareness initiatives. Strengthening vendors' expertise, attitudes, and practices was paramount in mitigating these risks.

Moreover, this study was propelled by the recognition of a noteworthy gap in locally conducted research on this specific topic. The dearth of comprehensive understanding underscored the urgency of investigating the street food vending landscape in Balayan, Batangas, and its implications for public health. Through this research, the aim was not only to unearth potential challenges but also to pave the way for informed interventions that could enhance the safety and overall quality of street-vended food in the municipality. This investigation was poised to significantly contribute to the existing body of knowledge, serving as a foundational resource for future research and interventions in the realm of street food safety and hygienic practices.

Statement of the Problem

The primary objective of this study was to evaluate the practices of sidewalk vendors and the management of marketplaces concerning food safety and hygiene, as well as gauge consumer perceptions regarding these aspects. To address this, the research aimed to answer the following specific questions:

1. What are the microbial findings obtained from food testing during the initial sampling/testing phase (A) and subsequent sampling/testing phase (B)?
2. How do sidewalk vendors implement food safety practices when handling and preparing food?
3. To what extent do sidewalk vendors adhere to the food safety practices enforced by the market administration?
4. What are the perceptions of consumers regarding the food safety practices of sidewalk vendors?
5. Based on the findings of the study, what sanitary action plan can be proposed to enhance food safety and hygiene practices within the sidewalk vending and market administration contexts?

Methodology

This study utilized an explanatory mixed-methods and IPO framework to identify the practices of food safety and appropriate hygiene among sidewalk vendors in Balayan, Batangas. The explanatory design involved the sequential use of quantitative and qualitative techniques. The initial phase of the study employed quantitative research methods to collect numerical data from the target population, such as surveys, questionnaires, or scales. Subsequently, the qualitative phase was done through semi-structured interviews to gather supporting or contrasting data.

Population and Sampling

This study included fifty (50) street food customers who consumed the food served by the chosen street food vendors, another five (5) street food consumers, five (5) street food vendors at Balayan public market, and five (5) market administration officers who were in charge of providing protocols to the street food vendors. They were identified through purposive and random sampling techniques under non-probability sampling, wherein the researchers interviewed the sidewalk vendors, consumers, and market administration officers to ask and identify the sex and age

of the respondents. The five (5) sidewalk vendors, fifty (50) consumers in the survey, five (5) consumers in the interview, and five (5) market administration officers were examined through interviews and surveys to collect the data.

Instrumentations

To attain the main objective of the research study, the researchers used two (2) data collection instruments, namely, interviews and surveys. To collect the necessary data for the quantitative part of the study, the researchers used microbial findings and a survey questionnaire. However, the qualitative part of the study used a semi-structured interview.

Data Collection

As indicated, the data gathering process involved the use of a questionnaire and Likert scale. The researchers obtained a consent, ensuring participant confidentiality, avoiding misleading questions, and adhering to ethical standards throughout the process. A consent letter was constructed to seek permission from participants for conducting food tests on street foods, and the results were collected to finalize the data.

Data Analysis

In analyzing the demographic profiles of the respondents, descriptive statistics such as count, percentage, and total scores were used. Thematic analysis (Braun and Clarke, 2006) was employed in this study. This required the transcription of the interview and the following coding stages. Initially, the researchers read and re-read transcripts to identify potential themes. The second step of the analysis involved, particularly, how to retain the differences of the initial codes while producing overarching elements and higher-level sub-themes. In the third step, the researchers conducted an analysis of recognized quotes that are related to the overarching themes. Next, the researchers reviewed themes prior to defining and naming them. Finally, after the researchers had finalized the themes, the interpretation began.

Ethical Considerations

Ahead of conducting the questionnaire and implementing the interview, the researcher first obtained approval from the research adviser to carry out the study. Once validated, street food vendors were provided a consent letter for their agreement to take part in the study. When it was approved, the questionnaire and interview responses were kept confidential, with a limit on access that could reveal individual identities. The questionnaire did not require respondents to provide any personally identifiable information. On the other hand, for the purpose of this study, statements were protected anonymously.

The researcher took every measure possible to maintain the respondents' privacy and confidentiality, including the following:

1. Participants were given code names or numbers that were applied to each part of the research documentation.

2. Notes, interview documents, and any other data that might be needed to identify a participant were stored safely or on a secure server.

3. Except when the researcher was obligated by law to report, participant information, including individual instances, was kept private. These items could consist of, but were not limited to, abuse and a suicide risk.

The respondents were chosen to participate in the study. Whether or not they chose to participate in this study was up to them. The respondents were required to sign a consent form if they chose to participate in the study. They were still allowed to back out at any time without giving a reason after signing the permission form. The researcher's relationship, if any, with the respondents was not harmed by this study. Before data collection was finished, if respondents quit the study, their information was either returned to them or deleted.

Results and Discussions

Presented below are the key findings and data analysis gathered from the microbial findings of phase (a) and phase (b), survey questionnaire responses of the 50 consumers, and a semi-structured interview of the 5 sidewalk vendors, 5 consumers, and 5 market administrators.

Table 1

Microbial findings obtained from food testing during the initial sampling/testing phase (A)

No.	Food Tested	Test Parameter CFU - COLONY FORMING UNIT	Initial Sampling/Testing Phase (A) FOOD TEST RESULTS
1	Chicken Nuggets	Total Coliform Count (CFU/g)	<10 - No growth observed using 1:10 dilution
2	Chicken Nuggets Sauce (Sweet)	Total Coliform Count (CFU/ml)	<10 - No growth observed using 1:10 dilution
3	Chicken Nuggets Sauce (Vinegar)	Total Coliform Count (CFU/ml)	<10 - No growth observed using 1:10 dilution
4	Isaw	Total Coliform Count (CFU/g)	Too Numerous To Count (TNTC)
5	Isaw Sauce	Total Coliform Count (CFU/ml)	<10 - No growth observed using 1:10 dilution
6	Proben	Total Coliform Count (CFU/g)	<10 - No growth observed using 1:10 dilution
7	Proben Sauce	Total Coliform Count (CFU/ml)	<10 - No growth observed using 1:10 dilution
8	Calamares	Total Coliform Count (CFU/g)	<10 - No growth observed using 1:10 dilution
9	Calamares Vinegar Sauce	Total Coliform Count (CFU/ml)	<10 - No growth observed using 1:10 dilution
10	Kwek-Kwek	Total Coliform Count (CFU/g)	<10 - No growth observed using 1:10 dilution
11	Kwek-kwek Sauce	Total Coliform Count (CFU/ml)	<10 - No growth observed using 1:10 dilution

The microbial investigation conducted during the initial sampling and testing phase (Phase A) yielded pivotal insights into the sanitary conditions of food items vended by sidewalk merchants in Balayan, Batangas. Sampling encompassed Chicken Nuggets, Isaw, Proben, Calamares, Kwe-kwek, and two sauce variants, randomly selected and weighing 200 grams each, meticulously stored in individually coded zip-lock bags to prevent spoilage. Subsequently,

the samples were refrigerated, and the Total Coliform Count test was administered at the Lipa Quality Control Center (LQCC), accredited by the Food and Drug Administration.

Coliform bacteria, recognized as indicator organisms, were scrutinized due to their ability to signal the presence of enteric pathogens, indicative of potentially inadequate sanitary conditions (Halkman & Halkman, 2014).

This analysis involved the use of bacteriological media for detecting coliform bacteria in water and food, with results expressed in colony-forming units per milliliter (CFU/mL), representing viable colonogenic cell numbers capable of proliferation and colony formation (Sankaranarayanan et al., 2014).

The outcomes of the microbial analysis revealed that Chicken Nuggets, Chicken Nuggets Sauce (Sweet), Chicken Nuggets Sauce (Vinegar), Isaw Sauce, Proben, Proben Sauce, Calamares, Calamares Sauce (Vinegar), Kwek-kwek, and Kwek-kwek Sauce exhibited a microbial count of "<10: No growth observed using 1:10 dilution," indicating an absence of detectable bacterial growth within the tested dilution range. These findings are consistent with Armas's (2017) assertion that vendors, particularly those handling these food items, adhere to rigorous cleanliness and hygiene practices.

The notation "<10" denotes that the microbial count is below the limit of detection, suggesting a low level or absence of bacterial contamination. The application of a 1:10 dilution underscores the method's sensitivity, enabling the detection of even minimal microbial presence. This positive correlation between the absence of bacterial growth and the emphasized hygiene practices by food vendors, as highlighted by Armas (2017), underscores the pivotal role of stringent hygiene standards in food handling processes.

However, the observation that Isaw yielded a result of "Too Numerous to Count (TNTC)" in microbial testing indicates an exceedingly high bacterial count in the sample. This result implies that the bacterial load surpasses the counting capacity of the measurement method employed (Prescott et al., 2005). In microbiological analyses, when the bacterial concentration exceeds the upper limit of enumeration, the result is reported as TNTC, accentuating the severity of bacterial contamination (APHA, 2017).

The elevated bacterial count in the Isaw sample may be attributed to various factors related to the handling, preparation, and storage conditions of street-vended foods, aligning with Armas's (2017) observations of unsanitary vending stall conditions. Abdulmajid et al. (2014) further underscore the safety concerns associated with street-vended foods, linking a substantial coliform count to inappropriate handling practices by food vendors.

The TNTC result in the Isaw sample emphasizes the urgent need for enhanced hygiene practices and sanitation measures within the street food vending sector. Street-vended foods are susceptible to contamination due to environmental factors and inadequate food handling practices, as evidenced by the exceptionally high bacterial count in the Isaw sample. Addressing these concerns is imperative for ensuring the safety and quality of street-vended foods, thereby safeguarding public health and preventing potential foodborne illnesses (APHA, 2017; Prescott et al., 2005).

Table 2

Microbial findings obtained from food testing during the subsequent sampling/testing phase (B)

No.	Food Tested	Test Parameter CFU - COLONY FORMING UNIT	Subsequent Sampling/Testing Phase (B) FOOD TEST RESULTS
1	Chicken Nuggets	Total Coliform Count (CFU/g)	<10 - No growth observed using 1:10 dilution
2	Chicken Nuggets Sauce (Sweet)	Total Coliform Count (CFU/ml)	Too Numerous To Count (TNTC)
3	Chicken Nuggets Sauce (Vinegar)	Total Coliform Count (CFU/ml)	<10 - No growth observed using 1:10 dilution
4	Isaw	Total Coliform Count (CFU/g)	Too Numerous To Count (TNTC)
5	Isaw Sauce	Total Coliform Count (CFU/ml)	<10 - No growth observed using 1:10 dilution
6	Proben	Total Coliform Count (CFU/g)	<10 - No growth observed using 1:10 dilution
7	Proben Sauce	Total Coliform Count (CFU/ml)	<10 - No growth observed using 1:10 dilution
8	Calamares	Total Coliform Count (CFU/g)	<10 - No growth observed using 1:10 dilution
9	Calamares Vinegar Sauce	Total Coliform Count (CFU/ml)	<10 - No growth observed using 1:10 dilution
10	Kwek-Kwek	Total Coliform Count (CFU/g)	<10 - No growth observed using 1:10 dilution
11	Kwek-kwek Sauce	Total Coliform Count (CFU/ml)	<10 - No growth observed using 1:10 dilution

The microbial findings derived from food testing during the subsequent sampling and testing phase (Phase B) are presented in the table above. This phase aimed to ascertain whether the initial food test results had undergone any changes, prompting the researchers to replicate the methodology employed in the first phase.

Randomly selected food samples, including Chicken Nuggets, Isaw, Proben, Calamares, Kwe-kwek, and two varieties of sauce—sweet sauce and vinegar sauce—each weighing 200 grams, were procured from sidewalk vendors' establishments between 3:00 and 5:00 p.m. These samples were meticulously stored in separate zip locks with designated codes to maintain traceability. To prevent spoilage and rot, the samples were refrigerated and subsequently transported to the Lipa Quality Control Center (LQCC) on the following day.

Upon scrutinizing the food testing results, it was discerned that Chicken Nuggets, Chicken Nuggets Sauce (vinegar), Isaw Sauce, Proben, Proben Sauce, Calamares, Calamares Sauce (vinegar), Kwek-kwek, and Kwek-kwek Sauce exhibited a microbial count of "<10: No growth observed using a 1:10 dilution." This numerical representation implies that the microbial count fell below the limit of detection, indicating an absence of detectable bacterial growth within the tested dilution range. The application of a 1:10 dilution in the testing process enhances sensitivity, enabling the detection of even minimal microbial presence.

The significance of these results aligns with the emphasis articulated by Morris (2022) on the critical importance of serving "clean" and "safe" foods to consumers, free from contaminants and spoilage. The absence of detectable bacterial growth within the tested dilution range underscores the effectiveness of the implemented food safety measures during the sampling and testing phases. Furthermore, the importance of maintaining cleanliness and adopting safe food handling practices is underscored, especially in the context of sidewalk vendors, as consumers actively observe and evaluate the food preparation processes, cleanliness of the work area, and the vendor's overall hygiene practices.

In contrast, both Isaw and Chicken Nuggets Sauce (Sweet) exhibited a result of "Too Numerous To Count (TNTC)," indicating an exceptionally high bacterial count. This observation implies the presence of an abundance of microorganisms in these samples, suggesting a potentially serious health hazard. Defendant (2022) underscores that vendors in the street food industry may engage in practices that compromise food safety, including the use of substandard ingredients, improper food handling techniques, and operation in unsanitary conditions, possibly involving the reuse of cooking oil. Inadequate hygiene practices, such as the omission of hairnets or handwashing, coupled with improper storage of food, containers, and utensils, can foster bacterial proliferation and contamination, thereby posing a significant risk to consumers.

Furthermore, Trecene et al. (2019) shed light on the potential risks associated with the practice of dipping street food in sauce, particularly through gradual or double dipping. Such actions can facilitate the transfer of saliva containing diverse mouth bacteria, including Streptococcus, Prevotella, and Veillonella. Streptococcus species are known to cause conditions such as strep throat, skin diseases, and nausea, thereby posing a threat to stomach health.

These findings emphasize the critical need for educators to educate vendors on proper food handling and hygiene practices. By increasing awareness of potential risks associated with specific behaviors, such as double-dipping, vendors can play a pivotal role in ensuring the safety and quality assurance of street-vended food items. This education is crucial for minimizing the health risks posed to consumers and promoting overall public health and safety in the street food sector.

In light of these findings, there is a pressing need for interventions to address these risk factors and ensure the safety of street-vended foods, safeguard public health, and prevent potential foodborne illnesses. This underscores the importance of regulatory measures, vendor education, and public awareness campaigns to mitigate the identified risks associated with the observed high bacterial count in Isaw and Chicken Nuggets Sauce (Sweet) samples.

Table 3

Food safety practices used by the sidewalk vendors when handling and preparing food

Major Themes	Sub-Themes	Codes
Food Safety Practices	Hand Hygiene and Cleanliness	- P1: Emphasizing cleanliness and handwashing. - P2: Stressing handwashing before and after handling food. - P3: Keeping hands clean during food preparation. - P4: Using plastic gloves. - P5: Prioritizing handwashing and equipment cleanliness.
	Fresh and Quality Ingredients	- P1: Ensuring products are freshly prepared and cooked daily. - P5: Boiling and frying kwek-kwek.
	Cleaning and Sanitizing Equipment	- P1: Cleaning tools, vehicles, and the environment. - P2: Detailed process of cleaning and sanitizing kitchen tools and equipment. - P3: Regularly cleaning and wiping equipment and the area. - P4: Daily equipment cleaning and stall maintenance. - P5: Using dish soap and zonrox for utensil cleaning.

Regulatory Compliance and Training	Sanitary Permits	- P1: Securing a sanitary permit from the local government. - P3: Participant does not have a sanitary permit. - P5: Confirming the possession of a sanitary permit.
	Food Safety Training	- P2: Importance of food safety training for quality control. - P4: Receiving training and support from locals and authorities.

The provided excerpt describes the findings of an investigation into the food safety practices employed by sidewalk vendors, with a focus on themes such as regulatory compliance, training, and general safety measures. The analysis is based on interviews with participants engaged in street food vending. The key practices identified encompass hand hygiene and cleanliness, the use of fresh and quality ingredients, and the cleaning and sanitization of equipment.

In terms of hand hygiene and cleanliness, participants underscored the importance of hand washing before handling food, with some vendors opting for the use of plastic gloves. The significance of proper hand hygiene is supported by Castillo (2019), who highlights its role in removing contaminants such as bacteria, viruses, and parasites. Maintaining clean hands is particularly crucial when handling foods directly, as it mitigates the risk of transferring food-borne hazards. The multifaceted nature of these practices is evident in the varying approaches adopted by different participants.

On a contrasting note, regarding the use of fresh and high-quality ingredients, participant #1 highlighted, "As the proprietor of a self-owned food business, we meticulously ensure the freshness of our products, including chicken, chicken skin, proben, and chicken balls. Each item is expertly prepared and cooked daily. The primary ingredient, chicken, is sourced weekly from our trusted supplier, renowned for maintaining their poultry and being a distinguished brand in the realm of poultry products." This commitment aligns with findings by Seguya et al. (2020), emphasizing that street foods encompass a variety of ingredients subject to diverse processing conditions, ranging from fresh-cut fruits and vegetables to simply cooked foods, packed beverages, and snacks.

Furthermore, Al-Jundi et al. (2020) underscore the nutritional significance of street foods, as they contribute significantly to essential nutrients crucial for food security and nutrition. The nutritional value of street-vended foods is influenced by various raw materials and processing methods, emphasizing the broader impact of ingredient choices on the health and well-being of consumers.

In contrast, participant #5 shared, "I specialize in selling kwek-kwek and palamig; I start by boiling the eggs, then proceed to peel, wash, and fry them." As elucidated by Oberos (2019), kwek-kwek is a popular street food comprising boiled quail eggs coated with orange batter and deep-fried to a crisp texture. Often sold alongside other street delicacies such as fish balls, squid balls, and kikiam, it bears similarities to "tokneneng," which employs hard-boiled eggs. The preparation involves boiling the eggs, coating them with batter, and deep-frying them to achieve a crispy exterior. Served with vinegar or fish ball sauce while still crispy, this delicacy is intended for sharing and enjoyment, reflecting the diverse offerings within the street food landscape.

Finally, concerning food safety practices, the meticulous cleaning and sanitization of equipment emerged as a noteworthy sub-theme. Participants #1, #2, and #3 consistently underscored the significance of maintaining

cleanliness in tools, vehicles, equipment, and the overall preparation area. This emphasis aligns with the insights of Dr. Dexter R. Buted and Dr. Alex P. Ylagan (2014), suggesting that vendors actively engage in food sanitation practices, recognizing their pivotal role in mitigating the risk of transmitting microorganisms to consumers. Notably, vendors prioritize the use of clean utensils before commencing food preparation.

The importance of selecting the right material for cooking utensils is emphasized, acknowledging its impact not only on the recipe's quality in terms of flavor, texture, and aroma but also on the nutrient value of the cooked food. As highlighted by Buted and Ylagan (2014), the cleanliness of the work area and environment is a paramount expectation of customers, reflecting the vendors' commitment to maintaining high hygiene standards. The multifaceted purposes of cleanliness, ranging from health and aesthetics to the avoidance of offensive odors and the prevention of shame, are recognized as integral components of these practices.

Participant #4 statement, "I wash my equipment every day as well as cleaning my stall and my sidecar," reinforces the commitment to daily cleaning routines, aligning with the expectations set by customers and further supporting the overarching theme of prioritizing cleanliness. Additionally, participant #5 assertion, "I sanitize my utensils and use dish soap. I put Zonrox on it, then I soaked it with hot water," exemplifies a meticulous approach to sanitization, demonstrating compliance with regulations outlined by Samapundo et al. (2016). These regulations stipulate specific guidelines for operating a street food stall, encompassing key conditions such as selecting non-polluted locations, using clean water for cooking and cleaning utensils, ensuring the clear origin of produce, implementing a waste collection system, and exclusively employing approved additives. These conditions underscore the multifaceted nature of street food safety, combining location, sourcing, sanitation practices, waste management, and adherence to approved standards for additives.

The exploration of food safety practices among sidewalk vendors brought to light the pivotal theme of regulatory compliance and training, encompassing the imperative aspects of securing sanitary permits and engaging in food safety training.

Concerning sanitary permits, participants #1 and #5 underscored the paramount significance of obtaining these permits from local authorities to legally operate their businesses. Nelly Virginia Nkosi and Frederick Tawi Tabit (2021) advocate for the implementation of food stalls and caravan systems in areas with adequate sanitation, emphasizing the utilization of licensing and permits to enforce control and adherence to food safety regulations. The recommendation extends to the necessity for comprehensive training of both street food vendors and health inspectors in safe food handling principles and practices. However, participant three revealed the absence of a sanitary permit, introducing a notable divergence in regulatory compliance practices among vendors.

Delving deeper into regulatory compliance and training, food safety training emerged as a notable sub-theme. Participant #2 articulated the transformative impact of such training, highlighting its role in enhancing quality control and minimizing food contamination and loss due to poor handling. Aligning with Ma et al. (2019), who stress the prioritization of street food vendor training for the improvement of street food safety, the participant's assertion underscores the positive effects of education on waste reduction, thereby positively influencing profits.

Moreover, broader recommendations from Ma et al. (2019) advocate for the propagation of policies and measures to enhance the overall food safety knowledge, attitudes, and behavior of vendors in the studied area. This includes initiatives to elevate street food stall operating conditions and facilities, encompassing the provision of clean and protected structures, access to potable water, and efficient waste collection and disposal systems. M.S. Mukhola (2014) further reinforces the prioritization of street food vendor training, emphasizing its importance as a key agenda item for city officials. The suggestion extends to additional facets, urging the incorporation of training in customer care and money management and recognizing the holistic development of vendors as integral to fostering a thriving and responsible street food industry.

Participant #4 emphasized receiving training and support from local communities and authorities. Drawing insights from Jan Jacob C. Solon's study (2022), it becomes evident that street vendors are susceptible to routine sanitary inspections, a measure designed to regulate the selling practices of street food merchants. These inspections aim to mitigate the risk of contamination, ensuring that the food served aligns with health standards.

Furthermore, local government units (LGUs) in both cities are positioned to play a proactive role in enhancing the standards of food vending. There is a potential avenue for the LGUs to organize seminars or training sessions centered around sanitation and personal hygiene. These initiatives are envisioned to provide ongoing education and training opportunities, fostering continuous improvement in the practices of street food vendors.

To augment these efforts, it is proposed that each LGU develop a dedicated policy or program in support of street food vendors. This strategic approach ensures a systematic and sustained level of support, contributing to the overall upliftment of standards within the street food vending sector. This aligns with the broader goal of creating a healthier and safer environment for both vendors and consumers alike.

Table 4

Extent of adherence of sidewalk vendors to the food and safety practices enforced by the market administration

Indicators/ Statements	Mean	VI	Rank
1. The vendors consistently use gloves and hairnets while handling food products.	2.98	Neutral	10
2. The vendors store perishable items at the appropriate temperature.	3.1	Neutral	8.5
3. The vendors regularly clean and sanitize their food preparation areas.	3.98	Agree	1.5
4. The vendors avoid cross- contamination of food products.	3.66	Agree	5
5. The vendors maintain proper hygiene and wear clean clothing	3.98	Agree	1.5
6. The vendors provide adequate hand washing facilities or alcohol for customers.	3.1	Neutral	8.5
7. The vendors dispose of food waste properly, following market guidelines.	3.8	Agree	4
8. The vendors participate in food safety training program	3.32	Neutral	6
9. The vendors use clean cooking products and equipment in preparing food.	3.86	Neutral	3
10. The vendors use facemask in serving food and others.	3.12	Neutral	7
GENERAL WEIGHTED MEAN	3.49	Agree	

Legends: 4.21 – 5.00 - Strongly Agree; 3.41 – 4.20 – Agree; 2.61 – 3.40 - Neutral; 1.81 – 2.6 – Disagree; 1.00 – 1.80 - Strongly Disagree

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The presented table systematically delineates the extent to which sidewalk vendors in Balayan, Batangas, adhere to mandated food safety practices established by the market administration. The meticulously calculated data serves as a lens through which various indicators are scrutinized, each shedding light on specific facets of vendors' conformity to established guidelines.

An exploration of the data reveals that Indicator No. 1, centered on the consistent use of gloves and hairnets by vendors in handling food products, secures the 10th position with a weighted mean of 2.98, resulting in a verbal interpretation of neutrality. This observation resonates with Hanson's (2022) research, which underscores the imperative for food handlers to employ protective measures, such as hair restraints, to safeguard both the food and the surrounding preparation surfaces from potential contamination. The study recommends practices like securing the food handler's hair neatly, mitigating the risk of stray hairs compromising food safety.

While acknowledging the utility of gloves, the study challenges the misconception that gloves are foolproof in ensuring food safety. It emphasizes that gloves, while beneficial, are not immune to contamination and can be compromised as easily as bare hands if proper hygiene practices are neglected. State Food Safety (2016) is referenced to highlight that failure to wash hands before donning gloves or improper glove usage may lead to contamination with dangerous pathogens. Hand hygiene assumes paramount importance, stressing the need for workers to wash their hands before wearing a new pair of gloves and with each subsequent change.

The study reveals a prevalent misconception among vendors regarding the protective efficacy of gloves, attributed to a lack of awareness about the true significance of using gloves and hairnets in food preparation. It underscores that the conscientious use of gloves and hairnets is indispensable for upholding cleanliness and preventing contamination during food handling processes.

In addition to preserving cleanliness, the study acknowledges gloves' role as a barrier, diminishing the likelihood of transferring bacteria or diseases from hands to food. This dual functionality underscores the pivotal role of gloves in maintaining food safety standards. In conclusion, the study advocates for the imperative of educating food handlers on the proper use of gloves and hairnets, dispelling misconceptions, and reinforcing the critical role of these measures in ensuring the integrity and safety of prepared and served food.

The findings pertaining to Indicator No. 2, examining the proper storage of perishable items by vendors, position it at No. 8.5 with a weighted mean of 3.1, warranting a neutral interpretation. The assessment draws upon data gathered in the context of street food vending, with the Food and Agriculture Organization (FAO ORG) serving as a benchmark for evaluating food safety practices.

In harmony with the collected data, the FAO ORG underscores the pivotal role of time and temperature in the cooking process, essential for annihilating non-spore-forming pathogenic microorganisms. It is recommended that reheating be limited to a single instance, with only the portion intended for immediate service undergoing the process. The emphasis is placed on reaching a central food temperature of at least 75°C within one hour of removal from

refrigeration. While lower temperatures may be permissible for reheating, equivalency in microbial destruction compared to heating to 75°C is imperative.

The overarching objective of adhering to these temperature and time guidelines is to ensure the cleanliness and safety of street food. Vendors are impelled to observe these specific parameters during cooking to avert contamination, embodying a proactive stance toward food safety in the street food sector. This adherence, crucial for averting microbial proliferation and contamination risks, contributes to the overall safety and quality of street-vended food products. The neutral interpretation of the indicator hints at potential areas for improvement or variability in vendors' compliance, suggesting avenues for targeted interventions or training initiatives to fortify food safety practices among street vendors.

The scrutiny of Indicator No. 6, examining the provision of adequate handwashing facilities or alcohol for customers by street food vendors, positions it at No. 8.5 with a weighted mean of 3.1, signaling a neutral stance. This interpretation aligns with insights from Festival Insights (2015) and the World Health Organization (WHO), delving into the realm of street food hygiene.

Festival Insights emphasizes that supplying portable handwashing units to staff and customers reflects dedication to food standards and customer well-being. The significance of this provision extends to its potential impact on a business's reputation, underscoring the importance of fostering a positive perception of hygiene practices. Access to optimal handwashing facilities is touted as beneficial for street vendors, augmenting their food hygiene rating and aligning with the gold standard of hand hygiene—washing hands under warm, running water with soap. This practice is deemed crucial for both staff and customers, reinforcing the value of cleanliness and hygiene in the street food industry.

The World Health Organization (WHO) echoes the importance of handwashing in averting food and waterborne diseases. Handwashing is heralded as an essential hygienic practice, mitigating the risk of pathogens from fecal contamination and other sources infiltrating food. The provision of handwashing facilities or alcohol for consumers is deemed sufficient to ensure a sanitary environment. Hand hygiene is championed not only for customer safety but also for the welfare of workers, offering easy access to handwashing facilities or alcohol as instrumental in fostering a clean lifestyle. This approach reduces the risk of foodborne and other communicable diseases, contributing to overall public health.

The neutral interpretation intimates a balanced perspective, acknowledging the importance of handwashing facilities or alcohol provision while leaving room for potential enhancements or variations in street vendors' adherence to these practices. This underscores the potential efficacy of targeted interventions or training programs in refining hand hygiene practices among street vendors, enriching food safety and public health outcomes.

The examination of Indicator No. 7, focusing on vendors' proper disposal of food waste according to market guidelines, situates it at No. 4 with a weighted mean of 3.8, corresponding to a verbal interpretation of 'agree.' This

assessment aligns with the findings articulated by various scholarly works, converging on the centrality of appropriate food waste disposal practices among street vendors.

This alignment with Dela Cruz et al. (2020) underscores the multifaceted nature of addressing challenges related to food waste disposal. Cultural factors are pinpointed as influential in shaping vendor behavior in handling food waste, necessitating collaborative efforts from diverse stakeholders. Government authorities, local communities, and relevant organizations are cast as pivotal contributors to the provision of enhanced infrastructure and resources, supporting vendors in maintaining food safety standards. Collaboration is deemed essential in fostering an environment conducive to responsible food waste management.

Chua et al. (2019) bolster this understanding by emphasizing the instrumental role of targeted training programs. Such programs are designed to equip vendors with the knowledge and skills needed to implement food safety practices, including proper food waste disposal. Education and training emerge as pivotal components in enhancing vendor capabilities and fostering a culture of responsible food waste management.

Sevilla's (2020) insights reinforce the importance of regulatory frameworks and monitoring mechanisms. Clear guidelines and regular monitoring contribute to sustained adherence to food safety standards, ensuring the protection of consumer health and well-being. This scholarly perspective advocates for a structured and regulated approach to food waste disposal, aligning with the agreed-upon practices reflected in the vendors' ranking in this particular indicator.

The collective interest of street vendors in proper food waste disposal, as articulated in scholarly literature, is underscored in the interpretation of the indicator. Vendors are depicted as motivated to adhere to market guidelines, not only for regulatory compliance but also to maintain health and safety standards, satisfy customers, and demonstrate environmental responsibility, contribute positively to the community, and avoid legal repercussions. This alignment accentuates the broader impact of responsible food waste disposal on multiple dimensions, underscoring its significance in the broader landscape of street food safety and vendor practices.

Indicator No. 10, "The vendors use facemasks in serving food and others," attains a ranking of No. 7 with a weighted mean of 3.12, resulting in a verbal interpretation of neutral. In the context of this study, the indicator gauges the adoption of facemasks by street food vendors during food service and customer interactions. The evaluation accentuates the significance of personal protective equipment (PPE) in the street food sector and its implications for public health.

Borrowing insights from the study by John John et al. (2018), recommendations are posited to strengthen food safety practices among street vendors. These recommendations advocate for the utilization of various forms of PPE, including nose/face masks, aprons, and headgear/chef caps, during food preparation and service. Additionally, a set of hygienic practices is suggested, encompassing regular handwashing intervals, continuous sanitization of surfaces, and thorough cleaning of utensils and plates with ample clean water.

The neutral interpretation implies a moderate level of adherence among street vendors to the use of facemasks during food service and interpersonal interactions. The recommendations underscore the multifaceted

nature of maintaining food safety, encompassing not only the use of facemasks but also a comprehensive set of practices aimed at minimizing the risk of contamination and ensuring hygienic standards.

Furthermore, the study posits the need for bi-annual sensitization programs for food vendors, conducted by relevant agencies responsible for ensuring food safety. These programs are envisaged to update vendors on best practices, including personal hygiene, and enhance their awareness of potential risks associated with food handling. The proposal for government agencies to conduct biannual inspections underscores the importance of regulatory oversight in maintaining food safety standards within the street food sector.

The appeal for government provision of wash facilities signifies an acknowledgment of the systemic support required to enable vendors to consistently practice good hygiene. The emphasis on precautions, including the use of facemasks, extends beyond protecting vendors and their employees; it is portrayed as a means of instilling trust among customers by demonstrating a commitment to high hygienic standards. In essence, the neutral ranking of Indicator No. 10 underscores the need for targeted interventions and sustained efforts to promote the use of facemasks and other hygiene practices among street food vendors. The recommendations and proposed measures from the study contribute to a comprehensive approach to enhancing public health and safety in the street food vending environment.

The eighth indicator, "The vendors participate in food safety training programs," secures a ranking of No. 6 with a weighted mean of 3.32, indicating a neutral stance. The assessment, grounded in data concerning street food vendors, draws upon scholarly insights provided by Argente et al. (2021) and Monney et al. (2013).

According to Argente et al. (2021), an effective strategy for enhancing food safety practices among street food vendors involves conducting training sessions every six months. These programs are tailored not only to impart knowledge but also to shape attitudes and practices related to food handling. The training covers various aspects, including personal hygiene, purchasing practices, safe storage methods, and proper food handling during both preparation and vending.

Monney et al. (2013) further emphasize that the impact of training on food vendors transcends formal education. Instead, the focus is on developing key food hygiene practices, such as thorough examination, consistent hand hygiene, and protection of food from external contaminants like flies and dust. This implies that the effectiveness of food safety training is not solely contingent on formal education but on the practical and applicable knowledge gained through the training programs.

The neutral interpretation of the indicator suggests that while street vendors do engage in food safety training programs, there is room for improvement or variability in the extent and effectiveness of their participation. This finding underscores the potential for targeted interventions and the ongoing refinement of training programs to enhance food safety practices among street vendors. It also accentuates the need for sustained efforts to ensure that vendors acquire and maintain the necessary knowledge and skills to adhere to regulations, protect public health, build customer trust, and navigate the intricacies of legal compliance in the street food market. Participation in such training programs not

only fulfills a regulatory requirement but also plays a pivotal role in mitigating risks, enhancing operational efficiency, and setting vendors apart in a competitive market environment.

The analysis of Indicator No. 4, centering on vendors' efforts to prevent cross-contamination of food products, secures a ranking of No. 5, with a weighted mean of 3.66, and is verbally interpreted as "agree." Cross-contamination in food handling is identified as a substantial risk to public health, a concern substantiated by existing literature.

This finding aligns with the research conducted by Solon (2022), which underscores the fundamental principles of food hygiene aimed at ensuring food safety and shielding it from contaminants unsuitable for human consumption. The prevention of infectious diseases related to food handling constitutes a primary objective of these principles. The Department of Health (2013) further underscores the importance of addressing microbial contamination at various stages of food preparation, including the places of preparation, utensils, raw ingredients, and considerations related to time and temperature abuse of cooked foods. The comprehensive perspective on food safety presented in these studies underscores that the assurance of safe food consumption involves more than just extensive processing of ingredients; it necessitates vigilant attention to various factors, including the prevention of cross-contamination.

The term "cross-contamination" refers to the transfer of potentially hazardous microorganisms, such as microbes or allergens, from one surface or food item to another. This process can occur through direct contact, the use of tools, cutting boards, or hands during food preparation. The importance of preventing cross-contamination is emphasized through practical guidelines, such as washing raw food before use to reduce the risk of contamination. It is advised never to wash perishable raw food with other foods intended for raw or semi-cooked consumption. Proper storage practices are also recommended, with a clear separation between raw and cooked foods in the refrigerator. This separation is crucial to prevent the transfer of bacteria from raw food to cooked food, where the potential for bacterial multiplication could lead to dangerous levels if not properly addressed.

The verbal interpretation of "agree" signifies that vendors are generally exhibiting practices that align with the principles of avoiding cross-contamination. However, there may still be room for improvement or refinement in specific aspects of these practices. The acknowledgment of this indicator's importance in maintaining food safety underscores the ongoing commitment needed by vendors to uphold hygiene standards and protect public health.

The assessment of Indicator No. 9, which centers on the use of clean cooking products and equipment by street vendors, positions it at No. 3 with a weighted mean of 3.86, resulting in a verbal interpretation of neutral. This evaluation is grounded in empirical data collected within the milieu of street food vending, and the Food and Agriculture Organization (FAO) serves as a benchmark for evaluating food safety practices.

According to the gathered data, certain vendors and handlers opt to prepare their products at home before cooking them at vending points in front of customers. While this practice aims to instill customer confidence and enhance flavor, it is crucial to underscore that food must be handled and cooked in adherence to basic hygiene rules to ensure safety. Research by Mohamed Abd El-Raouf Koraish (2014) emphasizes the pivotal role of food handlers in ensuring food safety across the entire production chain.

The acknowledgement of mishandling and disregard for hygienic measures by food vendors introduces the potential risk of pathogenic bacteria coming into contact with food, surviving, and multiplying, posing a risk of illness among consumers. This underscores the critical importance of maintaining hygiene during the handling and cooking of street foods. The FAO emphasizes that food handlers should possess the requisite knowledge and skills, necessitating proper training and education.

The application of clean cooking products and equipment is a multifaceted practice with diverse implications. Beyond ensuring regulatory compliance, it enhances food safety, establishes customer trust, prevents cross-contamination, ensures food quality, facilitates operational efficiency, promotes a positive public perception, and contributes to equipment longevity. This holistic approach underscores the interconnectedness of factors contributing to the overall safety, quality, and positive public perception of street-vended food products. The neutral interpretation suggests potential variability in adherence to cleanliness practices among street vendors, indicating an area where targeted interventions or training initiatives may be beneficial in enhancing food safety standards.

The assessment of Indicator No. 3, focusing on the regular cleaning and sanitization of food preparation areas by vendors, reveals a high ranking at No. 1.5 with a commendable weighted mean of 3.98, corresponding to a verbal interpretation of agreement. This evaluation draws from gathered data within the context of street food vending, with the FAO serving as a reference point for assessing food safety practices.

In alignment with the data, the FAO emphasizes the paramount importance of maintaining cleanliness in the place of food preparation, advocating for the continuous cleaning and sanitization of these areas. The guideline suggests that food preparation spaces should be kept clean and positioned at a distance from potential sources of contamination, including rubbish, wastewater, dust, and animals. Vendors are encouraged to equip themselves with suitable facilities and choose locations with distant waste disposal sites, adopting a proactive strategy to minimize the risk of cross-contamination. This approach not only upholds the quality of prepared food but also adheres to health and safety requirements, creating a safer and more reliable culinary environment.

The high agreement with this indicator underscores the recognition that regular cleaning and sanitization of food processing areas play a pivotal role in ensuring food safety. Vendors who adhere to hygienic requirements not only build trust with consumers but also contribute to public health by reducing the likelihood of illnesses associated with foodborne contaminants. The emphasis on maintaining a clean and sanitized environment signifies a commitment to excellence in food safety practices, mitigating the spread of infections, and fostering a positive perception of street-vended food products. The high ranking suggests that vendors are generally effective in implementing these practices, contributing to a safer and more reliable street food industry.

The analysis of Indicator No. 5, which evaluates whether street vendors maintain proper hygiene and wear clean clothing, reveals a ranking of No. 1.5 with a high weighted mean of 3.98 and a verbal interpretation of agree. This assessment draws from the insights provided by Tong Thi et al. (2021), emphasizing the importance of specific hygiene practices for food handlers.

Tong Thi et al. (2021) underscore the significance of food handlers presenting a good appearance, maintaining a healthy body, wearing clean clothes, having hygienic hands with short nails, and avoiding jewelry, beards, or mustaches. This attention to personal hygiene and attire is deemed crucial not only for individual well-being but also for disease prevention and maintaining professional and social standards. Basic hygiene practices, including frequent bathing, hand washing, and oral care, contribute to the management of germs and viruses, reducing the risk of infection.

In industries with regular public interaction, such as food service or healthcare, adherence to proper hygiene and wearing clean clothing become paramount. The rationale behind this emphasis is to prevent surface contamination and the potential spread of pathogens, contributing to a safer and healthier environment. The high weighted mean and agreeable interpretation of this indicator suggest that street vendors, as evaluated by consumers, generally exhibit satisfactory levels of personal hygiene and adherence to clean clothing practices.

In conclusion, the overall general weighted mean of 3.49 further supports the notion that consumers, based on their observations, tend to agree that sidewalk vendors are adhering to food safety regulations enforced by market administration. This finding underscores the pivotal role of personal hygiene and cleanliness in promoting a sanitary and socially responsible environment within the street food vending sector.

Table 5

Perceptions of consumers regarding the food safety practices of sidewalk vendors

Major Themes	Sub-Themes	Codes
Proper Cleanliness	Observe Cleanliness	- P3: Contaminated or improperly cooked food leads to illness. - P1: Check containers, hair, cleanliness, and hygiene. - P4: Crucial to prevent consumer illness through clean food. - P4: Observe the vendor's kitchen and surrounding areas. - P5: Believes cleanliness should start with vendors, equipment, and food preparation.
	Lack of Transparency	- P4: Uncertainty about food ingredients and preparation. - P5: Prioritizing safe food consumption through awareness.
Regulatory Measures and Documentation	Sanitary Permits	- P1: Emphasizes the importance of sanitary permits and requirements. - P2: Highlights the need for safety and renewals. - P3: Desires government-sanctioned permits to ensure safe products.
	Detailed Menus and Information	- P5: Suggests providing detailed menu information for customer safety.
Presentation and Trustworthiness	Trustworthy Vendors	- P1: Purchase from trusted vendors. - P2: Only buy from people I know and perceive as clean. - P3: Experienced illness after purchasing food. - P5: Trust and return to vendors with a reputation for safe and hygienic food. - P5: Trust issues with cleanliness due to container concerns.
	Vendor Presentation	- P1: Emphasizes the importance of vendor appearance.

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	- P2: Stresses the need for vendors to be presentable and clean. - P3: Believes vendors should gain the trust of consumers through cleanliness. - P4: Advocates for cleanliness in the vendor's area, attire, and waste disposal. - P5: Highlights the importance of transparency and an "open kitchen" concept.

The provided text discusses consumer perceptions of sidewalk vendors' food safety practices, with a focus on major themes such as proper cleanliness, regulatory measures and documentation, presentation, and trustworthiness.

According to the interview findings, consumers primarily emphasize proper cleanliness when evaluating the food safety practices of sidewalk vendors. This involves two key aspects: the observation of cleanliness and a lack of transparency.

In terms of observing cleanliness, participants #3 and #4 highlight the significance of consuming clean and properly cooked food as a preventive measure against consumer illnesses. This perspective aligns with Menini et al.'s study (2022), which identifies habitual practices and routine behaviors as primary risk factors for food safety. Common shortcomings related to microbiological risks include improper hand washing, the presence of non-food-related objects in kitchen spaces, misuse of dishcloths and sponges, inappropriate washing of utensils and food, incorrect food storage in refrigerators, and the presence of children and pets without proper administration of the spaces. Moreover, practices leading to chemical risks involve food preservation using unsuitable containers or materials, food overcooking, and detergent contamination. The study underscores the need for communicative and training interventions that provide precise and targeted guidance on correct safety practices within home settings.

However, participants #4 and #5 underscored the paramount importance of maintaining impeccable hygiene in a vendor's kitchen and ensuring the cleanliness of equipment. As articulated by A. According to N. According to Murray (2014), the hygienic design of food processing equipment holds significant weight, necessitating meticulous attention to material specifications and physical structure. Stainless steel, chosen for its appropriateness in the food industry, is often the preferred material, particularly in areas directly in contact with food. Crucially, these surfaces must exhibit smoothness and be devoid of crevices or sharp corners, facilitating ease of cleaning. Challenges arise in designing pipelines for liquid foods, including the associated valves and pumps, demanding special consideration from engineers.

Conversely, participant #1 emphasized the importance of cleanliness from a procedural standpoint, stating, "I meticulously inspect the containers for cleanliness. Additionally, I ensure that hair is neatly arranged since, at times, it may be loosely hanging without a hairnet. Wearing gloves, maintaining thorough hand hygiene, and refraining from wearing jewelry or nail polish are imperative aspects." This perspective highlights the vendor's commitment not only to the cleanliness of equipment but also to personal hygiene practices, emphasizing the meticulous care applied in the preparation and handling of food products.

Quiliope and Teves (2016) highlight a prevalent lack of adherence among street vendors to essential hygiene practices during food preparation. The researchers note that many vendors neglect to cover their hair, fail to wear appropriate attire, and engage in casual conversations while handling food. Furthermore, a substantial number of vendors are observed to maintain long fingernails while cooking or serving food. The findings underscore a concerning disregard for fundamental cleanliness standards in street food vending practices.

In addition to these hygiene lapses, a noteworthy sub-theme identified is the lack of transparency regarding food preparation. Participant #4 candidly revealed, "There are instances when I am unaware of the ingredients used or the methods employed in cooking the sauces for the food." This admission raises concerns about the opacity in the food preparation process, potentially compromising the understanding of consumers regarding the safety and quality of the food they purchase.

Participant #5 echoed these sentiments, expressing distrust arising from encounters with the cleanliness of dipping sauce containers in street foods. Their statement, "I have trust issues with cleanliness, especially when it comes to the container of the dipping sauce," underscores the critical need for transparency and assurance in food safety practices. The participant emphasizes the importance of prioritizing safe food consumption, emphasizing the need for vendors to provide clear information about their products to build consumer confidence and ensure the well-being of customers.

An additional consumer perception identified during the interviews revolves around regulatory measures and documentation, encompassing elements such as sanitary permits and comprehensive menus with detailed information.

In the context of sanitary permits, participants #1 and #3 underscored the pivotal importance of obtaining these permits from local government authorities to ensure the safety of their products. This perspective aligns with the guidelines set by the Food and Agriculture Organization (FAO, 2013), which emphasize the necessity of acquiring permits from the local health office for operating a food establishment catering to the public. Moreover, FAO guidelines specify that all food items must be sourced from approved suppliers sanctioned by the local health authority. Participant #2 further emphasized the significance of having a sanitary permit, citing reasons related to safety and the need for periodic renewals. Notably, this aligns with the perspective that adherence to existing hygiene principles is a critical aspect of food safety, as outlined by the Ghana Standard Authority (2013).

In addition to sanitary permits, the comprehensive inclusion of detailed menus and information was identified as a regulatory measure and documentation sub-theme. This aspect encompasses the presentation of extensive menus along with informative details about the food items offered. Such transparency in presenting information contributes to consumer awareness and facilitates informed choices. While this sub-theme emerged indirectly from the discussions, it underscores the role of detailed menus and information in meeting regulatory expectations and enhancing consumer confidence in the food safety practices of street vendors.

On the flip side, the Food and Drug Administration (FDA) serves as the national regulatory authority under the Ministry of Health, bearing the responsibility of executing food policies and safeguarding the safety and

wholesomeness of food for consumers. The FDA's multifaceted roles encompass conducting inspections at food manufacturing and processing sites, administering licensing procedures, overseeing product registration, and conducting ongoing monitoring activities.

In the realm of regulatory measures and documentation, another sub-theme that surfaced is the inclusion of detailed menus and comprehensive information. Participant #5 aptly expressed the importance of this aspect by stating, "A detailed menu with ingredient descriptions and preparation methods can empower customers to make informed choices, particularly those with allergies. This is crucial for customer safety and should be accompanied by a valid sanitary permit." As highlighted by Kharuzzaman et al. (2014), the heterogeneity among street food vendors manifests in various aspects, such as the diversity of food types, business scales, operational modes, locations, customer demographics, and more. This underscores the need for a nuanced understanding of the street food landscape and the significance of transparent, detailed menus to cater to diverse consumer needs and ensure compliance with regulatory standards.

On the contrary, the ingredients used in street food are often specific to particular regions and remain largely undocumented. The sheer diversity of street food offerings worldwide renders it impractical to compile an exhaustive menu encompassing all the variations. Additionally, vendors operating from fixed structures within designated markets are more likely to possess the requisite licenses or permits, thereby minimizing exposure to certain risks. This contrasts with mobile or informal street vendors, who may face greater regulatory challenges.

Furthermore, numerous scholars have highlighted distinctive characteristics of street food, emphasizing its practicality, time efficiency in dish preparation, convenience, seasonality, lack of stringent regulations, low entry barriers, and affordability of meals for consumers (Wiatrowski et al., 2021). These features collectively contribute to the unique and dynamic nature of the street food industry, reflecting its adaptability to diverse culinary traditions and consumer preferences globally.

An additional consumer perception that emerged from the interviews centers on aspects of presentation and trustworthiness, encompassing the reliability of vendors and the overall presentation of their offerings.

Regarding trustworthy vendors, participants #1, #2, and #5 consistently prioritize sourcing safe and hygienic food from vendors they trust. This aligns with findings by Latip et al. (2020), emphasizing that food safety is a paramount concern for Asian consumers, significantly influencing their purchasing decisions, particularly in regions where health and food safety are prioritized (Prentice et al., 2019). The increasing importance of food safety in developing countries underscores the close connection between consumer awareness of food safety information and the analysis of food demand (Obayelu, 2014). However, participant #3 shared a contrasting perspective, expressing concerns arising from a previous experience of falling ill after consuming street food. This resonates with Aquino et al.'s (2015) study, which highlights the potential health hazards associated with street foods due to unsafe practices like inadequate storage, reheating of food before sale, insufficient hand washing, and improper cleaning of cooking utensils.

In terms of vendor presentations, participants conveyed varying experiences that shaped their perceptions of cleanliness and safety. Participant #5 specifically mentioned trust issues related to the cleanliness of dipping sauce containers associated with street foods, emphasizing the necessity to prioritize safe food consumption, especially when making food purchases. This sentiment aligns with the broader consumer awareness of potential risks associated with street food consumption and emphasizes the critical role that vendor trustworthiness and transparent presentation play in assuring consumers of the safety and quality of the food they are purchasing.

In accordance with the insights of Aquino et al. (2015), meticulous attention to cooking processes and food handling is imperative for cooks and food handlers. This includes emphasizing simple storage practices to mitigate the risk of cross-contamination from raw materials. A crucial step is to ensure that all prepared foods are securely stored in clean containers, providing a protective barrier against potential contamination stemming from unclean surfaces and exposure to hazardous materials.

Moreover, the theme of vendor presentation emerged, particularly concerning its impact on consumer trust. Both participant one and participant two highlighted the significance of a vendor's appearance when selling their goods, emphasizing the need for cleanliness and a presentable demeanor. This aligns with the findings of Ma et al. (2019), indicating that while consumers and street food vendors possess a solid understanding of food safety, there is room for improvement in the actual implementation of safe food handling practices. Notably, the study reveals that only 26.7% of vendors were fully equipped with hand-washing facilities, underscoring the importance of enhancing such infrastructure. Nevertheless, over 60% of vendors exhibited positive practices by wearing clean and tidy clothes along with masks, contributing to a more hygienic food-handling environment.

However, to instill and uphold customer trust, participants #3 and #4 underscore the critical significance of maintaining cleanliness. As articulated by Areros (2015), the presence of street vendors poses a conundrum for local governments. While the influx of street vendors into the city center has positive economic implications for both small and medium-scale enterprises, the unregulated presence of vendors along the roadside presents a complex challenge that necessitates immediate attention due to congestion. Street vending impacts urban aesthetics negatively, leading to narrowed shoulders and roads and contributing to the perception of urban slums. Recognizing this, street vendors are urged to exhibit positive behavior as a tangible contribution to preserving city hygiene.

The acknowledgment of the importance of cleanliness in the city, encompassing health, aesthetics, and alignment with government policies, becomes imperative for citizens, particularly traders in the city center. This understanding should translate into proactive participation in maintaining city hygiene, thereby supporting local governments in their cleanliness initiatives. Moreover, participant #5 emphasized the importance of providing menus that offer detailed descriptions of dishes, including ingredients and preparation methods. This approach, which includes highlighting potential allergies or health concerns, aligns with the evolving trend among some vendors who adopt an "open kitchen" concept. This concept allows customers to witness the food preparation process, fostering transparency and building trust. By embracing such practices, street vendors contribute positively to the broader goal of maintaining cleanliness while simultaneously enhancing customer confidence and trust.

Table 6

A SANITARY PLAN OF ACTION FOR THE STREET VENDORS IN THE MUNICIPALITY OF BALAYAN

Action Area	Specific Actions	Objectives	Target Audience	Timeline	Expected Outcomes
Hand Hygiene and Cleanliness	- Implement mandatory handwashing policy.	- Ensure all vendors practice proper hand hygiene.	All street vendors	Ongoing	Increased compliance with hand hygiene; reduced risk of contamination.
	- Provide hand washing stations with soap and disposable towels.				
	- Conduct regular training on proper hand washing techniques.				
	- Encourage the use of disposable gloves, changed regularly.				
Fresh and Quality Ingredients	- Emphasize the use of fresh, high-quality ingredients.	- Improve overall food quality and safety.	All street vendors	Ongoing	Enhanced focus on ingredient quality; improved customer satisfaction.
	- Establish partnerships with reputable suppliers.				
	- Educate vendors on proper storage practices.				
	- Display information on ingredient sourcing for transparency.				
Cleaning and Sanitizing Equipment	- Develop a comprehensive cleaning schedule.	- Ensure all equipment is clean and sanitized.	All street vendors	Ongoing	Improved cleanliness practices; reduced risk of foodborne illnesses.
	- Provide cleaning materials such as sanitizers and detergents.				
	- Conduct regular inspections for compliance.				
	- Educate vendors on the importance of clean equipment.				

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Regulatory Compliance and Documentation	- Facilitate obtaining sanitary permits from local health offices.	- Ensure all vendors comply with health regulations.	All street vendors	Month 4	Increased regulatory compliance; enhanced credibility.
	- Conduct periodic training on food safety regulations.				
	- Provide guidelines on detailed menu descriptions.				
	-Encourage "open kitchen" concept for transparency.				
Training on Food Safety Practices	- Organize regular food safety training programs.	- Enhance vendors' knowledge and skills in food safety.	All street vendors	Ongoing	Improved food safety practices; certified vendors.
	-Collaborate with health authorities for certification programs.				
	- Include practical demonstrations in training curriculum.				
	- Establish ongoing education for the latest food safety practices.				
Customer Communication	- Implement visible signage highlighting commitment to food safety.	- Build customer trust through transparent communication.	All street vendors	Ongoing	Increased customer trust; positive perception of street food safety.

A Sanitary Plan of Action for the Street Vendors in the Municipality of Balayan

The researchers stipulate the following recommendations after carefully examining the data that was gathered. The value of maintaining the highest standards of sanitation and putting food safety first in the context of sidewalk and street food vendors is similar to that of conventional eating areas. Adhering to these specified regulations and processes enables street vendors to continuously maintain high standards for food safety and cleanliness. Furthermore, it is crucial for vendors to proactively stay informed of any specific regulations or guidelines established by their local health authorities, ensuring sustained compliance and promoting a healthier environment for both vendors and consumers. This commitment not only protects the health and well-being of their customers but also serves as a preventive measure against potential food poisoning.

Ensuring the public's health and promoting a healthy community atmosphere require sidewalk vendors to follow a sanitary action plan. An important part of preventing foodborne illnesses and guaranteeing compliance with health standards is implementing a plan that follows appropriate food handling and hygiene practices. In addition to adhering to regulations, keeping the place of work tidy and orderly by using efficient waste disposal and cleanliness practices not only reduces pollution to the environment but also boosts the trust of consumers. Maintaining hygienic conditions helps vendors build a solid reputation in the community, which attracts more consumers and loyalty. Additionally, training for sidewalk vendors is a crucial component of a well-defined sanitary action plan, which spreads appropriate hygiene practices beyond particular businesses. In the end, these kinds of initiatives serve commitments in the general health and well-being of the communities they serve, as well as the business success of the vendors

Conclusions

The researchers of the study were able to determine the following valuable conclusions regarding the research study entitled "Be Aware Mga Suki: Practices of Food Safety and Appropriate Hygiene Among Sidewalk Vendors in Balayan, Batangas".

Based on the food testing results, it was found out that "Isaw" had a result of Too Numerous To Count (TNTC). There are numerous reasons why isaw is unclean; the unprocessed ingredients, particularly the intestines, are thoroughly cleaned and prepared to guarantee that any potential contaminants have been removed. Vendors that forget to follow proper hygiene measures during the handling and cooking process may raise concerns about the hygiene of the finished product. As well, the outside nature of street food sales and varying hygiene standards in different locales may contribute to the perception of Isaw as unhygienic. However, "Isaw and Chicken Nuggets Sauce (Sweet)" had a result of Too Numerous To Count (TNTC). Isaw is sometimes associated with being "dirty" due to worries about the quality of its ingredients and the need for proper cooking to guarantee a sanitary and safe street food experience. Though this is mostly an issue with unregistered sellers, Isaw is occasionally perceived as being unclean. While, in terms of sauce, the possibility of unhygienic sauce in street food often results from other aspects of handling and preparation by sidewalk vendors.

Thus, from the data gathered, it was found out that the vendors always maintain proper hygiene and wear clean clothing when selling street foods. On the other hand, some of the vendors are not consistently using gloves and hairnets while handling food products. Additionally, it was found out that the main "food safety practices" when handling and preparing food include "hand hygiene and cleanliness" and "cleaning and sanitizing equipment." However, in terms of hand hygiene and cleanliness, all the sidewalk vendors always follow and practice food safety measures. It is vital to prioritize safety and hygienic practices in handling and preparing food. After that, cleaning and sanitizing equipment were also the main food safety practices. The vendors always emphasize the significance of cleaning and sanitizing equipment to prevent illness and contamination when preparing food. Additionally, in terms of "fresh and quality ingredients," there are few vendors who practice this kind of precaution in addressing food safety practices.

Moreover, it was also found out that the main "regulatory compliance and training" when handling and preparing food includes "sanitary permits" and "food safety training." In terms of sanitary permits, most of the sidewalk vendors secured and prioritized getting a sanitary permit from the local government before selling. While, in terms of food safety training, few of the sidewalk vendors are considering food safety training to ensure providing food is safe and clean for consumers.

Furthermore, based on the data gathered it was identified that the main perceptions of consumers regarding the food safety practices of sidewalk vendors are "proper cleanliness," which includes "observe cleanliness" and "lack of transparency." In order to observe cleanliness among all the sidewalk vendors, they always prioritized and maintained cleanliness in the food preparation area. Thus, in terms of lack of transparency, few of the sidewalk vendors are fully aware of food safety and cleanliness for safe food consumption.

Additionally, it was also discovered that the main "regulatory measures and documentation" under the food safety practices of sidewalk vendors consist of "sanitary permits" and "detailed menus and information." Regarding sanitary permits, all the consumers highlight the significance of obtaining official documents from government agencies that provide approval before sidewalk vendors sell. While, in terms of detailed menus and information, few of the sidewalk vendors are providing exact menus and information when consumers purchase from their food stall.

Lastly, it was found out that the main "presentation and trustworthiness" under the food safety practices of sidewalk vendors contains "trustworthy vendors" and "vendor presentation." In relation to trustworthy vendors, most consumers make purchases of street foods from their trusted vendors. Yet, in terms of vendor presentation, the majority of consumers highlight the importance of wearing clean and presentable clothes from sidewalk vendors when selling.

Recommendations

Following a thorough review of the data that was presented, the researchers of the study would like to suggest the following recommendations:

It was highly recommended that health departments provide information about food safety guidelines and regulations. They can provide direction to guarantee that the street food satisfies the necessary safety and hygienic

standards. It also suggested that market administrators and local government officials take steps to support street vendors in keeping food safe and hygienic. In addition, the researchers suggested that the findings of the analysis from the subsequent sampling and testing phase (B) by Lipa Quality Control Center Inc. (LQCC), a testing facility approved by the Food and Drug Administration. They will be able to assess and guarantee the substances' and materials' safety as a result. Sidewalk vendor collaboration with suppliers is essential in order to maintain high standards of quality throughout the process of acquiring goods and ensure that they put in place hygienic and safety measures.

The Health and Safety Inspector's recommendations include providing training sessions for sidewalk vendors, establishing a feedback system, and offering incentives for compliance. Regular inspections should also be conducted to ensure adherence to safety guidelines. This comprehensive approach of education, positive reinforcement, and oversight aims to improve food safety practices among sidewalk vendors.

Moreover, it was highly recommended that sidewalk vendors attend training sessions to learn food safety practices, and they should establish a support network to exchange ideas and share best practices. This approach fosters a sense of community and promotes adherence to food safety standards among vendors. Furthermore, consumers are advised to actively engage with and provide feedback to sidewalk vendors to shape food safety practices. Staying informed about local regulations and supporting vendors who visibly follow these standards is crucial. This collaborative effort is essential to prioritizing and promoting safe food practices within the community.

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