

Title: Extremes of Nutritional Status Adversely Prognosticate Clinical Outcomes in Pediatric Patients Admitted with Acute Pancreatitis.

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"Introduction: Incidence of acute pancreatitis (AP) is increasing worldwide. With rising prevalence of obesity and undernutrition in pediatric population, we analyzed the effect of nutritional status over the clinical outcomes of AP in children.

Methodology: We analyzed the Kids' Inpatient Database (KID) between years 2003 and 2016 to include all patients (age ≤ 21 years) with AP using ICD-9 codes and were classified into three mutually exclusive groups: undernutrition, obese & control groups.

Demographics/etiologies/comorbidities/clinical outcomes were compared. Multivariate regression models were constructed to analyze the association of nutritional status with the primary outcome of severe acute pancreatitis (revised Atlanta classification) and secondary outcomes of length of stay and inflation-adjusted hospital costs.

Results: The total number of AP admissions were 39,805. Adverse nutritional status among AP increased from 7.5%(2003) to 19.5%(2016). The prevalence of severe AP was higher in undernutrition/obese vs controls (15.7% vs 5.8% vs 3.5% respectively, $P<0.001$). Multivariate regression models showed that undernutrition and obesity were associated with 2.5 (CI: 2.03 to 3.20, $P<0.001$) and 1.6 times (CI:1.39 to 1.89, $P<0.001$) increased risk of severe AP.

Undernutrition was associated with 6 additional hospitalization days (CI: 5.67 to 6.57, $P<0.001$) and incurred \$16,000 (CI:14,317 to 17,520, $P<0.001$) higher total costs. Obesity was associated with 0.5 additional days (CI:0.32 to 0.73, $P<0.001$) and \$2000 (CI:1,237 to 2667, $P<0.001$) additional hospitalization costs.

Conclusion: Extreme nutritional status predicts greater severity of AP and healthcare utilization. Nutritional status might be incorporated into predictive models of severe AP and may guide clinicians to tailor management for improved clinical outcomes. "