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Yet another benefit from sunlight in the fight against COVID-19?

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Linked Article: Cherrie *et al*. *Br J Dermatol* 2021; **185**:363–370.

A paper in this issue of the *BJD* shows significant associations between deaths from COVID-19 and ambient ultraviolet (UV) A radiation.[1] The study focuses on the USA, but finds that the association is also present in Italy and England, despite large differences in their mortality rates. The statistical analysis is restricted to the initial 3 months of the pandemic, and to regions where the production of vitamin D from sunlight in that winter period is small. The authors argue that regional differences in the levels of UVA promote variations in the release of nitric oxide from the skin, and postulate that the elevated levels of nitric oxide led to better health outcomes through its ability to lower blood pressure, and through its possible effects on the ability of SARS-CoV-2 to self-replicate.

While interesting and potentially hugely important in the ongoing battle against COVID-19 (and its variants), there are other possible explanations for the association. While several have been explored in this careful analysis, doubts will remain, despite the statistical significance found by the model.

For example, is the ambient UV radiation from sunlight falling on a horizontal surface a good enough proxy for personal exposure? Our study using personal dosimeter badges found that participants typically receive less than 3% of the ambient UVB from sunlight (see Table 2 in Scragg *et al*.[2]). In the case of UVA, this is further confounded by its presence indoors. With modern work environments, personal UVA exposure may be only weakly dependent on the contribution from sunlight.

Secondly, can interactions between the strong seasonality of UV radiation and the phasing of the pandemic confound the issue? Figure 1 shows the variability in UVA and UVB at a corresponding latitude in the southern hemisphere. Data corresponding to the January–April study period in the northern hemisphere are highlighted in red. Seasonal increases and cloud effects are similar for both UVA and UVB. With the benefit of hindsight, we now know that phasing of waves of infection of COVID-19 (and mortality) are governed by factors other than UV,[3] although UV may be important. In view of the large increases in UV over the study period, regional differences in phasing may need to be considered.

Finally, can the statistical model really differentiate between possible benefits from UVA in sunlight (through production of nitric oxide) compared with those from UVB (through production of vitamin D)? The correlation between UVA and UVB is about 0·97 at several sites tested, which means that about 94% of the variance in one can be explained by variance in the other (the correlation with vitamin D-weighted UV is only slightly smaller). That correlation will be underestimated in the study, which uses climatology for UVB (with only averaged cloud effects) compared with daily measurements of UVA (including day-to-day variability from clouds).

It remains possible that the observed association is due to other factors, such as the much more direct effect of UVB on the outdoor survival of COVID-19,[4] or possibly on health effects mediated by vitamin D. As we have shown previously, vitamin D from sunlight is produced at mid-latitudes all year round, albeit usually in insufficient quantities for optimal health in winter.[5]

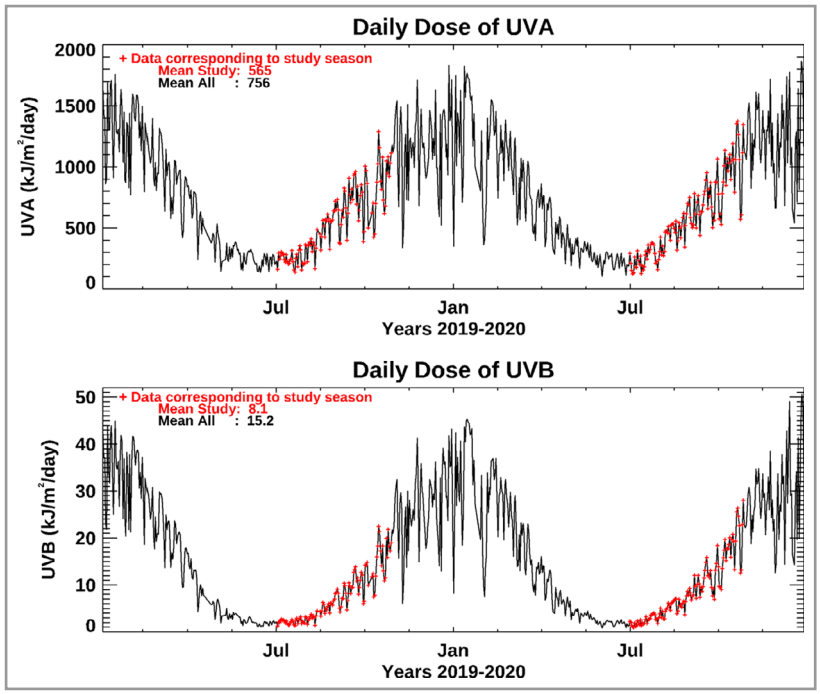

Fig 1 Two years of daily doses of ultraviolet (UV) A and UVB from UV spectral irradiance measurements[6] at Lauder, New Zealand (45° S).

Because of the ongoing risk from COVID-19, there will be justifiably strong interest in the paper. However, more work on the subject is warranted. A key question will be whether the association still hangs together another 12 months down the track.

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One set to collect them all? The development of a core domain set for medium-to-giant congenital melanocytic naevi

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Linked Article: Oei *et al. Br J Dermatol* 2021; **185**:371–379.

Large, giant or multiple congenital melanocytic naevi (CMN) are associated with an increased risk of developing melanoma or symptomatic neurocutaneous melanocytosis.[1,2] In addition to close clinical observation, treatment options comprise laser ablation, curettage or surgery, with which complete excision is often difficult to achieve. While surgical removal improves the cosmetic appearance,[3–5] the risk of malignant transformation cannot be completely eliminated, as melanomas may arise in deeper dermal or extracutaneous sites such as the central nervous system. Treatment recommendations are still controversial due to lack of evidence-based guidelines and due to the heterogeneity of outcome assessment in patient care and trial reporting. To this end, it is increasingly recognized that harmonization of outcomes has widely been neglected. To promote the standardization of outcomes and their use in dermatology, the Core Outcome Measures in Effectiveness Trials