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Ovarian cancer knowledge of primary care clinicians

Birinci basamak klinisyenlerin over kanseri bilgisi

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ABSTRACT

Aim: The aim of this study is to assess the knowledge of general practitioners regarding risk factors, diagnosis, screening, risk-reducing, and management of ovarian cancer (OC).

Materials and Methods: Postal questionnaires were sent to primary care clinicians via e-mail. The questionnaire was comprised of three parts including general knowledge, symptoms, and management of the OC.

Results: Pelvic pain was determined as the most relevant symptom that enhances to predict OC followed by abdominal pain and abdominal swelling. However, symptom frequency was truly thought of by only 1.1% of the participants as 12 to 30 times per month. Association between the family history of breast/ovarian cancer and ovarian cancer was well known in primary care. Lack of knowledge was determined to regard to the relationship between gastrointestinal symptoms and ovarian cancer leads to delay in diagnosis of ovarian cancer in early stages.

Conclusion: Awareness of ovarian cancer symptoms and risk factors in primary carer is crucial to diagnose patients with disease in early stages and refer them to the cancer centers without delay.

Keywords: Ovarian cancer, primary care, ovarian cancer awareness

ÖZ

Amaç: *Bu çalışmanın amacı, aile hekimlerinin over kanseri (OK) risk faktörleri, tanısı, taraması, risk azaltma ve yönetimi konusundaki bilgilerini değerlendirmektir.*

Gereç ve Yöntem: *Birinci basamak sağlık hizmeti klinisyenlerine e-posta yoluyla posta yoluyla anketler gönderildi. Anket, genel bilgi, semptomlar ve OK yönetimi olmak üzere üç bölümden oluşuyordu.*

Bulgular: *Pelvik ağrı, OK'yi öngörmede en önemli semptom olarak belirlendi; bunu karın ağrısı ve karın şişliği izledi. Ancak, semptom sıklığı katılımcıların yalnızca %1,1'i tarafından ayda 12 ila 30 kez olarak doğru düşünüldü. Meme/over kanseri aile öyküsü ile over kanseri arasındaki ilişki birinci basamak sağlık hizmetlerinde iyi bilinmektedir. Gastrointestinal semptomlar ile over kanseri arasındaki ilişkiye ilişkin bilgi eksikliğinin, over kanserinin erken evrelerde teşhisinde gecikmeye yol açtığı tespit edilmiştir.*

Sonuç: *Birinci basamak sağlık hizmeti sağlayıcılarının over kanseri semptomları ve risk faktörleri konusunda farkındalık sahibi olması, hastaların erken evrelerde teşhis edilmesi ve gecikmeden kanser merkezlerine yönlendirilmesi açısından çok önemlidir.*

Anahtar Sözcükler: *Over kanseri, birinci basamak sağlık hizmeti, over kanseri farkındalığı*

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INTRODUCTION

Ovarian cancer (OC) is 4% of all cancer in women. Approximately 200.000 new cases were diagnosed each year worldwide (1). Survival rates are up to 90% in the early stages of the OC (FIGO stage I-II) in comparison with the 25% survival rates in the late stages. However, early-stage diagnoses are possible approximately 30% of the patients (2). Early diagnosis is crucial due to the lack of an effective screening test (3).

OC is named as a silent killer due to the lack of apparent symptoms in the early stages. Therefore, the majority of the patients are diagnosed in the late stages. Recently, studies have been focused on symptom-based detection of ovarian cancer. Ovarian cancer patients may have symptoms several months before the diagnosis (4–6). Although the symptoms are mostly non-specific, some patients may have severe and frequent symptoms (7). Although patients admit the primary care centers due to these unusual symptoms, clinicians can not link these symptoms to OC and unreport them most of the time. This leads to late diagnosis (8).

Knowing and recognizing the symptoms of OC by patients and clinicians can lead to diagnosing the disease in the early stages (9,10). Unfortunately, knowledge and awareness of the OC symptoms and risk factors are less known among women worldwide (11). The specificity of the OC symptoms remains low due to the overlapping of these symptoms with some gastrointestinal and abdominal diseases. It is crucial to decide which patient should be referred to the gynecological oncologist. More than half of the patients are not referred to the gynecological oncology centers due to the reasons mentioned above that lead to delay of the diagnosis (7). Therefore, it is crucial that the primary care doctors who have the first contact with patients should be aware of the risk factors and symptoms of OC. This study aims to evaluate the knowledge of primary care clinicians regarding OC.

MATERIALS and METHODS

Design: This study was designed as a cross-sectional study and based on a questionnaire survey. This survey comprised of three parts including general knowledge, symptoms, and management of the OC, respectively. Ethical approval from the local ethics committee was obtained for this study.

Sampling: Primary care practitioners who were working in different cities of Turkey were enrolled in the present study. 182 responses were received from the 250 general practitioners who were sent an invitation with a cover letter via e-mail in the time interval between May 2023 and September 2023. The cover letter explained the aim of the study.

Statistical analysis: All analyses were performed by using IBM SPSS Statistics Version 25.0. Armonk, NY, USA. Data were presented as means ± SD for continuous variables. Descriptive statistics were presented as the number of patients and percentages. $p<0.05$ was considered statistically significant.

RESULTS

In the present study, 36.8% of the participants were male and 63.2% of the participants were female. The majority of the general practitioners worked in a public hospital (33.5%) and the others worked in education and research hospital, university, and family health center from most to least with the ratios of 30.2%, 29.1%, and 7.1%, respectively. The majority of the respondents (52.7%) have never managed an OC patient. On the other hand, 29.7% of the primary care clinicians managed more than five OC patients (Table-1).

Most of the participants thought that OC is the most mortal gynecological cancer (71.4%) due to diagnosis at late stages (96.2%). Except for one participant, all the survey respondents thought that patients who might be OC should be referred to gynecological oncologists. It is a well-known fact that family history for breast and OC is a major risk factor for OC that explains the 5-15% of the cases. The majority of the general practitioners thought that patients with a family history of OC and breast cancer are in a risky population for the development of OC (97.8%, 90.1%; respectively) (Table-2).

Regarding symptomatology, pelvic pain was determined as the most relevant symptom as a result of this survey (mean ± SD, 8.3 ± 2.7) followed by abdominal pain (8 ± 1.9) and abdominal swelling (7.8 ± 1.7). The most unrelevant symptom was determined as vaginal discharge (3.2 ± 2.2). The majority of the participants thought that most of the OC patients are asymptomatic in the early beginning of the disease (96.2) and OC symptoms are not acute

and severe (86.3%). Most of the participants (69.2%) thought that ovarian cancer patients are asymptomatic, however, only 1.1% of the general practitioners answered the relevant question as symptom frequency is 15 to 30 times per month (Table-3).

Participants were asked regarding screening of the OC with three questions including the existence of reliable screening test, PAP smear, ultrasonography (USG) plus CA-125 combination screening. All of the three questions were answered correctly by the majority of the participants with ratios of 26.4%, 53.3%, 40.7%, respectively (Table-4). There were two questions that investigate the knowledge of the participants regarded to risk-reducing approach and the majority of the participants answered these two questions correctly too. One of which was regarding the risk reducement by oral contraceptives (31.3%), and the other question was regarded to risk reducement by bilaterally salphingo-oophorectomy (36.3%). General practitioners were asked radiological and histopathological diagnoses and 36.8% of them thought that the most reliable radiological technique to diagnose OC is positron emission tomography–computed tomography (PET-CT) or computed tomography (CT), moreover, 70.3% of the participants thought that the definitive diagnosis can be determined by only histopathological examination. Besides, the main treatment question was answered as surgery plus chemotherapy combination by most of the primary care clinicians (63.2%) (Table-4).

Table-1. Socio-demographic data of the survey respondents

		n (%)
Gender	Male	67 (36.8)
	Female	115 (63.2)
Instution	University	53 (29.1)
	Public Hospital	61 (33.5)
	Education and Research Hospital	55 (30.2)
	Family Health Center	13 (7.1)
Have you ever take care of ovarian cancer patient?	No	96 (52.7)
	Below than five	32 (17.6)
	More than five	54 (29.7)

Table-2. General knowledge of the survey respondents

Questions	**No, n (%)**	**Yes, n (%)**
Ovarian cancer is the most common gynecological cancer	148 (81.3)	34 (18.7)
Ovarian cancer is the most mortal gynecological cancer	52 (28.6)	130 (71.4)
Most of the patients has early diagnosis	175 (96.2)	7 (3.8)
Patients should be referred to the gynecological oncologists	1 (0.5)	181 (99.5)
Family history of ovarian cancer increases the risk for development of ovarian cancer	4 (2.2)	178 (97.8)
Family history of breast cancer increases the risk for development of ovarian cancer	18 (9.9)	164 (90.1)

Table-3. Symptom knowledge of the survey respondents regarding ovarian cancer

Expected frequency of symptoms, n (%)	Never	126 (69.2)
	2-3 times a month	45 (24.7)
	4-12 times a month	9 (4.9)
	13-30 times a month	2 (1.1)
The patients has symptoms from the early beginnings of the disease, n (%)	No	175 (96.2)
	Yes	7 (3.8)
The ovarian cancer is mostly associated with acute and severe symptoms, n (%)	No	157 (86.3)
	Yes	25 (13.7)
Symptom relevancy with ovarian cancer (higher points mean more relevant), mean ± SD	Heavy periods	4.1 ± 2.7
	Vaginal discharge	3.2 ± 2.2
	Fatigue	7.1 ± 2.0
	Weight gain	3.3 ± 2.5
	Weight loss	7.3 ± 2.1

Feeling full quickly	5.9 ± 2.7
Indigestion	6.0 ± 2.6
Vaginal bleeding	6.0 ± 2.5
Pelvic pain	8.3 ± 2.7
Abdominal pain	8.0 ± 1.9
Altered bowel habits	6.3 ± 2.4
Urinary urgency	6.5 ± 2.3
Abdominal swelling	7.8 ± 1.7
Abdominal bloating	7.4 ± 2.1

Abbreviations: SD: standard deviation

Table-4. Ovarian cancer screening, risk reducing, diagnosis and management knowledge of the survey respondents

Questions	Strongly agree, n (%)	Agree, n (%)	Neither agree nor disagree, n (%)	Disagree, n (%)	Strongly disagree, n (%)
There is no reliable scanning test for ovarian cancer	48 (26.4)	25 (13.7)	38 (20.9)	31 (17)	40 (22)
PAP smear is an effective scanning test for ovarian cancer	23 (12.6)	13 (7.1)	20 (11)	29 (15.9)	97 (53.3)
CA-125 level and ultrasonographic evaluation can be used for scanning	74 (40.7)	33 (18.1)	29 (15.9)	25 (13.7)	21 (11.5)
Oral contraseptive drugs decreases the risk of ovarian cancer	57 (31.3)	35 (19.2)	38 (20.9)	32 (17.6)	20 (11)
Bilaterally salpingo-oopherectomy decreases the risk of ovarian cancer definitely	66 (36.3)	37 (20.3)	24 (13.2)	23 (12.6)	32 (17.6)
Most reliable radiological diagnostic tools are PET-CT or CT	67 (36.8)	37 (20.3)	33 (18.1)	21 (11.5)	24 (13.2)
Definite diagnosis is determined by histopathological examination	128 (70.3)	18 (9.9)	3 (1.6)	8 (4.4)	25 (13.7)
Main treatment is the combination of surgery and chemotherapy	115 (63.2)	31 (17)	9 (4.9)	10 (5.5)	17 (9.3)

Abbreviations: PET-CT: Positron emission tomography–computed tomography, CT: computed tomography

DISCUSSION

Although the incidence of OC increases recently, OC is not common worldwide. As a matter of fact, primary care clinicians are likely to see only one OC patient every five years in the United Kingdom (3). A great research interest increases recently on the screening of OC. Most of the research was focused on the combination of USG and serum biomarkers for the purpose of early detection and screening of OC (12,13). Recently, symptom-based detection of OC is has become a crucial issue for early detection and treatment for the disease and research has been focused on this topic. Approximately 93% of women have symptoms before the diagnosis of the disease (14).

It is a well-known fact that awareness of risk factors and symptoms for OC among women is low worldwide. However, women with OC before diagnosis have symptoms and admits to the health centers and report it mostly to the primary care clinicians. Approximately 90% of the early-stage OC patients have at least one symptom (15). The difficulty for the primary care clinician is to distinguish the symptoms of OC from other gastrointestinal and abdominal diseases. Several studies investigated the predictive value of symptoms for the early detection of OC (16,17).

In the present study that was conducted in primary care, three symptoms including pelvic pain (8.3 ± 2.7), abdominal pain (8 ± 1.9), and abdominal swelling (7.8 ± 1.7) were prominent as relevancy to OC with higher mean symptom scores in comparison with the other remaining eleven symptoms (Table 3). Vaginal discharge (3.2 ± 2.2) was detected as the most unrelevant symptom as a result of this survey. On the other hand, gastrointestinal symptoms including altered bowel

habit, indigestion, and feeling full quickly had lower mean symptom scores that explain the referring OC patients with gastrointestinal symptoms to other clinics rather than gynecological oncology at the beginning. It should be extracted from this study; equal importance should be given to the women with gastrointestinal symptoms to diagnose the OC. In the previous study conducted by Goff et al., ovarian cancer patients reported 77% abdominal symptoms (pain, increased size, and bloating), 70% gastrointestinal symptoms (nausea, constipation, and indigestion), 58% pain symptoms (abdominal or pelvic pain), 50% constitutional symptoms (weight loss, fatigue, and anorexia), 34% urinary symptoms (urgency or incontinence), 26% pelvic symptoms (palpable mass, bleeding) (3). Thus, symptom index in which there were four significant symptoms including abdominal or pelvic pain, abdominal size increasing, urinary urgency, and feeling full quickly was developed by the same team (5). In another study conducted by Hamilton et al. abdominal pain, abdominal size increasing, and increased urinary frequency were found independently related symptoms for OC (18).

OC patients have more frequent and persistent symptoms than patients without OC. Symptoms including abdominal pressure, fullness, and bloating were found more persistent during the OC disease rather than other diseases (7). In a previous study, ovarian cancer symptom frequency was found 12 to 30 times per month (3). However, in the present study, only 1.1% of the participants thought the symptom frequency was 12 to 30 times per month. This result exposed the lack of knowledge in the field of primary care regarding ovarian cancer symptomatology.

In another study, it was found that general practitioners had a lack of knowledge regarding which patient should be referred to the cancer clinics due to the family history of breast or ovarian cancer. (19). Another study showed that only small amount of the primary care clinicians know the most important criteria for the risk assessment regarding family history of breast and ovarian cancer (20). In the present study, participants less know the association between family history of breast cancer and ovarian cancer in comparison with the relation between family history of ovarian cancer and ovarian cancer development (90.1% vs 97.8%).

The recommendation is to perform a pelvic examination on any woman with symptoms suggested to OC. Also, any woman with a pelvic or abdominal mass should be evaluated by USG. When performing USG is not available or the USG findings suggest cancer, the patient should be referred to cancer centers. Vaginal examination mostly is not suggested by the primary clinicians for the reasons of nonavailability of the chaperone, and the thought of uncomfortable for the patient. However, although USG is more effective vaginal examination is an effective method to palpate pelvic masses and should be applied when necessary. In a previous study, it was claimed that annual USG scanning and CA-125 evaluation had some harm in comparison with the usual care control group (21). Patients with abdominal or pelvic mass or ascites should be referred to oncology centers urgently (22).

The limitation of the present study is the small sample size due to the low response rate of the survey by primary care clinicians of whom invitations were sent. However, there were questionnaire-based survey studies with a larger sample size on primary care in the literature (23,24). Nevertheless, the response number was enough to get conclusions. Postal questionnaires mostly have a lower rate of responses depends on the length and content of the questionnaire (25). For these reasons mentioned above, a larger sample size should be targeted initially to demonstrate the survey population homogeneity and to gain sufficient data.

CONCLUSION

The present study highlights the importance of periodic updates on the primary care clinicians. Moreover, primary care clinicians should be aware of the recent evidence and knowledge regarding OC. Thus, the majority of the OC patients who admit initially to primary care can be referred to the oncology centers and can be detected in the early stages. Gynecological oncology centers should work with primary care centers to increase the knowledge of general practitioners regarding risk factors for OC and symptom-based determination of OC.

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Ethics committee approval: The ethics committee approval was obtained for this study.

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