Risk Factors for Delayed Presentation Among Patients With Musculoskeletal Injuries in Malawi

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Purpose: The burden of injuries is high in low-income and middle-income countries such as Malawi, where access to musculoskeletal trauma care is limited. Delayed treatment can worsen trauma-related disability. Understanding risk factors for delayed hospital presentation will assist in guiding trauma system development.

Methods: We examined the records of 1380 pediatric and adult patients with fractures who presented to the orthopaedic clinics of 2 urban referral hospitals and 2 rural district hospitals in Malawi. We used multivariate Poisson regression to evaluate the association between presentation to a hospital ≥2 days after the injury (delayed presentation) and 11 covariates: age, sex, education level, occupation, season of injury, day of injury, injury mechanism, injury type or extremity of injury, referral status, hospital of presentation, and estimated travel time.

Results: 28% of pediatric patients and 34% of adult patients presented late. In the pediatric cohort, fall (relative risk [RR], 1.40 [95% confidence interval (CI), 1.02 to 1.93]), sports injuries (RR, 1.65 [95% CI, 1.09 to 2.49]), tibial or fibular injuries (RR, 1.36 [95% CI, 1.05 to 1.77]), injury over the weekend (RR, 2.30 [95% CI, 1.88 to 2.80]), estimated travel time of ≥20 minutes (RR, 1.45 [95% CI, 1.16 to 1.81]), referral from another facility (RR, 1.46 [95% CI, 1.05 to 2.02]), and presentation to Kamuzu Central Hospital, Mangochi District Hospital, or Nkhata Bay District Hospital (RR, 1.34 [95% CI, 1.07 to 1.69]) independently increased the risk of delayed presentation. In the adult cohort, fall (RR, 1.85 [95% CI, 1.38 to 2.46]), injury over the weekend (RR, 1.80 [95% CI, 1.38 to 2.36]), estimated travel time ≥20 minutes (RR, 1.36 [95% CI, 1.03 to 1.80]), and presentation to Kamuzu Central Hospital (RR, 1.74 [95% CI, 1.30 to 2.33]) independently increased the risk of delayed presentation.

Conclusion: Delayed presentation to the hospital after a musculoskeletal injury is common in Malawi. Interventions are needed to improve access to musculoskeletal trauma care, especially for pediatric patients with tibial or fibular injuries, all patients after falls, patients injured over the weekend, and patients living far from health facilities.