Araştırma Makalesi/ Research Article

Investigating the Knowledge Levels about Skin Cancer and Sun Health of Individuals Aged 18 and Over: A Descriptive Study

18 Yaş ve Üzeri Bireylerin Deri Kanseri ve Güneş Sağlığına Yönelik Bilgi Düzeylerinin İncelenmesi: Tanımlayıcı Bir Çalışma

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ABSTRACT
Objective: The aim of this study is to examine the level of knowledge of individuals aged 18 and over on skin cancer and sun health.
Methods: This descriptive study was conducted between December 2021 and March 2022. The sample of the study consisted of 277 individuals who met the inclusion criteria. Data were collected using the Individual Descriptive Information Form and the Skin Cancer and Sun Information Scale. SPSS 21 package program was used in the analysis of the data and the p value was accepted as <0.05 statistical significance level.
Results: Most of the participants in our study were female (65.7%), married (68.6%), employed (76.2%) and had bachelor's degree (63.9%). It was determined that the socio-demographic characteristics of the participants, gender, educational status, employment status, and the characteristics of the place of residence affected the total and subscale score averages of the Skin Cancer and Sun Information Scale (p<0.05). The mean scores of the Skin Cancer Symptoms subscale of women were significantly higher than those of men (p=0.020). It was determined that more than half of the participants (54.5%) did not perform skin self-examination, and most of them used methods to protect themselves from the harmful effects of the sun (%92.8). It was determined that the characteristics of the participants for skin cancer risk factors such as skin color, hair color and sunbathing time significantly affected the total and subscale mean scores of the Skin Cancer and Sun Information Scale (p<0.05).
Conclusions: As a result of the study, it was understood that there is a need to plan and conduct regular training activities to increase social awareness about skin cancer and sun protection, taking into account the risk groups and the education levels of individuals.
Keywords: Knowledge, skin neoplasms, nursing

ÖZ
Amaç: Bu çalışma 18 yaş ve üzeri bireylerin cilt kanseri ve güneş sağlığı konusundaki bilgi düzeylerinin incelenmesi amacı ile planlandı.
Yöntem: Tanımlayıcı tipte olan bu araştırma Aralık 2021-Mart 2022 tarihleri arasında yürütüldü. Araştırmanın örneklemini dahil etme kriterlerine uyan 277 birey oluşturdu. Veriler, Bireysel Tanımlayıcı Bilgi Formu ve Cilt Kanseri ve Güneş Bilgi Ölçeği kullanılarak toplandı. Verilerin analizinde SPSS 21 paket programı kullanıldı ve p değeri <0.05 istatistiksel anlamlılık düzeyi olarak kabul edildi.
Bulgular: Çalışmamızda araştırmaya katılanların çoğunluğu kadın (%65.7), evli (%68.6), çalışan (%76.2) ve lisans mezunuydu (%63.9). Katılımcıların sosyo-demografik özelliklerinden cinsiyet, eğitim durumu, çalışma durumu, yaşanılan yere ilişkin özelliklerinin Cilt Kanseri ve Güneş Bilgi Ölçeği toplam ve alt ölçek puan ortalamalarını etkilediği belirlendi (p<0.05). Kadınların Deri Kanseri Belirtileri alt ölçeği puan ortalamaları erkeklere göre (p=0.020) anlamlı olarak yüksekti. Katılımcıların yarıdan fazlasının kendi kendine deri muayenesi yapmadığı (%54.5), çoğunluğunun (%92.8) güneşin zararlı etkilerinden korunmaya yönelik yöntemler kullandığı saptandı. Katılımcıların ten rengi, saç rengi ve güneşlenme süresi gibi deri kanseri risk faktörüne yönelik özelliklerinin, Cilt Kanseri ve Güneş Bilgi Ölçeği toplam ve alt ölçek puan ortalamalarını anlamlı düzeyde etkilediği belirlendi (p<0.05).
Sonuç: Çalışma sonucunda toplumda risk grupları ve bireylerin eğitim düzeyleri göz önünde bulundurularak, cilt kanseri ve güneşten korunma konusunda toplumsal farkındalığın artırılmasına yönelik düzenli eğitim faaliyetlerinin planlanlaması ve yürütülmesine gereksinim olduğu anlaşılmıştır.
Anahtar kelimeler: Bilgi, deri kanseri, hemşirelik

Introduction

Cancer, which has a significant share in the global burden of disease and causes of mortality, ranks second after cardiovascular diseases in terms of incidence (Altun, 2019; Haney et al., 2018). It has been reported by the International Agency for Research on Cancer (IARC) that 19.3 million people were diagnosed with cancer in 2020, with 1.52 million of them having skin cancer (Globocan, 2020). Today, the incidence of melanoma and non-melanoma skin cancers is increasing. With the changing socio-demographic data, it is estimated that 2.71 million new skin cancer cases will be seen in 2040 (Globocan, 2020; Kurt, 2021). It has been reported that ultraviolet (UV) rays are an important factor in the development of skin cancers. Chemical products, skin burns, skin ulcers, and radioactive substances are among other factors (De Castro-Maqueda et al., 2021; Ciążyńska et al., 2021). Today, it is emphasized that the change in sunbathing habits, the increase in outdoor sports, the increase in the use of various devices that emit UV rays, which are used in the industry and daily life, ether with the developing technology, increase the incidence of skin cancer because it affects the exposure to UV rays (Altun, 2019; Haney et al., 2018). It is known that not everyone has the same risk of developing skin cancer. It has been reported that individuals with fair skin, many and large moles/freckles/spots, long-term sun exposure, a history of sunburn in childhood, and a family history of skin cancer are risky groups for skin cancer (Koçak and Adana, 2021; Sumen and Oncel 2021; Kaminska-Winciorek et al., 2015).

As with many types of cancer, the incidence of skin cancers can be reduced by effectively managing possible risk factors. Other recommended approaches for the prevention of skin cancer and the early diagnosis of skin cancer are planning social education, including the childhood group, and raising awareness by teaching individuals about effective personal examination methods recommended by international organizations such as skin self-examination. In many epidemiological studies, it is reported that protective behaviors before the age of twenty provide benefits in the prevention of skin cancer. It is emphasized that self-examination and annual skin examinations are important interventions in the fight against skin cancers (Altun, 2019; Atsü et al., 2022; Solak et al., 2021; Tezel et al., 2018).

In the literature, in a study conducted by Kurt, 2021 to examine the skin cancer and risk factors knowledge levels of nursing and classroom teacher's students, it was reported that the students had risk factors and that they applied the methods of protection against skin cancer insufficiently (Kurt, 2021). In the study conducted by Tezel et al., 2018 it was stated that the knowledge level of the participants about sun rays and skin cancer was moderate to good (Tezel et al., 2018). In a different study, it was determined that although the participants had a high level of knowledge about sun protection, their attitudes related to sun protection measures were insufficient (Almuqati et al., 2019). Nurses responsible for the protection, maintenance, and improvement of health have an important role in raising social awareness in the prevention and early diagnosis of skin cancers. Nurses should play a role in identifying individuals at risk for skin cancer, providing the necessary training and counseling services for these individuals, and gaining positive health behaviors for individuals in society. It is thought that it is important to determine the information needs of society as a priority in the planning of training to increase the knowledge level and awareness of the society on the prevention of the development of skin cancers and the practices aimed at preventing cancer. In this study, it was aimed to examine the knowledge levels of individuals in the community about skin cancer and sun health.

Methods

This study was conducted in descriptive type between December 2021 and March 2022 to determine the knowledge levels of individuals aged 18 and over on skin cancer and sun health. The universe of the research; Individuals aged 18 years and older who were not diagnosed with skin cancer in the community were included in the study. Power analysis was used to calculate the sample size of the study (https://www.openepi.com). As a result of the analysis, the population prevalence of the unknown nan number of individuals to be sampled was taken as %50, and it was calculated as at least 271 individuals with an error level of 0.05 and a confidence interval of 90%. The study included 277 volunteers who were literate, and able to use social media, smartphones, or computers.

Data Collection Method

The data of the study were collected online by the researchers considering the pandemic conditions. After obtaining the permission of the ethics committee to carry out the research, the surveys to be applied to the sample group were created via the "surveey.com" URL. The data were collected with

the online questionnaire form with individuals aged 18 and over in the society using social media platforms and a popular messaging application.

Data Collection Tools

Individual Descriptive Information Form: This form, which was developed by researchers by scanning the literature, consists of 18 questions (Altun, 2019; Kurt, 2021; De Castro-Maqueda et al., 2021; Koçak and Adana, 2021). The form contains questions about the socio-demographic characteristics of individuals (age, educational status, place of residence, etc.), and risk factors for skin cancer (skin color, presence of freckles, presence of moles, family history, etc.).

Skin Cancer and Sun Knowledge Scale (SCSK): The SCSKS developed by Day et al. (2014) consists of 25 items that assess the level of skin cancer and sun health knowledge of adults. The scale, which is a five-point Likert type, includes 5 sub-dimensions: sun protection (items 1, 16–22), tanning (items 2–12), skin cancer risk factors (items 13–14, 23), prevention of skin cancer (items 15, 24), and signs of skin cancer (items 25). The total score determined from the scale items is between 0-25 points, and high scores indicate a high level of knowledge. A study of the validity and reliability of the scale in the Turkish context was conducted by Haney et al. (2018) (Haney et al., 2018; Day et al., 2014). The validity index (CGI) of the SCSKS was 93.71%, the internal consistency reliability coefficient (KR-20) was 0.51, and the test-retest reliability was 0.52, (p <0.001) (Haney et al., 2018) In this study, internal consistency reliability coefficient (KR-20) was calculated as 0.46.

Analysis of Data

In the study, continuous variables (mean, SD) were determined using descriptive statistics, and frequency distributions were calculated for categorical variables. In the study, the scale scores were calculated and the kurtosis and skewness coefficients were examined to determine the conformity of the scores to the normal distribution. It is considered sufficient for the normal distribution that the kurtosis and skewness values are between "+3 and -3" (DeCarlo, 1997). After examining the values, parametric test techniques were used in the study. Independent sample t-test, One-way ANOVA and Post Hoc Tukey Test were used to calculate the differences between the descriptive characteristics of the participants, independent variables, and mean scores. Pearson Correlation analysis was used to calculate the relationship between scale scores and the age variable. SPSS 21 package program was used in data analysis. p value of <0.05 was accepted for statistical significance.

Ethical Considerations

Ethics committee approval of the study was obtained from the Non-Interventional Clinical Research Ethics Committee of Izmir Bakırcay University (Approval number: 453, Date: 17.12.2021). The study was carried out in line with the principles of the Helsinki Declaration. Before the online data collection forms were answered, the participants read the informed consent text explaining the aim and rationale of the research. Volunteers filled out data collection forms. Participants were informed that they could withdraw as soon as they did not want to continue the research.

Results

In the study, most of the participants in the study were female (65.7%), married (68.6%), employed (76.2%), and had a bachelor's degree (63.9%). Nearly half of the participants had incomes equal to their expenses (52.3) and lived in the urban (65.3%). The participants included in our study were between the ages of 19-68 and their mean age was 39.22±12.101 (Table 1).

When the relationship between the mean age of the participants and the scale total and sub-dimension scores was examined, no statistically significant result was found (p>0.05). It was found that the characteristics of gender, education, employment and place of residence affected the total and subscale mean scores of SCSK (p<0.05). The mean scores of the Signs of Skin Cancer subscale (p=0.020) of the female participants were significantly higher than the males. The mean scores of the Sun Protection subscale (p=0.004), Tanning subscale (p=0.035), and Skin Cancer Risk Factors subscale (p=0.000) and total mean score (p=0.000) of the participants differed according to their educational status. It was determined that the sun protection sub-dimension scores of the participants with postgraduate education level were higher than those with secondary education (p=0.008) and bachelor education level (p=0.043). It was determined that the tanning sub-dimension scores were significantly higher in those with a postgraduate education level compared to those with a secondary education level (p=0.041). In addition, it was determined that the skin cancer risk factors sub-dimension scores were higher in individuals with postgraduate education than in participants with primary education (p=0.004) and secondary education level (p=0.019). It was observed that the

total scores of the participants with a postgraduate education level were higher than those with a primary education (p=0.007), secondary education (p=0.000) and bachelor education level (p=0.042). It was determined that the mean scores of the Sun Protection subscale (p=0.047) of the employed participants were significantly higher. It was determined that the mean scores of the subscales of Sun Protection (p=0.039) and Signs of Skin Cancer (p=0.026) of the participants living in the urban were significantly higher (Table 1).

Table 1. Mean Scores of the and its Subscales by Descriptive Characteristics of the Participants (n=277)

Variables			Skin Cancer and Sun Knowledge Scale					
			Sun Protection	Tanning	Skin Cancer Risk Factors	Prevention of Skin Cancer	Signs of Skin Cancer	Total
Age: $\bar{X} \pm S$: 39,22±12,10; Min.-Max= 19,0-68,0								
	n	%	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD
Gender								
Female	182	65.7	4.09±1.07	6.52±1.69	1.96±0.82	1.03±0.51	0.63±0.48	14.23±2.57
Male	95	34.3	4.07±1.14	6.62±1.78	2.01±0.83	1.06±0.54	0.48±0.50	14.25±2.95
t*			0.102	-0.453	-0.522	-0.455	2.35	-0.64
p			0.651	0.602	0.649	0.020	0.949	
Marital Status						0.919		
Single	87	31.4	3.99±1.09	6.84±1.64	1.98±0.82	1.00±0.57	0.56±0.49	14.36±2.55
Married	190	68.6	4.13±1.10	6.43±1.75	1.97±0.82	1.06±0.50	0.59±0.49	14.17±2.77
t*			-0.969	1.855	0.031	-0.933	-0.410	0.538
p			0.065	0.975	0.352	0.682	0.591	
Educational Status						0.333		
Primary school	6	2.2	3.67±1.03	5.67±0.81	1.00±0.63	0.67±0.81	0.50±0.54	11.50±1.76
Secondary school	18	6.5	3.50±1.09	5.61±1.68	1.56±0.92	1.11±0.58	0.50±0.51	12.27±1.87
Bachelor degree	177	63.9	4.02±1.11	6.58±1.62	1.97±0.81	1.04±0.52	0.56±0.49	14.15±2.58
Postgraduate***	76	27.4	4.41±0.99	6.80±1.93	2.17±0.75	1.07±0.47	0.66±0.47	15.10±2.83
F**			4.577	2.913	6.138	1.191	0.941	8.473
p			0.035	0.000	0.314	0.421	0.000	
Employment status						0.004		
Employed	211	76.2	4.16±1.06	6.57±1.73	1.94±0.84	1.06±0.53	0.58±0.49	14.29±2.73
Unemployed	66	23.8	3.85±1.19	6.52±1.72	2.09±0.75	1.00±0.49	0.59±0.49	14.04±2.62
t			1.998	0.220	-1.316	0.771	-0.182	0.662
p			0.826	0.189	0.442	0.856	0.509	
Perceived income status						0.047		
Income more than expenses	75	27.1	4.11±1.09	6.60±1.76	1.95±0.76	1.04±0.44	0.53±0.50	14.22±2.76
Income equals expense	145	52.3	4.15±1.10	6.45±1.75	1.94±0.86	1.01±0.55	0.60±0.49	14.15±2.82
Income less than expenses	57	20.6	3.88±1.08	6.77±1.60	2.11±0.79	1.12±0.53	0.60±0.49	14.47±2.31
F			1.304	0.751	0.905	0.890	0.482	0.289
p			0.473	0.406	0.412	0.618	0.750	
Residence type						0.273		
Urban	181	56.3	4.18±1.11	6.56±1.71	2.00±0.84	1.06±0.51	0.63±0.48	14.43±2.70
Rural	96	34.7	3.90±1.05	6.54±1.75	1.93±0.78	1.01±0.53	0.49±0.50	13.86±2.68
t			2.078	0.100	0.701	0.762	2.238	1.678
p			0.039	0.920	0.484	0.447	0.026	0.094

*t=Independent Sample t-test, **F=One-Way ANOVA, *** Post Hoc Tukey Testi*

In the study, more than half of the participants had medium white skin (52.0%), dark hair color (61.7%) dark eye color (70.0%) and did not perform skin self-examination (54.5%). Most of the participants do not have moles that change color over time, causing burning, itching, and pain (85.9%) and they do not have freckles on their faces or bodies (72.6%). Almost all of the participants had no family history of skin cancer (95.7%) and used methods to protect themselves from skin cancer and the harmful effects of the sun (92.8%) (Table 2). The most used methods were glasses (75.8%), hats (44.8%), umbrellas (17.3%), and sunscreen (69%) respectively.

It was determined that skin color, hair color, sun exposure time during the day, and obtaining information about skin cancer and sun protection were the features that affected the mean scores of the SCSK and its subscales ($p<0.05$). Skin Cancer Prevention subscale ($p=0.002$) and total score average ($p=0.039$) of the participants with pale white/white skin color were significantly higher. The mean scores of the Signs of Skin Cancer subscale ($p=0.001$) of those with dark hair color were statistically significantly higher. There was a difference between the scale total score averages ($p=0.049$) according to the sun exposure time of the participants. It was observed that those who were under the sun for less than 1 hour had a higher level of knowledge than those who were under the sun for 1-2 hours ($p=0.039$). The tanning subscale ($p=0.011$), the Skin Cancer Risk Factors subscale ($p=0.036$), and the total mean score ($p=0.003$) were found to be statistically higher for the participants who received information about skin cancer and sun protection methods (Table 2).

Table 2. Mean scores of the skin cancer and sun knowledge scale and its subscales according to the characteristics of the participants related to skin cancer (n=277)

Variables			Skin Cancer and Sun Knowledge Scale					
			Sun Protection	Tanning	Skin Cancer Risk Factors	Prevention of Skin Cancer	Signs of Skin Cancer	Total
	n	%	Mean±SD	Mean± SD	Mean±SD	Mean± SD	Mean± SD	Mean± SD
Skin Color								
Pale white/white	71	25.6	4.13±1.12	6.96±1.78	2.08±0.78	1.18±0.39	0.52±0.50	14.87±2.60
Medium white	144	52.0	4.10±1.07	6.51±1.75	1.99±0.78	1.06±0.53	0.57±0.49	14.23±2.57
Moderate brown/ Brown	61	22.0	4.00±1.15	6.20±1.51	1.80±0.92	0.84±0.58	0.67±0.47	13.50±2.99
Dark brown	1	0.4	4.00±1.09	6.00±1.72	2.00±0.82	1.00±0.52	0.58±0.49	14.23±2.70
F**			0.162	2.256	1.333	5.176	1.309	2.837
p			0.922	0.082	0.264	0.002	0.272	0.039
Hair Color								
Light	106	38.3	4.04±1.04	6.63±1.75	1.97±0.76	1.04±0.49	0.45±0.50	14.13±2.48
Dark	171	61.7	4.11±1.13	6.51±1.71	1.98±0.86	1.05±0.54	0.66±0.47	14.30±2.84
t*			-0.540	0.574	-0.048	-0.140	-3.429	-0.530
p			0.590	0.567	0.962	0.889	0.001	0.597
Eye Color								
Light	83	30.0	4.05±0.98	6.75±1.88	2.01±0.80	1.05±0.49	0.52±0.50	14.37±2.77
Dark	194	70.0	4.10±1.14	6.47±1.65	1.96±0.83	1.04±0.53	0.61±0.48	14.18±2.68
t			-0.366	1.206	0.493	0.101	-1.393	0.543
p			0.715	0.229	0.622	0.919	0.165	0.588

Table 2. (continue) Mean scores of the skin cancer and sun knowledge scale and its subscales according to the characteristics of the participants related to skin cancer (n=277)

Variables	n	%	Sun Protection Mean±SD	Tanning Mean± SD	Skin Cancer Risk Factors Mean±SD	Prevention of Skin Cancer Mean±SD	Signs of Skin Cancer Mean± SD	Total Mean± SD
Self-examination of the skin								
Yes	126	45.5	4.14±1.05	6.66±1.79	1.94±0.86	1.05±0.56	0.64±0.48	14.43±2.87
No	151	54.4	4.03±1.13	6.47±1.66	2.00±0.79	1.04±0.48	0.53±0.50	14.07±2.55
t			0.827	0.905	-0.559	0.125	1.912	1.113
p			0.409	0.366	0.577	0.901	0.057	0.267
Having moles that grow suddenly on the body, change color over time, and cause burning, itching, and pain								
Yes	39	14.1	3.90±1.11	6.62±1.61	2.05±0.85	0.97±0.58	0.54±0.50	14.07±2.51
No	238	85.9	4.11±1.09	6.55±1.74	1.96±0.81	1.05±0.51	0.59±0.49	14.26±2.74
t			-1.139	0.232	0.626	-0.888	-0.582	-0.401
p			0.256	0.817	0.532	0.375	0.561	0.689
Having freckles on face or body								
Yes	76	27.4	4.13±1.05	6.57±1.53	1.91±0.88	1.03±0.54	0.62±0.48	14.25±2.50
No	201	72.6	4.06±1.11	6.55±1.79	2.00±0.80	1.05±0.51	0.57±0.49	14.23±2.78
t			0.452	0.062	-0.831	-0.332	0.770	0.044
p			0.652	0.950	0.407	0.740	0.442	0.965
Presence of sunburn in the last 1 year								
Yes	32	11.6	4.00±1.01	6.31±1.82	1.78±0.87	0.88±0.60	0.59±0.49	13.56±2.95
No	245	88.4	4.09±1.11	6.59±1.71	2.00±0.81	1.07±0.50	0.58±0.49	14.32±2.66
t			-0.454	-0.848	-1.417	-1.946	0.152	-1.504
p			0.650	0.397	0.158	0.053	0.879	0.134
Using application methods for sun protection								
Yes	257	92.8	4.09±1.08	6.59±1.72	1.97±0.80	1.04±0.52	0.60±0.49	14.28±2.69
No	20	7.2	3.95±1.23	6.10±1.71	2.05±0.99	1.10±0.55	0.40±0.50	13.60±2.81
t			-0.562	-1.228	0.424	0.503	-1.708	-1.095
p			0.575	0.221	0.672	0.616	0.089	0.275
Sun exposure time during the day								
<1 hour***	118	42.6	4.19±1.08	6.80±1.69	2.04±0.80	1.11±0.44	0.52±0.50	14.66±2.62
1-2 hours	129	46.6	3.97±1.11	6.35±1.69	1.88±0.88	0.98±0.59	0.64±0.48	13.82±2.73
>2 hours	30	10.8	4.13±1.04	6.50±1.90	2.13±0.57	1.03±0.41	0.57±0.50	14.36±2.74
F			1.342	2.108	1.898	1.796	2.047	3.042
p			0.263	0.123	0.152	0.168	0.131	0.049
Family history of skin cancer								
Yes	12	4.3	3.92±0.90	6.08±1.67	1.75±0.75	0.92±0.51	0.42±0.51	13.08±3.14
No	265	95.7	4.09±1.10	6.58±1.72	1.98±0.82	1.05±0.52	0.59±0.49	14.29±2.68
t			-0.536	-0.970	-0.967	-0.857	-1.180	-1.514
p			0.593	0.333	0.334	0.392	0.239	0.131

*t=Independent Sample t-test, **F=One-Way ANOVA, ***Post Hoc Tukey Testi

Discussion

In our study, it was aimed to determine the knowledge levels of individuals aged 18 years and older on skin cancer and sun health. It was determined that the variables related to some socio-demographic characteristics of the participants affected the total and subscale mean scores of SCSK (p<0.05). When national and international studies

were examined, it was seen that female participants had a higher level of knowledge about skin cancer and sun protection, and similar results were obtained with our study (Haney et al., 2018; Sumen and Oncel 2021; Tezel et al., 2018; Scott et al., 2017; Vuadens et al., 2017). It is thought that this difference may be related to aesthetic concerns, the importance of body image, and interest in cosmetic/care products in female participants. In our study, it was seen that the education level of the participants was an important determinant of the total and subscale mean scores of SCSK and it was determined that the participants with a bachelor's degree had higher mean scores of Sun Protection, Tanning and, Skin Cancer Risk Factors. In a similar study, it was determined that people with a bachelor's degree or higher had higher levels of skin cancer signs, risk factors, and general knowledge (Kartal and Karakaş, 2022).

In a study conducted by Kartal and Karakaş, it was reported that the working status of the participants did not affect the scale and subscale scores, while in our study, it was determined that the Sun Protection subscale score averages of the working participants were significantly higher than the unemployed participants (Kartal and Karakaş, 2022). This difference seen in employed individuals may be related to education level, spending more time outside, and exposure to occupational and environmental factors.

When the variable of residence of the participants in our study was examined, it was seen that the majority of them lived in the urban, and the participants living in the urban had higher levels of knowledge about sun protection and skin cancer signs. In similar studies in the literature, it has been reported that more than half of the participants live in urban, and the knowledge level of the participants living in urban areas is higher (Sumen and Oncel, 2021; Cunningham et al., 2019; Stephens et al., 2018). It is thought that the number of participants living in the urban is higher because the researchers live in urban areas and urban areas have a large population. The higher level of knowledge of the people in the urban areas can be associated with the education level of the people there and their easier access to health-related data.

In our study, skin color, hair color and sun exposure time during the day were found to be participant characteristics that affect the scale score means. It was determined that participants with white skin color had higher levels of knowledge about the prevention of skin cancers and general knowledge. Also, participants with dark hair color

had a high level of knowledge about the signs of skin cancer. In a similar study in the literature, it was found that people with dark skin color are less likely to have skin Cancer and women take more sun protection precautions (Solak et al., 2021; Yılmaz et al., 2015; Yan et al., 2015). In another study, it was reported that participants with fair skin color had higher sun protection behaviors (Peters et al., 2016; Dağ and Hisar, 2016). It is thought that the reason for this is that individuals with light skin and hair color who are more sensitive to the effects of the sun, have a high awareness of the use of sun protection measures and use these methods more often.

It was determined that more than half of the participants did not perform skin self-examination. In similar studies conducted in different age groups in the literature, it is seen that the rate of individuals performing skin self-examination is quite low (Altun, 2019; Koçak and Adana, 2021; Solak et al., 2021; Garbutcheon-Singh et al., 2016). Kaminska-Winciorek et al., 2015, in their study with the participation of web users, reported that only 18% of the participants performed skin self-examination (Kaminska-Winciorek et al., 2015). Garbutcheon-Singh et al., 2016, determined that %67 of adults performed skin self-examination in Australia (Garbutcheon-Singh et al., 2016). Although the literature findings generally support our study results, it is seen that there are regional differences in the rates of individuals performing skin self-examination. Skin self-examination is among the most important interventions for the prevention and/or early detection of skin cancer. It can be said that the low rate of self-examination of individuals is related to the lack of knowledge and awareness about skin cancer.

Increased incidence of skin cancer; is associated with unconscious sunbathing behaviors and unprotected sun exposure (Haney et al., 2018).

Sun rays play a role as a risk factor in the development of melanoma, both through the cumulative effect and intermittent intense exposure. Therefore, the use of sun protection methods is important in the prevention of skin cancers. The majority of the participants in our study reported that they used methods to protect themselves from skin cancer and the harmful effects of the sun. The methods most frequently used by the participants were determined as glasses, sunscreen cream, hats, and umbrellas. In a similar study in the literature, it was reported that %57.10 of the participants used sunglasses, %35.65 used sunscreen cream and

%5.51 used umbrellas. In other studies in the literature, it has been stated that hats, glasses, and umbrellas are the most frequently preferred methods for protection from the harmful effects of the sun (Vuadens et al., 2017; Urasaki et al., 2016; Baz et al., 2003).

In different studies in the literature, it is seen that the duration of sun exposure of the participants during the day varies. Tezel et al., 2018, reported that more than half of the participants spent less than an hour in the sun. Baz et al., 2003, reported that most of the participants were exposed to the sun for more than one hour during the day, unlike our study (Tezel et al., 2018; Wan et al., 2016; Baz et al., 2003). In our study, it was determined that about half of the participants stayed in the sun for less than an hour during the day, and this group had higher knowledge about skin cancers and sun health. It is thought that this difference may be due to the high level of education of the participants.

Conclusion and Recommendations

In our study, it was determined that men had less information about the symptoms of skin cancers and that education had an important effect on the level of knowledge about skin cancers and sun health. The rate of participants who performed skin self-examination was low. Nurses responsible for the protection, maintenance, and development of health have an important role in raising social awareness in the prevention and early diagnosis of skin cancers. For this reason, in a multidisciplinary team approach, oncology nurses and nurses working in the field of public health should also play a role in identifying individuals at risk for skin cancer, providing these individuals with the necessary training and counseling services, and providing positive health behaviors to individuals in the society. In line with this information, it is thought that it would be beneficial to plan regular training activities to identify risk groups, develop knowledge and practices for skin cancer and sun protection, and raise social awareness, starting with basic education programs on skin health. It is recommended to conduct more up-to-date and comprehensive studies on the subject.

Limitations

This study has some limitations. Our study results are limited to the findings of our participants and cannot be generalized to all individuals aged 18 and over. Another limitation of the study is that it is conducted in an online environment and the data is not collected with a face-to-face interview method. The online data collection forms used in the study may have caused selection bias in reaching the sample group.

What did the study add to the literature?
- It was determined that more than half of the participants did not perform skin self-examination, and the majority of them used various methods to protect themselves from the harmful effects of the sun.
- It was observed that as the education level of the participants increased, their level of knowledge about skin cancer and sun protection also increased.
- It is thought that it will contribute to the literature in terms of planning the trainings for the needs of the field, in line with the current, national and international guidelines, by determining the knowledge levels of the society on skin cancer and sun protection.

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