Predictive Values of Nutrition Risk Screening 2002 and Subjective Global Assessment on Hospital Length of Stay in Patients with Acute Pancreatitis

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Background: Malnutrition can affect both morbidity and mortality in patients with acute pancreatitis (AP). However, few studies have investigated degree of malnutrition and its impact on patients’ outcomes.

Objective: To investigate the incidence of malnutrition in hospitalized patients with AP and the effect of malnutrition on length of stay (LOS) assessed by the two standard systems including Nutritional Risk Screening (NRS) 2002 and Subjective Global Assessment (SGA).

Methods: Data from all patients who were admitted with AP at King Chulalongkorn Memorial Hospital (KCMH) from April 2016 to July 2017 were collected. The degree of malnutrition of malnutrition was evaluated by NRS 2002 and SGA. The effects of malnutrition on hospital LOS were calculated by Spearman’s correlation ($r_s$).

Results: A total of 32 patients with AP were recruited. Twenty-two (68.8%), eight (21.9%), and two (9.4%) patients were classified as having mild, moderately severe, and severe acute pancreatitis by revised Atlanta criteria 2013. Fourteen (43.7%) patients were categorized as high risk of malnutrition by NRS 2002 (score ≥ 3) and 10 (31.2%) patients were diagnosed with malnutrition by SGA (SGA class B and C). Patients with NRS 2002 score from 1 to 4 showed significant difference in mean LOS < 3.5 (±1.2), 8.6 (±8), 8.2 (±5.9), and 11.6 (±5.7) days, respectively. ($r_s=0.5$, $P=0.003$). Whereas, patients with SGA class A, B, and C tended to have difference in LOS, but no statistical significance.

Conclusion: NRS 2002 may be better than SGA to predict LOS in patients with acute pancreatitis. The findings may be explained by more details of classification and disease severity related criteria of NRS 2002.

Keywords: Malnutrition, Acute pancreatitis, NRS2002, SGA
Figure 1 Nutrition status and length of stays

$r_s = 0.5 \ (P = 0.003)$

$r_s = 0.34 \ (P = 0.06)$