

Ghiasvand et al. Respond to «Indoor tanning: a melanoma accelerator?»

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Review

Ghiasvand et al. Respond to «Indoor tanning: a melanoma accelerator?»

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3 We appreciate the commentary by Berwick and Doré (1) on our study of the association
4 between indoor tanning and melanoma (2). The commentary highlights our finding that
5 indoor tanning is associated with younger age at diagnosis. We would point out however that
6 our finding regarding the 2.2 years (95% CI: 0.9, 3.4 years) younger age at melanoma
7 diagnosis on average among women with age of indoor tanning initiation <30 years compared
8 with nonusers was statistically significant and not as it is stated in the commentary.
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17 In reaction to the increasing evidence on harmful effects of indoor tanning, the tanning
18 industry has defended the practice on several grounds including questioning the causal
19 association between indoor tanning and development of melanoma, recommending indoor
20 tanning as a source of vitamin D, and claiming that indoor tanning is safer than the sun (3).
21 The preliminary opinion of the European Commission Scientific Committee on Emerging and
22 Newly Identified Health Risks was mentioned by Berwick and Doré. Our findings strongly
23 support the Committee's conclusion that sunbed exposure causes melanoma (4). We agree on
24 the importance of large differences in the composition of ultraviolet (UV) wavelengths from
25 indoor tanning devices and from the sun: erythema-weighted UV from indoor tanning devices
26 is generally higher and the UVA irradiance is much higher. UVA has no role in vitamin D
27 synthesis, which makes sunbeds an inefficient source to induce vitamin D compared to
28 vitamin D supplements, which are widely available, cheaper, cause no skin damage, and more
29 reliably raise vitamin D blood levels (5). However, we would question the suggested benefits
30 of UV exposure raised in the commentary. So far, international regulations have focused on
31 minimizing erythema, with little emphasis on the alarmingly high levels of UVA (6). UVA
32 exposure does not increase melanin production and confers little or no protection against
33 subsequent UV exposure. In general, UV exposure provides no protection against further UV
34 exposure for many people who are not able to tan and offers far less protection than clothing
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3 and sunscreen for white skin. The evidence regarding the other possible benefits of UV
4 exposure mentioned in the commentary is far from conclusive.
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7 We further agree with Berwick and Doré on the important role of Public Health authorities to
8 strongly discourage use of indoor tanning, particularly by younger individuals. We would
9 stress that the most effective way to do this is through legislation that restricts and ultimately
10 bans carcinogenic exposure to UV for cosmetic purposes through use of sunbeds. The number
11 of countries with nationwide indoor tanning legislations restricting use under 18 years is
12 increasing, however, the compliance to legislations and their effectiveness are not evident (7).
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14 Some studies found age restriction effective in reducing indoor tanning prevalence among
15 young women (8), while others found limited effectiveness (9, 10). The effectiveness of laws
16 that prohibit tanning for minors cannot be fully realized without proper enforcement, and
17 unsupervised indoor tanning devices are one potential challenge (11). In the US, there is a
18 limited regulation at the federal level and an overall lack of consistency in regulations and
19 enforcement in states resulted in a generally low compliance by indoor tanning facilities (12).
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21 Importantly, indoor tanning is common among young adults aged 18-25 years and therefore
22 unaffected by age restrictions. Commercial indoor tanning was completely banned in Brazil in
23 2009 and in Australia in 2015 (13). With the high rates of indoor tanning in Europe and North
24 America beyond the teen years, it is time for the policymakers in these countries to take
25 similar action and prohibit indoor tanning, thereby saving money and lives (14).
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