Cancer risk factors and factors affecting cancer awareness

Kanser risk faktörleri ve farkındalığına etki eden faktörler

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Abstract

Cancer is a group of diseases characterized by the uncontrolled multiplication of a cell clone, invading the organ of its origin and metastasizing to the other organs. It is one of the leading causes of mortality all over the world. Cancer incidence is on the rise due to increased longevity, the increase in the number of cases detected earlier with new diagnostic methods, cancer survey programs, and developments in treatment. This increase in cancer incidence leads to significant mortality and treatment costs. The objective of the present study is to determine the factors affecting cancer awareness and the frequency of exposure to known carcinogens. This is a descriptive study on factors affecting cancer awareness and the frequency of the known risk factors among the personnel of the Antalya Muratpaşa Municipality. Of the total 1800 municipality personnel, 1163 persons whose informed consent was obtained participated in the study. One hundred and eighty six (16%) were female and 977 (84%) were male. The mean age of the participants was 40,2±10. The levels of cancer awareness in the female population is low both in their information about breast cancer and in their habits of seeking screening. The changing social structure and the newly-developing communication technologies must be taken into account in designing the cancer survey and screening programs. The internet, to wit, must be more frequently resorted to as a tool for both educating the public and imparting information. The low rate of recognition as far as the KETEMs are concerned needs special mention. We consider a more efficient approach for promoting the KETEMs is in order. We consider defining the risk factors that threaten the individuals and promoting their awareness to be of utmost importance in the fight against cancer.

Keywords: Cancer; cancer awareness; risk factors

Özet

Kanser bir hücre klonunun kontrolsüz büyümesi ve köken aldığı organa ve diğer organlara invazyon ve metastazı ile karakterize bir hastalık gurubudur. Kanser tüm dünyada mortalitenin önemli nedenlerinden birisidir. Ortalama yaşam süresinin artması, geliştirilen yeni tanı testleri ile erken evredeki olgu sayısının artması, tarama programları, tedavideki gelişmeler nedeniyle kanser insidensi artmaktadır. Kanser insidensindeki bu artış önemli mortalite ve tedavi maliyetine yol açmaktadır. Bu çalışmamızın amacı, bireylerde kanser farkındalığına etki eden faktörleri ve bilinen karsinojenlere maruziyetin sıklığının belirlenmesidir. Bu çalışma Antalya Muratpaşa Belediyesi çalışanlarıyla kanser farkındalığı etkileyen faktörleri ve bilinen risk faktörlerinin sıklığını belirlemek için yapılan tanımlayıcı bir çalışmadır. Çalışmamıza 1800 belediye çalışanından onam alınan 1163 çalışan katıldı. Katılımcıların 186'sı (%16) kadın, 977'si (%84) ise erkekti. Katılımcıların ortalama yaşı 40,2±10 idi. Kadınların hem meme kanseri konusunda farkındalıkları düşük seviyededir, hem de tarama oranları yetersizdir. Değişen toplumsal yapı ve gelişen iletişim teknolojileri kanser tarama programlarında göz önünde bulundurulmalıdır. Örneğin internet hem eğitim hem de bilgilendirme amaçlı daha fazla kullanılmalıdır. KETEM'lerin bilinirliğinin az olduğu görülmektedir. KETEM'lerin tanıtımının daha fazla yapılması gerektiğini düşünüyoruz. Kanserle mücadelede bireylerin risk faktörlerinin belirlenmesinin ve farkındalıklarının arttırılmasının önemli olduğunu düşünüyoruz.

Anahtar kelimeler: Kanser; kanser farkındalığı; risk faktörleri

Introduction

Cancer is a group of diseases characterized by uncontrolled growth of a cell clone and its invasion and metastasis into the organ of origin and into other organs. Cancer is a leading cause of mortality worldwide. While worldwide three most common cancers among men are lung, prostate and colorectal cancers; breast, cervix and colorectal cancers are the three most common among women. In Turkey, while lung, stomach and bladder cancers are three most common cancers among men, breast, colorectal and stomach cancers are the three most among women (1).

Cancer incidence is increasing due to increase in the average survival time, increase in the number of early-stage cases thanks to newly developed diagnostic tests, cancer survey programs, and improvements in the treatment. This increase in cancer incidence leads to significant mortality and to significant treatment costs. Increasing the individual's cancer awareness may play a role in lightening this social burden. By determining the frequency of exposure to known carcinogens, it may be possible to initiate attempts to prevent this exposure. The objective of the present study is to determine the factors affecting cancer awareness of individuals and the frequency of exposure to known carcinogens.

Material and methods

This is a cross-sectional study with the personnel of Antalya Muratpaşa Municipality, aiming to determine the factors affecting cancer awareness and the frequency of known risk factors. Besides the identification form including such socio-demographic characteristics as the age, gender and educational status, also the story of previous diagnosis and treatment of the participants and

cancer history of their families were investigated. Encountering known carcinogens was questioned.

The objective of the study was explained to the participants, and their consent was obtained. The identification forms were filled by the participants. The forms were evaluated by a single person.

Statistical analysis was made using SPSS 13.0 software. The statistical relationship between the groups was assessed with the chi-square test. The significant p value was set as <0,05.

Results
Of the total 1800 municipality personnel, 1163 persons whose informed consent has been obtained, participated in the study. One hundred and eighty six (16%) of the participants were female and 977 (84%) were male. The mean age of the participants was 40,2±10. The educational status of most of the participants (42%) was recorded as primary school education (Table 1). Thirteen (1,2%) participants have previously been diagnosed with cancer. No statistical relationship between previous cancer diagnosis and smoking, use of alcohol, regular exercise or exposure to carcinogens could be established. The participants reported previous treatment of hypertension (6,9%), diabetes (4,1%), chronic bronchitis (3%), atherosclerotic heart disease (3,4%), lipid irregularity (9%) and depression (5,2%). Cancer patients in the family was the case for 18,1% of the participants. The relationship between the family history of cancer and the diagnosis and treatment history of the participants was assessed with the chi-square test. There was a significant relationship between having gastric ulcer and family history of stomach cancer (p=0.001). A significant relationship between previous depression treatment and story of cancer in the family was found (p=0.015). No relationship was established between previous hypertension or diabetes treatment and family history of cancer. Total 17,5% of the participants reported that they were taking regular exercise. When exposure to carcinogens was questioned, exposure to dyes and dye derivatives was reported with the highest frequency (23.9%) (Table 2).

Table 1. Educational status of participants.

Educational status	Number of participants (%)
Primary school drop-out	8 (0,8)
Primary school	454 (42,7)
Second degree	134 (12,6)
High school	283 (26,6)
Graduate institutes	65 (6,1)
Faculty	120 (11,3)
Total	1064 (100)

Sixty six percent of the participants were smokers and the most frequent starting age was 20 (11,3%). Among the nonsmokers, 30% reported cigarette smoking at home.

Table 2. Exposure to carcinogens.

Carcinogens	Number of participants (%)
Exposure to dyes and dye products	278 (23.9)
Exposure to asbestos	59 (8.1)
Exposure to chemical solvents, naphtha	189 (16.5)
Exposure to benzene	57 (4.9)
Exposure to lead alloys	9 (0.8)
Exposure nickel	7 (0.6)
Exposure cadmium	5 (0.4)
Exposure to insecticides	109 (9.4)

Among the female participants, the percentage of those having regular breast exam by a doctor was 27,4%. The percentage of those performing breast self-examination was 58.8%. Total 14,5% of female participants have had a mammography. The rate of those who had a regular gynecological exam was found to be 27,8%. Total 35,3% of the female participants had the information about breast screening methods. About one third of all participants (28,9%) stated that they had the information about early cancer diagnosis and screening. Most of all participants (71,1%) was considering cancer as a treatable disease and 76% as a preventable one. Factors affecting possessing or not possessing information on cancer screening were investigated. Relationship was found between the educational status (p<0.001), regular exercise, considering cancer as a treatable disease having early diagnosis and possessing information on cancer screening (p<0.001).

When questioned about their access to information about cancer, it was found that mostly the information was acquired through internet (39,5%) (Table 3). When the participants were asked where they would apply for cancer screening in their region, most frequent preference was found to be the state hospitals with the percentage of 44,4% (Table 4).

Table 3. Means of obtaining information.

Means	Number of participants (%)
Health professional	57 (16,8)
Press	63 (18,5)
Television	58 (17,2)
Internet	134 (39,5)
Friends or relatives	27 (8)
Total	339 (100)

Table 4. Centers presented for cancer screening.

Center	Number of participants (%)
State Hospitals	166 (44,4)
Education and Research Centers	39 (10,4)
1. Level Health Institute	48 (12,8)
University Hospitals	70 (18,7)
KETEM	12 (3)
Health Foundation	16 (4,2)
Private Hospital	10 (2,7)
Tuberculosis Clinics	13 (3,4)
Total	374 (100)

Abbreviations, KETEM; Cancer Screening, Early diagnosis, and Education Centers

Discussion

Cancer is a leading burden of disease in Turkey as well as all over the world. According to the national burden of disease and cost effectiveness project report published in 2004, it is the second most frequent cause of mortality following the cardiovascular diseases (2). Besides early diagnosis and treatment, primary prevention is also important for this disease group, which is a significant social burden.

When the age of cancer diagnosis is considered, a participant group that may be regarded young for many types of cancer was involved in the study. For this reason, diseases such as diabetes and hypertension, which are associated with older age groups, were determined with a lower frequency in our participant group.

There was a marked difference in the rates of receiving treatment for depression between those who had a family history of cancer diagnosis and those who did not. Rhee, et. al. have showed that the depression score was noticeably higher among relatives of the patients who received treatment (3). Another study has showed that the rate of depression was higher during the first year of the treatment (4).

Dyspeptic complaints and a history of treatment for stomach ulcer were seen to be more frequent in the group of participants who had a cancer patient in the family. The reason for this may be increased anxiety and functional dyspepsia associated with depression.

Environmental factors have a large share in cancer development. Exposure during carriage, use and disposal of chemical substances have a potential carcinogenic effect. In our study, the most frequent type of exposure was found to be exposure to dyes and dye products. Relationship was shown between development of bladder cancer, head and neck tumors, breast, lung and prostate cancers and occupational exposure to dyes and dye products (5-7).

Tobacco and tobacco products are important Category 1 carcinogens. They are responsible for the development of several types of cancer. According to the data of 2008 global adult tobacco survey, tobacco use among the individuals over the age of 15 has been determined as 31,3% (8). In our study, 60% of the participants were cigarette smokers. Of the nonsmokers, 30% were subject to passive exposure at home. The most frequent starting age was found to be 20. In our country, the age of compulsory military service is 20. Therefore, incentive consciousness-raising should be made about smoking during the military service.

Breast cancer is the most frequently encountered type of cancer in women and may lead to serious mortality. The incidence of breast cancer may be reduced by determining the risk factors and by spreading the screening programs. Breast self-examination, clinical breast examination and mammography are the most common methods of screening recommended for early diagnosis of breast cancer (9). In our study, we found that only 35,3% of the participants had information about the breast screening methods. While the percentage of female participants performing self-examination was 58,8%, it was 27,7% for those having clinical breast exam. These rates were lower compared to the rates obtained in a study by Özaydın et al. (10). In their study group, the rate of persons informed about breast cancer screening was found to be higher. The percentage of breast self-examination was determined as 50,6% (10).

Internet was determined to be the most frequent channel of obtaining information about cancer. This result is controversial with the study by Gültekin and colleagues (11). In that study, the most common channel of acquiring information was found to be TV (11). In the breast cancer awareness study of Özaydın and colleagues (10), the percentage of obtaining information about breast cancer through television programs was found to be 60,3%. In our study, however, acquiring information from TV was found to be 17%. Internet use is increasing in our country as all over the world. According to the Information Society Statistics of 2010, the percentage of Internet use for communication and business purposes is 38,1% (12). With its increasing use, the Internet may also cause an uncontrolled information pollution. Therefore, both patients and healthy persons should be ensured to have access to correct information.

The participants were asked, where they would seek cancer screening if they decided to have one. Second-step health care institutions state hospitals were their most common preference, followed by third-step training and research hospitals and university hospitals. Cancer Early Diagnosis and Training Centers (KETEM) were established in 14 cities of our country in 2003, including Antalya. The percentage of participants considering applying KETEM for cancer screening was low. Interestingly, 3,4% of the participants stated that they were considering applying to the tuberculosis dispensaries, the highly successful institutions in fighting against tuberculosis in our country in the past.

In conclusion, in this study exposure to dyes and dye products were found high. The public must be informed on the proper use of these chemicals. Percentage of smoking is quite high. Considering the mean starting age, studies must be conducted to encourage complete refusal to start smoking. The level of cancer awareness in the female population is low and their percentage of screening is insufficient. Changing social structure and the developing communication technologies must be taken into account in designing the cancer screening programs. The internet, for example, must be used more both for training and information purposes. It is observed that recognition level of KETEMs is low. We think that KETEMs must be publicized more. We think that, determination of the risk factors and promoting the awareness of individuals are important in the fight against cancer.

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