The Association of BMI and Braden Total Score with the Occurrence of Pressure Ulcers

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Skin care is a significant challenge in the nursing care of morbidly obese patients. Instruments commonly used to evaluate pressure ulcer (PU) risk do not include patient's weight as a risk factor. The specific aim was to determine whether BMI and Braden total score (BTS) were independently associated with the probability of PU occurrence. It was hypothesized that high BMI would be associated with
higher PU prevalence and moderate the Braden risk score.

Method(s):
All acute patients at a tertiary medical center were evaluated for a PU during one day. Cross-sectional data were collected using visual inspection and chart review and recorded using the Novation/KCI National P&I Study Form. Collected data were matched with each patient’s BMI. 362 patients had complete data.

Results:
Ulcer prevalence in patients with BMI <40 was 12.5% compared to 26% with BMI =40 (p=.01), while the rate was 6.3% with BTS >16 compared to 27.3% with scores =16 (p=.001). BMI moderated the effect of a BTS =16. Ulcer prevalence increased 68 percent in patients with high risk BTS =16 and BMI =40 compared to patients with BTS =16 and BMI <40. Multivariate logistic regression found that patients with BTS =16 were 6 times more likely to have a PU compared to those with BTS >16, controlling for BMI (p<.001). Patients with BMI's =40 were 3 times more likely to have a PU compared to those with BMI's <40, controlling for Braden risk (p=.01).

Discussion:
High BMI and low BTS were both significantly related to PU prevalence in these study patients. This study represents a beginning step in examining the role of BMI on increased risk of PU development. Additional research is needed to determine the effect of other risk factors, especially mobility, along with BMI and the Braden on the validity of PU assessment.

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