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## The nutritional status of older adults on admission to hospital

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Older adults account for more in-patient bed days and have a longer average length of stay than younger age-groups in Irish hospitals<sup>(1)</sup>. Among older patient groups undernutrition and poor dietary intake in hospital have been well documented and are associated with poorer outcomes<sup>(2,3)</sup>. With the growing obesity epidemic, overnutrition has been reported in older free-living populations<sup>(4)</sup>. The metabolic and mechanical effects of overnutrition, in combination with the increased prevalence of chronic disease with increasing age, may cause more overnourished older patients to be admitted to hospital than in previous years.

A cross-sectional study was performed that aimed to assess the nutritional status and dietary intake of older patients admitted to an acute geriatric ward of a Dublin hospital. A secondary aim was to identify characteristics associated with under- and overnutrition among the patient sample. Thirty patients aged  $\geq 65$  years who were not on artificial nutritional support, not actively under the care of a clinical nutritionist and not terminally ill were recruited within 72 h of admission. Patients were profiled by the collection of anthropometric, biochemical and clinical data. Dietary assessment commenced within this time and continued for three subsequent consecutive days.

When Malnutrition Universal Screening Tool (MUST)<sup>(5)</sup> classifications of BMI were applied it was found that a greater number of older patients admitted were overweight ( $n$  12) or obese ( $n$  9) than underweight ( $n$  2) or of healthy weight ( $n$  7). When data were analysed by tertiles of BMI, characteristics found to be associated with undernutrition were more frequently seen in the lowest tertile; three of nine patients in the lowest tertile were found to be depressed compared with one of eleven in the highest tertile, while three of nine patients in the lowest tertile were found to be cognitively impaired compared with two of eleven patients in the highest tertile. No correlation was found between BMI and serum albumin ( $r$  0.264,  $P=0.166$ ); however, a correlation was found between serum albumin and mid-upper-arm circumference ( $r$  0.392,  $P=0.032$ ) and serum albumin and mid-arm muscle circumference ( $r$  0.506,  $P=0.005$ ). Mean energy intake (4092 (SD 1396) kJ/d) did not meet individual energy requirements for the entire sample, while ten patients had intakes of  $<50\%$  of requirements.

A greater number of older patients were classified as overnourished than undernourished on admission to hospital. Despite the observation of a well-nourished older patient group, nutritional status may have deteriorated before admission or deteriorated rapidly on admission as a result of poor dietary intake and increased energy requirements, leaving the patient at risk of significant weight loss, undernutrition and ultimately a poorer outcome. This finding is an indicator of the need for nutritional services and nutritional screening for all acute medical services for older adults.

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