

**Clinical and economic burden of diabetic foot ulcers: A 5-year longitudinal multi-ethnic cohort study from the tropics**

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Diabetic foot ulcers (DFUs) present a substantial clinical and economic burden to healthcare systems around the world, with significant reductions in quality of life for those affected. We aimed to analyse the clinical and economic burden of DFU via a 5-year longitudinal multi-ethnic cohort study. A longitudinal analysis of inpatient and outpatient DFUs data over 5 years from a university tertiary hospital in Singapore was performed. Data included baseline characteristics, clinical outcomes, hospitalisation, and outpatient details. Descriptive statistics, Kaplan–Meier survival analyses, and Cox proportional hazard models were performed. Patients treated for DFUs (n = 1729, mean patient age of 634 years) were assessed. The cohort consists of Chinese (61.4%), Malay (13.5%), and Indian (18.4%) patients. Common comorbidities included peripheral arterial disease (74.8%), peripheral neuropathy (14.5%), and a median haemoglobin A1c of 9.9%. Patients underwent toe(s) amputation (36.4%), transmetatarsal amputations (16.9%), or major amputations (65%). The mean length of inpatient stay for ulcer-only, minor amputation, and major amputation was 13.3, 20.5, and 59.6 days, respectively. Mean cost per patient-year was US\$3,368 (ulcer-only), US\$10,468 (minor amputation), and US\$30,131 (major amputation). Minor amputation-free survival was 80.9% at 1 year and 56.9% at 5 years, while major amputation-free survival was 97.4% at 1 year and 91.0% at 5 years. In conclusion, within our multi-ethnic cohort of patients from the tropics, there was significant clinical and economic burden of DFUs, with a high wound per patient ratio and escalating healthcare costs corresponding to more proximal amputation levels.

**Biography**

Zhiwen Joseph completed his general surgical training as the inaugural resident at NHG-AHPL General Surgery Residency Program and as the inaugural president of the residents' council, Joseph completed his vascular and endovascular fellowships at Tan Tock Seng Hospital (Singapore), Leeds General Infirmary (UK) and St Thomas Hospital (UK), including a visiting fellowship at Kings College Hospital Diabetic Foot Clinic (UK). He is currently an NHG-LKC clinician-scientist fellow and is active in vascular research, with research interests in wound care, diabetic limb salvage, artificial intelligence, and health economics. To date, he has received more than \$3,500,000 in research grants and co-authored more than 40 publications. He had been awarded the Society of Vascular Surgery International Scholars Program and NMRC Research Training Fellowship in 2020. Joseph is passionate about health systems innovation and multi-disciplinary holistic approach in diabetic limb salvage.

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