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Skin Cancer and UV Literacy - Outdoor Workers Study☆

Cáncer de piel y alfabetización sobre UV: Estudio en trabajadores al aire libre

Dear Editor:

UV radiation is the main preventable cause of skin cancer, and outdoor workers are a high-risk group.[1–3] Skin cancer induced by UV radiation is a recognized occupational disease, but preventive measures for outdoor workers are rare in the construction sector.[4]

We performed a cross-sectional study to analyze sun exposure behaviors and skin cancer and UV radiation literacy among workers with different levels of education at an outdoor construction site. After reviewing the relevant literature,[5] we designed a questionnaire consisting of 23 questions to collect information on demographic, constitutional, and socioeconomic factors, sun exposure behaviors, and knowledge about skin cancer and UV radiation. Level of education was classified as primary (4-6 six years of schooling), secondary (9-10 years), or university (degree). We created contingency tables and analyzed associations using the X^2 test of independence. Statistical significance was set at a P level of less than .05.

All the construction workers (n = 95) completed the questionnaire; they had a mean age of 42 years and 88% were men.

Workers with a primary education were more likely to work outdoors (97% vs. 64%, $P < .001$) and to have experienced sunburn during work (36% vs. 13%, $P < .001$). They were less likely to be screened for skin cancer (10% vs. 28%, $P = .024$).

Most workers, regardless of their level of education, did not associate actinic keratosis with a risk of skin cancer. Workers with a university degree were largely aware that a high index of UV did not necessarily mean high temperatures (95% vs. 44%, p < .001), but only half knew what the UV index scale was (Table 1). These rates, however, are higher than those reported elsewhere.[6]

Despite its limitations (self-reported data from a single construction site), our study offers some interesting results. Construction workers with a primary or secondary education have low levels of skin cancer and UV literacy, were more likely to be exposed to sun at work, and were less likely to screened for skin cancer. Only 19% of all workers surveyed had a history of sunburn at work; 40%, by contrast, reported having been burnt during leisure time. There were no significant differences between the groups in terms of sun exposure during leisure time, but, in agreement with reports elsewhere,[7] sunburn while doing leisure activities was more common among workers with a university education.

Organizational measures such as scheduling outdoor work during times of the day with a low UV index or providing shade are often not possible in the construction industry. In the interest of occupational safety, it should be obligatory to implement standard sun protection measures and screening programs for workers chronically exposed to UV radiation.

Outdoor workers, and particularly those with a primary school education only, have poor sun exposure habits and low skin cancer literacy.[8] Construction companies should target this group of workers, as their protection is an investment opportunity with high returns: improved health, less absenteeism, and lower disease-associated costs.

Conflicts of interest

The authors declare that they have no conflicts of interest.

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Table 1 Sun Exposure Behavior and Literacy Among Construction Site Workers (n = 95) by Level of Education.

	Education						
	Primary (n = 33, 34%)		Secondary (n = 24, 25%)		University (n = 39, 41%)		
	No.	(%)	No.	(%)	No.	(%)	*P*
Sex							*<. 001***
Male	32	(97)	24	(100)	26	(68)	
Skin type							.596**
I	3	(13)	1	(5)	1	(3)	
II	7	(29)	4	(20)	15	(39)	
III	8	(33)	8	(40)	15	(39)	
IV	6	(25)	6	(30)	6	(16)	
V	0	(0)	1	(5)	1	(3)	
Outdoor work							*< .001**
Yes	32	(97)	22	(92)	25	(64)	
Outdoor leisure activities							.192*
Yes	24	(75)	22	(92)	34	(87)	
History of sunburn during outdoor work							*<.001***
Yes, 1-2 episodes	6	(18)	2	(8)	5	(13)	
Yes, ≥ 3 episodes	6	(18)	0	(0)	0	(0)	
Did not recall	5	(15)	0	(0)	0	(0)	
History of sunburn during outdoor leisure activities							.056**
Yes, 1-2 episodes	8	(25)	6	(25)	14	(36)	
Yes, ≥ 3 episodes	4	(13)	1	(4)	6	(15)	
Did not recall	4	(13)	0	(0)	0	(0)	
Skin cancer screening							
Yes	3	(10)	1	(4)	11	(28)	*.024***
Self-skin examination							
Yes	9	(28)	8	(35)	19	(49)	.202*
Holidays in a tropical country							
Yes	10	(31)	3	(13)	21	(54)	*.003**
The following conditions are associated with skin cancer:							
Actinic keratosis							.116*
Yes	3	(23)	5	(50)	13	(59)	
Basal cell carcinoma							*.004***
Yes	8	(62)	4	(50)	26	(96)	
Squamous cell carcinoma							*.004***
Yes	6	(50)	4	(50)	25	(93)	
Melanoma							*.001***
Yes	9	(60)	5	(50)	29	(97)	
Do you tend to consult information on the IPMA? (www.ipma.pt)							*.874**
Yes	13	(50)	9	(43)	19	(49)	
Are you familiar with the UV index scale?							*.027***
Yes	17	(59)	12	(52)	32	(82)	
If so, what is the scale?							*.766**
1, 15, 20, 30, 40, 50	7	(54)	7	(58)	13	(46)	
1-11	6	(46)	5	(42)	15	(54)	
A high UV index always means high temperatures							*< .001**
False	11	(44)	6	(29)	37	(95)	

Abbreviation: IPMA, Instituto Português do Mar e da Atmosfera (Portuguese Institute for the Sea and Atmosphere).
* X^2 test.
** Fisher exact test.

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Considerations on Lateral and Deep Surgical Margins in Resected Skin Tumors☆

Consideraciones sobre los márgenes de resección lateral y profundo en las piezas de extirpación de tumores cutáneos

Dear Editor:

While the frequency of positive surgical margins in skin tumors is low,[1] recurrence is always an undesirable outcome whose likelihood we seek to reduce as much as possible. Thus, we have assessed the various factors that might play a role in recurrence, including the variant of the carcinoma,[2] the size and location of the tumor,[3] and even the type of histopathology report issued.[1]

Partially resected basal cell carcinomas have a 17% probability of recurring when only the lateral margins are affected, although this increases to 33% when deeper margins are affected.[4] Therefore, it is important to determine which margins are positive, since this can affect the decision on whether to opt for surgery or periodic monitoring.[5]

In resection of skin tumors, histopathology of the surgical margins is essential if we are to avoid recurrences. Therefore, the surgical margin must be marked with ink and the specimen oriented in such a way as to provide information on the degree of involvement of the different margins.

In broad terms, margins are usually classified as lateral and deep. However, the difference between deep and lateral is feasible if the specimens are cut at right angles, as shown in Fig. 1A. Obviously, this is not the case in daily clinical practice, where specimens are taken with margins of differing angles (Fig. 1B). In this case, it is always clear that L1 is a lateral margin and D is a deep margin. But what about L2 and L3? Should they be classified as lateral or deep margins (D2 and D3)? Sometimes, we resect a tumor that is in contact with a margin at specific points in an ambiguous area between a lateral and a deep margin (Fig. 1C).

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