



Low-Cost Medical Devices in Wound Healing in Northern Ghana Health Centers

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Abstract

In Northern Ghana, health centers face challenges in providing effective wound healing care due to limited resources. A mixed-methods approach was employed, including qualitative interviews with healthcare providers and quantitative analysis of device usage records. Device use significantly improved wound healing rates by 15% (95% CI: 8-23%) compared to baseline, demonstrating cost savings of up to 40% when compared to conventional treatments. Low-cost medical devices can effectively support wound healing in Northern Ghana's health centers with substantial benefits for both patients and healthcare resources. Health authorities should prioritise the integration of these devices into routine care protocols, coupled with ongoing staff training on their proper use. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Ghana, Wound Healing, Low-Cost Technologies, Biomaterials, Ecodesign, Anthropology, Mixed-Methods*

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