

SCHOOL OF PUBLIC HEALTH

UNIVERSITY OF PORT HARCOURT



SEMINAR PRESENTATION

TOPIC: ENSURING THE SAFETY OF STREET FOODS IN NIGERIA

BY

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REG. NO.: G2023/SPH/PGD/PH/FT/048

OUTLINE

1. BACKGROUND TO THE TOPIC

- Statement of the Public Health Issue
- Aim and Objectives of the Research Seminar

2. MATERIALS AND METHODS

- Sources of Data
- Search Terms
- Selection Criteria for Literature
- Organisation of the Literature

3. SUMMARY OF RESULTS

- The Epidemiology of Foodborne Illnesses in Nigeria
- Hygiene practices of Food Vendors and Factors Influencing Adherence to Food Safety Standards

OUTLINE CONT'D

- Consumer Awareness and Perceptions of Street Food Safety in Nigeria
- Existing Policies, Guidelines, and Enforcement Mechanisms Towards Food Safety
- Proposed Interventions, Strategies, and Policy Reforms to Enhance Food Safety

4. SUMMARY OF THE FINDINGS FROM THE REVIEW

- Gaps in Literature and Future Research Directions
- Suggestions for Policy and Practice

5. CONCLUSION

6. REFERENCES

1. BACKGROUND TO THE TOPIC

- Food is any substance consumed to supply essential nutrients, energy, and materials for growth, repair, and maintenance of life (World Health Organization [WHO], 2015).
- It includes raw, processed, or prepared forms, providing both macronutrients (carbohydrates, proteins, fats) and micronutrients (vitamins and minerals).
- Nutrients from food are vital for cellular repair, immune functioning, and overall health (Hortová-Kohoutková et al., 2021).
- Food plays a significant role in cultural traditions, social interactions, and economic systems (Fung et al., 2018).
- Ensuring food safety is crucial to prevent foodborne illnesses, which burden public health and economic resources.



1a. Statement of the public health issue

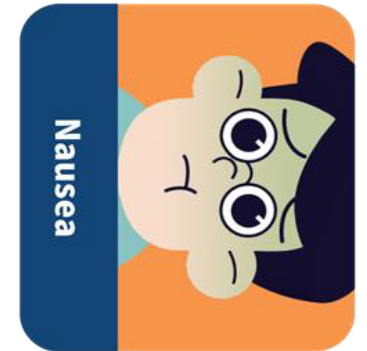
- ❑ Globally, contaminated food is responsible for approximately 600 million cases of illness and 420,000 deaths annually (WHO, 2015).
- ❑ In sub-Saharan Africa, around 91 million cases and 137,000 deaths occur each year due to foodborne diseases (WHO, 2022a).
- ❑ Nigeria, representing 15-20% of the region's population, faces a significant burden with high incidences of foodborne illnesses and related deaths (Adediran et al., 2024; Odetokun et al., 2022; Okafor, 2024).



1a. Statement of the public health issue cont'd

❑ Reports indicate that unsafe food in Nigeria leads to millions of diarrhoeal illness cases and tens of thousands of deaths annually (Elfikrie et al., 2020; Kolawole et al., 2024; Okafor, 2024; Ukah et al., 2019).

- Food poisoning
- Stomach flu (gastroenteritis)
- Diarrhea
- Dysentery (bloody diarrhea)
- E. coli infection
- Hepatitis A
- Salmonellosis (Salmonella)
- Typhoid



1b. Aim and objectives of the seminar

The seminar aims to synthesize literature on the safety of street foods in Nigeria, identify gaps, and propose recommendations to improve public health outcomes. Specific objectives are:

- The epidemiology of foodborne illnesses
- Hygiene practices of street food vendors
- Consumer awareness and perceptions of street food safety in Nigeria.
- Existing policies of food safety.
- Interventions to improve street foods safety in Nigeria.
- Interventions and policy reforms to enhance street food safety.

2. MATERIALS AND METHODS

Sources of Data: Literature sourced from peer-reviewed journals, government reports, and policy documents. *Key databases:* PubMed (for biomedical/public health focus) and Google Scholar (for broad inclusiveness)

Search Terms: Search strings combined terms on foodborne illnesses, street food, Nigeria, and public health (e.g., "food poisoning," "street food," "epidemiology")

Selection Criteria:

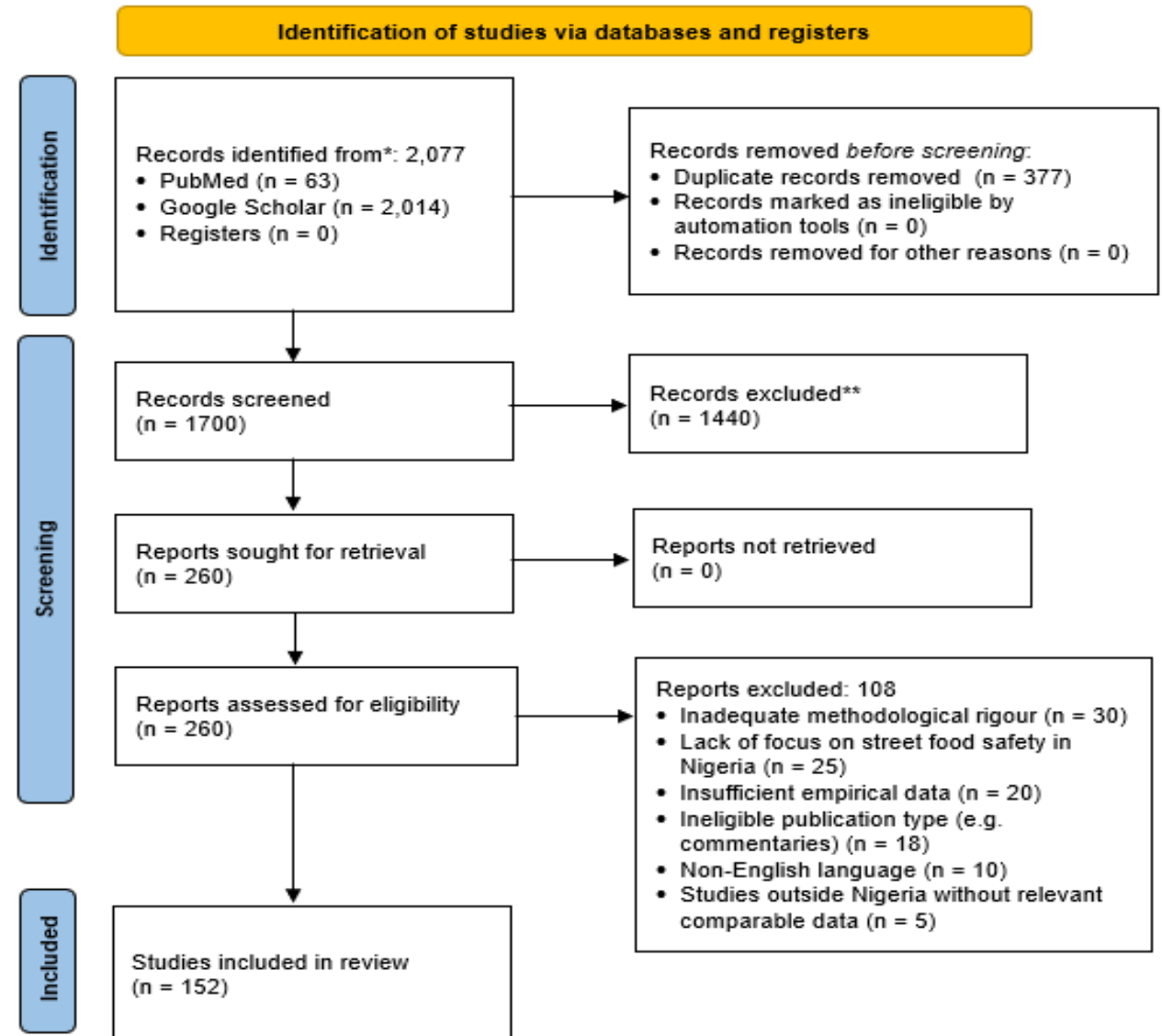
- Followed PRISMA guidelines, focusing on studies from 2015 to 2025
- Included only English-language, empirical studies (cross-sectional surveys, intervention trials)
- Excluded studies outside Nigeria (unless offering West African context) and those not directly addressing street food safety



2. MATERIALS AND METHODS CONT'D

Organisation of the Literature:

- Initial yield: 2,077 records, reduced to 1,700 unique records after duplicate removal.
- 1,440 records excluded after title and abstract screening.
- 260 full-text articles reviewed, with 152 studies included in the final analysis.
- Used Mendeley for citation organization and cross-checking; Office365 MS-Excel was used to develop the synthesis matrix for easy thematisation. See the PRISMA flowchart.



3. SUMMARY OF RESULTS

3.1. The Epidemiology of Foodborne Illnesses in Nigeria

Incidence & Prevalence:

- Foodborne illnesses in Nigeria cause millions of cases and over 200,000 deaths annually, posing a major public health threat.
- Significant economic losses are reported. For example, over US\$2.2 billion in egg production losses due to avian influenza (Kwaghe et al., 2017).
- Various foods—meats, dairy, traditional beverages, fruits, and vegetables—frequently harbor pathogenic, often antibiotic-resistant, bacteria (Ezirigwe, 2018; Opia, 2020)
- Fragmented surveillance and inconsistent regulatory enforcement hinder timely outbreak detection and control (Oladayo et al., 2022; Raimi et al., 2019).

Risk Factors for Microbial Contamination:

- Poor hygiene practices, insufficient infrastructure, and a gap between food safety knowledge and application increase contamination risks.
- Inadequate access to clean water and proper sanitation further exacerbates the problem.

3.2. Hygiene Practices of Food Vendors and Factors Influencing Adherence to Food Safety Standards

- Urban food vendors often practice proper hygiene (handwashing, food storage, protective clothing), while rural vendors rely on traditional, less rigorous methods.
- Lapses in hygiene include inconsistent handwashing, reuse of cooking oil, and poor HACCP compliance, often due to economic constraints.
- Environmental conditions vary: many vending sites are maintained cleanly but face challenges like pest issues and inadequate waste management.
- Vendors generally possess good theoretical knowledge of food safety regulations, yet a significant gap remains between knowledge and practical implementation.
- Adherence to food safety standards is influenced by education, training, regular inspections, economic limitations, and cultural norms.

3.3. Consumer Awareness and Perceptions of Street Food Safety in Nigeria

- ❖ Consumer awareness of food safety in Nigeria varies, with some studies reporting high knowledge while others indicate significant gaps.
- ❖ Visual cues like the cleanliness of food outlets strongly influence consumer perceptions and trust in vendors.
- ❖ Many consumers rely on personal judgment over formal certification when assessing food safety.
- ❖ Taste, affordability, and familiarity are key factors that drive consumer food choices.
- ❖ Demographic factors, cultural norms, and convenience also play important roles in shaping what people buy and eat.

3.4. Existing Policies, Guidelines, and Enforcement Mechanisms Towards Food Safety

International Regulations: Global standards (e.g., Codex Alimentarius, SPS Agreement, HACCP, ISO 22000) help safeguard public health and facilitate trade by setting science-based food safety benchmarks.

National Regulations: Nigeria's food safety framework involves multiple agencies (e.g., Ministry of Health, NAFDAC, SON) but suffers from overlapping responsibilities, outdated laws, and weak enforcement.

Licensing & Certification: Food vendors must register and complete mandatory training to obtain certification, bringing them under regulatory oversight.

Inspection & Monitoring: Regular inspections by public health officers are intended to enforce hygiene standards, yet budget constraints and vendor circumvention (e.g., temporary clean-ups, bribery) limit effectiveness.

Legal Consequences: Although penalties (fines, suspensions, prosecutions) exist for non-compliance, inconsistent enforcement and corruption undermine their deterrent effect.

Public Health Campaigns: Awareness programs and training sessions aim to improve food safety practices, but challenges such as inadequate funding, infrastructural barriers, and resistance to change persist.

3.5. Proposed interventions, strategies, and policy reforms to enhance food safety

- ✓ Implement continuous, context-specific training for food vendors and consumers, including hands-on demonstrations and incorporation of food safety into school curricula and community meetings.
- ✓ Revise and modernise regulatory frameworks to enforce minimum operational standards through licensing, regular inspections, and the adoption of HACCP protocols.
- ✓ Improve infrastructure by ensuring access to clean water, proper waste disposal, and designated, sanitary vending areas, supported by resource allocation and credit facilities.
- ✓ Integrate scientific and technological approaches, such as molecular analyses and enhanced early disease detection systems, into a comprehensive surveillance network.
- ✓ Align food safety practices with culturally informed business methods to build consumer trust and promote sustainable, high-standard food handling practices.
- ✓ Adopt a holistic, integrated strategy that combines education, regulation, infrastructure, and technology to reduce foodborne illnesses and safeguard public health in Nigeria.

4. SUMMARY

4.1. Gaps in Literature and Future Research Directions:

- Few rigorous evaluations of interventions, limiting evidence-based decision-making.
- Scarce research on how consumers and vendors comply with food safety regulations, with regional differences largely unexplored.
- Inconclusive findings on vendors' knowledge, attitudes, and practices due to overreliance on quantitative, cross-sectional studies; a need exists for qualitative, mixed-method, and longitudinal approaches.
- Limited exploration into modern regulatory frameworks, advanced scientific techniques, and the role of local cultural practices in shaping food safety behaviors.

4. SUMMARY

4.2. Suggestions for Policy and Practice:

- Develop consistent, context-specific training programs for vendors and consumers, integrating food safety into school curricula and community initiatives.
- Update Nigeria's regulatory framework by introducing robust licensing systems, regular inspections, and standard protocols (e.g., HACCP).
- Invest in infrastructural improvements to secure access to clean water, proper sanitation, and effective waste disposal.
- Incorporate modern scientific methods, such as molecular analyses and early disease detection, into food safety monitoring systems.
- Promote food safety practices that align with local cultural traditions and establish a dedicated task force for coordinated oversight of food safety initiatives.

5. CONCLUSION

- ❖ Urban vendors tend to follow recommended safety practices (e.g., regular handwashing, proper food storage), while rural vendors often rely on traditional methods.
- ❖ Economic challenges and infrastructural deficits worsen food safety issues, particularly in rural areas.
- ❖ Although many consumers understand safe food practices, their behaviors often do not align with their knowledge, relying more on observable cues than formal regulations.
- ❖ The domestic regulatory framework is fragmented with overlapping responsibilities and outdated provisions despite international standards.
- ❖ Streamlined regulations, improved education, and enhanced infrastructure are critical for achieving better public health outcomes and safer street food practices in Nigeria.

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