

Does concern about vitamin D affect people's sun protection behaviour?

Background

Vitamin D is produced by the body in response to sun exposure and can be obtained from some foods such as oily fish, milk and eggs. It helps immune system functioning and there are indications that it may protect against some diseases. Vitamin D deficiency can lead to rickets in children and other bone problems for adults.

In recent years, increased publicity and research about the importance of vitamin D has led to potentially mixed messages about the optimal amount of sun exposure that people should get, particularly in the spring and summer months when ultraviolet radiation (UVR) from the sun is strong enough to cause skin damage such as sunburn in a short space of time.

Excessive UVR exposure is the main modifiable risk factor for the development of skin cancers, including melanoma. Every year more than 60,000 people are diagnosed with skin cancer. Out of this number over 2,000 people are diagnosed with melanoma skin cancer, the most serious type. Approximately 300 people die from melanoma skin cancer each year.

The Health Sponsorship Council (HSC), in conjunction with the Cancer Society of New Zealand (CSNZ), conducts the Sun Exposure Survey (SES) every three years. The overall goal of the SES is to:

Improve evidence available on prevalence and trends in sun safety behaviour, inclusive of both risk factors and protective strategies in multivariable analyses that will aid future sector decision making.

The 2010 Sun Exposure Survey asked about people's behaviour the previous summer weekend with regards to sun exposure and sun protection. It also asked about things people had done to improve their vitamin D levels.

This fact sheet looks at the responses of people who had done something to improve their vitamin D levels and, more specifically, those whose chosen action was to go out in the sun.

Overview of Key Findings

Methodology

All respondents who had spent 15 minutes or more outside between 11am and 4pm the previous weekend (n=1,019) were asked whether they had done anything specific to improve their vitamin D levels at the weekend and, if so, what they had done. These responses were recorded verbatim. Each recurring point or theme was then identified, with all answers falling



Does concern about vitamin D affect people's sun protection behaviour? (continued)

sufficiently close to that point or theme being grouped together as a response code.

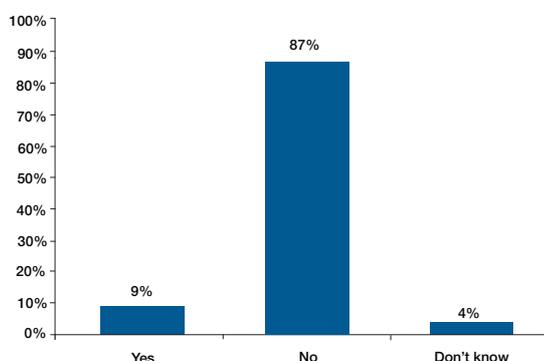
The responses of those people who went out in the sun to get vitamin D (4% of those who had been outside) have been compared with the overall group who had been outside, in order to find out whether they were more likely to experience sunburn, to get more sun exposure, or to use sun protective strategies less than the overall rate.

Detailed Findings

What proportion of people took actions to improve their vitamin D levels?

- Most respondents (91%) did not report having done anything deliberately to improve their vitamin D levels during the previous weekend. Nearly one in 10 (9%) had done something.

Figure 1: Taken action to improve vitamin D levels during previous weekend.



What had people done to get vitamin D?

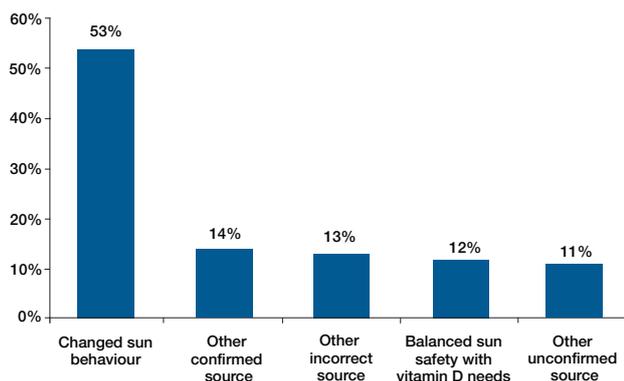
Of those who said they had done something to improve their vitamin D levels:

- Almost half (47%) of these respondents had changed their behaviour in the sun by spending time outdoors in the sun to get vitamin D. Much smaller proportions specifically reported that they had sunbathed or tried to tan (3%), or not worn sunscreen (3%).
- 14% had taken a supplement or food fortified with vitamin D (that is, they described a confirmed vitamin D source), while 11% reported they had taken a multi-vitamin or supplement but did not specify that it contained vitamin D (an unconfirmed source).
- 13% reported that they had got vitamin D from foods or drinks that do not contain vitamin D (an incorrect source).
- 12% said they had balanced sun safety with vitamin D considerations, by spending time in the sun: early or late in the day (outside of the hours that UVR is highest) (3%), for short periods of time (5%), or exposing only part of their skin (4%).



Does concern about vitamin D affect people's sun protection behaviour? (continued)

Figure 2: Actions taken to improve vitamin D levels during previous weekend.



Did those who had changed their behaviour in the sun to get vitamin D compromise their sun safety behaviour?

Some key points about the people who had spent time outdoors in the sun to improve their vitamin D levels (4% of all those who had been outside):

- They were no more or less likely to have been sunburnt at the weekend than the total survey population. 21% had been sunburnt the previous weekend. Of the overall sample who had been outside (n=1,019), 19% had been sunburnt.
- They were not spending significantly different amounts of time outside in the sun compared with the total survey population. 51% had spent two hours or less

outside on the day being talked about (this compares with 45% of the overall sample who had been outside). Thirty percent had spent more than four hours (this compares with 29% of the overall sample who had been outside).

- They were not significantly more or less prepared to protect themselves from the sun. 67% of them, when asked whether they 'had things on hand to protect themselves from the sun if they needed to on the day in question', said that they had. This compares with 57% of the overall sample who had been outside.
- They reported a significantly higher rate of sunscreen use. 70% of them had used sunscreen while outdoors. This compares with 51% of the overall sample who had been outside.
- They were no more or less likely to wear hats to protect from the sun. 51% of them covered up with a hat while they were outside. This compares with 50% of the overall sample who had been outside.

These comparisons indicate that the people who went out in the sun to get vitamin D did not have worse sun protection, or higher levels of sunburn and UV exposure, compared with the overall population. They were actually higher users of sunscreen than the overall population.



Does concern about vitamin D affect people's sun protection behaviour? (continued)

What were the characteristics of the people who went out in the sun to get vitamin D?

Although people with darker skin types are more at risk of vitamin D deficiency, and people with fairer skin types should usually get enough vitamin D through a small amount of incidental sun exposure during summer, this was not reflected in the characteristics of the people who chose to go out in the sun to get vitamin D.

Compared with the overall survey sample (n=1,250):

- 54% of them described their skin type as fair or very fair, compared with 45% of the overall sample.
- 81% of them were of European ethnicity, compared with 69% of the overall sample (the data were weighted and processed to prioritised ethnicity counts, meaning that people who nominated European and another ethnicity - Māori, Pacific or Asian - were classified into that other ethnic group).
- 77% of them were female, compared with 51% of the overall sample.
- 74% of them were aged between 35 and 54 years, compared with 56% of the overall sample.

About the Survey

- A total of 1,250 interviews were conducted with adults aged 18-54 years. The sample frame was all residential phone numbers contained in the White Pages telephone directories. Interviews were conducted by telephone to sampled households, by National Research Bureau interviewers. The interviews were carried out between 25 January and 3 March 2010, on Monday, Tuesday and Wednesday nights.
- The data have been adjusted (weighted) to ensure they are representative of the New Zealand population.

The HSC is a crown entity that uses health promotion initiatives to promote health and encourage healthy lifestyles, with a long-term focus on reducing the social, financial and health costs of a number of health behaviours.

Citation

Gray, R. (2010). *Does concern about vitamin D affect people's sun protection behaviour?* [In Fact]. Wellington: Health Sponsorship Council.

Research and Evaluation Unit, HSC
PO Box 2142, Wellington 6011, New Zealand
www.hsc.org.nz/researchpublications.html, research@hsc.org.nz
December 2010

