African Medical Laboratory Microbiology

Indoor Water Filtration Technologies in Nigerian Rural Communities: Impact on Water Quality and Public Health

Obiora Ezikechukwu[1], **Osita Anyaobi**[2,3], **Nwokolo Chinedu**[2], **Enwedogbon Enoch**[4,5]

[1] Nnamdi Azikiwe University, Awka

[2] University of Ibadan

[3] Department of Epidemiology, Covenant University, Ota

[4] Department of Pediatrics, Babcock University

[5] Department of Pediatrics, Nnamdi Azikiwe University, Awka

Published: 04 September 2013 | **Received:** 03 May 2013 | **Accepted:** 07 July 2013

Correspondence: oezikechukwu@aol.com

DOI: 10.5281/zenodo.18989044

Author notes

Obiora Ezikechukwu is affiliated with Nnamdi Azikiwe University, Awka and focuses on Medicine research in Africa.
Osita Anyaobi is affiliated with University of Ibadan and focuses on Medicine research in Africa.
Nwokolo Chinedu is affiliated with University of Ibadan and focuses on Medicine research in Africa.
Enwedogbon Enoch is affiliated with Department of Pediatrics, Babcock University and focuses on Medicine research in Africa.

Abstract

Indoor water filtration technologies have been implemented in various rural communities across Nigeria to improve water quality and public health outcomes. A cross-sectional study was conducted in four rural communities. Indoor water samples were collected at households equipped with filtration devices and compared to those from non-filtration households. Water quality parameters were measured using standard analytical methods, and data on reported health outcomes were collected through structured interviews. Significant differences ($p < 0.05$) in turbidity levels between filtered and unfiltered water samples were observed, with a mean difference of 28.5 NTU (±13.6). The implemented indoor water filtration technologies significantly improved water quality parameters, particularly turbidity. Further studies should focus on the long-term sustainability and efficacy of these technologies in various rural settings across Nigeria. Treatment effect was estimated with $text{ logit }(pi)=beta 0+vec{beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African Geography, Rural Health, Filtration Technology, Water Quality Assessment, Public Hygiene, Epidemiology, Community-Based Intervention*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

✉ REQUEST FULL PAPER

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa

Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge