

ASSESSMENT OF EFFECTS OF A VISUAL TRAINING PROGRAM ON MUNICIPAL WORKERS' KNOWLEDGE AND ATTITUDES TOWARDS SKIN CANCEREsin Sevgi Dogan*¹ and Ozden Dedeli Caydam²¹MSc, RN, Research Assistant, Faculty of Health Sciences, Medical Nursing Department, Manisa Celal Bayar University, Manisa, Turkey.²PhD, MSc, RN, Associate Professor, Faculty of Health Sciences, Medical Nursing Department, Manisa Celal Bayar University, Manisa, Turkey.

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ABSTRACT

Background: Some professions, such as farmers, fishermen, municipal workers, have a higher risk of developing skin cancer. **Aim:** The purpose of study was to assess of effect of a visual training program on municipal workers' knowledge and attitudes towards skin cancer. **Materials and methods:** This research was planned as a quasi-experimental with a single group in pre-test-post-test design. The study was carried out between May and July 2019 in Manisa/Turkey. The study population consisted of 122 municipal workers. Data were collected with a questionnaire form developed by the researchers based on the literature. The questionnaire form was composed of sociodemographic characteristics, risk status of skin cancer, knowledge about skin cancer and behaviours of sun protection, attitudes toward skin cancer questions. In the first interview, data was collected from the research group and visual education was applied. One month after the first interview, the second interview was held and the questionnaires were applied again. **Results:** The average age of the participants in the study was 42.08±8.99. 95.9% of the participants were male, 66.4% of them had black hair colour, 48.4% of them had brown eye colour, and 36.9% of them had dark skin colour. It was found significant difference statistically between pre-training and post-training knowledge about skin cancer scores ($Z = -7.736$; $p < 0.001$) and attitude toward skin cancer scores ($Z = -6.642$; $p < 0.001$) among municipal workers. **Conclusion:** In conclusion, the visual training via photographs and power point presentation and the brochures given to municipal workers on the protection methods from skin cancer significantly increased the knowledge and attitudes of avoiding skin cancer.

KEYWORDS: Skin cancer, visual training program, municipal workers.**INTRODUCTION**

Skin cancer is a type of cancer that usually develops due to exposure to harmful ultraviolet rays from the sun. And also skin cancers are one of the cancer type have had the highest incidence among all cancers all over the world in the last years.^[1,2,3] Developing skin cancer depend on various factors such as duration and frequency of exposure, distance from the equator, intensity, genetically determined skin colour and photo type, clothing, lifestyle, and occupation. Especially, some professions have higher risk occupations such as farmers, fishermen, construction workers as well as people with high risk skin types should be especially careful to use protection products that reduce the dangerous effects of sunlight.^[4,5,6] Raising these professions' awareness plays an important role in the prevention and early diagnosis of skin cancer. Previous studies have indicated that majority of the preventive programs aiming high risk groups increased the knowledge level of participants on skin cancer and the protection methods from skin cancer,

improved the attitudes of protection from sunlight. However, only few studies have been conducted investigating the knowledge about skin cancer and protection of sun in risk groups such as farmers, adolescents, cleaning workers, primary care providers etc,^[5,6,7,8,9,10,11] and to the best of our knowledge, no such study has been conducted in the municipal workers in Turkey. Therefore, this study was quasi-experimentally performed in Manisa/Turkey in order to increase the knowledge about skin cancer and to develop attitudes towards prevention of skin cancer among the municipal workers.

MATERIALS AND METHODS**Study Design**

This research was planned as a quasi-experimental with a single group in pretest-posttest design. The study was carried out between May and July 2019 in Manisa/Turkey. The study population was composed of all the municipal workers in Manisa Şehzadeler

Municipality (n = 640). No sampling was performed, all the municipal workers were included. The study sample was composed of 122 municipal workers volunteering to participate in the study. Data were collected with a questionnaire form developed by the researchers based on the literature. The questionnaire form was composed of three parts. The first part of form is aimed to determine sociodemographic characteristics of municipal workers and their risk status of skin cancer (9 questions).^[3,4,7,11] The second part was intended to determine their knowledge about skin cancer and behaviours of sun protection (18 questions).^[12,13,14,15,16] It was evaluated based on the true (1), false (0) and do not know (0) responses given by municipal workers to statements in the knowledge level about skin cancer. The score of the knowledge about skin cancer can be minimum 0 and maximum 18 points. The last part of form tended to assess municipal workers' attitudes toward skin cancer (22 questions).^[12,13,14,15,16] This part was evaluated as "strongly agree (5)"; "agree" (4); "undecided" (3); "disagree (2)" and "strongly disagree (1)". Every item was rated between 1 to 5 points. The score of attitudes toward skin cancer can be minimum 22 and maximum 110 points. The willing participants to the questionnaire forms were collected during face-to-face interviews that took around 30 minutes each.

Data were collected with a pre-test and a post-test at face-to-face interviews in their common room. The pre-

test was directed toward revealing sociodemographic characteristics, knowledge and attitudes towards skin cancer. Following the pre-test, visual training via photographs and power point presentation (the approximately 30-minute) and the brochures were given. This visual training tools contains such issues as the definition of skin cancer, people under risk, indications of danger, protection methods and its importance. The month after the pre-test, the post-test was administered. It took about 30 min to complete the test.

Statistical Analysis

Statistical evaluation of the data was performed via Statistical Package for Social Sciences (SPSS 16.0) software on computers; social-demographic characteristics and scores of questionnaires were examined using arithmetic averages and standard deviation (SD). Descriptive statistics including numbers and percentages, Wilcoxon signed-rank test, and Pearson's correlation analysis were used for analysis. Probability values (p) less than 0.05 were considered statistically significant.

RESULTS

The average age of the participants was 42.08±8.99 (minimum-maximum: 22-64) years, and the most of the study participants were male (95.9%). The socio-demographic characteristics among municipal workers are shown in the Table 1.

Table 1: The Socio-demographic Characteristics among Municipal Workers (n=122).

Characteristics	Mean±SD	Min-Max
Age (years)	42.08±8.99	22-64
	n	%
Gender		
Female	5	4.1
Male	117	95.9
Natural Hair Colour		
Light yellow, red	7	5.7
Yellow, maroon	14	11.5
Dark yellow, light brown	20	16.4
Dark brown, black	81	66.4
Eye colour		
Blue, green,	17	14,0
Hazel	29	10,7
Brown	59	48,4
Dark brown, black	17	13,9
Skin colour		
White	46	37,7
Light/pale	25	20,5
Dark brown/black	51	41,8
Skin sensitive		
Always burns/easily reaction	25	20,5
Always burns/rarely sensitive	24	19,7
Burns/sensitive	31	25,4
Rarely burns/sensitive	13	10,7
Never burns/sensitive	24	19,7

Never burns/very sensitive	5	4.1
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Note: SD=Standard deviation, Min=Minimum, Max=Maximum

The mean score of knowledge about skin cancer questions was 7.83 ± 3.89 on the pre-training and 12.07 ± 2.62 on the post-training. The difference between them was statistically significant ($Z = -7.736$; $p = 0.000$). Mean scores of knowledge about skin cancer questions

and attitudes toward skin cancer questions are presented Table 2. The mean score of attitudes toward skin cancer questions was 77.07 ± 9.56 on the pre-training and 85.43 ± 9.71 on the post-training. The difference between them was statistically significant ($Z = -6.642$; $p = 0.000$).

Table 2: Mean Scores of Knowledge about Skin Cancer Questions and Skin Cancer Attitudes Questions (n=122).

	Pre-training	Post-training (1 th month)		
	Mean \pm SD	Mean \pm SD	Z	p
Knowledge about Skin Cancer Questions	7.83 \pm 3.89	12.07 \pm 2.62	-7.736	0.000**
Attitudes Toward Skin Cancer Questions	77.07 \pm 9.56	85.43 \pm 9.71	-6.642	0.000**

Note: SD=Standard deviation, Min=Minimum, Max=Maximum, Z= Wilcoxon signed-rank test, *Significant association (p -value < 0.05); **Significant association (p -value < 0.01)

Statistical relationships among mean scores of knowledge about skin cancer questions and skin cancer attitudes questions are shown in the Table 3. There was a

significant correlation between mean scores of knowledge about skin cancer questions and skin cancer attitudes questions ($p < 0.05$).

Table 3: Relationship between Knowledge about Skin Cancer Questions Score and Attitudes toward Skin Cancer Questions Score (n=122).

Knowledge about Skin Cancer Questions	Attitudes toward Skin Cancer Questions	
	Pre-training (r)	Post-training (1 th month) (r)
Pre-training	0.269**	0.074
Post-training (1 th month)	0.193*	0.290**

Note: *Significant association (p -value < 0.05), **Significant association (p -value < 0.01), $r =$ Spearman's rank correlation coefficient

DISCUSSION

Most of the municipal workers included in the study have dark brown hair, brown eye and dark brown skin. In literature, it is reported that having light hair colour, blue-green eye colour and light skin colour increase the risk for skin cancer.^[5,12,13,14,15,16] Although a small group of municipal workers had skin cancer risk due to hair, skin and eye colours but majority of them had skin sensitivity against sun exposure. The previous studies reported that people who skin sensitivity overexposure to sun increase the risk for skin cancer.^[5,12,13,14,15,16] It is important that municipal workers especially under risk due to skin sensitivity should be informed about the protective measures against the harmful effects of sun. Previous studies carried out in Turkey, it was emphasized that the majority of farmers, adolescents, cleaning workers, primary care providers had insufficient knowledge on skin cancer.^[4,5,6,7,8,9,14] Several studies indicated that the training program increased the personal awareness on skin cancer and attitudes of avoiding skin cancer among risk groups. We found the difference score of knowledge about skin cancer questionnaire between pre-training and post-training, suggesting that visual training program significantly increased the knowledge about skin cancer among municipal workers. The results of the present study were compatible with the findings of

the previous studies whereby training program was increased knowledge level about skin cancer among workers who occupational sun exposure.^[4,8,14,15]

In addition, previous studies demonstrated that the training programs given to the workers employed in outdoor works were found to increase on attitudes of avoiding skin cancer and harmful effects of sun.^[4,8,14,15] Supporting this idea, we found proved that the visual training on the prevention of skin cancer were effective on attitudes of avoiding skin cancer and providing awareness for the protection from sun were similar to other studies. Moreover, it was stated that a positive significant correlation was observed among knowledge about skin cancer and attitudes of avoiding skin cancer. That is, attitudes of avoiding skin cancer and awareness for the protection from skin cancer were affected by level of knowledge about skin cancer and higher level of knowledge was associated with higher avoiding attitudes and awareness protection of sun among municipal workers.

Study Limitations

The primary limitations of this study are the fact that it was conducted with the participation of municipal workers at a single municipality and that it involved self-reported data collection.

CONCLUSION

In conclusion, the visual training via photographs and power point presentation and the brochures given to municipal workers 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 groups in Turkey.

Ethics

This study protocol was approved by the Research Ethics Committee of the Manisa Celal Bayar University Faculty of Medicine at Manisa, Turkey, number 13.03.2019 /20.478.486 Municipal workers were informed about the aim and nature of the study. The study was initiated upon receiving the approval and consent form of the planned participants.

Authorship Contributions

Concept: E.S.D., O.D.C., Design: E.S.D., O.D.C., Data Collection or Processing: E.S.D., O.D.C., Analysis or Interpretation: E.S.D., O.D.C., Literature Search: E.S.D., O.D.C., Writing: E.S.D., O.D.C.

Conflicts of Interest

As the authors, we declare that there is no potential conflict of interest.

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