

PREDICTORS OF LOWER LIMB AMPUTATION IN DIABETIC FOOT ULCER AMONG ADULTS IN DAR-ES-SALAAM REGIONAL REFERRAL HOSPITALS, TANZANIA.

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ABSTRACT

Background: Risk factors for Lower Extremity Amputation (LEA) in Diabetic Foot Ulcer (DFU) patients are peripheral arterial disease, peripheral neuropathy, uncontrolled blood glucose level, and a history of diabetic foot ulcers or amputations. However, DFU is the main cause of prolonged hospital stays because of late presentation, but the prognosis of the patients will be good if the problem is identified early, and optimal treatment is initiated. **Objectives:** To determine the predictors of LEA in DFU among adults in Dar-es-Salaam RRH, Tanzania.

Methods: An observational prospective hospital-based study was conducted in Amana, Mwananyamala, and Temeke in Dar-es-Salaam (RRH), Tanzania. Between February 2023 and July 2023, patients' details and data were collected using a questionnaire form from each participant who was admitted with a diagnosis of DFU. Written informed consent was sought from all patients who were eligible for the study before including them in the study. A total of 195 adult patients with DFUs were included in this study. Logistic regression was used to evaluate the associations between risk factors and amputation.

Results: The study recruited and followed up on 195 adult diabetics. The median age was 53 (IQR: 47–57) years, with female preponderance (54.9%). The median random blood glucose level (mmol/L) of participants was 15 (IQR: 12–18) mmol/L, with a median duration since diabetes mellitus diagnosis of 7 (IQR: 3–10) years. About three-fifths (59.5%) of study participants ended up with LEA. Post-tibial artery pulse (A.O.R.: 0.01, 95% C.I.: 0.00–0.021), dorsalis pedis artery pulse (A.O.R.: 0.005, 95% C.I.: 0.001–0.045), as well as the Ipswich test (A.O.R.: 0.001, 95% C.I.: 0.000–0.342) were significant factors associated with lower extremity amputation. More than half (55.9%)

of study participants had Wagner-grade 4- or 5-foot ulcers. Dorsalis pedis artery pulse had an almost perfect negative correlation with LEA ($r = -0.928$, $p = 0.000$).

Conclusion: Amputation rates were high in this study population. On average, most study participants were in the 4th grade Wagner classification. Undetectable of Ipswich tests, absence of posterior tibia artery pulse and absence dorsalis pedis artery pulse were significant risk factors associated with amputation in this study population.

Recommendations: Glycaemic control strategies need to be emphasized in order to achieve wound healing and reduce the amputation rate among adult diabetic foot ulcers in Dar-es-Salaam.