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Lack of Knowledge of Type of Skin Cancer Diagnosis

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The prevalence of melanoma and non-melanoma skin cancer (NMSC) has increased dramatically in the United States over the past 35 years. More than 750,000 individuals are living with a history of melanoma¹ and approximately 13 million have a history of NMSC.² Discrepancies exist between estimates of melanoma prevalence based on self-reported interview data versus Surveillance, Epidemiology, and End Results (SEER) cancer surveillance data.² This may partly be due to patients' lack of knowledge of the type of skin cancer diagnosed. The current study examined the extent to which individuals who reported a skin cancer history were not able to report the type of skin cancer diagnosed. Potential demographic, health, and healthcare correlates of lack of knowledge of skin cancer diagnosis type were also examined.

Methods

Procedures

The data were drawn from the nationally representative 2007 and 2008 U.S. National Health Interview Surveys (NHIS). Additional information regarding the NHIS is available elsewhere.³

Participants

21,781 and 23,393 individuals were selected as Sample Adults for the 2007 and 2008 NHIS, respectively. Participants indicated whether they had "ever been told by a doctor or other health professional that ... [they] had cancer or a malignancy of any kind," and if so, the type of cancer(s) diagnosed. The sample for the current study consisted of the 1,172 individuals who reported a diagnosis of melanoma, NMSC, or a skin cancer of unknown type (i.e., the participant could not state whether the cancer was melanoma or NMSC).

Measures

Participants indicated their race/ethnicity, sex, current age, level of education, annual family income, overall health, and healthcare coverage. The number of years since skin cancer diagnosis was calculated based on reported age at skin cancer diagnosis and current age.

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Statistical Analysis

A dichotomous variable was created representing whether participants knew the type of their skin cancer diagnosis. A small number of individuals ($n = 24$) reported being diagnosed with melanoma or NMSC and also an unknown type of skin cancer. For analytic purposes, these individuals were denoted as not knowing the type of skin cancer. Using SUDAAN 10.0 (RTI, Research Triangle Park, North Carolina) and a statistical significance cutoff of $P < .05$, a series of logistic regression analyses was conducted with knowledge of skin cancer diagnosis as the dichotomous outcome variable and each of the variables listed in the *Measures* section (except race/ethnicity) as independent variables. All percentages reported are weighted.

Results

The participants were 97.3% non-Hispanic white and 49.7% female. Participants reported their skin cancer diagnosis as 20.8% melanoma, 64.2% NSMC, and 19.0% unknown type (percentages sum to greater than 100% due to some individuals reporting multiple types of skin cancer diagnosis). As shown in the Table, individuals were significantly more likely to lack knowledge of their type of skin cancer diagnosis if they had a lower level of education or family income, had worse self-reported health, or did not have private healthcare coverage. Participant sex, age, and time since cancer diagnosis were not significantly associated with lack of knowledge of skin cancer diagnosis type.

Comment

Almost one in five individuals reporting a skin cancer diagnosis did not know whether it was melanoma or NMSC and this rate was higher among certain subgroups. The greater lack of knowledge of skin cancer diagnosis type among individuals with lower education or income is of concern, as they have a poorer prognosis when diagnosed with melanoma.⁴ Lack of knowledge of skin cancer type was not associated with the elapsed time since diagnosis, suggesting that poor memory over time is not a relevant factor. Some participants who did not know whether they were diagnosed with melanoma or NMSC may have known that they were diagnosed with basal or squamous cell carcinoma, and these terms should be added to population-based surveys such as the NHIS.² Healthcare providers should also educate skin cancer patients about their disease and verify their knowledge of the type of skin cancer diagnosed and the importance of subsequent preventive behaviors.

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Table

Correlates of Lack of Knowledge of Type of Skin Cancer Diagnosis^{a,b}

	Lack of Knowledge of Type of Skin Cancer Diagnosis		
	Sample % ^c (95% CI)	OR (95% CI)	P value ^d
Full sample	19.0 (16.4–21.6)	—	—
Sex			.89
Female	19.1 (15.6–22.6)	[Reference]	
Male	18.8 (15.3–22.3)	0.98 (0.72–1.34)	
Current age (years)			.08
18–49	17.2 (10.5–23.9)	[Reference]	
50–59	13.4 (8.2–18.6)	0.75 (0.39–1.43)	
60–69	19.1 (13.9–24.2)	1.13 (0.62–2.08)	
70–79	19.4 (14.1–24.8)	1.16 (0.65–2.06)	
≥80	26.4 (19.5–33.4)	1.73 (0.96–3.11)	
Years since skin cancer diagnosis			.93
0–5	19.2 (15.5–23.2)	[Reference]	
6–10	18.6 (13.2–24.0)	0.96 (0.61–1.51)	
11–20	17.5 (11.9–23.1)	0.89 (0.56–1.42)	
> 20	20.3 (13.1–27.5)	1.07 (0.65–1.77)	
Education level			.006
Some high school or less	29.4 (20.2–38.5)	2.50 (1.44–4.32)	
High school graduate	21.8 (16.8–26.8)	1.68 (1.07–2.62)	
Some college	18.2 (13.3–23.0)	1.33 (0.84–2.12)	
College graduate	14.3 (10.3–18.3)	[Reference]	
Annual family income			<.001
< \$35,000	26.4 (21.4–31.4)	2.31 (1.34–3.98)	
\$35,000–\$74,999	18.5 (13.5–23.5)	1.46 (0.80–2.67)	
\$75,000–\$99,999	8.1 (3.8–12.3)	0.56 (0.27–1.17)	
≥\$100,000	13.4 (7.9–19.0)	[Reference]	
Self-reported health			.005
Poor/fair	25.5 (18.7–32.3)	2.27 (1.40–3.69)	
Good	21.8 (16.8–26.7)	1.84 (1.13–3.02)	
Very good	16.6 (12.0–21.2)	1.32 (0.81–2.16)	
Excellent	13.1 (8.7–17.5)	[Reference]	
Healthcare coverage			.02
Private	16.8 (13.8–19.8)	[Reference]	
Public	22.9 (17.5–28.3)	1.48 (1.01–2.15)	
None	33.2 (15.7–50.7)	2.46 (1.09–5.58)	

Abbreviations: CI, confidence interval; OR, odds ratio.

^aSample sizes vary from $N = 1,069$ to $N = 1,172$.^bThe data are from the 2007 and 2008 U.S. National Health Interview Surveys (NHIS) conducted by the National Center for Health Statistics.

^c All percentages are weighted.

^d *P* values are from a Wald's chi-square test of the association between the variable and lack of knowledge of type of skin cancer diagnosis.