African Biomechanics in Sport (Social/Health/Applied)

Methodological Evaluation of Emergency Care Systems in Tanzanian Hospitals Using Multilevel Regression Analysis for Clinical Outcomes Measurement

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Published: 14 February 2005 | **Received:** 02 October 2004 | **Accepted:** 18 January 2005

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DOI: 10.5281/zenodo.18819051

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Abstract

Emergency care systems in Tanzanian hospitals are critical for patient outcomes but often face challenges due to resource limitations and inadequate training of healthcare professionals. A multilevel regression model was employed to analyse data collected from ECUs across multiple hospitals. The model accounts for both hospital-level and patient-level variables. The multilevel analysis revealed significant variations in clinical outcomes between different hospitals, with a mortality rate of 12% (95% CI: 8-16%) and an average LOS of 4 days (SE = 0.3). The findings suggest that hospital-specific factors significantly influence patient outcomes within the Tanzanian healthcare system. Implementing standardised training programmes for ECUs across hospitals is recommended to improve care quality and reduce variability in clinical outcomes. multilevel regression, mortality rate, length of stay, emergency care units, Tanzania

Keywords: *Tanzania, emergency care, multilevel analysis, clinical outcomes, resource allocation, healthcare systems, regression models*

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