

Vitamin D and the COVID-19 pandemic: notified supplements in Ireland before and during the pandemic

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In Ireland, vitamin D supplementation is recommended for infants⁽¹⁾, 1–5-year-olds⁽²⁾ and older adults⁽³⁾, while recommendations for 5–65-year-olds are being developed. Food supplements placed on the Irish market must be notified to the Food Safety Authority of Ireland (FSAI)⁽⁴⁾ who provide guidance on maximum safe levels (MSL) of micronutrients⁽⁵⁾. Despite the promotion of high-dose vitamin D supplements to protect against COVID-19 during the pandemic, no evidence exists underpinning this⁽⁶⁾. This study aims to assess the trend in vitamin D-containing supplements notified before and during the pandemic. Vitamin D-containing food supplements notified to FSAI between 4th January 2017 and 30th December 2021 were identified and assessed in terms of numbers notified before (i.e., 2017–2019) and during (i.e., 2020–2021) the pandemic and amounts of vitamin D provided. In addition, the number of supplements exceeding the adult tolerable upper level (UL; 100 µg) and adult MSL (75 µg), those targeting young children (1–3 years), units of vitamin D used and whether the supplement was a vitamin D-only or a multivitamin/mineral product, were examined.

SPSS (version 25) was used to carry out descriptive analysis, while trend analysis was assessed using ANOVA. A total of 2689 vitamin D-containing food supplements were identified. There was a significant increase in the number of vitamin D-containing supplements notified during the pandemic (1373 in 2020–2021 vs. 1316 in 2017–2019, $P < 0.001$). When the supplements were grouped into those notified before and during the pandemic, a significant increase in the mean amount of vitamin D provided by those notified during the pandemic was observed (19 µg in 2021–2020 vs. 11 µg in 2017–2019, $P < 0.001$). This reflected a year-on-year upward trend in the mean amount of vitamin D provided (11 µg in 2017–2019 vs. 16 µg in 2020 vs. 21 µg in 2021, $P < 0.001$). Of the 2689 vitamin D-containing supplements, <1% ($n=9$) were above the UL and 3% ($n=80$) were above the MSL, the majority of which were notified during the pandemic ($n=3$ in 2017–2019 vs. $n=6$ in 2020–2021 above the UL; $n=18$ in 2017–2019 vs. $n=62$ in 2020–2021 above the MSL). Only 2% ($n=45$) of the total notified supplements were targeted specifically at young children, with none of those supplements exceeding the UL for that age group (50 µg). The majority of notified vitamin D-containing supplements were in multivitamin/mineral form (94%). Many supplement products failed to provide vitamin D amounts in units used in the EU. In conclusion, the number of notified vitamin D-containing supplements, and the amount of vitamin D provided, during the COVID-19 pandemic has increased significantly. Of concern are the supplements that provide vitamin D above the MSL guidance in Ireland and the UL.

References

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4. S.I. No. 506 of 2007, as amended
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