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Clinical Trials Evaluation of a Novel Oral Cholera Vaccine in Rural Coastal Kenya's Underprivileged Communities: Disease Transmission Reduction Rates and Public Health Benefits

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Abstract

Cholera remains a significant public health concern in rural coastal Kenya, where underprivileged communities are at higher risk due to limited access to healthcare and sanitation infrastructure. A randomized controlled trial was conducted among underprivileged communities to assess the OCV's effectiveness. Vaccine coverage data were collected through weekly surveys, and incidence rates of cholera cases were monitored over a six-month period. The novel vaccine demonstrated an overall efficacy rate of 75% in reducing cholera transmission within the study population, with significant reductions observed in both symptomatic and asymptomatic infections. The clinical trial results indicate that the OCV is effective in mitigating cholera transmission in underprivileged coastal communities of Kenya. These findings underscore the potential for improved public health strategies. Health authorities should consider implementing routine vaccination programmes using this novel vaccine, alongside other preventive measures to enhance community resilience against cholera. Treatment effect was estimated with $text{ logit }(\pi)=beta 0+\vec{\beta} p X_{i}$, and uncertainty reported using confidence-interval based inference.

Keywords: *Kenya, Cholera, Vaccines, Epidemiology, Clinical Trials, Intervention Studies, Public Health*

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