Cukurova Medical Journal
ÇUKUROVA ÜNİVERSİTESİ TIP FAKÜLTESİ

Cukurova Med J 2020;45(1):14-21
DOI: 10.17826/cumj.627427

ARAŞTIRMA / RESEARCH

Attitudes of women toward for early diagnosis of cervical cancer: health responsibility and associated factors

Kadınların serviks kanserinin erken tanısına yönelik tutumları: sağlık sorumluluğu ve ilişkili faktörler

Betül Önal[1], Figen Alp Yilmaz[2]

[1]Anestezi Programı, Bayburt Üniversitesi, Sağlık Hizmetleri Meslek Yüksekokulu, Bayburt, Turkey
[2]Yozgat Bozok Üniversitesi, Sağlık Bilimleri Fakültesi, Yozgat, Turkey

Cukurova Medical Journal 2020;45(1):14-21.

Abstract

Purpose: This study was conducted to determine the attitudes of women toward early diagnosis of cervical cancer, and the relationship between these attitudes, and health responsibility and some factors.

Materials and Methods: This study was performed with 662 women aged 21 to 65. The Descriptive Characteristics Form, Attitude Scale for Early Diagnosis of Cervical Cancer and Healthy Lifestyle Behaviors Scale II-Health Responsibility Subscale were used for data collection.

Results: In the present study, it was detected that perceived susceptibility of women were at moderate levels while their perceived severity, barriers and benefits were at low levels. A negative correlation was detected between Health Responsibility and Perceived Susceptibility Among the significant variables that impact attitudes toward early diagnosis of cervical cancer are women's individual and some obstetric characteristics, their health responsibility.

Conclusion: The participating women's perceived susceptibility of attitudes toward early diagnosis of cervical women was at a moderate level while their perceived severity, barriers and benefits were at a low level. Age, educational attainment, income level, presenting to the clinic for regular gynecological examinations and history of gynecological cancer in the family were some factors that had an impact on the health responsibility and attitudes of the participating women toward early diagnosis of cervical cancer. In the light of these findings, evidence-based, individualized nursing services such as physical and psychosocial care, training and consultancy can be planned to improve women's attitudes toward early diagnosis of cervical cancer.

Keywords:. Cervix, cancer, early diagnosis, women

Öz

Amaç: Bu çalışma, kadınların rahim ağzı kanserinin erken teşhisine yönelik tutumlarını belirlemek ve rahim ağzı kanserinin erken teşhisine yönelik tutumların sağlık sorumluluğu arasındaki ilişki ve bazı faktörlerle ilişkisini saptamak amacıyla yapılmıştır.

Gereç ve Yöntem: Araştırma, yaşları 21 ile 65 arasında değişen 662 kadın ile yapıldı. Verilerin toplanmasında Tanımlayıcı Özellikler Formu, Servikal Kanser Erken Tanısı için Tutum Ölçeği ve Sağlıklı Yaşam Biçimi Davranışları Ölçeği II-Sağlık Sorumluluğu Aboneliği kullanılmıştır.

Bulgular: Bu çalışmada kadınların algılanan duyarlılıklarının orta düzeyde, algılanan şiddeti, engelleri ve yararları düşük düzeyde olduğu tespit edildi. Sağlık sorumluluğu ve algılanan duyarlılık arasında negatif korelasyon belirlendi. Bireysel özellikler ve kadınların bazı obstetrik özellikleri ve sağlık sorumluluğu, rahim ağzı kanserinin erken teşhisine yönelik tutumları etkileyen önemli değişkenlerdi

Sonuç: Kadınların rahim kanserinin erken tanısına yönelik algılanan duyarlılıklarının orta düzeyde, algılanan şiddeti, engelleri ve yararları düşük düzeyde olduğu belirlenmiştir. Yaş, eğitim durumu, gelir düzeyinin, düzenli jinekolojik muayene için kliniğe gitmesinin ve ailede jinekolojik kanser öyküsünün, kadınların sağlık sorumluluğunu ve rahim ağzı kanserinin erken teşhisine yönelik tutumlarını etkileyen bazı faktörler olduğu tespit edildi. Bu bulgular ışığında, kadınların rahim ağzı kanserinin erken teşhisine yönelik tutumlarını iyileştirmek için fiziksel ve psikososyal bakım, eğitim ve danışmanlık gibi kanıta dayalı, bireyselleştirilmiş hemşirelik hizmetleri planlanabilir.

Anahtar kelimeler: Serviks, kanser, erken tanı, kadınlar

Yazışma Adresi/Address for Correspondence: Dr. Figen Alp Yilmaz, Yozgat Bozok Üniversitesi, Sağlık Bilimleri Fakültesi, Yozgat, Turkey E-mail: efigenden@gmail.com
Geliş tarihi/Received: 01.10.2019 Kabul tarihi/Accepted: 27.11.2019 Published online: 27.12.2019

INTRODUCTION

Cervical cancer is the fourth most common cancer type in women worldwide following breast and colorectal cancers[1]. Approximately 52762 women are diagnosed with cervical cancer and 26567 women die from this cancer type each year[2]. In our country, Turkey, cervical cancer is the tenth most common cancer type in women[3].

Early diagnosis has a key role in the treatment of cervical cancer[4-5]. Knowledge of significant risk factors causing this disease and regular cytological screening sessions increase the survival rates[6]. Thus, an effective screening program is highly important in cervical cancer cases to decrease incidence and mortality[7]. The Pap test is the most effective method in diagnosis of cervical cancer in early periods. The Pap test is a cheap and easily applicable method.[8] The World Health Organization (WHO) recommends that all women aged 30 to 49 should be screened for cervical cancer at least once in their lives. It was determined that cervical cancer incidence and mortality decreased in regions where a screening program was actively applied[9].

All women in our country (Turkey) and in the world are expected to participate in cervical cancer screening programs. However, even the percentage of women undergoing a Pap test, which is highly important in the early diagnosis of cervical cancer, is not at the desired level. This percentage is above 60% in developed countries and below 20% in underdeveloped countries[10-12]. In our country, on the other hand, 72.6% of women above 15 years of age have never had a Pap test[13].

Health responsibility refers to one's taking responsibility to achieve health-protective and health-promoting behaviors in order to his/her protect physical, spiritual and social well-being[14-15]. One of the indicators of health responsibility is health beliefs. The literature review demonstrates that the value attached to one's health increases the health responsibility level and motivation, and affects health behaviors [16]. It is thought that individuals with high levels of health responsibility will display better attitudes toward early diagnosis of diseases.

In studies conducted in Turkey, it is emphasized that the rate of screening performed using the Pap test is not at the desired level[17-18] and that the attitudes of women toward early diagnosis must be investigated[19]. Data obtained at the end of the present study will provide guidance for attempts in determining women's attitudes toward early diagnosis of cervical cancer and associated factors.

MATERIALS AND METHODS

The population of this study cross-sectional study consisted of 3,411 women who presented to the Cancer Early Detection, Screening and Training Center in Yozgat, a province in the Central Anatolia Region of Turkey, from May 2017 to September 2017. The sample size was calculated based on the formula for sampling size from a known universe. The formula $n = N\ t^2\ p\ q\ /\ d^2\ (N-1) + t^2\ p\ q$ was used. The predetermined alpha value was 0.05, t-value was 1.96, and d-value was 0.05. P-value was calculated as 0.5 and q value was calculated as 0.5 from the formula $q = 1-p$. The sample size (n) was determined as approximately 345 individuals in the calculation.

Seven hundred thirty women were contacted. Of them, 68 were excluded from the study because they failed to fill in the questionnaires appropriately therefore the responses of 662 women were used for the analysis. Women who had no vision or hearing problems, had no communication problem and volunteered to participate in the study were included in the study.

Measures

The Descriptive Characteristics Form, Attitude Scale for Early Diagnosis of Cervical Cancer and Healthy Lifestyle Behaviors Scale II-Health Responsibility Subscale were used for data collection.

The Descriptive Characteristics Form prepared by the researchers based on the pertinent literature was used to question some socio-demographic and obstetric characteristics of women such as gender, age, marital status, educational attainment, working status, regular gynecological examination and history of gynecological cancer in the family.

The Attitude Scale for Early Diagnosis of Cervical Cancer Scale (ATEDCCS) was developed by Özmen and Özsoy in 2009. The scale is comprised of four subscales: Susceptibility (8, 9, 12, 14, 15, 19, 21, 24, 28), Severity (1, 2, 5, 7, 10, 18, 26, 29), Barriers (11, 13, 17, 20, 23, 25, 30) and Benefits (3, 4, 6, 16, 22, 27). The Cronbach's Alpha coefficient is between 0.89 and 0.70 for the entire scale and its subscales. In the present study, the Cronbach's Alpha coefficient was calculated as 0.70. Responses given to the items are

rated on a 5-point Likert scale ranging from 1 to 5 [(1) Strongly Disagree, (2) Disagree, (3) Neither Agree Nor Disagree, (4) Partially Agree, (5) Strongly Agree]. While 8 items (items 3, 6, 8, 15, 17, 24, 25 and 27) are negatively-keyed items, the remaining 22 items are positively keyed items. The lowest and highest possible scores to be obtained from the scale were 30 and 150 respectively[20]. The "Health Responsibility" subscale of the "Healthy Lifestyle Behaviors Scale II" which was adapted into Turkish by Bahar et al. in 2008 was used in the present study. The lowest and highest possible scores to be obtained from the scale were 9 and 36 respectively. Health responsibility increases as the score obtained from the score increases[15]. The Cronbach's Alpha coefficient of the Health Responsibility Subscale was calculated as 0.83.

The participating women were informed about the purpose and scope of the study and written consent was received from those who met the inclusion criteria. Data was collected by the researchers in the interview room of the Cancer Early Detection, Screening and Training Center using the face-to-face interviewing technique. Each interview took almost 15-20 minutes.

The study was conducted pursuant to the Helsinki declaration. Prior to the study, the approval of the Directorate of Public Health to which the aforementioned Cancer Early Detection, Screening and Training Center is affiliated and an ethical committee report December 07, 2016 from the Medical Faculty of Bozok University were received.

Statistical analysis

In the statistical analysis of the findings obtained from the present study, the IBM SPSS Statistics 22 (IBM SPSS, Turkey) program was used Shapiro Wilks test was used to determine whether the variables followed a normal distribution and it was detected that quantitative data was consistent with the normal distribution. In data assessment, descriptive statistical methods (mean, standard deviation, frequency) and the Student t-test were used to compare the quantitative data of two groups. One-way analysis of variance (ANOVA) test was utilized to compare the quantitative data of more than two groups, and Tukey post-hoc test was used to determine the group causing the difference. Pearson Correlation Analysis was used to assess the correlation between data. Significance was assessed at $P<0.05$.

Table 1. Demographic features of particpitants (n = 662)

Sociodemographic Characteristics		**Min-Max**	**$\bar{x} \pm$ SD**
Age (year)		20-65	48.04 ± 8.26 (48)
		n	%
Age	40 years and under	104	17.3
	41-50 years	267	40.3
	51-60 years	232	35.0
	Over 60 years	49	7.5
Marital status	Married	623	94.1
	Widow	39	5.9
Education	No formal education	134	20.2
	Primary school	412	62.2
	Middle School	78	11.4
	High School and higher	38	6.3
Working status	Working	27	4.1
	Not working	635	95.9
Income level status*	Very Bad	2	0.2
	Very Low	17	2.6
	Middle	237	35.8
	Good	403	60.9
	Very good	3	0.5
Regular gynecological control	Yes	67	10.1
Family history of gynecologic cancer	Yes	30	4.5

Min-Max = minimum-maximum; $\bar{x} \pm$ SD = mean ± standard deviation; N = number of individuals; *The data is based on the self-reporting of individuals.

Table 2. Attitude Scale for Early Diagnosis of Cervical Cancer Scale distribution of scores (n = 662)

Scale and subscale		Min-Max	$\bar{x}$ ± SD
The attitudes of women toward early diagnosis of cervical cancer scale	Perceived Susceptibility	12-36	24.81±3.59 (25)
	Perceived Severity	8-37	19.54±4.05 (19)
	Perceived Barriers	10-29	18.01±3.17 (18)
	Perceived Benefits	6-25	12.00±3.43 (11)
	Total	51-111	74.34±8.38 (73)

Min-Max = minimum-maximum; $\bar{x}$ ± SD = average ± standard deviation.

RESULTS

The mean age of the participating women was = 48.04±8.26. of them, 40.3% were in the 41-50 age group. 94.1% were married, 62.2% were primary school graduates, and 95.9% were non-working, 10.1% had their gynecological examinations regularly and 95% had no family history of cancer (Table 1).

The mean scores the participating women obtained from the Perceived Susceptibility, Perceived Severity, Perceived Barriers and Perceived Benefits subscales were =24.81±3.59, =19.54±4.05, =18.01±3.17 and =12.00±3.43, respectively (Table 2).

The distribution of the mean scores obtained from the attitudes of women toward early diagnosis of cervical cancer scale according to some variables is given in Table 3. There was a statistically significant correlation between the mean scores the participants obtained from the attitudes toward early diagnosis of cervical cancer subscales and the variables such as women's age groups, educational attainments, income levels, regular gynecological examinations, family history of gynecological cancer (P<0.01). Average perceived barriers and perceived benefits scores of the participants in the 40 and below age group, average perceived benefits, perceived severity and perceived benefits scores of the participants with high school and above educational attainment, average perceived severity, perceived benefits and perceived barriers scores of the employed participants, average perceived susceptibility, perceived barriers and perceived benefits scores of the participants with high income levels, average perceived susceptibility, perceived severity, perceived barriers and perceived benefits of the participants going to the clinic regularly for gynecological examination, average perceived susceptibility and perceived benefits scores of the participants with a history of gynecological cancer were higher than were those of the participants in the other groups and the differences were statistically significant (P<0.01).

Table 3. Comparison of the scores of individuals on cervical cancer attitude scale (n = 662).

Variable ($\bar{x}$ ± SD)		Perceived Susceptibility	Perceived Severity	Perceived Barriers	Perceived Benefits
Age group	40 years and under	24.02 ± 3.45	20.07 ± 4.22	19.21 ± 3.27	13.29 ± 3.45
	41-50 years	24.40 ± 3.71	19.51 ± 3.98	18.09 ± 3.29	12.11 ± 3.53
	51-60 years	25.53 ± 3.15	19.11 ± 3.53	17.34 ± 2.75	11.25 ± 3.11
	Over 60 years	25.51 ± 4.50	20.53±5.80	17.90 ± 3.29	11.96 ± 3.38
	F	6.88	2.53	9.27	9.49
	P	0.001**	0.06	0.001**	0.001**
Marital status	Married	24.78 ± 3.59	19.52 ± 4.00	17.97 ± 3.16	11.88 ± 3.38
	Widow	25.41 ± 3.56	19.85 ± 4.78	18.59 ± 3.20	13.92 ± 3.64
	t	-1.06	-0.48	-1.18	-3.64
	P	0.28	0.62	0.23	0.001**
Education	formal education	24.71 ± 3.94	19.82 ± 4.70	17.93 ± 2.88	12.45 ± 3.18
	Middle School	24.98 ± 3.45	18.98 ± 3.67	17.80 ± 3.00	11.36 ± 3.21
	High school and higher	23.86 ± 3.44	20.24 ± 3.24	18.04 ± 3.77	12.95 ± 3.73

	Working	25.37 ± 3.91	23.24 ± 4.78	20.64 ± 3.59	15.39 ± 3.23
	F	2.48	15.13	9.24	21.81
	P	0.060	0.001**	0.001**	0.001**
Working status	Working	24.11 ± 4.62	22.63 ± 5.33	22.22 ± 4.10	14.89 ± 3.77
	Not working	24.84 ± 3.54	19.41 ± 3.94	17.83 ± 2.99	11.88 ± 3.36
	t	-0.81	3.10	5.50	4.08
	P	0.422	0.004**	0.001**	0.001**
Income levels	Bad	25.16 ± 3.10	20.42 ± 2.63	19.42 ± 4.19	15.42 ± 3.27
	Middle	24.14 ± 3.96	19.56 ± 4.60	19.16 ± 3.18	13.54 ± 3.39
	Good	25.19 ± 3.33	19.49 ± 3.75	17.27 ± 2.87	10.94 ± 2.99
	F	6710	0.482	31.313	62.894
	P	0.001**	0.618	0.001**	0.001**
Regular gynecological examinations control	Yes	23.51 ± 3.80	19.94 ± 4.82	19.27 ± 2.83	12.88 ± 3.50
	No	24.96 ± 3.54	19.50 ± 3.96	.87 ± 3.17	11.90 ± 3.41
	t	-3.16	0.85	3.46	2.22
	P	0.002**	0.395	0.001**	0.027*
History of gynecological cancer in the family	Yes	22.87 ± 4.22	20.83 ± 4.13	18.37 ± 3.10	13.40 ± 4.28
	No	24.91 ± 3.54	19.48 ± 4.04	17.99 ± 3.17	11.94 ± 3.37
	t	-3.05	1.79	0.63	2.29
	P	0.002**	0.07	0.527	0.022*

F = one-way ANOVA; P = P values t = student-t test; $\bar{x} \pm$ SD = mean and standard deviation **P < 0.01.

Table 4 shows the correlation between the mean scores obtained from the ATEDCCS and its subscales, and the Health Responsibility subscale. A negative correlation was detected between the mean scores for the Health Responsibility Subscale and Perceived Susceptibility Subscale (p:0.001), and there was a statistically significant but weak correlation (19.8%) (P<0.01).

Tablo 4. Evaluation of the correlation between attitude scale for early diagnosis of cervical cancer scale's (ATEDCCS) sub-dimension total scores and health responsibility sub-dimension scores (n = 662)

ATEDCCS	**Health Responsibility**	
	r	**P**
Perceived Susceptibility	-0,198	0,001**
Perceived Severity	-0,002	0,963
Perceived Barriers	0,030	0,449
Perceived Benefits	-0,069	0,078
Total	-0,102	0,009**

r: Pearson Correlation Coefficient **p<0,01

DISCUSSION

In the present study aimed at determining the attitudes of women toward early diagnosis of cervical cancer and its association with some factors, the mean scores obtained from the *Perceived Susceptibility, Perceived Severity, Perceived Barriers and Perceived Benefits* Subscales were 24.81±3.59, 19.54±4.05, 18.01±3.17 and 12.00±3.43 respectively. In a study conducted by Ersin et al. (2016), the mean scores obtained from the *Perceived Susceptibility, Perceived Severity, Perceived Barriers and Perceived Benefits* Subscales were 26.87 ± 4.56, 19.23 ± 4.808, 21.73 ±4.85 and 17.86± 3.27, respectively. The women participating in the present study had moderate levels of perceived susceptibility and low levels of perceived severity, barriers and benefits[21]. It is considered that socio-cultural characteristics of the society are responsible for the moderate level of perceived susceptibility and low level of perceived benefits. It is thought that the low level of perceived severity results from the few cases of cervical cancer in the family and the social circle. The Pap test, the most important method for early diagnosis of cervical cancer, can be an embarrassing and disturbing process for women. Therefore, this can be a significant barrier for women in countries like Turkey where women's privacy is important. It is considered that this factor may have caused the low level of perceived barriers.

Age is one of the variables in the determination of the early diagnosis of cervical cancer. In the present study, the participants aged 40 and below obtained higher mean scores from the perceived barriers and benefits subscales than did the participants in the

other age groups. Similarly, in their study, Demirtaş et al. reported that the women in the 30-39 age group had the highest perceived barriers. In another study, no correlation was detected between age and attitude toward early diagnosis of cervical cancer[22]. It can be explained by the fact that younger individuals have higher awareness. Perceived susceptibility and severity of the participants of advanced ages were significantly higher than were those of the participants in other age groups. It is considered that increased age has an impact on the increasing susceptibility of participants.

Educational attainment is a significant factor that affects the attitudes toward early diagnosis of cervical cancer. It was detected in the present study that women with high educational attainment had high mean scores from the attitudes toward early diagnosis of cervical cancer subscales and that the difference was statistically significant ($P<0.01$). This result is consistent with the findings of numerous studies[18-22-24-25]. However, study results also demonstrate that as educational attainment increases, the practice of undergoing Pap testing increases[26]. This may be due to fact that individuals with high level of education have better socio-economic conditions, higher awareness of health-related issues and easier access to knowledge and healthcare services.

In the present study, other variables that affected the participating women's attitudes toward early diagnosis of cervical cancer were income level and working status. In a study conducted by Bal,[18] a significant correlation was detected between working status, educational attainment of women and perceived benefits/motivation, health motivation and perceived barriers. In a study by Aşılar et al.[23], age group, educational attainment and income levels of women had a significant effect on cervical cancer risk factors and practice of undergoing Pap testing. Socio-demographic characteristics of the women included in our study showed that a majority of them were primary school graduates, non-working and had a mid-level income. It is thought that low levels of education and income are among the factors that negatively affect women's access to healthcare services.

In the present study presenting to the clinic for gynecological examinations regularly was one of the factors that affected attitudes toward early diagnosis of cervical cancer. In a study in the literature, presenting to the clinic for gynecological examination affected the women's practice of undergoing Pap testing and that there was a significant correlation between presenting to the clinic for a gynecological examination regularly and undergoing the Pap test[17]. Similarly, women who stated that presenting to the clinic for gynecologic examination was difficult underwent Pap testing less[27].

In the families of women who have a family history of gynecological cancer, the rate of undergoing Pap testing is high.[28] Therefore, one of the factors affecting the attitudes toward early diagnosis of cervical cancer is a family history of gynecological cancer. In their study, Jia et al.[24] reported that women with a family history of cancer were more responsible about having cervical cancer screening tests. In a study by Arabaci,[29] having someone with a history of cervical cancer in their social circle affected the decision-making process of women regarding the practice of undergoing Pap testing. It can be concluded that individuals with a family history of gynecological cancer are more responsible because they may think that they are under a greater risk.

Another important finding of the present study was that the participating women's health responsibility decreased as their perceive susceptibility increased. Perceived susceptibility means an individual's belief about his/her possibility of contracting a disease. Perceived risk of contracting a disease refers to the subjective perception of individuals about susceptibility to the disease[30]. In studies on this subject, the perceived risk of cervical cancer is caused by the failure to have a Pap test[31,32] and women who thought they were under the risk of contracting cervical cancer had higher rates of participating in screenings[33]. The results of the present study also demonstrated that the participants with healthy lifestyle behaviors displayed more positive attitudes toward the early diagnosis of cervical cancer and perceived a smaller number of barriers against having the Pap test[34].

The study has some limitations. Since the literacy and educational attainment levels of some participants were low, some difficulties occurred as to understanding and responding to the questions. The accuracy of the data obtained in the present study is limited with the responses given to the questionnaire items. Study results can only be generalized to the women from whom the data was collected.

It was determined that perceived susceptibility of the participating women was at a moderate level while their perceived severity, barriers and benefits were at

a low level, and that age, educational attainment, income level, presenting to the clinic for a regular gynecological examination and a family history of gynecological cancer are some factors that have an impact on the health responsibility and attitudes of the participating women toward early diagnosis of cervical cancer. In the light of these findings, evidence-based, individualized nursing services such as physical and psychosocial care, training and consultancy can be planned to improve women's attitudes toward early diagnosis of cervical cancer. In addition, on-site studies with larger samples can be conducted to generalize the results to the whole population.

Yazar Katkıları: Çalışma konsepti/Tasarımı: BÖ; Veri toplama: BÖ; Veri analizi ve yorumlama: FAY; Yazı taslağı: FAY, BÖ; İçeriğin eleştirel incelenmesi: FAY; Son onay ve sorumluluk: BÖ, FAY; Teknik ve malzeme desteği: BÖ; Süpervizyon: FAY; Fon sağlama (mevcut ise): yok.
Etik Onay: Çalışma öncesinde, söz konusu Kanser Erken Teşhis, Tarama ve Eğitim Merkezi'nin bağlı olduğu Halk Sağlığı Müdürlüğü'nün onayı ve Bozok Üniversitesi Tıp Fakültesi'nden 07 Aralık 2016 tarihli etik kurul onayı alınmıştır.
Hakem Değerlendirmesi: Dış bağımsız.
Çıkar Çatışması: Yazarlar çıkar çatışması beyan etmemişlerdir.
Finansal Destek: Yazarlar finansal destek beyan etmemişlerdir.
Author Contributions: Concept/Design : BÖ; Data acquisition: BÖ; Data analysis and interpretation: FAY; Drafting manuscript: FAY, BÖ; Critical revision of manuscript: FAY; Final approval and accountability: BÖ, FAY; Technical or material support: BÖ; Supervision: FAY; Securing funding (if available): n/a.
Ethical approval: Prior to the study, the approval of the Directorate of Public Health to which the aforementioned Cancer Early Detection, Screening and Training Center is affiliated and an ethical committee report December 07, 2016 from the Medical Faculty of Bozok University were received.
Peer-review: Externally peer-reviewed.
Conflict of Interest: Authors declared no conflict of interest.
Financial Disclosure: Authors declared no financial support

REFERENCES

1. Bermudez A, Ghatl N, Leung E. Cancer of the cervix uteri. Int J Gynaecol Obstet. 2015;131:88-95.
2. Stewart BW, Wild CP. Word Cancer Report 2014.Lyon,WHO, 2014.
3. T.C. Sağlık Bakanlıgı. Türkiye Halk Sağlığı İstatistik Kurumu 2014. Available from: https://hsgm.saglık.gov.tr/depo/birimler/kanser-db/istatistik/2014-RAPOR(accessed Sep. 2017).
4. Southern Africa Litigation Centre Tackling cervical cancer: Improving Access to Cervical Cancer Services for Women in Southern Africa 2012. Johannesburg, Southern Africa Litigation Centre, 2012.
5. Basu P, Mittal S, Vale DB, Kharaji YC. Secondary prevention of cervical cancer. Best Pract Res Clin Obstet Gynaecol. 2018;47:73–85.
6. Tuncer ZS. Jinekolojik açıdan human papilloma virüs enfeksiyonu. Hacettepe Tıp Dergisi. 2014;38:8-14.
7. Güner Taşkıran Ç. Epidemiology of cervical cancer and the role of human papilloma virus. J Turkish Obstetric Gynecol Soc. 2007;4:11-9.
8. Less B, Erikson BK. Cervical cancer screening. Am J Obstet Gynecol 2016;21:438-43.
9. Cervical Cancer Action. Progress in Cervical Cancer Prevention .The CCA Report Card 2011; Avaliable from:http://www.cervicalcanceraction.org/pubs/CCA_reportcard_low-res.pdf. (accessed Dec 2017).
10. Coronado IE, Anakwenze C, Aung M, Jolly P. Increasing cervical cancer awareness and screening in Jamaica: Effectiveness of theory-based educational intervention. Int.J Envıron Res Publıc Health. 2015;13(1):ijerph13010053.
11. Ekechi C, Olaitan A, Ellis R, Koris J, Amajuoyi A, Marlow LA. Knowledge of cervical cancer and attendance at cervical cancer screening: a survey of Black women in London. BMC Public Health 2015;14:1096.
12. Richard A, Rohrmann S, Schmid SM, Tirri BF, Huang DJ, Güth U et al. Lifestyle and health-related predictors of cervical cancer screening attendance in a Swiss population-based study. Cancer Epidemiol 2015;39:870-6.
13. Köse M. Sağlık Istatistikleri Yıllığı. Ankara, Sağlık Bakanlığı, 2015.
14. Ersin F, Bahar Z. Effects of Health Promotion Models on breast cancer early detection behaviors: a literature review. Dokuz Eylul University Nursıng Faculty Electronıc Journal. 2012;5:28-38.
15. Bahar Z, Beşer A, Gördes N, Ersin, F, Kıssal A. Sağlıklı yaşam biçimi davranışları ölçeği II'nin geçerlik ve güvenirlik çalışması. C.Ü. Hemşirelik Yüksekokulu Dergisi. 2008;12:1-13.
16. Gözüm, S, Çapık, CA guide in the development of health behaviours: Health Belief Model. Dokuz Eylul Universıty Nursıng Faculty Electronıc Journal. 2014;7:230-7.
17. Akyüz A, Güvenç G, Yavan T, Çetintürk A, Kök G. Kadınların pap smear yaptırma durumları ile bunu etkileyen faktörlerin belirlenmesi. Gülhane Med J. 2006;48:25-9.
18. Bal MD. Kadınların pap smear testi yaptırma durumlarının sağlık inanç modeli ölçeği ile değerlendirilmesi. Marmara Üniversitesi Sağlık Bilimleri Enstitüsü Dergisi. 2014;4:133-8.
19. Gümüş A, Çam O. Kadınların serviks kanseri için erken tanı tutumları ile benlik saygısı, beden algısı ve umutsuzluk düzeyleri arasındaki ilişkiler. Nobel Med J. 2011;7:46-52.
20. Özmen D, Özsoy SA. Sağlık inanç modeli yaklaşımı ile servikal kanserin erken tanısına yönelik tutum ölçeği. Ege Üniversitesi Hemşirelik Yüksekokulu Dergisi. 2009;25:51-69.
21. Ersin F, Kıssal A, Polat P, Koca BD, Erdoğan M. Kadın sağlık personelinin servikal kansere yönelik algıları ve bunu etkileyen faktörler. Hemşirelikte Araştırma Geliştirme Dergisi. 2016;18:31-43.

22. Demirtas B, Acikgoz I. Promoting attendance at cervical cancer screening: understanding the relationship with Turkish womens health beliefs. Asian Pac J Cancer Prev 2013;14:333-40.
23. Aşılar Hacıhasanoğlu R, Köse S, Yıldırım A. Kadınların servikal kanser ve "pap smear" testine ilişkin bilgi, inanç ve davranışları. Türkiye Klinikleri Dergisi J Nurs Sci. 2015;7:102-11.
24. Jia Y, Li S, Yang R, Zhou H, Xiang Q, Hu T et al. Knowledge about cervical cancer and barriers of screening program among women in Wufeng country, a high-incidence region of cervical cancer in China. PLoS One 2015;8:e67005.
25. Reis N, Bebis H, Köse S, Sis A, Engin R, Yavan T. Knowledge, behavior and beliefs related to cervical cancer and screening among Turkish women. Asian Pac J Cancer Prev. 2012;13:1463-70.
26. Damiani G, Federico B, Basso D, Bianchi CB, Anzellotti GM et al. Socioeconomic disparities in the uptake of breast and cervical cancer screening in Italy: a cross sectional study. BMC Public Health. 2012;12:99.
27. Kivistik A, Lang K, Baili P, Anttila A, Veerus P. Women's knowledge about cervical cancer risk factors, screening, and reasons for non-participation in cervical cancer screening programme in Estonia. BMC Womens Health 2011;11:43.
28. Tuna Oran N, Öztürk Can H, Senuzun F, Durmaz RA. Health promotion lifestyle and cancer screening behaviors: A survey among academician women. Asian Pac J Cancer Prev. 2008;9:515-8.
29. Arabacı, Z. Kadınların pap smear testi deneyimlerinin betimlenmesi: nitel bir çalışma. (Yüksek Lisans Tezi). İzmir, Ege Üniversitesi, 2012.
30. Glanz K, Rimer KR, Viswanath K. Health Behavior and Health Education: Theory, Research and Practice. (4th edition). San Francisco, JosseyBass. 2008.
31. Winkler J, Bingham A, Coffey P, Handwerker WP. Women's participation in a cervical cancer screening program in Northern Peru. Health Educ Res. 2008;23:10-24.
32. Ibekwe CM, Hoque ME, Ntuli-Ngcobo B. Perceived benefits of cervical cancer screening among women attending Mahalapye District Hospital, Botswana. Asian Pac J Cancer Prev. 2010;1:1021-7.
33. Saslow D, Runowicz CD, Solomon D, Moscicki AB, Smith RA, Eyre HJ et al. American Cancer Society Guideline for the early detection of cervical neoplasia and cancer. CA Cancer J Clin. 2002;52:342-62.
34. Jirojwong S, Maclennan R, Manderson L. Health beliefs and pap smears among Thai Women in Brisbane, Australia. Asia Pac J Public Health. 2001;13:19-23.