ANALYSIS

22(89), January - February, 2018

ISSN
2321–7359
EISSN
2321–7367

Medical Science

Assessment of knowledge level of university students about ovarian cancer

Melike DEMİR DOĞAN[1]☼, H. Gülbahar AYGÜN[2], Sema BASKIN[3], Merve ŞENSOY[4], Elif KÖKEN[5]

1.Assist. Prof., Gümüşhane University,
Faculty of Health Sciences,
Gümüşhane, Turkey
E mail: melekdm@gmail.com
2.Nurse, Special Esencan Hospital
E mail: gul.bahar67@hotmail.com
3.Nurse,Gümüşhane University, Faculty of Health Sciences,
Gümüşhane, Turkey
E mail: semaa_baskin@hotmail.com
4.Nurse,Gümüşhane University, Faculty of Health Sciences,
Gümüşhane, Turkey
5.E mail: mervesensoy1@gmail.com
Nurse, Private Avicenna Hospital
E mail: elif_bilim55@hotmail.com

☼**Corresponding author:**
Melike Demir, BSc., MSc, PhD., Assist. Prof.
GümüşhaneÜniversitesiSağlıkBilimleriFakültesi
BağlarbaşıMahallesi 29100 / Gümüşhane
GSM: 05334828957
E-mail: melekdm@gmail.com

Article History
Received: 27 September 2017
Accepted: 08 November 2017
Published: January-February 2018

Citation
Melike Demir Doğan, H. Gülbahar Aygün, Sema Baskın, Merve Şensoy, Elif Köken. Assessment of knowledge level of university students about ovarian cancer. *Medical Science*, 2018, 22(89), 23-30

ANALYSIS ARTICLE

ABSTRACT

The present study was conducted in order to determine the knowledge levels of female university students about ovarian cancer. The sample was planned to include 2220 students however 1468 students were reached. The data were collected via questionnaire about socio-demographic characteristics of the students and questionnaire involving expressions that measure their knowledge level. Mean age of the students was 20.78±1.20; 678 (46.1%) of the students were faculty students, 466 (31.7%) were collage students, and 324 (22.0%) were vocational school students. 874 (59.5%) of the students did not know what ovarian cancer is and 1332 (90.7%) did not receive any education about ovarian cancer. Therefore, 1227 (83.6%) of the students stated that they did not know symptoms of ovarian cancer. Thestudents were determined to have low level of knowledge about ovarian cancer

Key Words: Ovarian cancer, knowledge level

1. INTRODUCTION

Cancer continues to remain as an important cause of the deaths all over the world. Even though the fact that it is potentially ranked among the most preventable and curable chronic diseases, millions of people have been lost every year due to cancer alone[1].

Ovarian cancer is the fourth most common cause of death among the cancers observed in women in the world[2]. According to world's data of 2012, incidence rate of ovarian cancer was 3.6%[3], and Europe has the highest rate of incidence[4]. Based on data of 2014, 2% of cancers in England consisted of ovarian cancer[5]. In USA, approximately 21.290 people were diagnosed with ovarian cancer in 2015 and most of them were detected at the advanced stage[6]. Ovarian cancer is ranked as the seventh place with incidence rate of 3.7% among the cancers seen in all age groups in Turkey[7].

The most significant reason behind why ovarian cancer has high mortality rate is late diagnosis[2]. Because symptoms progress insidiously, it is diagnosed late and chance of survival falls to 20% when it is diagnosed late[8,9]. In the study by Thomson and Forman named as EUROCARE (a study based on European Cancer Records about survival and care of cancer patients) it is stated that survival rates for ovarian and cervical cancers may be increased by early diagnosis[10].

Symptoms of ovarian cancer areabdominal distention, pelvic disorder or pain, back or stomach ache, fatigue, flatulation, nausea, indigestion, changed intestinal habits, frequent discharge of urinary bladder, extraordinary vaginal bleeding, weight loss or gain[8, 11]. In a study conducted in Turkey, patients were also observed to mostly complain aboutabdominal distention, stomach ache, vaginal bleeding, and inguinal pain, respectively[12].

Smoking and overweight are possibly preventable risk factors for cervical and ovarian cancers, respectively. It would be a step for behavioral change and decreasing risk to raise awareness about these risk factors. Other risk factors are not convenient for the change (for example, ovarian cancer history as a risk factor for breast cancer or ovarian cancer, or having a poor immune system for cervical cancer), however increased awareness level of the community may increase personal risk sensitivities and so they can call for aid[13]. A study conducted in Turkey revealed that age, BMI (Body Mass Index), diabetes or hypertension history were high risk factors for ovarian cancer[14].

Healthcare professionals need to not only know about these new evidences but also include them in their practices. The present study was conducted in order to determine knowledge levels of female university studentsabout ovarian cancer.

2. METHOD

Aim of the Study

The present study was conducted in order to determine knowledge level of female students,studying at associate degree and bachelor degree, about ovarian cancer.

Population and Sample of the Study

The population of this descriptive study consisted of female students (4441 individuals) studying at one of the University in the academic year of 2014-2015. Stratified sampling method was used in the study to select the sample group (2220)and was then conducted based on voluntary basis. The number of students reached was 1468 (response rate: 68.4%). The data consisted of questionnaire on socio-demographic characteristics of the students and table including statements of measuring knowledge level of the students.Necessary approvals were received from the relevant institutions before the study.

Data Collection Tools

Thedata of the study were collected by using socio-demographic information form as well as questionnaire involving information about ovarian cancer which was prepared by the researchers reviewing the relevant literature.

Socio-demographic information form involved 11 questions including characteristics such as age, gender, level of income, school, etc.

The questionnaire involved 21 true/false questions asked to measure knowledge level of students about ovarian cancer. The students got 1 point for every correct answer and their knowledge levels were evaluated over total number of their correct answers (Table 1).

Table 1 Ovarian cancer knowledge form and percentence of answers

		True	**False**
1.	Ovariancancer is a genetictransition.	%61.4	%38.6
2	Endometrium, cervix, colonandbreastcancerincreasethe risk of ovariancancer.	%70.3	%29.7
3.	Exposuretochemicalsubstancesincreasesthe risk of ovariancancer.	%81.8	%18.2
4.	Theuse of birthcontrolpillsincreasesthe risk of ovariancancer.	%61.9	%38.1
5.	Theearlydiagnosis of ovariancancer is donebyregulargynecologicalexaminationandultrasonography.	%76.9	%23.1
6.	Improper nutrition and the presence of obesityincreasethe risk of ovarian cancer.	%60.2	%39.8
7.	Ovariancancercausesinfertility.	%73.0	%27.0
8.	Ovariancancerearlydiagnosis is donebyPapsmear test.	%55.0	%45.0
9.	Earlymenarchereducesovariancancer risk.	%46.5	%53.5
10.	Earlymenopauseincreasesthe risk of ovariancancer.	%58.1	%41.9
11.	Ovariancancer is not causedbygenetictransmission but byenvironmentalreasons.	%48.6	%51.4
12.	Breastfeedingreducesovariancancer risk.	%64.9	%35.1
13.	Theage of menstruation is not relatedtoovariancancer.	%44.6	%55.4
14.	Earlydetection ofovariancancer is possible.	%80.5	%19.5
15.	Theuse of powder in thegenitalareaincreasesthe risk of ovariancancer.	%62.9	%37.1
16.	Earlypregnancyaffectsovariancancer.	%53.5	%46.5
17.	Breastfeeding has noeffect onovariancancer.	%43.0	%57.0
18.	Latemenopauseincreasesovariancancer risk.	%54.4	%45.6

19.	Addictivesubstancessuch as alcoholandcigarettesincreasethe risk of ovariancancer.	%79.2	%20.8
20.	Over-agepregnancyreducesovariancancer risk.	%43.3	%56.7
21.	Invitrofertilizationtriggersovariancancer.	%45.2	%54.8

Ethical Aspect of the Study

Written permission was obtained from General Secretariat of this University where the study would be conducted. The individuals, who agreed to participate in study based on voluntary basis and were selected in the sample, were informed about aim and practice of the study and their verbal consents were taken.

Data Assessment

The data were evaluated using "Statistical PackagefortheSocialSciences (SPSS) for Windows 22.0" packaged software and percentage, mean, t test, and one way anova tests were used for statistical analysis. The level of $p<0.05$ was accepted for statistical significance.

Limitations of the Study

The present study was limited to students studying at University and the results can be generalized only to this group.

3. RESULTS

Mean age of the students was 20.78±1.20, 678 (46.1%) of the students were faculty students, 466 (31.7%) were collage students, and 324 (22.0%) were vocational school students. 1427 (97.2%) of the students were single, and 1078 (73.4%) had nuclear family structure. 683 (46.5%) of the students had expense higher than income and 843 (57.4%) were resided in state dormitory (Table 2).

In the presentstudy, half of the students (59.5%) did not know what ovarian cancer is and most of the students (90.7%) did not receive any education about ovarian cancer. Therefore, it was observed that a great majority of the students (83.6%) did not know symptoms of ovarian cancer (Table 3). In the present study, the average of correct answers of students receiving education about ovarian cancer was significantly higher compared to those did not receive education ($p<0.0001$) (Table 4).

Table 2 Distribution of the Students in terms of Their Descriptive Characteristics (N=1468)

Descriptive Characteristics	n	%
Marital Status		
Married	41	2.8
Single	1427	97.2
Income Status		
Income > Expenses	125	8.5
Expenses > Income	683	46.5
Income = Expenses	660	45.0
Faculty / Collage		
Health Collage	466	31.7
Faculty of Communication	72	4.9
Faculty of Economics and Administrative Sciences	228	15.5
Faculty of Engineering and Natural Sciences	197	13.4
Faculty of Art	75	5.1
Vocational School of Healthcare Services	190	12.9
Vocational School	134	9.1
Faculty of Theology	106	7.2
Educational Level of Mother		
Illiterate	137	9.3
Literate	26	1.8

Primary School	830	56.5
Secondary School	168	11.4
High School	236	16.1
University and Higher Education	70	4.8
Mother's Occupation		
Housewife	1261	85.9
Self-employed	80	5.4
Education Personnel	32	2.2
Healthcare Professional	21	1.4
Retired	14	1.0
Worker	23	1.6
Officer	37	2.5
Residence		
With my family	96	6.5
At home with my friends	282	19.2
State Dormitory	843	57.4
Private Dormitory	237	16.1
At home with my relatives	10	0.7
Family Type		
Nuclear	1078	73.4
Extended	350	23.8
Broken	40	2.7
Smoking		
Yes	180	12.3
No	1288	87.7
Alcohol use		
Yes	42	2.9
No	1426	97.1

Table 3 Knowledge of the Students About Ovarian Cancer

	n	%
Knowledge about ovarian cancer		
Yes	594	40.5
No	874	59.5
Did you receive education about ovarian cancer?		
Yes	136	9.3
No	1332	90.7
Knowledge about symptoms of ovarian cancer		
Yes	241	16.4
No	1227	83.6

Table 4 Significance of Ovarian cancer knowledge mean scores of the Students in terms of some variables

	mean±SD	t	p
Department of study			
A department related with health*	12.35±2.44		

Other department	11.51±2.55	6.39	<0.0001
Bachelor degree	11.79±2.53		
Associate degree	12.24±2.54	-2.87	0.004
Received education about ovarian cancer			
Yes			
No	13.37±2.43	7.25	<0.0001
	11.74±2.50		

*Immediate aid disaster management, nutrition and dietetics, nursing, occupational health safety, health management, social services, elderly care, medical laboratory, first and immediate aid

When mean scores of correct answers given by the students to the information form based on faculty and collage were examined, mean score of health collage students was 12.22±2.42, mean score of the students studying at communication faculty was 11.20±2.54, mean score of the students of the faculty of economics and administrative sciences was 11.14±2.78, mean score of the students of the faculty of engineering and natural sciences was 11.00±2.49, mean score of the students studying at faculty of arts was 11.36±2.39, mean score of the students studying at faculty of theology was 11.15±2.22, mean score of the students studying at vocational school of healthcare services was 12.70±2.49, and mean score of students studying at vocational school was 11.56±2.48. In the present study, correct answer mean scores of those studying at health-related departments were observed to be significantly higher compared to students of other departments ($p<0.0001$) (Table 4). Another statistical assessment of the present study revealed that the average of correct answers of students studying at 4-year departments was significantly lower than those at 2-year departments ($p=0.004$) (Table 4).

4. DISCUSSION

In the last decade, the number of studies have also increased to determine findings of ovarian cancer symptoms for early diagnosis along with increased importance of early diagnosis and timely treatment. In a systematical study, it was determined that 93% of women experienced symptoms of ovarian cancer before they were diagnosed with ovarian cancer[15].In another study conducted in Australia, it was reported that 90% of the patients with early stage disease had at least one symptom[16]. Therefore, it has been becoming crucial to get early diagnosis applying to health institutions when they identified the early symptoms by informing women about ovarian cancer[21]. In this context, the present study was also conducted to determine knowledge level of female university students about ovarian cancer.

In the present study, half of the students (59.5%) did not know what ovarian cancer is and most of the students (90.7%) did not receive any education about ovarian cancer. Therefore, a great majority of the students (83.6%)did not know symptoms of ovarian cancer. A study conducted on general population revealed that awareness about symptoms and risks of ovarian cancer was low among the women[17]. It was observed in another study on women working in Malaysia that knowledge level of women about symptoms and risk factors of ovarian cancer was similarly poor[11]. Another study reported that three highest known symptoms among women wereextreme fatigue (43.2%), back pain (42.4%), and persistent pain in pelvic area (40.7%)[18]. These results were similar to the results of the present study, training and public awareness projects to be carried out about this issue are thought to increase the knowledge level.

In the present study, the average of correct answers of the students receiving education about ovarian cancer was observed to be significantly higher than those who did not receive ($p<0.0001$). This result made us think that educations for raising public awarenesswould increase the rate of early diagnosis by knowing the symptoms of ovarian cancer.

In the present study, correct answer mean scores of those studying at health-related departments were significantly higher compared to the other departments ($p<0.0001$). It was an expected result that knowledge mean scores of students at health departments werehigher than students at the other departments. A previous study indicated that nursing students had a mean score of 11.8 points in average for correct answers to information form of 19 points[19]. In the present study, it was observed that health collage students also had similar points from the evaluation performed out of 21 points.

In another statistical evaluation of the present study, it was observed that the average of correct answers of the students at 4-year departments was significantly lower than those studying at 2-year departments ($p=0.004$). In a previous study, the rate of

medical students to have knowledge about ovarian cancer was 77.5% and this rate was 53.7% in nursing students[8]. Another study reported that only 6.4% of practitioners thought they were diagnosed because women had early stage symptoms[20].

5. CONCLUSION AND RECOMMENDATIONS

Consequently, half of the students did not know what ovarian cancer is and most of the students did not receive any education about ovarian cancer. A great majority of students did not have knowledge about ovarian cancer symptoms, and the average of correct answers of those receiving education on ovarian cancer was significantly higher compared to those who didnot receive. The present study revealed that correct answer mean scores of those studying at health-related departments were significantly higher compared to other departments and the average of correct answers of students at 4-year departments was significantly lower than those at 2 year degree.

As a result of study, it is recommended to organize trainings about ovarian cancer and to plan and apply public awareness projects. It is thought that training and public consciousness projects to be conducted about this issue would increase the related knowledge level and therefore the rates of early diagnosis would increase.

CONFLICT OF INTEREST and FINANCIAL SUPPORT DETAILS

There isn't conflict of interest and financial support details

REFERENCE

1. Cancer Research UK. Accessed at http://www.cancerresearchuk.org/health-professional/cancer-statistics/worldwide-cancer/ mortality.
2. Jayson GC, Kohn EC, Kitchener HC, Ledermann JA. Ovarian cancer. Lancet 2014; 384: 1376–88
3. International Agency for Research on Cancer. Global cancer statistics. 2012. http://globocan.iarc.fr/Pages/fact_sheets_population.aspx (accessed January 12, 2017).
4. Bray F, Loos AH, Tognazzo S, La Vecchia C. Ovarian cancer in Europe: Cross-sectional trends in incidence and mortality in 28 countries, 1953-2000. Int J Cancer 2005; 113(6):977-90.
5. UK Cancer Research. Ovarian cancer incidence statistics. 2014. http://www.cancerresearchuk.org/cancer-info/cancerstats/types/ovary/incidence/uk-ovarian-cancer-incidence-statistics (accessed January 12, 2017).
6. Siegel RL, Miller KD, Jemal A. Cancer statistics, 2015. CA Cancer J Clin. 2015;65(1):5–29.
7. Sağlık bakanlığı kanser istatistikleri kitabı 2016, http://kanser.gov.tr/Dosya/ca_istatistik/ANA_rapor_2013v01_2.pdf (Accessed January 12, 2017).
8. Fitch M, McAndrew A, Turner F, Ross E, Iris Pison I. Survivors Teaching Students: Increasing awareness about ovarian cancer. CONJ 2011. doi:10.5737/1181912x2111620
9. Jayde, V., White, K., & Blomfield, P. Symptoms and diagnostic delay in ovarian cancer: A summary of the literature. Contemporary Nurse 2009;34(1):55–65.
10. Thomson CS, Forman D. Cancer survival in England and the influence of early diagnosis: what can we learn from recent EUROCARE results? Br J Cancer 2009;101(Suppl.2):102–109.
11. Al-Naggar R, Osman M,bBobryshev Y and Abdul Kadir YS. Ovarian Cancer: Knowledge of Risk Factors and Symptoms among Working Malaysian Women. Middle-East Journal of Scientific Research 2013;14 (4): 549-553.
12. Öge T, Özalp S, Yalçın Ö. Epitelial Over Kanserlerinde Prognostik Faktörler: Bir Referans Merkezinin Deneyimi. Türk Jinekoloji ve Obstetrik Derneği Dergisi 2011; 8(1):51- 56
13. Simon A, Wardle J, Grimmett C, Power E, Corker E, Menon U, Matheson L, Waller J. Ovarian and cervical cancer awareness: development of two validated measurement tools. J Fam Plann Reprod Health Care 2012;38:167–174. doi:10.1136/jfprhc-2011-100118
14. Reis N, Kızılkaya Beji N. Risk Factors for Ovarian Cancer: Results from a Hospital-Based Case-Control Study. Turkiye Klinikleri J Med Sci 2010;30(1):79-87
15. Bankhead CR, Kehoe ST, and Austoker J. Symptoms associated with diagnosis of ovarian cancer: a systematic review. BJOG: An International Journal of Obstetrics and Gynaecology 2005;112, (7): 857–865.
16. Lataifeh I, Marsden DE, Robertson G, Gebski V and Hacker NF. Presenting symptoms of epithelial ovarian cancer. Australian and New Zealand Journal of Obstetrics and Gynaecology 2005;45(3):211–214.
17. Lockwood-Rayermann S, Donovan HS, Rambo D and Kuo CWJ. Original research: women's awareness of ovarian cancer risks and symptoms. American Journal of Nursing 2009; 109(9):36–45.
18. Freij M, Al Qadire M, Khadra M, ALBashtawy M, Tuqan W, Al Faqih M, et al. Awareness and Knowledge of Ovarian Cancer Symptoms and Risk Factors: A Survey of Jordanian Women. Clinical Nursing Research 2017; https://doi.org/10.1177/1054773817704749

19. Loerzel VW. Assessing baccalaureate nursing students' knowledge of ovarian cancer. Nurs Educ Perspect. 2013;34(1):51-2.
20. Gajjar K, Ogden G, Mujahid MI, and Razvi K. Symptoms and Risk Factors of Ovarian Cancer: A Survey in Primary Care. ISRN Obstetrics and Gynecology 2012. doi:10.5402/2012/754197
21. Md. Ashrafuzzaman Zahid, Safia Tasnim, Rashida Parvin, Dipak Kumar Paul, Suvasish Das Shuvo. Assessment of nutritional status, dietary patterns and knowledge perceptions of adolescent girls in Jessore, Bangladesh. Discovery, 2017, 53(256), 224-234