

Vitamin D guidelines: General practitioners' attitudes and awareness

Rebecca Townsend¹, Timothy Smith², Umesh Chauhan³

¹Undergraduate Intern, School of Medicine ²Main Supervisor, School of Medicine ³Additional Supervisor, School of Medicine, University of Central Lancashire (UCLan)

Background

Why should this be investigated?

- **1 in 5 adults** living within the UK are vitamin D deficient.¹
- The National Institute for Health and Care Excellence (NICE) published guidance on vitamin D supplementation for at-risk populations in November 2014.
- Recommendations within this publication also state that “**Healthcare professionals should assist with the uptake, promotion, and education of vitamin D supplementation amongst the population, especially within groups at risk**”.²
- From this, East Lancashire Medicines Management Board (ELMMB) produced guidelines for the diagnosis and management of vitamin D deficiency in adults on 12th October 2016, with the latest revised version on 8th May 2018.

Risk factors for Vitamin D deficiency included within NICE guidelines:

- Skin pigmentation.
- Use of concealing clothing.
- Institutionalisation/housebound status.
- Pregnancy or lactation status.
- Older age (65 or older).
- Exclusively breast-fed infants (or have <500ml formula milk per day).

Why East Lancashire?

- The increased northern latitudinal positioning of **East Lancashire** increases inhabitants' risk of vitamin D deficiency.³

Locations in the UK	Northern Latitude
Plymouth	50.37°
London	51.51°
Birmingham	52.48°
Burnley	53.8°

Table 1: Longitude of various UK cities.⁴

Sources of Vitamin D:

- Consumption of oily fish, egg yolks, mushrooms, or fortified products.
- >90% produced via **skin photosynthesis**, following exposure to solar ultraviolet B (UVB) radiation.²

From October until April, the latitudinal positioning of the UK does not permit sufficient UVB exposure for optimal cutaneous synthesis.

Research aims and objectives:



Methods

Research Design

- **Cross-sectional questionnaire** conducted during July - August 2018.
- Involved questions about practitioner demographics, current knowledge, attitudes, and practices on vitamin D, and supplementation.
- Eligible participants were practising in **East Lancashire CCG, & Blackburn with Darwen CCG**.
- Approval granted by: STEMH Research Ethics Committee, UCLan.

Data Collection

- Via **SurveyMonkey Inc.**
- Link sent to eligible respondents via email, and via WhatsApp Inc.



Statistical Analysis

- **IBM SPSS Statistics 24 Software** used to conduct descriptive frequency analysis, chi-square tests of independence. Simple content analysis was also used.

Results

Awareness of risk factors for deficiency

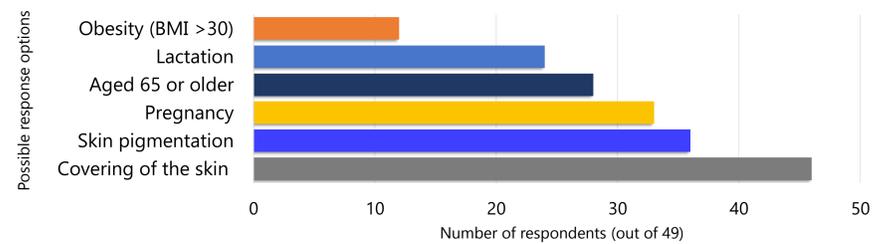


Figure 1: Respondents' awareness of risk factors for deficiency

East Lancashire GPs' contact with at-risk individuals

- 91.9% see **pregnant women** or offer pre-conception advice.
- 85.7% are involved in the care of **housebound/institutionalised individuals**.
- 75.5% encounter **an individual who covers their skin for religious/cultural reasons** at least once per week.



The importance of local guidelines

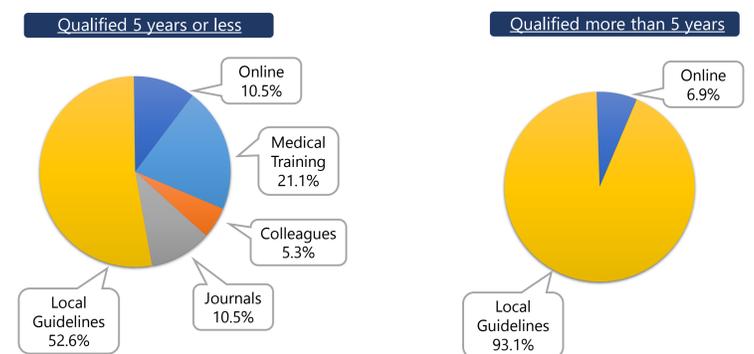


Figure 2: Relationship between years qualified as a GP and their major source of information on vitamin D

- Nearly all GPs qualified for 6 years or longer rely on **local guidelines** to form their knowledge on vitamin D.
- Respondents who have read the guidelines were **significantly more confident** in their ability to provide advice on vitamin D ($\chi^2 (16) = 28.50, p < .05$).

Barriers to advice

- **41%** of GPs felt their advice on vitamin D supplementation could be improved.

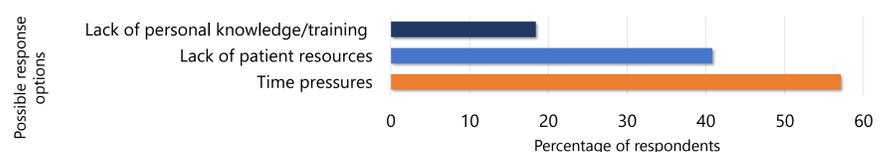


Figure 3: Respondents' perceived barriers to vitamin D supplementation advice

Free text response comments demonstrated other barriers such as:

- There is a **lack of communication between healthcare professionals** – uncertainty as to whose responsibility it is to advise on supplementation.
- Current guidelines are **confusing**, and **hard to read** in a short amount of time.

Conclusions

Key Findings:

- GPs within East Lancashire **regularly consult** patients at high risk of vitamin D deficiency.
- Local guidelines are seen as the **most important source** of information on vitamin D, particularly among established GPs (>5 years qualified).
- The publication of local guidelines **significantly improves** GP confidence on vitamin D, and seems to improve impacts GP knowledge and awareness.
- GPs' awareness and knowledge of vitamin D has **increased** compared to studies predating the publication of NICE guidelines in November 2014.
- The main barrier to supplementation advice for GPs remains **time pressures**, similar to studies prior to NICE guideline publication.

Implications for research and/or clinical practice:

- **Explore the barriers mentioned further** Qualitative research among GPs should be conducted to gain an increased understanding of the mentioned barriers. Further research is needed to understand at what point other health professionals offer advice on supplementation, and who is best placed to offer this advice.
- **Compare effectiveness of local guidelines vs. NICE guidelines** Research methods should be developed and implemented to determine differences in the influence on GPs of local guidelines compared to NICE guidelines.
- **Revise current local guidelines and improve resources** Feedback suggests local guidelines require simplification to ensure quick interpretation, and relieve time pressure. Analysis of research into interventions that may help with this, or alternative methods such as media campaigns and patient promotion, may be beneficial in shaping future guidelines.



Figure 4: Respondents' suggestions to eliminate barriers to advice

References

1. Public Health England. National Diet and Nutrition Survey Results from Years 7 and 8 (combined) of the Rolling Programme (2014/2015 – 2015/2016). London: Public Health England; 2018. p. 1-31
2. National Institute for Health and Care Excellence. Vitamin D: supplement use in specific population groups. NICE Guideline PH56; 2014. p. 1-304.
3. Webb A, Kilt R, Durkin M, O'Brien S, Vail A, Berry J et al. The role of sunlight exposure in determining the vitamin D status of the UK, white adult population. British Journal of Dermatology. 2010;163(5):1050-1055.
4. World Atlas (2015). *England's Latitude* [online]. World Atlas. Available at: <https://www.worldatlas.com/en/gb/eng/> [Accessed 8 Sep. 2018].
5. Holick M, Binkley N, Bischoff-Ferrari H, Gordon C, Hanley D, Heaney R et al. Guidelines for Preventing and Treating Vitamin D Deficiency and Insufficiency Revisited. The Journal of Clinical Endocrinology & Metabolism. 2012;97(4):1153-1158.