OTJHS
Online Turkish Journal of Health Sciences

e-ISSN: 2459-1467

OTSBD
Online Türk Sağlık Bilimleri Dergisi

Online Turkish Journal of Health Sciences 2022;7(3):499-505 *Online Türk Sağlık Bilimleri Dergisi 2022;7(3):499-505*

Pandemi Döneminde Jinekolojik Kanserler ve Meme Kanserinin Erken Tanınması ve Tarama Testleri: Kadınlar Ne Düşünüyor?

Early Detection of Gynecological Cancers and Breast Cancer During the Pandemic and Screening Tests: What Do Women Think?

[1]Çiğdem GÜN KAKAŞÇI, [2]Nazife BAKIR, [3]Cuma DEMİR

[1]Suleyman Demirel University, Faculty of Health Sciences, Midwifery Department, Isparta, Türkiye
[2]Burdur Mehmet Akif Ersoy University, Bucak School of Health, Department of Nursing, Bucak, Burdur, Türkiye
[3]Health Sciences Institute, Kafkas University, Kars, Türkiye

Çiğdem Gün Kakaşçı: https://orcid.org/0000-0003-1951-563X
Nazife Bakır: https://orcid.org/0000-0003-1324-0647
Cuma Demir: https://orcid.org/0000-0003-3361-8547

ÖZ

Amaç: Çalışma pandemi döneminde jinekolojik kanserler ve meme kanserinin erken tanınması ve tarama testleri hakkında kadınların görüşlerini belirlemek amacıyla tanımlayıcı ve kesitsel tipte gerçekleştirilmiştir.

Materyal ve Metot: Çalışma tanımlayıcı ve kesitsel tipte planlanmıştır. Veri toplama formu olarak araştırmacıların literatür taraması yaparak oluşturduğu tanıtıcı bilgi formu kullanılmıştır.

Bulgular: Çalışma kriterlerine uyan 220 kadınla tamamlanan çalışmada katılımcıların yarısından fazlası cinsel bölge veya karın bölgesinde ağrı (%56,4), anormal vajinal kanama (%63,2), idrar yapmada zorlanma (% 54,5), cinsel ilişki sırasında ağrı duyma (%55), meme başında çökme, renk değişikliği, şekil bozukluğu (%66,8), meme başında kızarıklık /yara (%61,4) ve uzun süreli sırt ağrısı (%54,5) gibi kanser belirtileri olabilecek durumlarla karşılaşsa bile pandemi nedeniyle doktora gitmeyeceğini bildirmiştir. %71,4'ü jinekolojik kontrollerini yaptırmak istemediğini, %69,5'i rahim ağzı kanser tarama testlerini yaptırmak istemediğini, %59,5'i mamografi ve klinik meme muayenesi yaptırmak istemediğini bildirmiştir.

Sonuç: Pandemi sırasında kadınların çoğu, potansiyel meme kanseri ve jinekolojik kanser semptomları yaşamaları durumunda sağlık hizmetlerinden kaçınmayı tercih etmektedir.

Anahtar Kelimeler: COVID-19, kadın, kanserin erken teşhisi

ABSTRACT

Objective: This descriptive and cross-sectional study was conducted to determine women's opinions about screening tests and early detection of gynecological cancers and breast cancer during the pandemic.

Materials and Methods: In this descriptive and cross-sectional study, a descriptive information form developed by the researchers through a literature review was used to collect data.

Results: The study was conducted with 220 women who met the study criteria. More than half of the participants reported that they would not visit the doctor due to the pandemic even if they were faced with conditions that might be the indicators of cancer such as pain in the genital or abdominal region (56.4%), abnormal vaginal bleeding (63.2%), difficulty urinating (54.5%), pain during sexual intercourse (55%), collapsed, discolored or deformed nipples (66.8%), redness / sore on the nipple (61.4%) and long-term back pain (54.5%). Of them, 71.4% did not want to have gynecological controls, 69.5% did not want to have cervical cancer screening tests, and 59.5% did not want to have mammography and clinical breast examination.

Conclusion: During the pandemic, most women choose to avoid healthcare if they experience potential breast cancer and gynecological cancer symptoms.

Keywords: COVID-19, early detection of cancer, female

Sorumlu Yazar / Corresponding Author:
Çiğdem Gün Kakaşçı
Suleyman Demirel University, Faculty of Health Sciences, Midwifery Department, Çünür, Isparta,Türkiye
Tel: +905300771684
E-mail: cigdemkakasci@sdu.edu.tr

Yayın Bilgisi / Article Info:
Gönderi Tarihi/ Received: 30/06/2022
Kabul Tarihi/ Accepted: 26/08/2022
Online Yayın Tarihi/ Published: 01/09/2022

Atıf / Cited: Gün Kakaşcı Ç and et al. Early Detection of Gynecological Cancers and Breast Cancer During the Pandemic and Screening Tests: What Do Women Think?. *Online Türk Sağlık Bilimleri Dergisi* 2022;7(3):499-505. doi: 10.26453/otjhs.1138556

INTRODUCTION

The 2019 coronavirus disease outbreak (COVID-19), caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), was first detected in Wuhan, a city in China, and since then has become a global epidemic and a major challenge for healthcare systems.[1,2] During the pandemic, the American Cancer Society issued recommendations not to visit a healthcare facility for routine cancer screening until further notice.[3] At the peak of the pandemic, it was reported that emergency cancer treatment for established patients should continue, but that other health services should be restricted or postponed.[4] Unfortunately, delaying screenings sends the message to the public and primary health care services that cancer can wait.[5,6] Cancer screening tests including reductions in mammograms and HPV tests have been performed less due to COVID-19 pandemic-related closures and delays in countries.[7-9] Therefore, analyses demonstrated that there could be 36,000 missed or delayed breast cancer diagnoses in positivity rates only between March and June. Missed cervical cancer diagnoses are estimated to be 2500 cases.[10] These dramatic reductions in cancer screening, with later stages of the disease, increased cancer incidence, and higher morbidity and mortality rates have created significant challenges for cancer detection.[11,12] Unfortunately, little is still known about the impact of the pandemic on people's attitudes towards cancer screening or their intention to participate in cancer screening.[13]

The present study was conducted to determine women's opinions about having screening tests for the early detection of gynecological cancers and breast cancer during the pandemic.

MATERIALS AND METHODS

Ethical Status: Before the study was conducted, ethical approval was obtained from the Ethics Committee of Burdur Mehmet Akif Ersoy University (Date: 03/02/2021, decision no: GO 2021/82). Written informed consent was obtained from the women participating in the study. All the procedures were performed in accordance with the rules of the Declaration of Helsinki, scientific ethics and academic rules.

The population of this cross-sectional and descriptive study conducted between October 2021 and December 2021 consisted of women over the age of 18 who presented to the obstetrics service and outpatient clinic of a research and training hospital in the eastern part of Turkey.

Research Population and Sampling: The sample of the study was calculated as 199 with the following formula used to calculate the sample size with a non-finite population: $n=t^2pq/d^2$ (margin of error: 5%, confidence interval: 95%). Considering the possibility of withdrawals during the study and/or forms filled in incompletely, we decided to include 220 women in the study. Inclusion criteria were as follows: being ≥18-year-old women, volunteering to participate in the study, being able to read and write in Turkish and speak Turkish, filling in the questionnaires completely, not having a diagnosis of cancer, having a history of sexual activity, not being pregnant, not having a history of breast and gynecological operations, and not breastfeeding.

Data Collection Tools: The "Descriptive Information Form" used to collect the study data was developed by the researchers in line with the literature.[4-10] In the Descriptive Information Form prepared by the researchers in line with the literature, socio-demographic characteristics of women such as age, education, and employment status were questioned.[4-10] This form also included questions about their experiences with the pandemic. These are questions of a wide variety, such as the impact of the pandemic on social relationships, family relationships, living standards and physical activity. Again, in this form, there are questions that examine women's thoughts and intentions about gynecological cancers and early detection of breast cancer and screening tests for the pandemic. In this group of questions, the intention to apply to a health institution was questioned in case of potential breast cancer and gynecological cancer symptoms such as genital area and/or breast mass, nipple discharge, and sudden weight loss.[4-6,14-20] It took the participants to fill in the data collection form for approximately 20-30 minutes. The face-to-face interview technique was used to collect the data. In the study, a pilot test was given to 20 women to find out whether the data collection form was applicable. As a result of the pilot study, no changes were made to the form.

Statistical Analysis: The data obtained from the women who were pilot tested were not included in the analysis of the study data. Statistical analysis of the data was performed with the SPSS (22.0, IBM Corp., Armonk, NY). Of the descriptive statistics, numbers and percentages were used in the analysis of the data.

RESULTS

Among the participants, 53.6% were in the age group of 20-35 years, 35.5% were secondary school graduates, 47.7% were employed at a paid job, and 64.1% were married (Table 1).

Table 1. Distribution of the participating women according to their socio-demographic characteristics.

Socio-demographic characteristics	
Age (years) Mean± SD	38.03 ±12.81
	n (%)
Education status	
Primary school	35 (15.9)
Junior high school	78 (35.5)
Senior high school	71 (32.3)
University and above	36 (16.3)
Employment status	
Not employed	115 (52.3)
Employed	105 (47.7)
Social security	
Yes	130 (59.1)
No	90 (40.9)
Family type	
Nuclear family	73 (33.2)
Extended family	147 (66.8)
Marital status	
Married	141 (64.1)
Single	79 (35.9)
Smoking status	
Smoker	45 (20.5)
Non-smoker	175 (79.5)
Total	220 (100)

The distribution of the participating women according to their COVID-19-related experiences is given in Table 2. As is seen in the table, of the participants, 56.3% felt psychologically bad, 37.6% felt physically bad, 18.2% stated that the COVID-19 pandemic hindered their interfamily relationships a lot, 60.9% stated that the COVID-19 pandemic increased their appetite, and 87.7% had a more unbalanced diet during the COVID-19 pandemic (Table 2).

Table 2. Distribution of the participating women according to their COVID-19 experiences.

		n (%)
How do you feel spiritually in general?	Very good	5 (2.3)
	Good	20 (9.1)
	Neither god nor bad	71 (32.3)
	Bad	124 (56.3)
How do you feel physically in general?	Very good	14 (6.4)
	Good	34 (15.5)
	Neither god nor bad	89 (40.5)
	Bad	83 (37.6)
Have you canceled going to the hospital and/or hospital controls when you have complaints, due to the COVID-19 pandemic?	Yes	146 (66.4)
	No	74 (33.6)
How often do you follow the news about the COVID-19 pandemic?	Never	16 (7.3)
	Sometimes	38 (17.3)
	Frequently	95 (43.1)
	Always	71 (32.3)
Have you ever changed your decision to visit the hospital/physician due to the COVID-19 pandemic?	Yes	118 (53.6)
	No	102 (46.4)
Has the COVID-19 pandemic hindered your social relationships?	No	19 (8.6)
	Yes, partly	57 (25.9)
	Yes	96 (43.7)
	Yes, very much	48 (21.8)
Has the COVID-19 pandemic hindered your interfamily relationships?	No	24 (10.9)
	Yes, partly	58 (26.4)
	Yes	98 (44.5)
	Yes, very much	40 (18.2)
Has the COVID-19 pandemic affected your living standards/ conditions?	No	15 (6.8)
	Slightly adversely	57 (25.9)
	Adversely	95 (43.2)
	Very adversely	53 (24.1)

Table 2. Continue.

Has the COVID-19 pandemic hindered your daily physical activities?	No	17 (7.7)
	Yes, partly	73 (33.2)
	Yes	96 (43.6)
	Yes, very much	34 (15.5)
Has the COVID-19 pandemic prevented you from fulfilling your responsibilities in daily life?	No	35 (15.9)
	Yes, partly	35 (15.9)
	Yes	77 (35.0)
	Yes, very much	73 (33.2)
Has the COVID-19 pandemic affected your daily energy level?	Slightly adversely	74 (33.6)
	Adversely	96 (43.6)
	Very adversely	50 (22.8)
Has the COVID-19 pandemic affected your daily appetite?	Yes, it increased my appetite	134 (60.9)
	Yes, it decreased my appetite	47 (21.4)
	No, it did not affect my appetite	39 (17.7)
Has the COVID-19 pandemic affected your diet?	Yes, I had a more balanced diet	14 (6.4)
	Yes, I had a less balanced diet	193 (87.7)
	No, it did not affect my diet	13 (5.9)
What do you constantly do to protect yourself from COVID-19?	I take vitamin supplements	51 (23.2)
	I drink herbal tea	47 (21.4)
	I eat honey	68 (30.9)
	I eat mesir paste (sweet mixture of spices and herbs)	38 (17.2)
	I wear an amulet	16 (7.3)
Do you think you will have COVID-19 vaccination?	Yes	144 (65.5)
	No	50 (22.7)
	I am undecided	26 (11.8)
What do you think the source of COVID-19 is?	Laboratory origin	71 (32.3)
	Natural origin	87 (39.5)
	I am not sure	62 (28.2)
Total		220 (100)

The distribution of the participating women's thoughts about gynecological cancers and early detection of breast cancer and screening tests during the COVID-19 period is given in Table 3. More than half of the participants (56.4%) reported that they would not visit the doctor due to the pandemic even if they are faced with conditions that may be the indicators of cancer such as pain in the genital or abdominal region (56.4%), abnormal vaginal bleeding (63.2%), difficulty urinating (54.5%), pain during sexual intercourse (55%), collapsed, discolored or deformed nipples (66.8%), redness / sore on the nipple (61.4%) and long-term back pain (54.5%). Of them, 71.4% did not want to have gynecological controls, 69.5% did not want to have cervical cancer screening tests, and 59.5% did not want to have mammography and clinical breast examination due to COVID-19 (Table 3).

Table 3. Distribution of the participating women's thoughts about early detection of gynecological cancers and breast cancer, and screening tests during the COVID-19 pandemic.

Statements	**Yes**	**No**
	n (%)	**n (%)**
I do not want to have a gynecological control examination due to COVID-19.	157 (71.4)	63 (28.6)
I do not want to have a cervical cancer-screening test due to COVID-19.	153 (69.5)	67 (30.5)
I do not want to have the HPV vaccine due to COVID-19.	153 (69.5)	67 (30.5)
I stopped paying attention to my weight in order to prevent reproductive organ cancer, due to COVID-19.	126 (57.3)	94 (42.7)
I stopped having a balanced diet in order to prevent reproductive organ cancer, due to COVID-19.	114 (51.8)	106 (48.2)
Even if I have pain in my genital/abdominal area, I hesitate to visit the physician, because of COVID-19.	124 (56.4)	96 (43.6)
Even if there is a pain in my breast, I hesitate to visit the physician because of COVID-19.	51 (23.2)	169 (76.8)
Even if I have abnormal vaginal discharge, I hesitate to visit the physician because of COVID-19.	64 (29.1)	156 (70.9)

Table 3. Continue.

Even if I have abnormal vaginal bleeding, I hesitate to visit the physician because of COVID-19.	139 (63.2)	81 (36.8)
Even if I have bleeding after sexual intercourse, I hesitate to visit the physician because of COVID-19.	60 (27.3)	160 (72.7)
Even if I have a sudden and irregular weight loss, I hesitate to visit the physician because of COVID-19	34 (15.5)	186 (84.5)
Even if I feel a swelling/mass in my genital area/abdomen hesitate to visit the physician because of COVID-19.	54 (24.5)	166 (75.5)
Even if I feel a swelling/mass in my breasts, I hesitate to visit the physician because of COVID-19.	54 (24.5)	166 (75.5)
Even if I notice the orange peel appearance on my breasts, I hesitate to visit the physician because of COVID-19 without	48 (21.8)	172 (78.2)
Even if there is a discharge from my nipple, I hesitate to visit the physician because of COVID-19	50 (22.7)	170 (77.3)
If I have a sore in my genital area, I hesitate to visit the physician because of COVID-19	30 (13.6)	190(86.4)
If I have persistent constipation/diarrhea for no reason I hesitate to visit the physician because of COVID-19	58 (26.4)	162 (73.6)
If I have trouble urinating, I hesitate to visit the physician because of COVID-19	120 (54.5)	100 (45.5)
Even if I have pain during sexual intercourse, I hesitate to visit the physician because of COVID-19.	121 (55.0)	99 (45.0)
Even if I have an itching or burning sensation in my genital area, I hesitate to visit the physician because of COVID-19.	57 (25.9)	163 (74.1)
Even if I notice a non-congenital asymmetry in my breasts, I hesitate to visit the physician because of COVID-19	49 (22.3)	171 (77.7)
Even if I notice my nipples are collapsed, discolored or deformed I hesitate to visit the physician because of COVID-19	147 (66.8)	73 (33.2)
Even if I notice redness/soreness on my nipples, I hesitate to visit the physician because of COVID-19	135 (61.4)	85 (38.6)
Even if I have persistent back pain, I hesitate to visit the physician because of COVID-19	120 (54.5)	100 (45.5)
I don't want to have a mammogram due to COVID-19	131 (59.5)	89 (40.5)
I don't want to have a clinical breast exam due to COVID-19	131 (59.5)	89 (40.5)

DISCUSSION AND CONCLUSION

The results of the present study demonstrated that during the pandemic, more than half of the participants quit the habits such as weight control (57.3%) and a balanced diet (51.8%) which could reduce the risk for cancer. The results also demonstrated that more than half of the participants would not visit the physician because of the pandemic even if they experienced conditions that might be the indicators of cancer such as pain in the genital area or abdomen (56.4%), abnormal vaginal bleeding (63.2%), difficulty urinating (54.5%), pain during sexual intercourse (55%), collapse, discolored or deformed nipples (66.8%), redness / sore on the nipples (61.4%) and long-term back pain (54.5%). In their study conducted in the UK in 2021, Quinn-Scoggins et al.[5] reported that 44.8% of 3025 participants who experienced potential cancer symptoms did not contact their physicians. The participants who were interviewed reported that they were reluctant to communicate with their physicians because they were worried about the pandemic and were afraid of going to the hospital. Unfortunately, as COVID-19 is at the forefront, patients may perceive vague cancer symptoms such as fatigue and weight loss as insignificant.[5] Some cancer symptoms may be attributed to COVID-19 by the patient and they may fail to take precautions. Patients may be reluctant to visit their physician because of fear of interacting with others, limited capacity to use video or telecounseling services, and concerns about wasting the doctor's time.[21,22] Petrova et al.[23] reported that after the pandemic, patients waited for a long time to seek help for cancer symptoms such as changes in breast and unexplained bleeding. They also stated that women were affected by the pandemic more. Thus, there is an urgent need for public interventions to encourage women to consult their doctor in situations suggesting breast and gynecological cancer symptoms.

More than half of the women in our study reported that they did not want to have their gynecological controls (71.4%), cervical cancer screening tests (69.5%), HPV vaccine (69.5%), mammography test (59.5%), clinical breast examination (59.5%) due to the COVID-19 pandemic. In their study conducted in Denmark in 2021 to investigate women's attitudes, motivations and intentions towards mammography, Kirkegaard et al.[24] reported that screening was of secondary importance for women during the pandemic. In addition, the uncertainty about the 'new normal' of COVID-19 forced the participants to

stay at home even though screening clinics were open. Miller et al.[25] reported that as many as half of the patients whose screening mammograms were delayed due to COVID-19 still did not present for screening mammograms in late 2020. Knoll et al.[26] reported that there was a great decline in newly diagnosed cancer cases during the quarantine. They determined that there was a 45% and 52% decrease in gynecological and breast cancer diagnoses respectively compared to the same period of 2019. They reported that delays in treatment for these potentially treatable diseases could lead not only to lower clinical outcomes but also to the risk of missing the optimal time window for treatment. According to another study conducted in the United States, colon, breast and cervical cancer screenings dropped by 80%-90% during the COVID-19 pandemic.[27] Similarly, Tsibulak et al.[28] reported a decrease in the number of newly diagnosed gynecological and breast cancer cases in Austria. They stated that reduced access to medical services and delayed diagnosis of potentially curable cancers during the COVID-19 pandemic could take the health system back and adversely affect cancer treatment outcomes. Our findings and the results of the aforementioned studies indicate that the adverse effects of the COVID-19 pandemic on the processes of breast cancer and gynecological cancers may continue for a long time.

During the pandemic, most women choose to avoid healthcare if they experience potential breast cancer and gynecological cancer symptoms. Well-timed and nationally coordinated campaigns and public announcements must be made for the early diagnosis and detection of breast and gynecological cancers.

Ethics Committee Approval: Ethical approval was obtained from the Ethics Committee of Burdur Mehmet Akif Ersoy University (Date: 03/02/2021, decision no: GO 2021/82).

Conflict of Interest: No conflict of interest was declared by the author.

Author Contributions: Concept - ÇGK; Supervision – ÇGK, NB, CD; Materials- ÇGK, NB; Data Collection and/or Processing - CB; Analysis and/or Interpretation - NB; Writing - ÇGK.

Peer-review: Externally peer-reviewed.

Acknowledgements: We would like to extend our sincere thanks to all the participants of our study.

REFERENCES

1. Zhu N, Zhang D, Wang W, et al. A novel coronavirus from patients with pneumonia in China, 2019. N Engl J Med. 2020; 382:1708-1720. doi:10.1056/NEJMoa2001017
2. Wang CJ, Ng CY, Brook RH. Response to COVID-19 in Taiwan: big data analytics, new technology, and proactive testing. JAMA. 2020;323(14):1341-1342. doi:10.1001/jama.2020.3151
3. American Cancer Society. Common questions about the new coronavirus outbreak. https://www.cancer.org/latest-news/common-questions-about-the-new-coronavirus-outbreak.html. Accessed April 26, 2020.
4. Janda M, Paul C, Horsham C. Changes in cancer preventive behaviours, screening and diagnosis during COVID-19. Psychooncology. 2020;30 (2):271-273. doi:10.1002/pon.5575
5. Quinn-Scoggins HD, Cannings-John R, Moriarty Y, et al. Cancer symptom experience and help-seeking behaviour during the COVID-19 pandemic in the UK: a cross-sectional population survey. BMJ Open. 2021;11 (9):e053095. doi:10.1136/bmjopen-2021-053095
6. Jones D, Neal RD, Duffy SR, Scott, SE, Whitaker KL, Brain K. Impact of the COVID-19 pandemic on the symptomatic diagnosis of cancer: the view from primary care. The Lancet Oncology. 2020;21(6):748-750. doi:10.1016/S1470-2045(20)30242-4
7. Cancer Research UK. How coronavirus is impacting cancer services in the UK. 2020. https://scienceblog.cancerresearchuk.org/2020/04/21/how-coronavirus-is-impacting-cancer-services-in-the-uk/. Accessed June 2, 2021.
8. IQVIA. Shifts in healthcare demand, delivery and care during the COVID-19 era. https://www.iqvia.com/insights/the-iqvia-institute/covid-19/shifts-in-healthcare-demand-delivery-and-care-during-the-covid-19-era. Accessed June 2, 2021.
9. Australian Instiute of Health and Welfare (AIHW). Cancer Screening and COVID-19 in Australia. Cat. No: CAN 136. Canberra, Australia: AIHW; 2020. https://www.aihw.gov.au/reports/cancer-screening/cancer-screening-and-covid-19-in-australia-inbrief/contents/what-was-the-impact-of-covid-19-in-australia. Accessed June 2, 2021.
10. Medscape. Three months of COVID19 may mean 80,000 missed cancer diagnoses. https://www.medscape.com/viewarticle/929986. Accessed January 14, 2021.
11. Wernli KJ, Hubbard RA, Johnson E, et al. Patterns of colorectal cancer screening uptake in newly eligible men and women. Cancer Epidemiology and Prevention Biomarkers. 2014;23 (7):1230-1237. doi:10.1158/1055-9965.EPI-13-1360
12. US Preventive Services Task Force. Final recommendation statement. Breast cancer: screening. https://www.uspreventiveservicestaskforce.org/uspstf/draft-update-summary/breast-cancer-screening1. Accessed May 14, 2021.
13. Wilson R, Quinn-Scoggins H, Moriarty Y, et al. Intentions to participate in cervical and colorectal cancer scree-

ning during the COVID-19 pandemic: A mixed-methods study. Preventive Medicine. 2021;153:106826. doi:10.1016/j.ypmed.2021.106826
14. Özen B, Zincir H, Erten ZK, Özkan F, Elmalı F. Genç kadınların meme kanseri ve kendi kendine meme muayenesi konusunda bilgi ve tutumları ile sağlıklı yaşam biçimi davranışları. Meme Sağlığı Dergisi. 2013;9(4):200-204. doi:10.5152/tjbh.2013.33
15. Ali SF, Ayub S, Manzoor NF, et al. Knowledge and awareness about cervical cancer and its prevention amongst interns and nursing staff in tertiary care hospitals in Karachi, Pakistan. Plos One. 2010;5(6):e11059. doi:10.1371/journal.pone.0011059
16. Dal NA, Ertem G. Jinekolojik kanserler farkındalık ölçeği geliştirme çalışması. Itobiad: Journal of The Human & Social Science Researches. 2017;6(5):2351-2367.
17. Gozum S, Karayurt Ö, Aydın I. Meme kanseri taramalarında champion sağlık inanç modeli ölçeğinin Türkçe uyarlamalarına ilişkin sonuçlar. Hemşirelikte Araştırma Geliştirme Dergisi. 2004;6(1):71-85.
18. Durmaz S, Ozvurmaz S, Adana F, Kurt F. Kadınlarda serviks kanserinin tanısına ilişkin tutum ve düzenli jinekolojik muayene ilişkisinin kesitsel olarak değerlendirilmesi. Adnan Menderes Üniversitesi Sağlık Bilimleri Fakültesi Dergisi. 2021;5(1):26-36. doi:10.46237/amusbfd.727999
19. Kulakçı Altıntaş H, Korkmaz Aslan G. Kadınların meme ve serviks kanserinin erken tanısına yönelik sağlık inançlarının değerlendirilmesi. Hacettepe Üniversitesi Hemşirelik Fakültesi Dergisi. 2020;7(3):249-261. doi:10.31125/hunhemsire.834101
20. Açıkgöz A, Çehreli R, Ellidokuz H. Kadınların kanser konusunda bilgi ve tutumları ile erken tanı yöntemlerine yönelik davranışları. Dokuz Eylül Üniversitesi Tıp Fakültesi Dergisi. 2011;25(3):145-154.
21. NHS Digital. Appointments in general practice september 2019. https://digital.nhs.uk/data-and-information/publications/statistical/appointments-in-general-practice/september-2019. Accessed May 14, 2021.
22. Maringe C, Spicer J, Morris M, et al. The impact of the COVID-19 pandemic on cancer deaths due to delays in diagnosis in England, UK: a national, population-based, modelling study. The Lancet Oncology. 2020;21(8):1023–34. doi:10.1016/S1470-2045(20)30388-0
23. Petrova D, Pollán M, Rodriguez-Barranco M, Garrido D, Borrás JM, Sánchez MJ. Anticipated help-seeking for cancer symptoms before and after the coronavirus pandemic: results from the onco-barometer population survey in Spain. British Journal of Cancer. 2021;124(12):2017-2025. doi:10.1038/s41416-021-01382-1
24. Kirkegaard P, Edwards A, Andersen B. Balancing risks: qualitative study of attitudes, motivations and intentions about attending for mammography during the COVID-19 pandemic. Scandinavian Journal of Public Health. 2021;49(7):700-706. doi:10.1177/14034948211002648
25. Miller MM, Meneveau MO, Rochman CM, et al. Impact of the COVID-19 pandemic on breast cancer screening volumes and patient screening behaviors. Breast Cancer Research and Treatment. 2021;189(1):237-246. doi:10.1007/s10549-021-06252-1
26. Knoll K, Reiser E, Leitner K, et al. The impact of COVID-19 pandemic on the rate of newly diagnosed gynecological and breast cancers: a tertiary center perspective. Archives of Gynecology and Obstetrics. 2022;305(4):945-953. doi:10.1007/s00404-021-06259-5
27. Mast C, del Rio AM. Delayed cancer screenings—a second look. Epic Health Research Network 2020. https://epicresearch.org/articles/delayed-cancer-screenings-a-second-look/. Accessed January 06, 2022.
28. Tsibulak I, Reiser E, Bogner G, et al. Decrease in gynecological cancer diagnoses during the COVID-19 pandemic: an Austrian perspective. International Journal of Gynecologic Cancer. 2020;30(11):1667–1671. doi:10.1136/ijgc-2020-001975