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Farmers' and outdoor workers' beliefs about skin cancer and protection from summer sun: a brief report

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ABSTRACT

Approximately 360 people were approached to complete a brief questionnaire about sun protection behaviours and beliefs about skin cancer while attending either an outdoor field day in Lardner Park or weekend cattle sales in Traralgon and Warragul during March to May 2004. The overall response rate was approximately 64%, and of these respondents, 99 were farmers and 60 were other outdoor workers.

Over 83% of farmers and outdoor workers believed that you can die from melanoma and other types of skin cancer, and that more than 1000 people die of skin cancer each year in Australia. Three quarters of respondents (73% of farmers and 78% of other outdoor workers) thought that there was some chance or a high chance that they would get skin cancer.

While most respondents thought that they were at risk of developing skin cancer, their prevention practices were less than optimal, particularly in use of sunscreen and long-sleeved shirts. Most respondents wore a wide brimmed hat – 75% of farmers and 79% of outdoor workers, while 35% of farmers were observed wearing a wide-brimmed hat and 24% a peaked hat at the time of the interview. 75% of farmers and 52% of other outdoor workers usually or always wore long trousers. However only 27% of farmers and 17% of other outdoor workers usually wore long-sleeved shirts. 48% of farmers and 40% of other outdoor workers indicated that they never wore sunscreen on all exposed skin when they were working outdoors between 11 am and 3 pm on sunny days in summer. Only 27% of farmers and 17% of other outdoor workers usually or always wore a long-sleeved shirt.

More research needs to be undertaken to confirm these results in a larger study and to investigate how sunscreens and other sun protection could be made more user friendly for farmers and other outdoor workers. Counselling by health care providers, and other educational interventions can improve sun protection behaviour.

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INTRODUCTION

This study aimed to describe the sun protection beliefs and practices of farmers and other outdoor workers working in Gippsland, Victoria. There were 3,343 farms in Gippsland in 2002,¹ and 4,196 farmers and farm managers in Gippsland according to the 2001 census.² While the overall evidence for an association between occupational exposure and melanoma is equivocal,³ epidemiological studies have indicated that farmers are a high risk group for skin cancer because of the long hours that they spend outdoors during peak UV times.⁴ Unpublished data specific to the Gippsland area showed that the age-standardised incidence of melanoma among males in Gippsland during 2000-2002 was 35.9 per 100,000, significantly higher than the Victorian average for that three year period of 28.3.⁵ Most farmers and outdoor workers are male, and the case fatality rate of melanoma is higher in men than in women.⁶ Nevertheless few Australian studies have been undertaken of sun protection beliefs of farmers and other outdoor workers. This study was undertaken to assist the program activities of the SunSmart program.

METHOD

A self-report questionnaire seeking information on farmers' protection from the sun and beliefs about skin cancer was completed by respondents who attended either a rural farm/trade field day or weekend cattle sales in Gippsland, Victoria during March to May 2004. Altogether, 37,000 people attended the field day over a two-day period.

Approximately 360 people were approached to participate in the study, of which 210 were attending the Lardner Park field day and 150 attending the cattle sale yards at Traralgon and Warragul. Response rates at each site were approximately 95% and 20% respectively (64% overall). The study was therefore based on a convenience sample of 229 respondents, but 70 respondents were in occupations which were not relevant to the aims of the survey (students, home duties or indoor workers) and so their results were excluded from the analyses presented here.

Analyses reported here were based on responses from 99 farmers and 60 other types of outdoor workers. Most of the farmers (79%) and outdoor workers (92%) were male. The average age of these respondents was 52.

The questionnaire consisted of eleven questions about occupation, demographics, sun exposure, sun protection practices and skin cancer beliefs (see Appendix 1). Field workers recorded what type of hat the respondent was wearing on the day of data collection.

RESULTS

On average, farmers worked outdoors between 11 am and 3 pm on 6 days per week, compared with 5 days per week for other outdoor workers. 73% of farmers and 82% of outdoor workers thought that their skin would burn if they stayed in strong sunshine at the beginning of summer for 30 minutes with no protection. Therefore their potential exposure to harmful UV rays was relatively high.

When asked about awareness of the effects of exposure to the sun, respondents were well aware of the harmful effects of the sun. Over 83% of farmers and outdoor workers believed that you can die from melanoma and other types of skin cancer, and that more than 1000 people die of skin cancer each year in Australia. Three quarters (73% of farmers and 78% of other outdoor workers) thought that there was some chance or a high chance that they would get skin cancer.

Despite their awareness and perceived susceptibility to skin cancer, when asked about strategies they used to protect themselves from the sun, farmers in general indicated that they did not do as much as they could to avoid exposure on sunny days in summer when working outdoors between 11 am and 3 pm.

About two-thirds of farmers (65%) and outdoor workers (62%) received free peaked caps from industry reps, but most chose not to wear them while working, as they most commonly wore wide brimmed hats. Most farmers owned and wore a hat for sun protection: 78% of farmers and 74% of other outdoor workers owned a hat specifically for sun protection, and 78% of farmers and 73% of other outdoor workers usually or always wore a hat. Most wore a wide brimmed hat – 75% of farmers and 79% of outdoor workers. On the day they completed the questionnaire, 35% of farmers were observed wearing a wide brimmed hat and 24% were observed wearing a peaked hat. When asked what might encourage them to wear a wide-brimmed hat more often when working outdoors, the most common response was 'if it stayed on securely in the wind and when moving about' (82%), followed by 'if it gave me good vision' (33%).

About one-third (35%) of farmers never wore sunglasses while another third (38%) usually or always used them. 75% of farmers and 52% of other outdoor workers usually or always wore long trousers. But only 27% of farmers and 17% of other outdoor workers usually or always wore a long-sleeved shirt. About half of farmers (49%) and less outdoor workers (21%) usually had portable shade such as large canopies, tents or umbrellas available when working outdoors in the sun.

Frequency of wearing sunscreen when working outdoors was low (see Table 1). Forty-eight per cent of farmers and 40% of other outdoor workers indicated that they never wore sunscreen on all exposed skin when they were working outdoors between 11 am and 3 pm on sunny days in summer. Most (59% of farmers and 52% of outdoor workers) did not usually have sunscreen available to use when spending extended time working outdoors in the sun. Two-thirds of farmers (67%) and 45% of other outdoor workers never re-applied sunscreen when working outdoors.

Table 1:

Frequency of use of sunscreen on all exposed skin when working outdoors between 11 am and 3 pm on sunny days in summer for two groups of respondents

<i>How often do you wear sunscreen (SPF15/30+) on all exposed skin?</i>	Farmers N (%)	Outdoor workers N (%)
Never/rarely	47 (47.5%)	23 (39.7%)
Sometimes	21 (21.2%)	22 (37.9%)
Half the time	9 (9.1%)	3 (5.2%)
Usually	17 (17.2%)	5 (8.6%)
Always	5 (5.1%)	5 (8.6%)
Total	99 (100.0%)	58 (100.0%)

DISCUSSION

Awareness of the danger of skin cancer was quite high in this sample of farmers and outdoor workers, and there were strong beliefs about the high chance of development of skin cancer. Moreover, farmers' excessive exposure to ultraviolet radiation was confirmed. There has been some suggestion that lower rates of skin cancer among some samples of outdoor workers could be due to those with fair skin avoiding such occupations.⁷ However, there was no evidence among this convenience sample of self-selection according to skin type. It seems therefore that there is an opportunity here to engage farmers in doing more to protect their skin from harmful effects of the sun, particularly by wearing sunscreen, long-sleeved shirts and sunglasses.

Men in general are at particular risk of developing skin cancer.⁸ Given the high UV exposure reported in this study, regular sun protection would necessary to reduce these farmers skin cancer risk. In comparison with the results of a recent state-wide survey in 2000-01,⁹ farmers' hat use was particularly high as 78% usually/always wore hats while working in the sun compared to 53% of Victorian men who wore hats during peak UV periods on summer weekends. Nonetheless, farmers' use of sunscreen appears to be very low in comparison with Victorian men overall, as 22% usually/always wore sunscreen compared with 32% of Victorian men who wore sunscreen on summer weekends. Barriers to men using sunscreen as often as women do persist. In an earlier study, Hill and colleagues found that men used sunscreens barely half as often as women.¹⁰ Strategies to encourage men to understand, accept and use sunscreens as recommended in that study, appear to still be important for farmers today in reducing their skin cancer risk.

One reason for farmers and other outdoor workers not using sunscreens may be that field conditions leave little opportunity for washing hands and skin before applying or re-applying sunscreen. Also Rademaker found that sunscreens, along with pesticides and rubber compounds, were common allergies among New Zealand farmers tested for occupational contact dermatitis,¹¹ so it may be that the working conditions and exposure to other chemicals during farm work hinder farmers from using current sunscreens as a sun protection measure. More research needs to be undertaken on how to make sunscreens more user-friendly for farmers and other outdoor workers.

In the meantime education programs could encourage farmers and other outdoor workers to wear long-sleeved shirts and sunglasses and take advantage of shade wherever possible. Research with farmers in the United States^{12, 13} suggests that sun protection counselling by general practitioners in particular may prove useful. Educational interventions to encourage farmers to be more proactive, protect their skin, and act on their knowledge of skin cancer have also been shown to be effective. For example, Mullan and colleagues used mail outs of information and free samples to individuals, local newspaper articles, and information and screening stalls at agricultural and local fairs to successfully improve preventive behaviours and medical screening of farmers in Michigan.¹⁴

This study was of a small convenience sample which could not be considered representative of all farmers in Gippsland or indeed of the wider population of farmers and other outdoor workers on farms. The results presented here need to be confirmed in a larger survey before intervention programs are considered.

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Appendix 1 Questionnaire

Farm World Field Day March 2004

Sun Protection Questionnaire

Q1. Suppose your skin was exposed to strong sunshine at the beginning of summer with no protection at all.

If you stayed in the sun for 30 minutes, would your skin...?

- 1 Just burn and not tan afterwards
- 2 Burn first, then tan afterwards
- 3 Not burn at all, just tan
- 4 NOTHING WOULD HAPPEN

Q2. What is your occupation?

- 1 Farm owner/operator/manager
- 2 Farm hand/farm worker
- 3 Other outdoor worker
- 4 Indoor worker → **Go to Q8**
- 5 Student → **Go to Q8**
- 6 Home duties/don't work → **Go to Q8**

Q3. On a typical working week, how often do you work outdoors between 11am & 3pm...

|__|__ days/week

Q4. When you work outdoors between 11am & 3pm on sunny days in summer, how often do you wear....

a. Sunscreen (SPF 15/30+) on all exposed skin?

- 1 Never/rarely
- 2 Sometimes
- 3 Half the time
- 4 Usually
- 5 Always

b. Sunglasses (or other glasses with UV filters)?

- 1 Never/rarely
- 2 Sometimes
- 3 Half the time
- 4 Usually
- 5 Always

c. A hat (of any type)?

- 1 Never/rarely
- 2 Sometimes
- 3 Half the time
- 4 Usually
- 5 Always

d. A wide-brimmed hat?

- 1 Never/rarely
- 2 Sometimes
- 3 Half the time
- 4 Usually
- 5 Always

e. A long-sleeved shirt?

- 1 Never/rarely
- 2 Sometimes
- 3 Half the time
- 4 Usually
- 5 Always

f. Long trousers?

- 1 Never/rarely
- 2 Sometimes
- 3 Half the time
- 4 Usually
- 5 Always

Q5. When working outdoors between 11am and 3pm, how often do you reapply sunscreen? (*Please tick one*)

- 1 Never/rarely
- 2 Sometimes
- 3 Half the time
- 4 Usually
- 5 Always

Q6. When you spend extended time working outdoors in the sun, do you usually have any of the following available to use?

a. Sunscreen to reapply?

- 1 Yes
- 2 No
- 3 Don't know

b. **Portable Shade** (eg. large canopies, tents or umbrellas, canopies for tractors)?

- 1 Yes
- 2 No
- 3 Don't know

Q8. Do any of the following apply to you...?
(Please tick all that apply)

Yes No

Do you own a hat? 1 2

Do you receive free peaked caps from industry reps? 1 2

Do you have a hat specifically for sun protection? 1 2

Q7. What might encourage you to wear a wide-brimmed hat more often when you are working outdoors?

(Please tick all that apply)

- 1 If it looked good
- 2 If it stayed on securely in the wind & when moving about
- 3 If it gave me good vision

Other (please list) _____

These questions are about your risk of getting skin cancer...

Q9. Do you think there is much chance you will get skin cancer?

- 1 No chance
- 2 Little chance
- 3 Unsure
- 4 Some chance
- 5 High chance

Q10. Which of the following statements do you believe to be true?

Yes No

You can die from melanoma 1 2

You can die from other types of skin cancer 1 2

Skin cancer operations can cause ugly scars 1 2

If I protect myself from the sun I can reduce my chance of getting skin cancer 1 2

In Australia more than 1000 people die of skin cancer every year 1 2

Q11. To make sure we have a true cross-section of people, could you please let us know your age, sex & postcode?

AGE: |_|_|_| years

SEX: 1 Male 2 Female

TOWN: |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

POSTCODE: |_|_|_|_|_|

Thank you for your time

Office Use Only:

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