Proceedings of the ECOWAS 2nd Lassa fever International Conference in Abidjan, September 8 – 11, 2025

Knowledge, attitude, and practice of biosafety and infectious waste management among the laboratory workers at the NCDC National Reference Laboratory, Abuja, Nigeria

Ikechukwu Nnaji[1,&], Amos Dangana[1], Oluwapelumi Enoch Fasulu[2], MacDonald Somtochukwu Maduabuchi[3], Precious Nengak Danladi[4], Eugene Samuel Bwede[1], Abiodun Jumoke Egwuenu[1], James Christopher Avong[1], Chima Emmanuel Ihemeje[1], Olajumoke Atinuke Babatunde[1], Charles Chibuike Korie[3], Olubunmi Ruth Negedu-Momoh[5], Nkiruka Lynda Uzoebo[1], Chidiebere Emmanuel Opara[1], Ndidi Paschaline Agala[6], Ogarega Usiegbodi Daudu[1], Olajide Idris[1]

[1]Nigeria Centre for Disease Control and Prevention, Abuja, Nigeria, [2]Ahmadu Bello University (ABU) Zaria, Nigeria, [3]University of Nigeria Teaching Hospital (UNTH) Enugu, Nigeria, [4]Africa Field Epidemiology Network (AFENET), Abuja, Nigeria, [5]UK Health Security Agency (UKHSA), International Health Regulations (IHR) Strengthening Project, Abuja, Nigeria, [6]Aids Prevention Initiative in Nigeria (APIN) Abuja, Nigeria

[&]Corresponding author: Ikechukwu Nnaji, Centre for Nigeria Disease Control and Prevention (NCDC), Abuja, Nigeria. **Email:** ikechukwu.nnaji@ncdc.gov.ng

Citation: Ikechukwu Nnaji et al., Knowledge, attitude, and practice of biosafety and infectious waste management among the laboratory workers at the NCDC National Reference Laboratory, Abuja, Nigeria. Journal of Interventional Epidemiology and Public Health. 2025;8(ConfProc5):00272.

DOI: https://doi.org/10.37432/jieph-confpro5-00272

LINK: https://afenet-journal.org/knowledge-attitude-and-practice-of-biosafety-and-infectious-waste-management-among-the-laboratory-workers-at-the-ncdc-national-reference-laboratory-abuja-nigeria/

Received: 21/04/2025 **Accepted:** 09/07/2025 **Published:** 06/08/2025

Keywords: biosafety, infectious waste management, knowledge, attitudes, practice, laboratory workers, NCDC National Reference Laboratory

This is part of the proceedings of the ECOWAS 2nd Lassa fever International Conference in Abidjan, September 8 – 11, 2025

Introduction

Biosafety (BS) and safe infectious waste management (IWM) knowledge are crucial in safeguarding the laboratory and its personnel, as well as preventing the release of biological waste into the environment. At the National Reference Laboratory, infectious waste (both solid and liquid) is generated from laboratories handling Lassa fever, Mpox, diphtheria, pertussis, cholera, cerebrospinal meningitis, measles, rubella, yellow fever, HIV/hepatitis, Covid-19, influenza, etc. Biosafety and infectious waste management practices are influenced by personnel's attitude; hence, the need for status assessment to enable application of interventions that are suitable for the system.

Methods

The study was conducted from January to March 2025 using a cross-sectional descriptive study design.
The entire population (n=105) of technical and no n-technical laboratory workers was sampled. A structured questionnaire was used to collect data. SPSS version 20.0 was used for data analysis.

Results

A total of 80 respondents participated in the study, with 48 males (60%) and 32 females (40%). Among the respondents, 74 (92.5%) received initial orientation training on biosafety and infectious waste management. Additionally, 76.3% demonstrated an understanding of biosafety, while 63 (78.8%) strongly agreed that proper infectious waste management plays a critical role in reducing environmental and health risks. Regarding self-assessed confidence in BS and IWM knowledge, 38.8% of respondents reported being strongly confident of their BS and IWM knowledge, while 50% reported having a decent confident level of knowledge. Overall, attitudes towards biosafety and infectious waste management were predominantly positive, and observed practices partially conformed with standard operating procedures

Conclusion

Significant knowledge exists among laboratory workers, and attitudes are mostly positive; however,

some gaps still exist. Notably, informed knowledge will need to be fully translated into safe practices; as such, regular training and retraining of workers on biosafety and infectious waste management are highly recommended.