

Thirty years of skin cancer prevention - Lessons learnt, future directions

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Worldwide trends

World age standardised incidence rates for melanoma show a significant burden in white skinned populations. Melanoma rates in North America are less than half of that in Australia and New Zealand, but are still the second highest in the world (Ferlay et al., 2004).

In Australia and New Zealand, melanoma rates while high, have been relatively stable and are even decreasing in younger age groups. In the United Kingdom, Iceland, Netherlands and many other European countries, the rates of melanoma over the last 10 years have been increasing at an alarming rate, some as high as 6% per annum (Erdmann et al., 2013).

Australia has had over 30 years of sun protection campaigns and during this time there has been a significant reduction in sunburn rates and preference for tanning (Sinclair and Foley, 2009). This has come about due to a sustained investment in broad social marketing including paid TV campaigns. Where the TV campaigns appear to have had the most effect has been in encouraging sunscreen use, hat wearing and more people choosing to have less skin exposed during summer months (Dobbinson et al., 2008).

Artificial Tanning

Australia has also been fortunate to not have a large indoor tanning industry and due to high profile campaigns involving sunbed users who had developed melanoma along with tight legislative controls restricting under 18 use, the number of sunbeds in some Australian cities had decreased by as much as 50% within 3 years (Makin and Dobbinson, 2005) By the beginning of 2015, all Australian jurisdictions will have a total ban of all indoor artificial ultraviolet tanning devices in commercial premises, the second country in the world after Brazil to have taken such strong measures.

Fortunately now over 20 other countries have implemented controls to ban access to sunbeds for those aged under the age of 18, mostly legislated in the last 5 years (Sinclair and Makin, 2013) In the United States (US) while there are over 30 states that have some controls relating to sunbed use, only five states, have introduced state-wide bans for those under the age of 18 (American Academy of Dermatology, 2013)

Although there are no estimates of worldwide incidence and mortality due to artificial tanning, in the United Kingdom alone an estimated 100 deaths per year occur

from tanning bed use (Diffey, 2003). In Australia, tanning bed use accounts for an estimated 281 new melanomas, 43 melanoma-related deaths, and 2,572 new cases of squamous cell carcinoma per year, and causes 1 in 6 melanomas in people aged 18 to 29 (Gordon et al., 2008).

Mitigating Factors

While there is no question that tanning bed use is contributing to our rates of melanoma, the role of fashion driving tanning trends cannot be underestimated. Certainly in the last 5 years, the increasing media attention given to possible health benefits of vitamin D, a hormone that is generated largely due to UV exposure has certainly not helped skin cancer prevention campaign efforts. Indeed based on the Australian experience, there is some evidence to suggest that people who are already pro-tanners are more likely to deliberately increase the time they spend out in the sun in order to get more vitamin D.

To combat this, more effort is needed to ensure that people are aware of the risks associated with UV exposure and times of the day and year when sun protection is required and when it is not. They also need to better understand what activities cause sunburn and how.

In Australia and the UK, data shows that most people actually get sunburnt doing activities that are home based or when they are just 'out and about' engaging in gardening, exercising or other chores (Dobbinson and Volkov, 2013). Yet the popular perception is that the majority of sunburning occurs during water based activities, such as at the beach.

Thus, skin cancer prevention campaigns need to stress the importance of sun protection is not just confined to water based recreational activities, but include all outdoor activity when UV levels are greater than 3.

Conclusion

Given the significant financial and human cost of skin cancer, now is not the time to be slowing down efforts to encourage sun protection or restrict indoor tanning use. Instead we need a long term and sustainable commitment to skin cancer prevention particularly by government funding bodies to ensure reductions in skin cancer incidence and mortality can continue to be achieved into the future.

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