Predicting Pressure Ulcer Risk: A Multisite Study of the Predictive Validity of the Braden Scale.

Bergstrom Nancy; Braden Barbara; Kemp, Mildred; Champagne, Mary; Ruby, Elizabeth

Abstract:
Background: There have been no studies that have tested the Braden Scale for predictive validity and established cutoff points for assessing risk specific to different settings.

Objectives: To evaluate the predictive validity of the Braden Scale in a variety of settings (tertiary care hospitals, Veterans Administration Medical Centers [VAMCs], and skilled nursing facilities [SNFs]). To determine the critical cutoff point for classifying risk in these settings and whether this cutoff point differs between settings. To determine the optimal timing for assessing risk across settings.

Method: Randomly selected subjects (N=843) older than 19 years of age from a variety of care settings who did not have pressure ulcers on admission were included. Subjects were 63% men, 79% Caucasian, and had a mean age of 63(+/-16) years. Subjects were assessed for pressure ulcers using the Braden Scale every 48 to 72 hours for 1 to 4 weeks. The Braden Scale score and skin assessment were independently rated, and the data collectors were blind to the findings of the other measures.

Results: One hundred eight of 843 (12.8%) subjects developed pressure ulcers. The incidence was 8.5%, 7.4%, and 23.9% in tertiary care hospitals, VAMCs, and SNFs, respectively. Subjects who developed pressure ulcers were older and more likely to be female than those who did not develop ulcers. Braden Scale scores were significantly (p = .0001) lower in those who developed ulcers than in those who did not develop ulcers. Overall, the critical cutoff score for predicting risk was 18. Risk assessment on admission is highly predictive of pressure ulcer development in all settings but not as predictive as the assessment completed 48 to 72 hours after admission.

Conclusions: Risk assessment on admission is important for timely planning of preventive strategies. Ongoing assessment in SNFs and VAMCs improves prediction and permits fine-tuning of the risk-based prevention protocols. In tertiary care the most accurate prediction occurs at 48 to 72 hours after admission and at this time the care plan can be refined.