

Media and public use of the UV Index in New Zealand

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Introduction

Since harmful sun exposure is the only known readily modifiable risk factor for melanoma and other forms of skin cancer, reducing the prevalence and severity of sunburn is the primary focus for present preventive efforts in New Zealand.

The Meteorological Service began to inform New Zealanders about their potential level of sunburn risk from excess exposure to solar ultra violet radiation (UVR). This information was provided to the media in the form of an estimated “time-to-burn” or “burn time” – the number of minutes of exposure required to achieve the minimal perceptible reddening of skin for a fair skinned individual - based on calculations that assumed clear sky conditions.

As more countries provided sun protection and solar UVR information to the public, the use of different measures created confusion. In 1994, international agreement was reached on the need for a standard measure, and the use of a UV Index (UVI) recommended (International Commission on Non-Ionizing Radiation Protection, 1995). That measure underwent further development to allow the presentation of a continuum of Index values throughout a given day. The modified UVI was introduced to the New Zealand media and public in the summer of 1994/95 as a replacement for burn time.

Among scientific and health promotion audiences, burn time was considered to have a number of disadvantages. The first of these was that, rather than being a standardised scientific measure that could be applied universally, like temperature or rainfall, burntime varied according to skin pigmentation. Second, there was the risk that people would be tempted to treat burn time as a “safe” period of sun exposure that could then be further extended through sunscreen use. Third, burn time was counter-intuitive because it increased in value as the risk of burning reduced rather than as that risk increased.

The UVI has not, however, been universally well received by the media and public as a replacement for burn time. Burn time was a measure with which people had become familiar and it continues to be used in some contexts. Since the summer of 1999-2000, the Cancer Society sponsored the provision of sun protection information, including the clear-sky UVI, to the New Zealand media as a means of assisting people to make informed decisions about sun protection. Given media use of both the burn time and UVI, there was a unique opportunity and clear need to assess the availability, reach,

comprehension, perceived value and application to protective behaviours of these two measures.

Availability of the UVI in media weather reports

Of the two main national television channels that present weather information, TV1 formerly provided only sporadic reports, but now routinely includes a visual summary range of burn time values, nationally, during summer months. TV3 regularly reported the clear sky UVI, but now no longer does this. Both channels intermittently make recommendations about sun protection behaviours. The proportions of daily, weekly and other non-community newspapers with audited circulations that provided some sun protection information almost doubled from 26% in January 1999 (prior to sponsorship) to 52% in January 2001, with the UVI almost universally favoured. The radio stations surveyed started with a larger proportion (53%) reporting sun protection information in January 1999, but showed a smaller increase to 60% in January 2001. That increase came entirely through increased reporting of burn time, with presentation of the UVI actually declining in 2001. Most stations that presented such information did so along with behavioural recommendations, for example, to wear a hat and apply sunscreen.

How do media weather presenters view the UVI?

The attitudes of weather presenters towards the reporting of sun protection information are potentially relevant for efforts to improve dissemination. In January 2000, we surveyed radio and TV staff involved in presenting weather reports. Almost all (94%) of the 52 respondents were aware that daily UVI reports were available to the media. Among those working for stations not using the UVI (38%), the main reasons for non-use were perceptions that it was “difficult to explain”, “poorly received by the audience”, and “isn’t useful because it doesn’t change much during summer.” The networked broadcasting of UVR measures to audiences scattered over wide geographical areas within which there may be variation in UVR levels was also perceived as problematic.

Does the UVI reach the public and is it understood?

In January 1999, the reach of sun protection information provided in media weather reports and responses to this information was explored among a national random sample of New Zealanders (Bulliard & Reeder, 2001). About two thirds said that they paid attention to summer weekend weather reports. Of those that had done this during the previous weekend, 73% recalled that a weather report had included a sun protection message. Television was the most frequently reported source of weather information, followed by radio and newspapers.

More than 80% considered that it was useful to receive a regular reminder of solar UVR intensity and the recommended protective behavioural strategies. More than twice as many had seen or heard of the burn time as had seen or heard of the UVI (89%:43%). Most believed that the burn time was an easy concept to understand, but actual comprehension of the UVI seemed to be higher. For example, among those aware of the measures and who gave an opinion, 95% agreed with the statement that "As the UV Index increases, it means that I need to use more sun protection", whereas only 50% disagreed with a similar statement with respect to burn time. This apparently better comprehension may be due to the counter-intuitive increase in risk as the burn time reduces, or to a number of other factors, the specific contributions of which we were unable to disaggregate. Whatever the reasons for the observed responses, the results provide support for continuing to promote the UVI.

What of the future?

Universal use of the UVI in summer weather reports should be a national target. Sponsorship has addressed cost barriers to media presentation of the UVI, but there is still considerable work to be done before the target can be reached. It is encouraging that many in the media recognise the benefits of providing sun protection information for their audiences and are attempting to deliver it. For TV and radio stations, in particular, however, there appears to be some resistance to the use of

the UVI and a favouring of burn time. The reasons for this require further investigation, as do other potentially important issues, for example, are presently available UVI templates compatible with existing newspaper layouts? Should local radio stations, in particular, be further promoted as a convenient, portable medium for broadcasting appropriate up-to-date messages for audiences in specific geographical areas?

The use of visual images with a standard colour-coded scale, and the linking of specific UVI values to a hierarchy of recommended protective practices would seem to be the ideal goal for New Zealand. There are good, practical reasons for this. People are more likely to understand and respond appropriately to values that are accompanied by "personally meaningful" messages (Dixon & Armstrong, 1999). There are established models that could be followed (Kinney et al., 2000). Evidence is also emerging from New Zealand studies that awareness of reports of solar UVR intensity is positively associated with more protective behaviour among adults (McGee et al., 2002).

If the burn time continues to be used in some contexts, it would be preferable for it to be clearly related to the situation of persons with a UVR sensitive skin type and linked with equivalent UVI values and appropriate behavioral sun protection information.

References

- Bulliard, J-L. and A. I. Reeder. 2001. Getting the message across: sun protection information in media weather reports in New Zealand. *NZ. Med. J.*, 114: 67-70.
- Dixon, H. and B. K. Armstrong. *The UV index: report of a national workshop on its role in sun protection in Australia*. NSW Cancer Council and Anti-Cancer Council of Victoria, Sydney, 1999.
- International Commission on Non-Ionizing Radiation Protection. *Global solar UV index*. Obersleissheim, Germany, 1995.
- Kinney, J. P. and C. S. Long. 2000. The Ultraviolet Index: a useful tool. *Dermatol. Online J.*, 6(1): 2. <http://dermatology.cdlib.org/DOJvol6num1/original/sunscreen/kinney.html>
- McGee, R., Reeder, A., Williams, S., Bandaranayake M and Tan, A.H. 2002. Observations of summer sun protection among children in New Zealand: 1998-2000. *NZ Med. J.*, 115:103-6.