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High prevalence of vitamin D deficiency in patients with spinal cord injury: a 1 year longitudinal study

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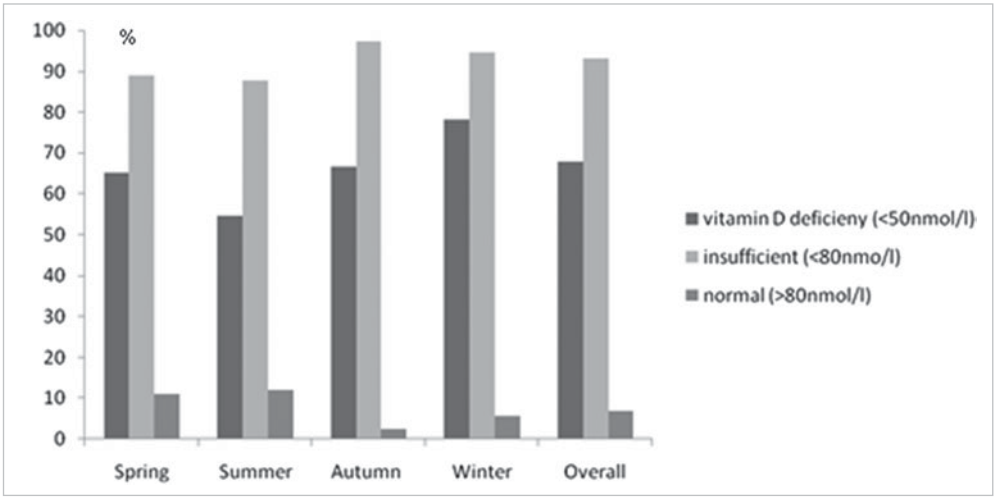
Previous studies reported that the prevalence of hypovitaminosis D is increased amongst spinal cord injured (SCI) individuals.[1] This could possibly due to decreased mobility, prolonged institutionalisation and reduced exposure to sunlight following SCI. Hypovitaminosis D can be influenced by factors such the seasons. This study aimed to (1) evaluate 25-hydroxyvitamin D concentrations in SCI patients admitted to a UK SCI centre over four seasons and (2) to assess the characteristics of vitamin D deficiency in this patient group. 245 adults (mean age: 50.1 years, 22.8% female) with SCI (58.6% tetraplegia; 48.6% complete SCI) were studied prospectively during April 2012 to February 2013. Data was collected by two trained professionals (research doctor and dietitian) from individual patient notes using a standardised questionnaire. Vitamin D levels (nmol/l) < 50; <80 and >80 were defined as deficient; insufficient and normal, respectively. Almost all (93.1%) SCI patients were vitamin D insufficient, 67.8% had vitamin D deficiency. Hypovitaminosis D was associated with undernutrition risk2 ($p = 0.013$), onset of SCI ($p = 0.029$), severity of SCI: complete SCI ($p = 0.014$) and non-summer seasons ($p = 0.02$). Multivariate logistic regression identified severity of SCI as an independent factor for hypovitaminosis D (OR: 3.53; 95% CI: 1.31–9.51). Hypovitaminosis D was found to be less common in summer when compared to Autumn, Winter and Spring. (54.5%, 66.7%, 78.1%, 65%) The present study shows hypovitaminosis D is common. Complete SCI is an independent risk factor. Strategies for systematic screening and treatment of hypovitaminosis D need to be refined and implemented. Given the severe loss of quality of life for these patients, a cost-effective, reliable therapy would appear to be highly desirable. Further study of vitamin D supplementation and body composition in SCI patients is warranted.



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1. Zafeiris *et al.* (2012) *Spine J* **12**, 304–312.
2. Wong S *et al.* (2012) *Eur J Clin Nutr* **66**, 382–387.