

Frailty and mortality: Braden Scale is associated with mortality among elderly, infected patients admitted to an emergency department

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Background: Infections can lead to serious clinical condition among the frail and elderly population and is associated with high mortality. Currently, no consistent use of frailty risk assessment tools is implemented outside geriatric departments. The Braden Scale (BS) for predicting pressure sore risk is used routinely in hospital

settings and has also been associated with mortality in some studies. The aim of this study was to examine the association between BS and 28-day mortality among infected elderly patients admitted to an emergency department (ED).

Methods: A prospective study conducted between 1st October 2017 and 31st March 2018 among elderly (≥ 65 years) patients admitted to the ED at Slagelse Hospital with an infection. Information on BS (low-risk: $BS \geq 19$; intermedium risk: $13 < BS < 18$; high-risk: $BS \leq 12$), and other relevant data was obtained from the patient records. Information on 28-day mortality was obtained from the Danish Civil Registration System. We have used logistic regression analysis to adjust for potential confounders of the association between BS and mortality. Changes in model fit were analyzed by the log-likelihood test.

Results: A total of 1468 patients (52.0% female) aged ≥ 65 years with median age of 78.9 years (interquartile range 72.8-86.0) were included. BS was registered among 1072 (73.0%) patients. A total of 89 patients (8.3%) were in the high-risk group ($BS \leq 12$), 508 (47.4%) were in the intermedium-risk group and 475 patients (44.3%) in the low-risk group. The overall 28-day mortality was 10.0%. Unadjusted odds ratio (OR) for mortality, with low-risk group as reference, was 2.21 (95% confidence interval (CI) 1.42-3.45) for intermedium risk and 7.66 (95% CI 4.34-13.51) for the high-risk group. Odds ratio for the patients with missing BS was 0.60 (95% CI 0.32-1.12). Adjusted OR was 2.02 (95% CI 1.29-3.17) and 7.46 (95% CI 4.16-13.35) for the intermedium and high-risk groups, respectively.

Conclusion: The Braden Scale can be used as a prognostic marker among elderly patients admitted to an ED with infection.