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High degree of BMI misclassification of malnutrition among Swedish elderly population: Age-adjusted height estimation using knee height and demi-span

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The degree of misclassification of obesity and undernutrition among elders owing to inaccurate height measurements is investigated using height predicted by knee height (KH) and demi-span equations. Cross-sectional investigation was done among a random heterogeneous sample from five municipalities in Southern Sweden from a general population study 'Good Aging in Skåne' (GÅS). The sample comprised two groups: Group 1 (KH) including 2839 GÅS baseline participants aged 60-93 years with a valid KH measurement; and Group 2 (demi-span) including 2871 GÅS follow-up examination participants (1573 baseline; 1298 new), aged 60-99 years, with a valid demi-span measurement. Participation rate was 80%. Height, weight, KH and demi-span were measured. KH and demi-span equations were formulated using linear regression analysis among participants aged 60-64 years as reference. Body mass index (BMI) was calculated in kg/m². The results obtained were: undernutrition prevalences in men and women were 3.9 and 8.6% by KH, compared with 2.4 and 5.4% by standard BMI, and more pronounced for all women aged 85+ years (21% vs. 11.3%). The corresponding value in women aged 85+ years by demi-span was 16.5% vs. 10% by standard BMI. Obesity prevalences in men and women were 17.5 and 14.6% by KH, compared with 19.0 and 20.03% by standard BMI. Values among women aged 85+ years were 3.7% vs. 10.4% by KH and 6.5% vs. 12.7% by demi-span compared with the standard. In conclusion, there is an age-related misclassification of undernutrition and obesity attributed to inaccurate height estimation among the elderly. This could affect the management of patients at true risk. We therefore propose using KH- and demispan-based formulae to address this issue.

Biography

Nivetha Natarajan Gavriilidou has her expertise in Dentistry and Geriatric Epidemiology and passion in improving the health and wellbeing of elderly adults. Her research efforts in Swedish geriatric nutritional studies open doors for possibilities for interdisciplinary research for example, i.e., oral health among elderly and multi-morbidity. The current study shows that there is an age-related misclassification of undernutrition and obesity attributed to inaccurate height estimation among the elderly. This could affect the management of patients at true risk. We therefore propose using KH- and demi-span-based formulae to address this issue.

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