Validity of Thai Nutritional Assessment Tools Compared with Subjective Global Assessment (SGA) in Adult Hospitalized Patients in Phramongkutklao Hospital

Apanaree Bhekasuta1 Sirakarn Tejavanija2

1Department of Medicine, Phramongkutklao Hospital, 2Division of Nutrition, Department of Medicine, Phramongkutklao Hospital, Bangkok 10400, Thailand

Background: Malnutrition in adult hospitalized patients is associated with many adverse clinical outcomes such as increased incidence of nosocomial infections, longer tracheal intubation time, prolonged length of hospital stay, impaired wound healing, etc. These factors, in turn, have a huge negative impact on mortality and healthcare costs. The prevalence of hospital malnutrition is varied depending on the nutrition assessment tool used to define malnutrition and the type of patient population studied. In Thailand, the reported prevalence of hospital malnutrition has not yet been well evaluated. Recently, The Society of Parenteral and Enteral Nutrition of Thailand (SPENT) has endorsed using either Nutrition Triage-2013 (NT-2013) or Nutrition Alert Form (NAF) as nutrition assessment tools in Thailand. To date, there have been no studies evaluating the validation of these Thai nutrition assessment tools with Subjective Global Assessment (SGA), the standard nutrition assessment used worldwide, in the same population.

Objective: The primary objective was to test the validity of NT-2013 and NAF compared to the gold standard SGA in non-critically ill adult patients in medical and surgical wards at Phramongkutklao Hospital. The secondary objective was to determine the prevalence of malnutrition in adult hospitalized patients using these three different nutrition assessment tools.

Methods: This was a cross-sectional study. Nutrition screening was done in all patients in medical and surgical wards using SPENT nutrition screening tool. Only the patients identified as malnutrition at risk were further assessed using all three nutrition assessment tools. The validity of such tools was analyzed using kappa test. The prevalence of malnutrition by using each tool was reported using descriptive statistics.

Results: Of the 151 patients, 107 (70.9%) were in medical wards. By using SPENT nutrition screening tool, 82 patients were found to be at risk for malnutrition. Then, the nutrition status of 82 patients was further assessed. Malnutrition was confirmed in 48 (58.5%), 71 (86.6%), and 66 (80.5%) patients using NT-2013, NAF, and SGA, respectively. NT-2013 had 68.2% sensitivity and 81.3% specificity. NAF had 89.4% sensitivity and 25% specificity. When compared with SGA, the value of kappa of NT-2013 was 0.347 with 70.73% chance agreement (p-value < 0.001); whereas, the value of kappa of NAF was 0.163 with 76.83% chance agreement (p-value < 0.065).

Conclusion: In term of a nutrition assessment tool, NT-2013 is more valid than NAF when compared with SGA. Due to higher sensitivity, NAF is more appropriate to be used as a nutrition screening tool. The prevalence of malnutrition in medical and surgical wards ranges between 58.5% and 86.6% depending on the used nutrition assessment tool to define malnutrition.

Keywords: SGA, SPENT, NAF, NT-2013