

Vitamin D levels in patients presenting to a gastroenterology clinic

M. Yousif¹, B. S. Höroldt¹, M. Srinivas¹, P. J. A. Willemse¹, P. Basumani¹, R. Ellis²
and K. D. Bardhan¹

Departments of ¹Gastroenterology and ²Clinical Chemistry, Rotherham General Hospital NHS Foundation Trust, Moorgate, Rotherham S60 2UD, UK

Vitamin D deficiency is associated with non-specific symptoms, carries long-term risk to bone health, and certain groups are at higher risk (alcohol excess, old age, Asians). The prevalence and seasonal variation amongst patients attending gastroenterology clinics is unclear; this prompted our pilot study.

Patients (*n* 556), randomly chosen, with alcoholic liver disease (ALD; *n* 52), inflammatory bowel disease (IBD; *n* 110), irritable bowel syndrome (IBS *n* 174), other liver disease (*n* 50), iron deficiency anaemia (IDA) (*n* 49), other diagnosis (*n* 121). Use of over the counter supplements was checked and those on vitamin preparations excluded. Measurements were of: Vitamin D (25-(OH) Vitamin D3), Ca profile, Mg, ferritin, B₁₂ and folate. There were 315 females of which thirty-six were Asian. Median age was 55 (range 18–86) years. Results (see Table) were as follows:

1. Only 35.3% had adequate levels.
2. Severe deficiency was most frequent in ALD (52%), other liver disease (33%) and IDA (37.5%) (27% overall). Mild–moderate deficiency occurred in similar frequency ALD (29%), other liver disease (42%) and IBD (44%), but also in IBS (35%).
3. Severe/moderate deficiency occurred significantly more often in Asians ($P=0.0041$) and older people ($>60/<60$ yrs; $P=0.0.30$), but was unrelated to sex ($P=0.4917$) (all Fisher's exact test).
4. Median vitamin level showed little seasonal variation; April–September (40 nmol/l) and October–March (41.7 nmol/l).
5. Deficiency in folate, vitamin B₁₂ and iron was 10, 16 and 9% respectively (excluding patients referred with a deficiency).

Condition	<i>n</i>	Median vitamin D level (nmol/l)	Number of patients (%) with deficiency		
			<25 nmol/l Severe	25–50 nmol/l Mild–moderate	>50 nmol/l Adequate
All	556	41	26.5	38.1	35.3
ALD	52	22	52.1	33.3	14.6
Liver	50	31	33.3	41.7	25.0
IBD	110	45	22.8	43.6	33.6
IBS	174	49.5	18.9	34.5	46.6
Other	121	41	24.0	42.2	33.8
IDA	49	33	37.5	29.2	33.3

We conclude, that:

1. Vitamin D deficiency is common in patients attending gastroenterology clinics, is almost always subclinical and its long-term significance is unknown.
2. The seasonal variation is less than expected.
3. Increasing awareness has allowed us to recognise the condition more often.