

RESEARCH COMMUNICATION

Effects of Training about Skin Cancer on Farmers' Knowledge Level and Attitudes

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Abstract

Background: Skin cancer is one of the most common types of cancer. As farmers stay under sun for a long time and handle many different chemicals, they are at risk. This study was carried out to examine the effects of training for protection on their knowledge level and attitudes. **Method:** The subjects were 194 farmers living in a village in Marmara region which most benefits from the sun in Turkey. No sampling was performed. Data were collected before and after six months of training through a personal description form and skin cancer attitude-knowledge form and analyzed using percentage calculations, McNeamer test and t-test in dependent groups. **Results:** Knowledge level of farmers on skin cancer and the protection from skin cancer was significantly increased after the training ($p < 0.01$) regarding use of sun cream, umbrellas, swimming and traditional behavior ($p < 0.01$) but not use of hats, sunglasses and long-sleeved shirts ($p > 0.01$). A significant decrease was also determined in tampering with moles, acnes and scars ($p < 0.01$). **Conclusion:** The training given to farmers for protection against skin cancer was found effective for improving knowledge levels and attitudes. Planned and regular education should decrease the skin cancer rate among farmers.

Keywords: Skin cancer - protective behaviour - training - at risk farmers - Turkey

Asian Pacific J Cancer Prev, 12, 117-120

Introduction

Skin is the largest part of body; therefore, skin cancer is among the most common types of tumors. Ultraviolet light exposure is known to affect on the formation of both melanoma and non-melanoma skin cancers (Bilir, 2007). Rate of skin cancer has been increased in parallel with the increasing exposure to sun light in recent years (Diffey, 2003; Uslu et al., 2006). Thinning stratospheric ozone layer and the habits of travelling sunny places cause to increase the exposure to sunlight. Especially the professional or cumulative sun exposure is significantly related to high melanoma risk with sporadic intensive sun exposure (Edwood and Jobson, 1997). For these reasons, the frequency of skin cancer is rapidly increasing in the world and Turkey as well; in addition, the data of Cancer Control Department of the Ministry of Health of Turkey in 2005 has established the rate of skin cancer as 18.9 for 100,000. This frequency is the third highest rate in all cancer types. Skin cancer is the second most frequent cancer in women, and third most frequent cancer in men (Ministry of Health of Turkey, 2009).

The most significant factor increasing the frequency of skin cancer is the sunlight exposure for long periods of time (Armstrong, 2004). Women and men employed in outdoor works are exposed to sunlight for longer periods. Previous studies have demonstrated that skin cancer risk increases with the longer working hours under sun (Holman et al., 1983; Scotto et al. 1983; Armstrong, 2004;

Severi et al., 2004; Glanz et al., 2007). Farmers are another important group who works under sun for longer periods of time. As they contact with different chemicals and work in hours when the earth is exposed to more sunlight and the days begin to extend, farmers are at higher risk of skin cancer compared to many other outdoor worker groups (Holman et al., 1983; Scotto et al., 1983; Rosenman et al., 1995; Armstrong, 2004; Severi et al., 2004; Dobbins et al., 2005; Silk and Parrott, 2006; Glanz et al., 2007). Preventive measures are needed to stop the increasing rate of skin cancer in individuals working outdoors (Ministry of Health of Turkey, 2009). Previous studies have indicated that majority of the preventive programs aiming farmers and other groups employed in outdoor works increased the knowledge level of participants on skin cancer and the protection methods from skin cancer, improved the attitudes of protection and increased the personal protection measurements from sunlight (Lombard et al., 1991; Girgis et al., 1994; Henrahan et al., 1995; Glanz et al., 1998; Azizi et al., 2001; Geller et al., 2001; Glanz et al., 2001; Dobbins et al., 2005; Silk and Parrott, 2006; Glanz et al., 2007).

However, no comprehensive study prevent skin cancer was encountered in Turkey on the prevention of skin cancer. Therefore, this study was quasi-experimentally performed in a village in the Marmara Region including all villagers in order to increase the knowledge level of farmers on skin cancer and to develop protection attitudes from skin cancer.

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Materials and Methods

This study, which was originally planned as a service project, was designed quasi-experimentally to protect skin health of villagers, to improve the knowledge on skin cancer and the attitudes for the protection from skin cancer.

Study Sample

The study included 194 individuals (all people in the village) living in a village in the Marmara Region, and no sampling was performed. Marmara Region is located in the western Turkey, most benefits from the sun and is exposed to sunlight for longer periods of time; therefore, it was selected for the study sample. Participant individuals were between 20-65 years of age, and the mean age of the group was 39.1 + 12.9. All the individuals voluntarily agreed to participate in the study.

Collection of the study data

Preliminary tests were collected from 194 individuals between 24 November-8 December 2009 and last tests were collected from 157 individuals between 20-23 July 2010 by personal definition form, skin cancer information and attitude form. Personal definition form was composed of 7 questions on sex, age, income level, skin cancer history in family, profession, status and source of previous training on skin cancer. Skin cancer information and attitude form was composed of 38 questions on protection from skin cancer and recognition of the signs of skin cancer. Individuals could take minimum 0 and maximum 100 point from this form.

Trainings were conducted between 20 and 22 January 2010. Forms were applied before trainings and then the individuals in the village were trained on normal skin, indication of skin cancer, protection methods from skin cancer, early diagnosis of skin cancer and the situations requiring medical consultation. Reinforcement trainings were conducted during the service project. Informative posters were put on coffeehouse, mosque and grocery in the village. Following the training, hats were distributed to villagers. Last tests were collected six months later the training.

Evaluation of the data

Percentage evaluations, Mc Neamer test, and t-test of dependent groups were used in the evaluation of data. Significance level was set to $p=0.01$.

Results

Of the individuals included in the study, 56.1% was female and 43.9% was male. 84.7% of the individuals were married, 89.2% were elementary school graduates, profession of 100% was farmer, income of 63.1% was lower than their expenditure, 58% had dark skin color, 1.9% was not trained on skin cancer 66% of the trained ones took information from a health personnel and 6.4% suffered from a skin illness other than skin cancer. 8.9% of the participants had many moles and 1.3% had flaking in their skins.

The mean score of farmers included in the study on

skin cancer was 37.1 ± 6.1 , while it was determined as 65.7 ± 4.9 six months later. A highly statistically significant relation was detected between the scores before and after the training ($p=.000$).

No statistically significant relation was detected in the use of sunglasses, hat/scarf and long sleeved clothes of farmers before and after the training. Only 1.3% of farmers were found to use sun cream before the training, while his rate was increased to 10.8% after the training, and the difference was found statistically highly significant ($p=.001$). 22.9% of the farmers used umbrella for the protection from the sun before the training, while this rate was increased to 98.1% after the training, and the difference was found statistically highly significant ($p=.000$). The use of traditional methods in the treatment of skin problems was 48.4% before the training, while it was reduced to 2.6% after the training, and the difference was statistically highly significant ($p=.000$). 45.9% of the farmers went to swimming between 10:00-16:00 h, and this rate was reduced to 8.3% after the training, and the difference was found statistically significant ($p=.000$).

30.6% of farmers worked on hours when sunlight was perpendicular before the training, while this rate was reduced to 15.3% after the training, and the difference was statistically highly significant ($p=.003$).

The rate of farmers who consult doctors for any change in skin was 82.8% before the training, and it was increased to 99.4% following the training, and the difference was

Table 1. Comparison of the Mean Scores of Farmers on Skin Cancer Knowledge Before and Six Months After the Training

	Before the training	Six months later the training	t	p
	X ± SS	X ± SS		
Score on skin cancer knowledge	37.1 ± 6.1	65.7 ± 4.9	47.280	0.000

Table 2. Comparison of the protection measures used by farmers before and after the training

Protection measures	Before the training		After the training		p				
	Using		Not Using						
	n	%	n	%					
from the sun									
Sunglasses	-	-	157	100	-	-	-	-	-
Hat /scarf	157	100	-	-	157	100	-	-	-
Suncream	2	1.3	155	98.7	17	10.8	140	89.2	0.001
Umbrella	36	22.9	121	77.1	154	98.1	3	1.9	0.000
Traditional	76	48.4	81	51.6	4	2.6	153	97.4	0.000
Clothing cover	96	61.1	61	38.9	96	61.1	61	38.9	--
Not swimming 10:00-16:00 h	72	45.9	85	54.1	13	8.3	144	91.7	0.000

Table 3. Comparison of the Working Status on Hours when the Sunlight was Perpendicular Before and After the Training

Before the training	After the training				p		
	working		not working		Total		
	n	%	n	%	n	%	
Working	5	3.2	43	27.4	48	30.6	0.003
Not Working	19	12.1	90	57.3	109	69.4	
Total	24	15.3	133	84.7	157	100.0	

Table 4. Comparison of Doctor Consultation Upon Changes in the Skin Before and After the Training

Doctor consultation Before the training	Doctor consultation upon changes in the skin after the training						p
	Consulting		Not Consulting		Total		
	n	%	n	%	n	%	
Consulting	129	82.2	1	0.6	130	82.2	.000
Not Consulting	27	17.2	-	-	27	17.2	
Total	156	99.4	1	0.6	157	100.0	

Table 5. Comparison of Tampering with Moles-acnes Before and After the Training

Tampering with mole-acnes before the training	Tampering with mole-acnes after the training						p
	Tampering		Not Tampering		Total		
	n	%	n	%	n	%	
Tampering	12	7.6	64	40.8	76	48.4	.000
Not Tampering	12	7.6	69	43.9	81	51.6	
Total	24	15.3	133	84.7	157	100.0	

Table 6. Comparison of Scratching Wounds in the Skin Before and After the Training

Scratching wound in the skin before the training	Scratching wound in the skin after the training						p
	Scratching		Not Scratching		Total		
	n	%	n	%	n	%	
Scratching	37	23.6	103	65.6	140	89.2	.000
Not Scratching	5	3.2	12	7.6	17	10.8	
Total	42	26.8	115	73.2	157	100.0	

found statistically highly significant (p=0.000).

48.4% of farmers tampered with moles and acnes before the training, while this rate was reduced to 15.3% following the training. The difference was determined statistically highly significant (p=0.000 www.seer.cancer.gov2010.000).

89.2% of farmers were found to scratch wounds in the skin before the training, while this rate was reduced to 26.8% subsequently. The difference was found statistically highly significant (p=0.000).

Discussion

This present study determined that very few of farmers (1.9%) had information on skin cancer, all of them had insufficient knowledge on skin cancer and the harmful effects of sun. In the study implemented by Cinar et al., (2009) in Turkey, individuals in different age groups had insufficient information on skin cancer and harmful effects of sun. Similarly, in another study carried out in Turkey, it was emphasized that the majority of young adults, adults and adolescents had insufficient knowledge on skin cancer (Uysal, 2004; Turgay, 2005). These results supported the findings of the present study. It was concluded from these results that lack of knowledge complicated the perception of the significance of the matter and caused lack of attention on the matter. In addition, previous studies demonstrated that the trainings given to farmers on the protection methods of skin were found to increase the

knowledge level of farmers and the workers employed in outdoor works on skin cancer and harmful effects of sun (Lombard et al., 1991; Girgis et al., 1994; Rosenman et al., 1995; Azizi et al., 2001; Glanz et al., 2001; Silk and Parrott, 2006). These studies supported the findings of the present study and proved that the trainings and the planned interventions on the prevention of skin cancer were effective on providing awareness for the protection from skin cancer. In addition, that the knowledge level of farmers was around 70% even six months after the training was a significant indicator for the effectiveness of training.

Studies carried out in foreign countries reported significant differences in the use of hat/long sleeved clothes and sunglasses before and after the trainings (Lombard et al., 1991; Girgis et al., 1994; Henrahan et al., 1995; Rosenman et al., 1995; Glanz et al., 1998; Azizi et al., 2001; Geller et al., 2001; Glanz et al., 2001; Dobbins et al., 2005; Silk and Parrott, 2006). The most important reason of insignificant difference in the use of hat was attributed to the scarf which was used by all males and females working in the field. Before the training, scarf was not only used for the protection from sun but also for the protection from certain other factors like dust, hay, insects etc., and the dark color scarves were preferred due to causing or showing less dirtiness; however, light colored scarves were preferred after the training. The most important reason for the inexistence of significant difference was the opinion that light colored sunglasses were not culturally welcomed while working in field or outdoors. The reason for the insignificant difference in the use of long sleeved clothes was attributed to the fact that the majority of farmers already preferred long sleeved clothes for the protection from dust, insects, sun etc. before the training.

Previous studies reported significant increases in the use of sun cream after the training (Lombard et al., 1991; Girgis et al., 1994; Henrahan et al., 1995; Rosenman et al., 1995; Glanz et al., 1998; Azizi et al., 2001; Geller et al., 2001; Glanz et al., 2001; Dobbins et al., 2005; Silk and Parrott, 2006). These results were compatible with the findings of the present study. However, the expected increase could not be obtained in the use of sun cream, which was mainly caused by the fact that sun cream use during field work did not become habit, it was required to use sun cream several times in a day, it was required to wash hands before using sun cream which could not be possible in field, sun cream use was considered as a female behavior, it was difficult to acquire sun cream in field and the body parts applied with sun cream got more easily dirty while working in the fields.

Previous studies reported significant increases in the umbrella use (Lombard et al., 1991; Girgis et al., 1994; Henrahan et al., 1995; Rosenman et al., 1995; Glanz et al., 1998; Azizi et al., 2001; Geller et al., 2001; Glanz et al., 2001; Dobbins et al., 2005; Silk and Parrott, 2006); however, a study implemented in Turkey indicated that only 11.1% of adults used umbrella (Turgay et al., 2005). High rate of umbrella use determined in the present study demonstrated dissimilarity to literature. Nearly all of the farmers started to use umbrella (Table 2). The most significant reasons of this situation were that umbrella use

was the easiest protection method of the training, there was already an umbrella in each home, its use was convenient to regional tradition and some of farmers were already using umbrella in field works.

In the studies performed by Kav et al (2008) in Turkey, the rate of traditional methods used in skin cancer was reported as 22.1%. In the study of Dinehart and Alstadt (2002), the rate of traditional method used in skin cancer was determined as 18.8%. The results of these studies were compatible with the findings of the present study, whereby doctor consultation was increased with the increasing awareness of farmers.

In the project implemented by Weinstock et al (2002), it was reported that the program reduced the time spent under the sun and improved behaviors for healthier sunbath. The swimming and rates for working when the sun is high are compatible with their results.

Jackson et al (2000) also reported that individuals with previous experience or knowledge changed their behaviors of controlling moles in the skin, following the transformation of them and avoiding the potentially harmful behaviors. The training increased the personal awareness on this matter. Bandura (1989) expressed that having sufficient knowledge on a matter governs the personal behaviors and the informed individuals increased the personal self efficacy, which makes them to display positive health behaviors. Therefore, the applied trainings increased both the knowledge level and self efficacy of the individuals, and the obtained information indirectly resulted in reduced rate of tampering with moles and acnes as healthier behavior.

In conclusion, the training given to farmers on the protection methods from skin cancer significantly increased the knowledge and attitudes of avoiding skin cancer. For this reason, it is suggested to perform regular and planned information programs and trainings on protection from skin cancer. In addition, it would be useful to repeat the study including samples from different parts of Turkey.

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