

Association between eating difficulties and Body Mass Index in the elderly of geriatric health services facilities.

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The purpose of the present study was to develop an eating difficulty screening scale for institutionalized elderly to evaluate the needs of nutrition care for protein energy malnutrition (PEM) by registered dietitians, and to evaluate its reliability and validity. The scale of 22 items was selected from previous studies.

Subjects were 600 institutionalized elderly people (aged 84.5 ± 8.3 years, $M \pm SD$; 164 men and 436 women) between July and August of 2009 at 8 geriatric health services facilities in western Japan. The registered dietitians and speech therapists who worked in each facility performed the eating difficulty screening on subjects through mealtime observation to identify signs and symptoms of eating difficulties. PEM risk was defined by body mass index (BMI, kg/m^2) < 18.5 . Among the subjects, 23.3% ($n=140$) were at PEM risk.

Factor analysis revealed a factor structure of 19 items and 5 factors. Three items of them were excluded because their factor loadings were 0.4 or less. These factors were labeled “Swallowing difficulty”, “Self-feeding difficulty”, “Positioning difficulty”, “Inadequate oral intake”, “Biting /Chewing difficulty”. Chronbach's α coefficient of the scale was 0.881. The subscales were between 0.646- 0.880. Average scoring points for each subscale were analyzed. Subjects with PEM risk had significantly lower “Self-feeding difficulty” scoring points ($p = 0.021$), “Positioning” scoring points ($p < 0.001$), “Inadequate oral intake” scoring points ($p = 0.033$), and “Biting /Chewing difficulty” scoring points ($p < 0.001$) than those without PEM risk, according to the Mann-Whitney U test.

In conclusion, these results showed that the eating difficulty screening scale consists of 5 subscales and 19 items, and also confirmed its reliability and validity. In addition, the author has found that eating difficulties are factors related to PEM risk. A standardized method for assessing eating difficulties needs to be established in long-term care facilities, where objective data for assessing malnutrition are limited.