

Safety and efficacy of Vitamin D supplementation

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Background

- Low serum vitamin D level is common in HIV-infected patients in the UK. The clinical significance of vitamin D deficiency and benefits of treatment remains unclear. Local guidelines recommend supplementation for those who are symptomatic or at risk of developing fractures.
- There is little data on monitoring patients on supplementation. Testing levels after supplementation may be necessary to identify need for further treatment and to avoid toxicity; and has significant cost implications.
- This study was done to monitor the efficacy of high dose vitamin D supplementation and determine the optimum time to re-test vitamin D levels after supplementation.

Methods

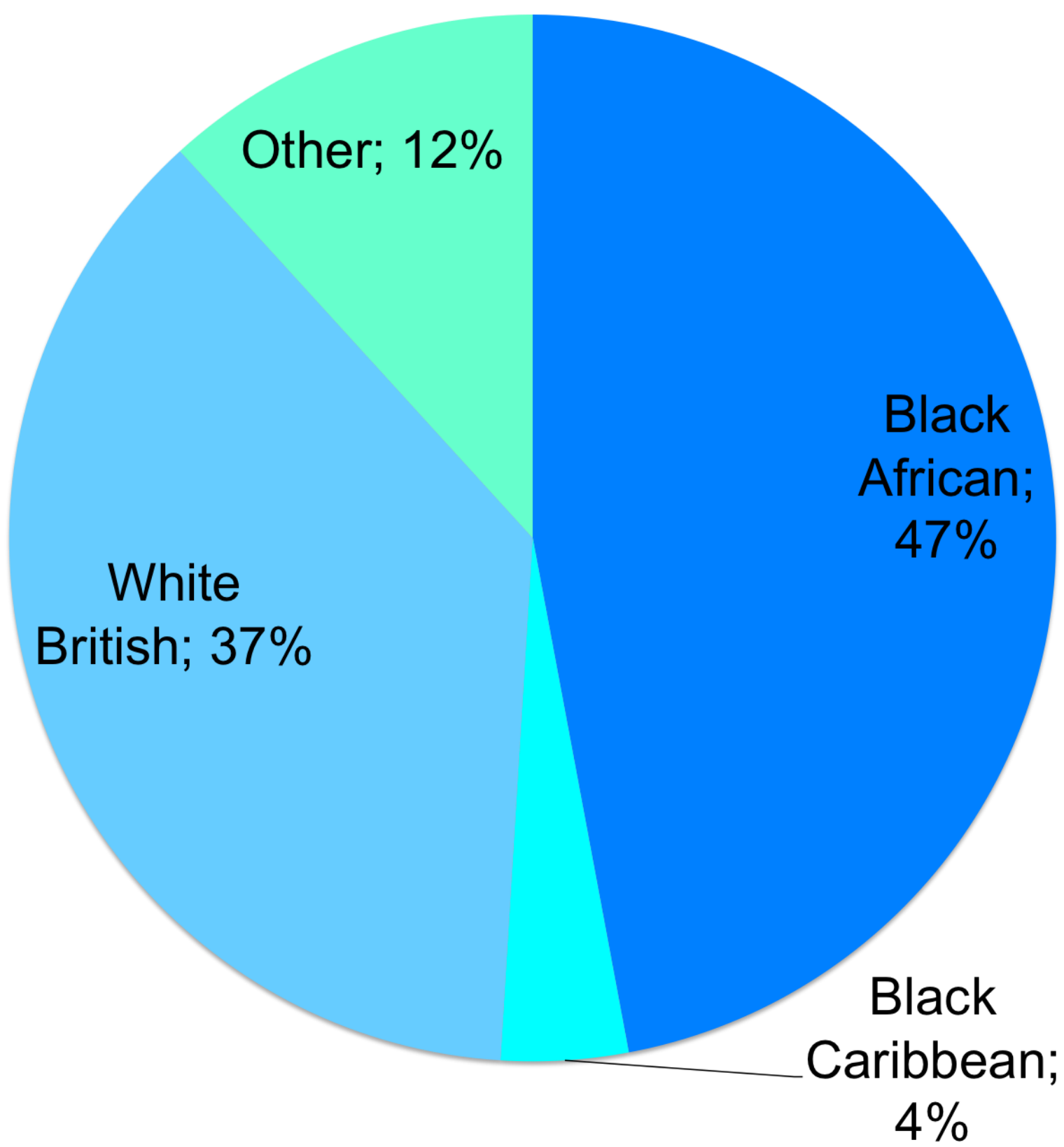
- Retrospective case note review of patients supplemented with colecalciferol 60,000 IU (Dekristol 20,000 U capsule) once a week for 12 weeks from February 2011 to October 2012.
- Data on age, ethnicity, gender, CD4 levels, medication and vitamin D level before and after supplementation were collected.
- The data was collated and analysed on Microsoft Excel.

Results

- Fifty three case notes were reviewed, two patients did not take prescribed therapy and 51 were included for analysis.
- 22 (43%) were women and 29 (57%) men; the median age was 40 years, range 24-72 years.
- All patients were on antiretroviral therapy with CD4 >150 c/mm3 and 49 (96%) had CD4 > 250c/mm3.

Ethnicity

Figure 1: Ethnicity

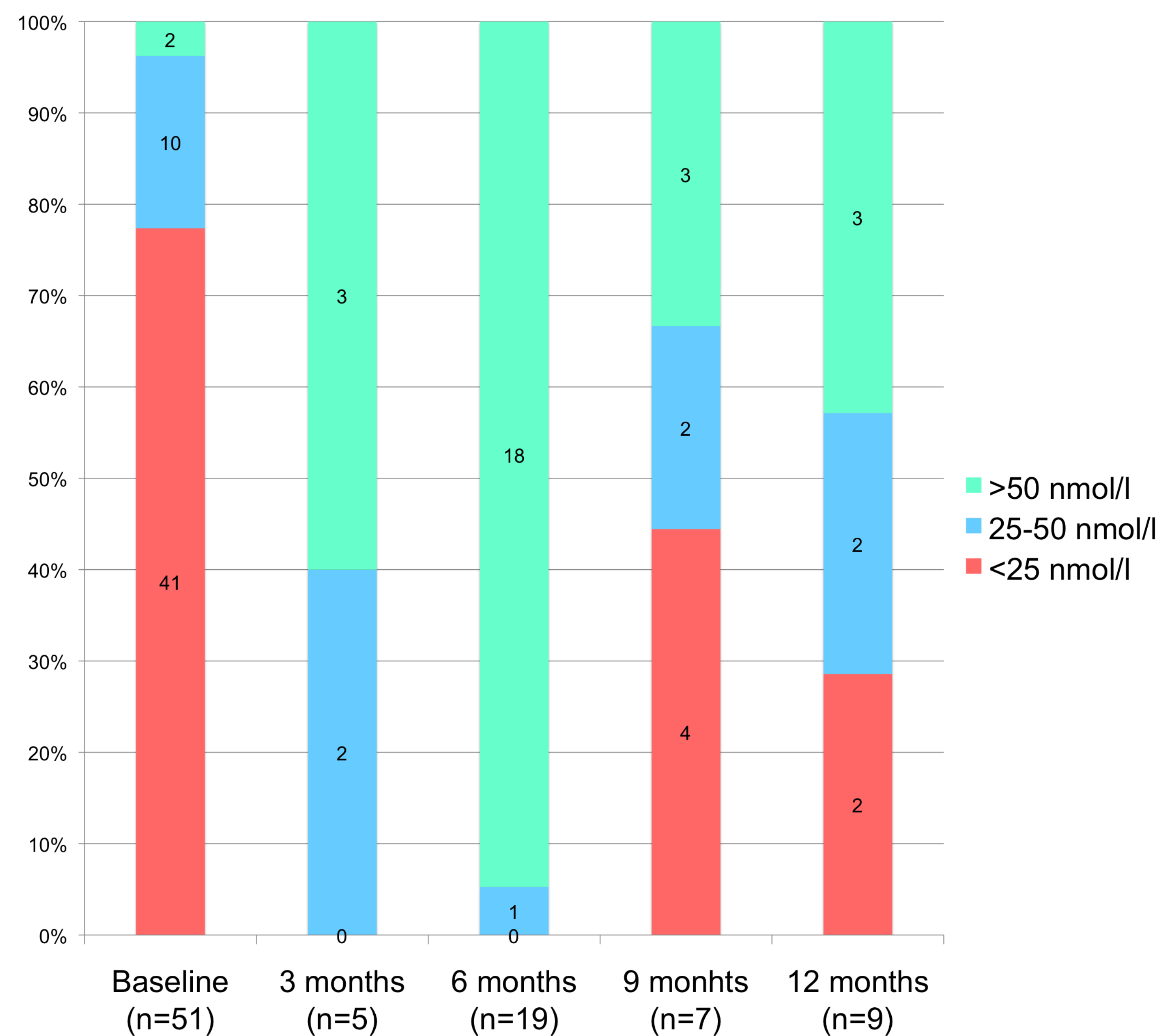


- Nearly half (24, 47%) were black African, 19 (37%) were white British and 8 (15%) other ethnicities.

Vitamin D levels before and after supplementation

- The median baseline Vitamin D was 20; range 10- 27nmol/l.
- Vitamin D levels were tested at least once at 3-12 months after supplementation in 40/51, 79%. This was >25 nmol/l in 34, 85%.
- The vitamin D levels before and after supplementation, and the time of re-testing is shown in Figure 2.

Figure 2: Vitamin D levels before and after supplementation



- Low vitamin D levels (<25 mol/l) was seen after supplementation in 6 patients; all 6 were tested at 9-12 months after completing supplementation. The levels were not checked at 3- 6 months in these patients.

Conclusion

- The majority of patients had their vitamin D deficiency adequately corrected by supplementation. There was no case of hyper-vitaminosis. It is possible that the few patients who continued to have deficiency had initially responded to treatment but relapsed.
- We did not collect data on adherence and seasonal variation of vitamin D levels both of which affect serum levels.
- This small study suggests that retesting for vitamin D at 9-12 months rather than at 3 months may be a cost effective strategy to identify needs for further supplementation.