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SKIN CANCER AND SOLAR KNOWLEDGE LEVEL OF SEASONAL AGRICULTURAL WOMEN WORKERS

MEVSİMLİK TARIM İŞÇİSİ KADINLARIN DERİ KANSERİ VE GÜNEŞ BİLGİ DÜZEYLERİ

Mert KARTAL[1] Neşe KARAKAŞ[2]

[1]Malatya Turgut Özal Üniversitesi, Sağlık Bilimleri Fakültesi, Malatya, Türkiye
[2] Malatya Turgut Özal Üniversitesi, Tıp Fakültesi, Malatya, Türkiye

ABSTRACT

Introduction: Although the ultraviolet rays are the most significant factors in the formation of skin cancer, the harmful effect of the sun cause various skin diseases. Seasonal agricultural workers constitute the main labor force of the agricultural sector in Turkey. The aim of the study to determine the skin cancer and solar knowledge of the seasonal agricultural women workers.

Material and Method: 154 seasonal agricultural women workers were included in the descriptive study. The questionnaire examining the Skin Cancer and Solar Knowledge Scale and the socio-demographic aspects of the participants was applied through face-to-face survey and data were collected accordingly. Statistical Package for the Social Sciences software was used in the analysis of data.

Results: It was observed that the majority of the participants were between 18-24 years old and they have very limited knowledge of skin cancer and solar exposure. In addition, it was ascertained that the level of knowledge decreases when the age of women increases. The level of knowing the risk factors of skin cancer was found to be higher in women having a high school education or higher in comparison to the women who graduated from primary school. It was concluded that the level of knowledge of women living in the province is higher than the women residing in the countryside.

Conclusion: Since the seasonal agricultural workers are included in the risk group in terms of skin cancer, we hereby recommend organizing training to raise the knowledge levels and starting the periodic implementation of cancer screening and monitoring programs.

Keywords: Seasonal Agricultural Worker, Skin Cancer, Sun.

ÖZET

Giriş: Tarım sektöründe sık karşılaşılan risk faktörleri arasında aşırı sıcak ya da soğukta açık havada çalışmaya bağlı hastalık ve erken ölümler yer almaktadır. Bu çalışmadaki amaç mevsimlik tarım işçisi kadınların deri kanseri ve güneş bilgi düzeylerini saptamaktır.

Materyal ve Metot: Tanımlayıcı nitelikteki çalışmamıza gönüllü 154 mevsimlik tarım işçisi kadın dâhil edildi. Deri Kanseri ve Güneş Bilgi Ölçeği ve katılıcımların sosyo-demografik özelliklerini sorgulayan soru formu yüz yüze anket uygulaması yapılarak veriler toplandı. Verilerin analizinde Statistical Package for the Social Sciences paket programı kullanıldı.

Bulgular: Katılımcıların çoğunlunun 18-24 yaş arası olduğu, deri kanseri ve güneş bilgi düzeylerinin oldukça düşük olduğu görüldü. Kadınların yaşları arttıkça bilgi düzeylerinin düştüğü, eğitim düzeyleri ilkokul olanlar ile lise ve üstü eğitime sahip olanlar arasında deri kanseri risk faktörlerini bilme düzeylerinin, lise ve üstü eğitime sahip olanlar lehine yüksek bulunduğu görüldü. Kentte ikamet edenlerin deri kanseri belirtileri ile ilgili bilgi düzeylerinin kırda ikamet edenlere göre daha yüksek olduğu tespit edildi.

Sonuç: Mevsimlik tarım işçileri deri kanseri yönünden risk grubunda olduğundan; bilgi düzeylerinin artırılmasına yönelik eğitimler düzenlenmesi, kanser tarama ve izleme programlarının periyodik şekilde uygulanmaya başlanması önerilmektedir.

Anahtar Kelimeler: Deri Kanseri, Güneş, Mevsimlik Tarım İşçisi.

Sorumlu Yazar / Corresponding Author: Mert KARTAL, Dr.Öğr.Üyesi, Malatya Turgut Özal Üniversitesi, Sağlık Bilimleri Fakültesi, Malatya, Türkiye, mert.kartal@ozal.edu.tr

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INTRODUCTION

The solar rays are indispensable for the continuation of ecological balance and life in the world. Although it has many beneficial effects such as being the source of energy for the ecosystem, vitamin D synthesis, and efficacy of phototherapy, the sun has various harmful effects such as cancer formation, allergic reactions, and photoaging (Çayırlı, Tunca, Açıkgöz 2013). Although the ultraviolet rays are the most significant factors in the formation of skin cancer, the harmful effects of the sun cause many skin diseases (Altunel, Kartal 2019; Armstrong, Kricker 2001; Cheng et al. 2010). While one in every three cancer diagnosis is skin cancer in the world, it ranks fifth in the most frequent cancers in Turkey (Öncel, Gündoğdu 2017). Skin cancers are primarily classified as malignant melanoma and non-melanoma skin cancers, and annually 2-3 million non-melanoma skin cancers and 132 thousand melanoma skin cancers are diagnosed worldwide (Balcı, Durmuş, Arslantaş, Gün 2018; Narayanan, Saladi, Fox 2010). Important risk factors for melanoma as the fatal type of skin cancers include having blue eyes, light skin, blond or red hair, family history, exposure to natural or artificial ultraviolet radiation (UVR) (Spradlin, Bass, Hyman, Keathley 2010). It has been found that exposure to the UVR, which is a part of solar energy reaching the Earth's surface, increases the risk of burns on the skin and eyes, accelerates the skin aging and suppresses the immune system (Spradlin et al 2010). In addition, exposure to UVR is an essential risk factor for the development of skin cancer by changing the molecular structure of the skin and this is an important and ever-growing global health problem (Çınar, Çetin, Kalender, Bağcivan 2015; Narayanan et al 2010). The main labor force of the agricultural sector in Turkey consists of seasonal agricultural workers and this is also the case in the world. A seasonal agricultural worker means an individual who is employed in agricultural employment of a seasonal nature with or without a contract at any stage of agricultural production activities such as cultivation, applying disinfection, harvesting and receiving a wage or a per diem. This person may be the citizen of the country or an immigrant. It could also be mobile employment. The risk factors in the agricultural sector are diseases or early deaths due to working under extremely hot or cold weather conditions (Şimşek, Yaghmaei 2019). In case of health problems caused by the environmental effects, the primary objective is to avoid exposure to these effects or to use protective measures to minimize such effects. Training events forincreasing the knowledge level of the society on this issue will be important in terms of achieving behavioral changes in the individuals (Balcı et al 2018).

The aim of the study is to determine the skin cancer and solar knowledge of the seasonal agricultural women workers.

MATERIALS AND METHOD

Selection of the Group to be Included in the Study

We have not applied any sampling in our descriptive study, and we have included 154 volunteer seasonal agricultural women workers who applied to the Şanlıurfa Training and Research Hospital Obstetrics Polyclinics between 01.12.2019 and 15.12.2019. Data was collected by applying a face to face survey.

Data Collection Form Used in the Study

The questionnaire examining the descriptive characteristics of the participants in the study and Skin Cancer and Solar Knowledge Scale (SCSK) developed by Day, Wilson, Roberts, Hutchinson (2014) were used in this study. SCSK consists of 25 items evaluating the level of knowledge of the adults regarding skin cancer and solar health. The scale was developed after a systematic literature review that revealed the current best practice studies and scale items related to skin cancer and solar knowledge. Turkish validity and reliability study of the scale was conducted by Haney, Bahar, Beser, Arkan, Cengiz (2018). The content validity index (CVI) of the Turkish Skin Cancer and Solar Knowledge Scale was found to be 93.71% while the internal consistency reliability coefficient (KR-20) was equal to 0.51, and the test-retest reliability conducted in 2 weeks was found to be 0.52 (n = 34), $p<0.001$. The discriminant validity of the scale was evaluated with a single question and the discriminant was confirmed ($p <0.001$). The scale evaluates the knowledge of the adults in five domains of knowledge; 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 scale items consist of 15 true and false questions and 10 multiple choices questions. The correct option is given 1 point while the incorrect option is given 0. The score is obtained with the sum of the item scores and varies between 0 to 25. A higher score indicates a higher level of knowledge. After the content validity of the original scale was ascertained by an expert panel, the internal consistency reliability coefficient was calculated as (KR-20) =0,69 in the reliability

analysis performed on the data obtained from 514 university students while the 2-week test-retest reliability was calculated as r (59) = 0.83. The exploratory factor analysis applied to evaluate the construct validity of the scale confirmed that it has a single-factor structure. The determinant power of the scale was found to be high.

Data Analysis

Statistical Package for the Social Sciences (SPSS) software was used in the analysis of data.The normal distribution of the data was controlled with the Kolmogorov-Smirnov test. Independent sample t-test, One-way Anova, Chi-Square test were applied for comparing the independent group data. The significance level of data was accepted as $p < 0.05$.

Ethical Approval

Ethical approval for the research was obtained from the ethical committee of Harran University Faculty of Medicine with the decision dated 18.11.2019 and numbered 51684.

RESULTS

154 seasonal agricultural women workers participated in our study. Table 1 compares the socio-demographic distribution of the participants and the total scores they received from the SKCS. The mean knowledge level score of all participants in the study was found to be 10.38. In terms of the age distribution of the participants, the women being between the ages of 18-24 constitute the majority (42.2%). The relationship between the age groups and the total score averages was not statistically significant ($p > 0.05$) whereas the knowledge level was found to be the lowest in the women aged 35 and over. Similarly, there was no statistically significant difference between the number of children and the scores received ($p > 0.05$), and 57.1% of the participants had 1-3 children. In terms of the educational status of the participants, it was found out that 29.9% were illiterate, 11.0% of them had high school education and above, 68.8% of them had a poor economic condition. In terms of the place of residence, 64.3% lived in the city and 35.7% lived in the countryside. The relationship between the mean of the total points and educational status, economic status, place of residence and knowledge was not statistically significant ($p < 0.05$).

Table 1. Socio-Demographic Characteristics of the Participants and Distribution of Skin Cancer, Solar Knowledge Levels

Age (N=154)	**n (%)**	**Average of the total score of SCSK**		**p = value Test**
		Mean	**SD**	
18-24	65 (42.2)	10.43	2.20	p=0.501 F=0.790
25-29	44 (28.6)	10.72	2.49	
30-34	24 (15.6)	10.12	2.45	
≥35	21 (13.6)	9.85	2.10	
Total	154 (100)	10.38	2.31	
Number of Children				
0	31 (20.1)	9.64	1.85	p=0.125 F=1.947
1-3	88 (57.1)	10.75	2.48	
4,5	26 (16.9)	10.15	2.14	
≥6	9 (5.8)	10.11	2.02	
Education Status				
Illiterate	46 (29.9)	10.36	2.37	p=0.215 F=1.467
Literate	18 (11.7)	11.22	1.76	
Primary School	38 (24.7)	10.02	2.25	
Secondary School	35 (22.7)	10.02	2.33	
High school and higher education	17 (11.0)	11.11	2.59	
Economic Status				
Poor	29 (18.8)	10.27	2.21	p=0.534 F=0.630
Moderate	106 (68.8)	10.32	2.28	
Good	19 (12.3)	10.94	2.65	
Residence				
Countryside	55 (35.7)	10.50	2.30	p=0.524 t=0.476
City	99 (64.3)	10.32	2.35	

Table 2 shows the distribution of the mean points received by seasonal agricultural workers from the sub-dimensions of SCSK. The relationship between the age of the participants, number of children the participants have, educational status, economic status and place of residence and sub-dimensions of the scale (sun protection, tanning, and skin cancer risk factors) was not found to be statistically significant (p> 0.05). The level of knowing the risk factors of skin cancer were higher in the women having a high school education or higher in comparison to the women who graduated from primary school (p=0.049).

Table 2. Distribution of the Mean Points of the Participants from the Sub-Dimensions of SCSK.

Age (N = 154)	**Protection from sun**		**Sun tanning**		**Skin cancer risk factors**	
	Mean	**test**	**Mean**	**test**	**Mean**	**test**
18-24	2.63	p=0.386 F=1.019	5.72	p=0.166 F=1.715	1.26	p=0.306 F=1.217
25-29	2.59		5.84		1.34	
30-34	2.95		4.91		1.45	
≥35	2.76		5.23		1.04	
Total	2.68		5.56		1.28	
Number of Children						
0	2.41	p=0.309 F=1.209	5.19	p=0.350 F=1.102	1.19	p=0.718 F=0.449
1-3	2.75		5.79		1.34	
4,5	2.80		5.34		1.19	
≥6	2.66		5.22		1.33	
Education Status						
Illiterate	2.91	p=0.211 F=1.480	5.56	p=0.313 F=1.202	1.19	p=0.70* F=2.220
Literate	2.83		6.27		1.38	
Primary School	2.52		5.42		1.10	
Secondary School	2.60		5.20		1.34	
High school and higher education	2.47		5.88		1.70	
Economic Status						
Poor	2.65	p=0.955 F=0.046	5.62	p=0.819 F=0.199	1.13	p=0.136 F=2.024
Moderate	2.73		5.50		1.27	
Good	2.68		5.78		1.57	
Residence						
Countryside	2.72	p=0.692	5.74	p=0.368	1.32	p=0.613
City	2.66	t=0.398	5.46	t=0.904	1.26	t=0.507

* According to Post Hoc Tukey HSD test, the difference between primary school and high school and above education was statistically significant (p = 0.049).

Figure 1 compares the place of residence of seasonal agricultural workers participating in the study and skin cancer symptoms. While 23.2% of seasonal agricultural women workers living in the city have stated that the sudden or gradual change in the appearance of a spiloma and a nonhealing wounds are signs of skin cancer, this rate is 10.9% in the women living in the countryside. While 14.5% of seasonal agricultural women workers living in the city have stated that the sudden or gradual change in the appearance of a spiloma in the body and the nonhealing wounds are not signs of skin cancer, this rate is 30.3% in the women living in the countryside. The difference between the residence of the participants and their opinions on skin cancer symptoms is found to be statistically significant (p = 0.004).

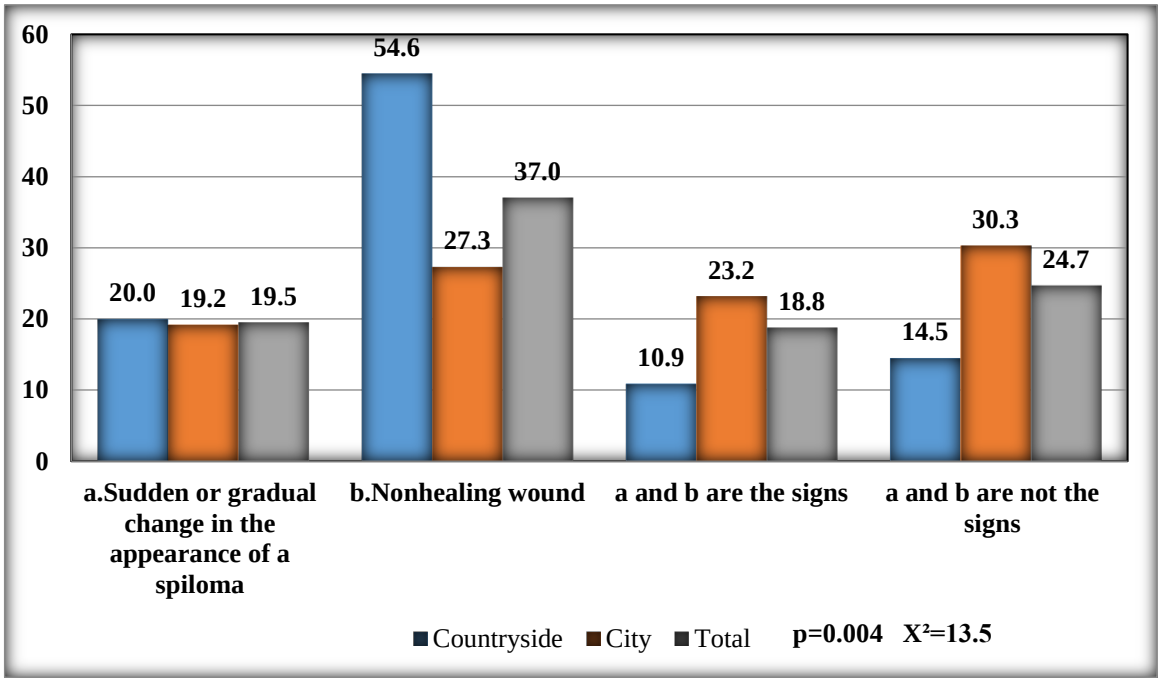

Figure 1. Distribution of Answers of the Participants on Symptoms of Skin Cancer According to Place of Residence (%)

DISCUSSION

Exposure to sunlight is the major factor in the formation of skin cancer. Especially individuals working outside face the harmful effects of the sun rays. Therefore, they constitute the risk group in the formation of skin cancer (Dağ, Hisar 2016; Horsham 2014; Malak, Yıldırım, Yıldız, Bektaş 2011). 154 seasonal agricultural women workers participated in our study. It was observed that the skin cancer and solar knowledge total points of the participants 10.38±2.31 and the majority of the participants were between the ages of 18-24. A study on mothers' knowledge of the effects of the sun has revealed that their level of knowledge was not sufficient (Ergin, Bozkurt, Bostancı, Önal 2011). In a study examining the knowledge level regarding the harmful effects of the sun and the ways of protection of adults applied to primary healthcare institutions, the rate of those acknowledging the harmful effects of the sun was ascertained to be 30.4% (Balcı et al 2018).

A study conducted on the workers has found out the rate of those who stated they are knowledgeable of skin cancer was found to be 29,7% and this is in consistency with our study (Dağ, Hisar 2016). In another study conducted in Northern Cyprus, it was ascertained that 41.1% of families had the knowledge of permanent and regular protection from the sun (Kaptanoğlu, Dalkan, Hıncal 2012). The low knowledge level of skin cancer and sun of the women participating in our study may be related to the low level of education of most of the participants. It was observed that the level of knowledge decreased when the age of women increased, but it was not found statistically significant. Furthermore, the total scores of the participants were compared based on the number of children, the education level, the economic status and the place of residence and there was no statistically significant difference between them. Similar to the studies conducted in the literature, the knowledge level of individuals on skin cancer and the sun decrease when the age increases (AlGhamdi, AlAklabi, AlQahtani 2016; Kaptanoğlu et al 2012; Sümen, Öncel 2014). This is probably related to the fact that younger individuals have a higher level of education compared to elderly ones.

The relationship between the scores of the participants and the socio-demographic characteristics obtained from the sub-dimensions of the SCSK was not found to be statistically significant. As a result of advanced analysis, it is found that the level of knowing the risk factors of skin cancer were higher in women having a high school education or higher in comparison to the women who graduated from primary school. The difference between these two groups was also statistically significant and an expected situation.

The answers provided by the participants of our study concerning the symptoms of skin cancer were found to be different based on their residence. 18.8% of all participants have responded that the sudden or gradual change in the appearance of a spiloma in the body and nonhealingwounds are signs of skin cancer. This rate is very low. In addition, when the correct answers were examined, there was a significant difference between the participants living in the countryside and in the city. The level of knowledge of the residents in the city was determined to be higher than those living in the countryside in the study of Balcı et al. (2018) This may be related to the fact that the participants living in the countryside have more limited healthcare service opportunities in comparison to the participants living in the city.

CONCLUSION

According to the result of the research, the intolerance to uncertainty and unemployment anxiety were In our study conducted in order to determine the skin cancer and solar knowledge of the seasonal agricultural women workers has presented that the knowledge level of the participants was insufficient in this regard and the following actions were recommended;

• Organizing training events in order to raise the knowledge levels about skin cancer and the sun,
• Starting the periodic implementation of cancer screening and monitoring programs since the seasonal agricultural workers are included in the risk group.

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Conflict of interest
None

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