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A prospective multi-site cohort study on the prevalence of frailty in patients aged over 70 years presenting after serious injury and implications for outcomes

With an ageing population, trauma services are managing increasing numbers of older adults who sustain serious injuries, among whom frailty has emerged as a critical determinant of recovery and long-term outcomes. This study aimed to determine the prevalence of frailty in older trauma patients admitted to major trauma centres in Australia and to examine its association with adverse events and post-discharge outcomes. A prospective multi-site cohort study was conducted between 2018 and 2023 across three Major Trauma Services in Australia: Royal North Shore Hospital (NSW), Royal Adelaide Hospital (SA), and Gold Coast University Hospital (QLD). Patients aged ≥ 70 years with serious injury (Injury Severity Score >12 , trauma service or intensive care unit admission) were enrolled. Frailty was assessed on admission using the Reported Edmonton Frail Scale (REFS), and participants were followed for 12 months after discharge. Of 217 patients recruited, 32 (14.7%) were frail and 28 (12.9%) pre-frail. Frail patients were older (mean 81.8 vs 78.6 years), had more comorbidities, and were more frequently injured by falls (72% vs 52% in non-frail patients). Geriatrician review occurred in 56% of frail versus 21% of non-frail patients. Frailty was associated with increased confusion and infection during inpatient stay and increased dependency, confusion, readmission, and mortality at 3 months (OR 3.46, 95% CI 0.81–14.82) and 6 months (OR 14.95, 95% CI 1.30–172.11). Frailty assessment on admission may enhance prognostication, inform early geriatric involvement, and support development of frailty-specific pathways to improve outcomes in older trauma patients.

Keywords: Frailty; Older trauma patients; Major trauma; Outcomes; Geriatric trauma care

Biography

Dr Martie Botha MBChB FACEM is an Emergency Physician and Retrieval Medicine Specialist with nearly three decades of international experience across Australia, the UK, and South Africa. She is a Consultant with Flinders Medical Centre and SAAS MedSTAR, and former Trauma Service Consultant at the Royal Adelaide Hospital. Dr Botha has a strong clinical and academic interest in geriatric emergency and trauma care, with extensive experience managing frailty, delirium, and complex care in older patients. She is a Fellow of ACEM, a founding member of the GEMSEM Faculty, and serves on the South Australian Trauma Committee.