

## Background

Vitamin D deficiency is the most common nutritional deficiency in the world. It affects people of all ages, however as we age the ability of the skin to produce vitamin D decreases putting the older population at risk<sup>1</sup>. Further risk factors include inadequate dietary and supplemental vitamin D intake, medications such as antiepileptic medication and CKD. Additionally, due to the Covid-19 pandemic people are possibly spending more time indoors. In addition, patients with mental health issues are often found to be deficient in Vitamin D<sup>2</sup>. Therefore, considering the above risks, patients on an older persons psychiatric inpatient unit are likely to be at risk of vitamin D deficiency.

## Aims

- Assess whether vitamin D was measured on admission
- Assess what treatment patients are prescribed on the ward or already on when they arrive.
- Does the prescription follow the trust guidelines, is there a clear start and end date?

## Methods and standard setting

Methods: Data was collected for patients admitted over a three month period. Bloods were checked on ICE, medical records were checked on System1. This was compared to the regional standards set by SABB.

## Results

26 patients were included. 50% had their vitamin D checked on admission. Five patients were not tested during their admission at all. Six patients were already on treatment for vitamin D deficiency.

### Deficient (3) < 25nmol/L

Of those that were deficient, two were prescribed Cholecalciferol 40,000 units weekly, both had end dates. One patient was on normal dose of 800 units.

### Insufficient (12) 25-50nmol/L

3 Not on treatment  
6 already on treatment (AdCalD3)  
2 prescribed Cholecalciferol 800u  
1 prescribed 3200u  
as patient was considered high risk

Vitamin D tested during admission

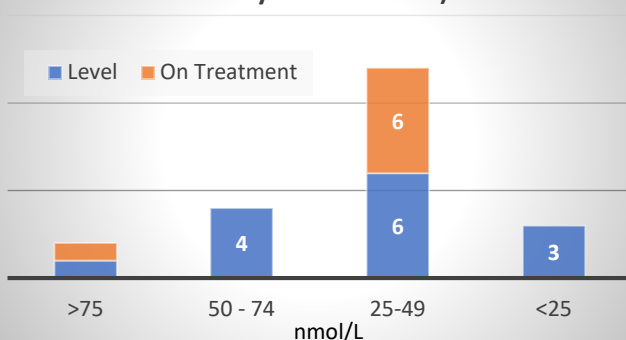


### Adequate levels (6) >50nmol/L

Five not on treatment.  
One on 2000 units Cholecalciferol/day

■ Tested ■ Not tested

### Vitamin D levels of patients (highlighted if already on treatment)



## Conclusion & Recommendations

Not all patients were tested or given adequate treatment for their deficiency or insufficiency.

Treatment was sporadic and guidelines were not always followed

### VITAMIN D REPLACEMENT

Please test Vitamin D on admission for every patient

*Patients on Spenser Ward are at higher risk of having low vitamin D due to age group, low sun exposure, reduced diet, liver or renal disease and taking concurrent medication impairing vitamin D metabolism such as anticonvulsants and glucocorticoids.*

#### VITAMIN D LEVELS ASSESSMENT

Deficiency (<25 nmol/L)  
Insufficiency (25-50 nmol/L)

#### TREATMENT

Deficiency (<25 nmol/L)

- 3,200units daily for 12 weeks
- 40,000 units for 7 weeks

Insufficiency (25-50 nmol/L)

- Lifestyle advice
- OTC supplements 800units

#### PREVENTION MEASURES

- Sun Exposure - arms and face, 20 minutes, 3x/week, no sunscreen
- Dietary sources - oily fish, red meat, egg yolk, mushrooms, fortified foods e.g. cereals, yoghurts

#### CLINICAL FEATURES OF DEFICIENCY

- Widespread or localised bone pain
- Muscle weakness or muscle aches
- Insufficiency fractures/fragility fracture

**Recommendation:** A poster (above) was created so the SABB guidelines could be displayed clearly. This is on display on Spenser ward and the doctor's workspace. It was also distributed to all the trainees who work in ACU.

This can now be re-audited.

## References

1. Holick, Michael F. Vitamin D deficiency, *BMJ Best Practice*, 19<sup>th</sup> Aug 2019 [Accessed 20<sup>th</sup> October 2020] Available from <https://bestpractice.bmj.com/topics/en-gb/641/>
2. Penckofer S, Kouba J, Byrn M, Estwing Ferrans C. Vitamin D and depression: where is all the sunshine?. *Issues Ment Health Nurs*. 2010;31(6):385-393. doi:10.3109/01612840903437657