

RESEARCH COMMUNICATION

Determination of Sunburn and Skin Cancer Risk of Outpatients in a Dermatology Polyclinic

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Abstract

Public health experts and medical professionals continue to issue warnings to people about the dangers of ultraviolet (UV) radiation from the sun, tanning beds, and sun lamps. Skin cancer is more common than any other type of cancer and exposure to sun is known to contribute to all three major types, namely, basal-cell carcinoma, squamous-cell carcinoma and cutaneous melanoma. While skin cancer has been associated with sunburn, moderate tanning may also exert an influence. Seven steps to safer sunning are avoiding the sun, using a sunscreen, wearing a hat, wearing sunglasses, covering up, avoiding artificial tanning, and checking skin regularly. The present study was performed to examine the knowledge, attitudes, and risk factors of individuals concerning skin cancer. A descriptive survey was conducted among 475 patients randomly selected from the Dermatology Polyclinic of Ege University. A self-administered questionnaire was used to investigate their knowledge about skin cancer. A total of 297 female and 178 male participants were questioned, with a mean age of 32.48±15.12. Some 36.8% had skin type II and 39.8% type III. The most common hair and eye color were brown, respectively at 56.0% and 58.7%. 79.8% had a mole(s), 19.2% had birthmark. A total of 8 of the 475 participants consulted for sunburns (1.7%). Glasses were the most popular preventive behaviour (28.8%). A total of 56 of the 475 outpatients questioned did not use any protective measure. Individuals need to be better educated on the dangers of the sun and sun protection as well as skin cancer.

Key Words: skin cancer - screening - dermatology

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Introduction

Public health experts and medical professionals continue to warn people about the dangers of ultraviolet (UV) radiation from sun, tanning beds, and sun lamps (Devos et al., 2003; Vainio et al., 2001). Skin cancer is more common than any other type of cancer, and exposure to sun contributes all three major types, namely, basal-cell carcinoma, squamous-cell carcinoma and cutaneous melanoma. Seven steps to safer sunning are avoiding the sun, using sunscreen, wearing a hat, wearing sunglasses, covering up, avoiding artificial tanning, checking skin regularly (Vainio et al., 2001; Kaskel, 2001).

Several studies have been performed to measure sunscreen use and skin protection behaviour, especially in the US, New Zealand and Australia (Devos et al., 2003). Sunscreens were earlier not widely available and not used on a large scale. However, this changed during World War II when there became a real need for a good preparation to protect soldiers engaged in tropical warfare. After the war life styles changed in many countries, and a number of filters were synthesized, tested, and marketed, in many cases as

less protective oil preparations, apparently with the sole purpose of promoting tanning (Damian et al., 1999; Pruim et al., 1999; Roelandts, 1998).

Recently an International Commission on Non-Ionizing Radiation Protection (ICNIRP) statement made recommendations due to the effects and high risk of incurring adverse health effects from UV rays, and stated that people should be counselled against the use of tanning appliances (ICNIRP 2003), particularly:

- People of skin type I and II
- Anyone under the age of 18
- Those with a large number of moles
- Those who tend to freckle
- Anyone with a history of sunburn as a child
- People with pre-malignant or malignant skin conditions
- Anyone with sun-damaged skin (it could be argued that this is virtually any one of us)
- Anyone wearing cosmetics as they may enhance sensitivity to UV exposure
- People taking medications

Nurses in primary care are in ideal position to promote good skin care for prevention to skin cancer (Tidy, 2003)

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and the purpose of the study is to describe attitudes and risk factors relevant to skin cancer of outpatients in our institute.

Materials and Methods

This study examines the attitudes and risk factors of outpatients concerning skin cancer. A descriptive survey was conducted among 475 outpatients randomly selected from the Dermatology Polyclinic of Ege University. The survey period was from June to August 2003 and a total of 475 individuals were randomly selected and asked to participate on a strictly voluntary basis.

A self-administered questionnaire consisting mainly of close-ended questions was used as the survey instrument seeking information on the socio-demographic characteristics of the participants, such as age, educational qualifications, and their attitudes about skin cancer and risk factors. The data were prospectively entered into a computerized database. Demographic data and related the study variables were analysed using descriptive statistics.

Results

The total of 297 females and 178 males questioned had a mean age of 32.48±15.12, the most common age groups for women and men being 19 and 20-29 years old (161 females and 92 males, accounting for 54.3% and 51.7%).

Table 1 shows findings for skin type, hair-eye color, freckle, mole and birth mole distributions of participants. The risk factor percentages were higher in females than in the males, being respectively 13 and 3% for family skin cancer background, 36 and 25% for sunburn before age 18, and 15 and 9 % for X-ray treatment to the skin. A total of 8 of the 475 participants were consulted for sunburns (1.7%) (Table 2). Table 3 shows the protective measures taken against solar irradiation. Glasses were the most popular preventive behaviour (28.8%). Umbrella use was particularly unpopular with participants. A total of 56 of the 475 outpatients questioned did not use any protective measure. Sunscreen cream use was a more popular protective measure in the female group: 21.2% for sunscreen SPF 15+ and 13.1% for regular sun screen use (every 11/2 to 2 h or after swimming or sweating). 22.7% of females did not expose themselves to sunshine between 11 am and 4 pm (Table 4).

Discussion

The population of outpatients at the time of the survey was predominantly female. We estimate that sunbathing is indeed most popular among young women. For those with a personal high risk of developing skin cancer, measures to improve early detection of skin cancer may be more important than primary prevention (Melia et al., 2000). A rough rule of thumb is: the darker your natural skin color,

Table 1. Skin Type, Hair-Eye Color, Freckle, Mole and Born Mole Distribution of the Participants

	Female		Male		Total	
	n	%	n	%	n	%
Skin Type						
Type I	25	5.3	18	3.8	43	9.1
Type II	121	25.5	54	11.3	175	36.8
Type III	115	24.2	74	15.6	189	39.8
Type IV	23	4.8	17	3.6	40	8.4
Type V	13	2.7	12	2.6	25	5.3
Type VI	-		3	0.6	3	0.6
Hair Color						
Blond/Red	39	8.2	18	3.8	57	12.0
Brown	197	41.5	69	14.5	266	56.0
Black	61	12.8	91	19.2	152	32.0
Eye Color						
Blue/Green	35	7.4	18	3.8	53	11.2
Hazel	63	13.3	36	7.5	99	20.8
Brown	175	36.8	104	21.9	279	58.7
Black	24	5.1	20	4.2	44	9.3
Freckle						
Many	12	2.6	9	1.8	21	4.4
Some	63	13.3	33	6.9	96	20.2
None	222	46.7	136	28.7	358	75.4
Mole						
Yes	240	50.5	139	29.3	379	79.8
No	57	12.0	39	8.2	96	20.2
Birthmark						
Yes	64	13.5	27	5.7	91	19.2
No	233	49.1	151	31.7	384	80.8
Total					475	100.0

Table 2. Skin Cancer Risk Factors

	Female		Male		Total	
	n	%	n	%	n	%
Job Location						
Outdoors	5	1.1	10	2.1	15	3.2
Mixed	95	20.0	83	17.5	178	37.5
Indoors	197	41.5	85	17.9	282	59.4
Family Skin Cancer Background						
Yes	13	2.7	3	0.6	16	3.3
No	284	59.9	175	36.8	459	96.7
Multiple Blistering Sunburns Before Age 18						
Yes	36	7.5	25	5.3	61	12.8
No	261	54.9	153	32.3	414	87.2
Exposed to one hour of summer sun						
Burn and sometimes blister	77	16.2	39	8.2	116	24.4
Burn then tan	161	33.9	84	17.7	245	51.6
Tan	59	12.4	55	11.6	114	24.0
X-ray treatment to the skin						
Yes	15	3.2	9	1.9	24	5.1
No	282	59.4	169	35.5	451	94.9
Use Tanning Parlor or Sunlamp.						
Yes	3	0.6	3	0.6	6	1.2
No	294	61.9	175	36.8	469	98.8
Total					475	100.0

Table 3. Protective Measures Taken Against Solar Irradiation (I)

	Always		Sometimes		Never	
	n	%	n	%	n	%
Glasses	137	28.8	173	36.4	165	34.8
Umbrella	11	2.3	37	7.8	427	89.9
Hat	63	13.3	198	41.7	214	45.0
Protective Clothing	89	18.7	134	28.2	252	53.1

Table 4. Protective Measures Taken Against Solar Irradiation (II)

	Female		Male		Total	
	n	%	n	%	n	%
Exposure to Sun 11 a.m. and 4 p.m						
Yes	168	35.4	104	21.9	272	57.3
No	108	22.7	63	13.3	171	36.0
Sometimes	21	4.4	11	2.3	32	6.7
Use Sunscreen						
Yes	171	36.0	59	12.4	230	48.4
No	126	26.5	119	25.1	245	51.6
Total					475	100.0

and the darker your eyes, the less risk you have. Someone with blond or red hair, fair skin and light blue eyes is at much greater risk, particularly of melanoma, than someone with very dark skin and dark brown eyes. People who have a large number of moles are also thought to be at greater risk. There is no such thing as "no risk" (Tidy, 2003). Persons born with a birthmark larger than several inches (giant congenital nevus) are at increased risk for melanoma formation later in life (Tidy, 2003).

Repeated overexposure to the ultraviolet rays of the sun is the principal cause of most skin cancers. Risk also increases for those whose recreational activities involve heavy sun exposure. People who have had a previous skin

cancer or pre cancerous lesion are at increased risk for developing skin cancer. People who have a family member with melanoma are at increased risk for developing melanoma themselves. A history of x-ray treatments for acne, psoriasis, fungal conditions, particularly when in combination with heavy sun exposure, may increase one's risk of developing skin cancer. People who have experienced a severe, blistering burn before the age of 18 are at increased risk for developing melanoma, the most serious form of skin cancer (<http://.wtamu.edu/research/ttird/pscc/cancer.htm>, 2003). We here found that family skin cancer background, sunburn and X-ray treatment percentages were higher in the female participants than in the male group. A total of 8 of

the 475 participants in fact consulted for sunburn (1.7%).

Sunglasses can help protect eyes from sun damage. The ideal sunglasses should block 99 to 100 percent of UVA and UVB radiation. A hat with at least a 3-inch brim all around is ideal because it can protect areas often exposed to the sun, such as the neck, ears, eyes, and scalp. Wear lightweight, loose-fitting, long-sleeved shirts, pants or long skirts as much as possible when in the sun. Most materials and colors absorb or reflect UV rays. Tightly woven cloth is best (Kurtzweil, 2003; Scerri et al., 2002; Ting et al., 2003). Avoidance of the direct sun at midday is recommended, as the sun's rays are strongest between 11 a.m. and 4 p.m (<http://.wtamu.edu./research/ttird/pscc/cancer.htm>, 2003). In our study glasses were the most popular preventive behaviour. However, 11.8% of participant did not use any protective measure.

This survey showed that sun avoidance and protection are generally inadequate in young Turkish people, especially males, and that only a small percentage of participants are regularly using sun-protective measures. The results of this study should assist in evaluating the effectiveness of current sun-protection campaigns and health education programs.

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