Canadian National Survey on Sun Exposure & Protective Behaviours: Outdoor Workers

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The Western Canada Melanoma Study¹ has linked occupation with elevated risk of developing basal cell and squamous cell carcinomas. Cancer of the lip also has been associated with occupational sun exposure.^{2,3} In contrast, there is insufficient evidence to link occupation with increased risk of cutaneous malignant melanoma.⁴ Evidence regarding the prevalence of sun-protective behaviours among outdoor workers has been based on research conducted in Australia and the United States⁵⁻⁷ that shows that less than half of workers adequately protect themselves from the sun. This paper presents a descriptive profile of sun exposure and protection behaviours among outdoor workers in Canada. Reports on sources of information and barriers to protection also are described.

METHODS

Data reported here were gathered during the 1996 Canadian National Survey on Sun Exposure & Protective Behaviours. A detailed description of survey questions, sampling and data collection procedures are described in a previously published article.⁸

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A 55-item random-digit-dialled telephone survey asked outdoor workers to report on average daily sun exposure and protective behaviour patterns during work. Using a 5-point Likert scale, ranging from "always" to "never", respondents were asked about: 1) avoiding the sun between 11:00 am and 4:00 pm, 2) seeking shade, 3) wearing sun-protective clothing, 4) covering their head, 5) using sunscreen on the face, and 6) using sunscreen on the body. Outdoor workers also were asked to identify their major sources of information (e.g., media, worksite) and barriers to sun protection (e.g., inconvenience, lack of concern). The survey did not collect information about occupation type and therefore cannot provide estimates by occupational categories. The national survey response rate was 69% (4,023 successfully completed surveys).

RESULTS

Outdoor workers 25+ years of age constitute 14% (546 of 4,023) of the national survey sample. They are predominantly male (80%) and 95% are between the ages of 25-64 years.

Most outdoor workers (70%) receive 2+ hours of sun exposure during an average workday. Less than one half always or often seek shade (44%) or avoid the sun (38%) while at work. The majority of outdoor workers report wearing a hat (58%) and sun-protective clothing (60%). Few outdoor workers use sunscreen on their face (23%) or body (18%) during work.

Few outdoor workers (21%) identify their employers as sources of information about sun safety. Most receive information about sun protection from television (85%); many also receive information

TABLE I
Outdoor Workers' Sun-Related Behaviours, Information Sources and Barriers to Sun Protection

Topic Areas Assessed in Survey	Response (%)
Sun Exposure 2+ Hours	70
Sun Protection	
Seek shade	44
Avoid sun 11am-4pm	38
Wear hat	58
Wear protective clothes	60
Sunscreen on face	23
Sunscreen on body	18
Source of Information	
Employers	21
Television	85
Magazines	66
Family or friends	63
Barriers to Sun Protection	
Forget	61
Inconvenient	54
Want a tan	38
Unconcerned about sun exposure	34

from magazines (66%) and family or friends (63%).

When asked why they may not always protect themselves from the sun, 61% of outdoor workers say they forget to take sun-protective actions. Over one half (54%) also say sun protection is inconvenient, 38% want to get a tan, and 34% indicate they are unconcerned about sun exposure.

DISCUSSION

In general, outdoor workers report low levels of sun protection. Results presented here are similar to those found in previous population-based research among outdoor workers in Australia and the United States.⁵⁻⁷ It is not surprising that hats and protective clothing are the most prevalent

forms of sun protection, since these are typical of the traditional work clothes associated with outdoor occupations.

Given the nature of many outdoor occupations, it is not always convenient for outdoor workers to regularly reapply sunscreen, seek shade, or avoid the sun. Thus, an intervention that emphasizes protective clothing and hats is more likely to be successful. Few outdoor workers identify their employer as a source of information about sun safety. Worksite interventions, including safety policies and exposure guidelines, should be developed and incorporated into existing occupational health and safety programs.⁹ For example, BC Ferries has instituted a policy to provide outdoor workers with broad-brimmed hats during the summer months. Some types of outdoor occupations also may lend themselves to scheduling that reduces workers' exposure during the hours of peak ultraviolet flux.

This survey did not collect specific information about the type of hat worn. Thus, the results may over-estimate the proportion of individuals who wear a hat that shades the head, face, and neck areas. A similar limitation pertains to the data on protective clothing (e.g., sleeve length on shirts).

Based on the available evidence, it is recommended that individuals who must be exposed to the sun for lengthy periods, such as outdoor workers, take extra precautionary measures. However, additional research needs to be conducted regarding the relationship between occupational sun exposure and risk of developing skin cancer. This descriptive profile provides a baseline from which changes in behaviour patterns can be monitored and evaluated. Additional research is needed to assess the status of workplace policies and programs and to establish the efficacy of interventions.

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