**Is vitamin D deficiency a public health concern for low middle income countries? A systematic literature review**

* Original Contribution
* [Published: 17 January 2018](https://link.springer.com/article/10.1007/s00394-018-1607-3#article-info)
* Volume 58, pages 433–453, (2019)
* [Cite this article](https://link.springer.com/article/10.1007/s00394-018-1607-3#citeas)

[**[](https://link.springer.com/journal/394)European Journal of Nutrition**](https://link.springer.com/journal/394)[Aims and scope](https://link.springer.com/journal/394/aims-and-scope)[Submit manuscript](https://www.editorialmanager.com/ejon/)

* [Kevin D. Cashman](https://link.springer.com/article/10.1007/s00394-018-1607-3#auth-Kevin_D_-Cashman-Aff1-Aff2-Aff3),
* [Tony Sheehy](https://link.springer.com/article/10.1007/s00394-018-1607-3#auth-Tony-Sheehy-Aff2) &
* [Colette M. O’Neill](https://link.springer.com/article/10.1007/s00394-018-1607-3#auth-Colette_M_-O_Neill-Aff1)
* **2195**Accesses
* **57**Citations
* **18**Altmetric
* [Explore all metrics](https://link.springer.com/article/10.1007/s00394-018-1607-3/metrics)

**Abstract**

**Purpose**

Vitamin D deficiency has been receiving increasing attention as a potential public health concern in low and lower-middle income countries (LMICs), of which there are currently 83. We aimed to conduct a comprehensive systematic literature review (SLR) of available data on vitamin D status and prevalence of vitamin D deficiency in all 83 LMICs.

**Methods**

We followed the general methodology for SLRs in the area of serum 25-hydroxyvitamin D. Highest priority was placed on identifying relevant population-based studies, followed by cross-sectional studies, and to a lesser extent case-control studies. We adopted the public health convention that a prevalence of vitamin D deficiency (serum 25-hydroxyvitamin D < 25/30 nmol/L) at > 20% in the entire population and/or at-risk population subgroups (infants, children, women of child-bearing age, pregnancy) constitutes a public health issue that may warrant intervention.

**Results**

Our SLR revealed that of the 83 LMICs, 65% (*n* = 54 countries) had no published studies with vitamin D data suitable for inclusion. Using data from the remaining third, a number of LMICs had evidence of excess burden of vitamin D deficiency in one or more population subgroup(s) using the above convention (Afghanistan, Pakistan, India, Tunisia and Mongolia) as well as possibly other LMICs, albeit with much more limited data. Several LMICs had no evidence of excess burden.

**Conclusion**

Vitamin D deficiency is a public health issue in some, but certainly not all, LMICs. There is a clear need for targeting public health strategies for prevention of vitamin D deficiency in those LMICs with excess burden.