ORIGINAL ARTICLE

Relationship Between Health Perception and Cervical Cancer Awareness: Two Different Data Collection Methods

Sağlık Algısı ve Serviks Kanseri Farkındalığı İlişkisi: İki Farklı Veri Toplama Yöntemi

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Abstract

Objective: Cervical Cancer (CC) is one of the most common cancers in women. CC screenings are performed free of charge at all stages of cancer early diagnosis and screening centers in women aged 30-65 years. The incidence of women in this age range to benefit from screenings is high. It is considered that this condition may cause a loss in terms of early diagnosis. This study aims to determine the relationship between health perception and CC awareness in terms of socio-demographic characteristics of women (primarily age) and two different data collection methods.

Method: The research is in descriptive-sectional design. The population consisted of women aged 20-65 years. Four hundred seventy-eight people were included in the sample. The data were collected by personal information form, Health Perception Scale (HPS) and Attitude Scale Toward the Early Detection of Cervical Cancer (ASTEDCC).

Results: The mean age was 34.27±10.32, the mean HPS was 40.86±8.24, and the mean ASTEDCC was 94.38±12.09. It was found that being 36 years and older, having children, having heard of the test, made a difference in getting a pap smear test. The mean rank of ASTEDCC was higher in patients with face-to-face interview methods. A positive and moderate relationship was found between HPS and ASTEDCC.

Conclusion: Age and the way the data were collected from the participants are effective in CC awareness and there is a relationship between health perception and CC awareness.

Keywords: Cervical cancer, health perception, awareness, pap smear test, early detection

Öz

Amaç: Servikal Kanser (SK) kadınlarda en yaygın görülen görülen kanser türlerinden biridir. SK taramaları 30-65 yaş aralığındaki kadınlarda kanser erken teşhis ve tarama merkezlerinde tüm aşamalarında ücretsiz olarak yapılmaktadır. Bu yaş aralığındaki kadınların taramalardan yararlanma insidansı yüksektir. Bu durumun erken tanı açısından kayıp oluşturabileceği değerlendirilmektedir. Araştırmanın amacı kadınların sosyo-demografik özellikleri (öncelikle yaş) ve iki farklı veri toplama yöntemi açısından sağlık algısının SK farkındalığı ilişkisini belirlemektir.

Yöntem: Araştırma, tanımlayıcı-kesitsel tasarımdadır. Evreni 20-65 yaş aralığındaki kadınlar oluşturmuştur. Örneklemde 478 kişi yer almıştır. Veriler kişisel bilgi formu, Sağlık Algısı Ölçeği (SAÖ) ve Servikal Kanserin Erken Tanısına İlişkin Tutum Ölçeği ile (SKETTÖ) toplanmıştır.

Bulgular: Yaş ortalaması 34,27±10,32, SAÖ ortalaması 40,86±8,24, SKETTÖ ortalaması 94,38±12,09'dur. Otuz altı yaş ve üstünde olmanın, çocuk sahibi olmanın, testi duymuş olmanın pap smear testi yaptırmada fark oluşturduğu bulunmuştur. Yüz yüze görüşme yöntemiyle veri toplananlarda SKETTÖ sıra ortalaması daha yüksektir. SAÖ ile SKETTÖ arasında pozitif yönlü ve orta düzeyde ilişki bulunmuştur.

Sonuç: Yaş ve katılımcılardan verinin toplanış şekli serviks kanseri farkındalığında etkilidir ve sağlık algısı ile serviks kanseri farkındalığı arasında ilişki bulunmaktadır.

Anahtar Kelimeler: Rahim ağzı kanseri, sağlık algısı, farkındalık, pap smear testi, erken teşhis

Introduction

Cervical Cancer (CC) is the third most common type of cancer in women in the world, in women in developing countries mostly (1). CC is the ninth most common cancer in women of all ages in Turkey whereas it is the fourth most common cancer in women of 25-49 years of age (Turkey cancer statistics, 2015). The incidence is expected to almost double by 2025, causing the death of approximately 270,000 women worldwide each year even though it is a preventable disease. Approximately 87% of these occur in developing countries, especially in rural areas (2). The reasons why CC is more common in developing or underdeveloped countries compared to women in developed countries are being uneducated and poor, being more affected by adverse environmental conditions and not being able to have a say in decision-making processes due to the low status of women, being late in diagnosis and treatment due to adequate use of health services, risky sexual behaviors, nutritional and hygiene deficiencies, early start of sexual activity, smoking, and low rate of having Pap Smear Test (PST) and these reasons are shown as risk factors for CC. Therefore, women need to be protected from these risk factors (3,4).

Risk factors for CC and insufficient knowledge of PST also cause prevention, early diagnosis, and treatment methods not to be used (3). The incidence of invasive CC has markedly decreased over the past fifty years with routine PST screenings involving many people in developed countries (5,6). CC screening should be started in all women when sexual activity begins at or from the age of 18 according to the advice of the American College of Obstetrics and Gynecology (7,8). Studies conducted in developing countries, including Turkey, have shown that the frequency of screening is not yet at the desired levels (9,10). It has been reported that women have never had (32.4%, 44.1% and 82.8%) PST at different rates in studies conducted in Turkey (11). It was stated that women experienced feelings such as fear, shame, shyness, and boredom while performing PST and that fear of gynecological examination prevented regular testing and behaviors were adversely affected in a qualitative study conducted in Turkey (12). The low level of knowledge, false attitudes, and beliefs about PST cause women to develop negative behaviors and attitudes towards health protection and improvement (6,13). It is very important in this context to understand the perceptions, barriers, decision-making processes, and behaviors of individuals regarding their health needs.

Main Points

- Cervical cancer is a preventable disease and cervical cancer screening reduces both mortality and incidence.
- Two out of every three women know about pap smear screening, but only one out of every three women has the test.
- Women's health perceptions are low, and their attitudes towards early diagnosis of cervical cancer are moderate.
- Age, income perception and education level affect health perception.
- As women's health perceptions increase, their positive attitudes towards early diagnosis of cervical cancer also increase.

This study aims to determine the relationship between CC and PST awareness of women aged 20-65 years and to determine whether there is a difference between some socio-demographic characteristics (especially age) and the way the data were collected from the participant.

Material and Method

The research, was in descriptive-sectional design. The population of the study consisted of women aged 20-65 years who completed their child identity, reached cognitive maturity, and were at reproductive age in a city center in the Eastern Black Sea. The data were collected between October 2019 and February 2020. Sample calculation was made for the targeted population within the scope of the 2018 records of the Turkish Statistical Institute [$n=Nt^2pq/d^2(N-1) + t^2pq$] and the research was completed with 478 people.

Two different methods were preferred for data collection. The first method is to obtain the data by face-to-face interview method by the researchers. The other method is to use a web-based questionnaire form focusing on the assumption that people can answer the questions within their own living spaces with their free will based on the assumption that there may be reservations about the content being researched. The questionnaire form was kept online until the targeted number of participants shared on the web environment was reached in this method. Care was taken to ensure that the informed consent form was included in the questionnaire and that the participants were volunteers in both methods. Written permission was obtained from the Giresun University Clinical Research Ethics Committee of clinical trials in the province where the study was conducted prior to the study (KAEK 2019-07).

Statistical Analysis

SPSS 22 software was used for the analyses. Number and percentage distributions were given in descriptive data; Kolmogorov-Smirnov test was performed, Mann-Whitney U test was performed for binary variables, and Kruskal-Wallis test was performed for variables with three or more groups. The relationship between the quantitative data was evaluated by Spearman's Correlation Analysis. Logistic regression analysis was performed to find the effect coefficients. Rank averages were given and $p<0.05$ was considered as the significance level.

Information form: There are questions to determine the socio-demographic characteristics of women, their knowledge status about CC, and their PST status in this form, which was prepared by the researchers.

Health perception scale (HPS): The scale was developed by Diamond et al. (14). The Turkish validity was performed by Kadioglu and Yildiz (15). The five-point Likert-type scale has 15 items and four sub-factors. These factors are Control Point (CP), Self-awareness (SA), Certainty©, and Importance of Health (IH). Items 1, 5, 9, 10, 11, and 14 are positive attitudes

and items 2, 3, 4, 6, 7, 8, 12, 13, and 15 are negative statements. Positive statements are scored as "Strongly agree =5", "Agree =4", "Undecided =3", "Disagree =2", "Strongly disagree =1". Negative statements in the scale are scored inversely. A minimum of 15 and a maximum of 75 points are obtained from the scale. The Cronbach's Alpha value was reported as 0.744 for the total score of the scale and the values of the sub-factors were reported as 0.90 for CP, 0.91 for SA, 0.91 for C, and 0.82 for IH (14,15). In this study, the cronbach alpha value of the scale was calculated as 0.744.

Attitude scale toward the early detection of cervical cancer (ASTEDCC): The scale, which was developed by Ozmen and Ozsoy (16), aims to evaluate women's attitudes towards CC. The 30-item scale has 4 sub-factors: Perceived Sensitivity (PSn:), Perceived Severity (PSv:), Perceived Obstacle (PO:), and Perceived Benefit (PB:). A minimum of

30 and a maximum of 150 points are obtained from the scale. Cronbach's alpha value test whole scale was stated as 0.89, 0.71 for PSn, 0.78 for PSv, 0.70 for PO, and 0.72 for PB. The high scores obtained from the scale indicate that the individual's attitudes towards early diagnosis of CC are positive (16). In this study, the cronbach alpha value of the scale was calculated as 0.710.

Results

The mean age was 34.27±10.32 years (20-65; median: 34), 56.3% of the data were collected by face-to-face interview method, 56.5% were 35 years and below. It was found that 38.4% of the participants were university graduates, 19.3% had the age of first sexual intercourse at 18 years and below, 61.1% had heard of PST, but 63.9% had not taken the test (Table 1).

Table 1.
Descriptive Characteristics of Participants (n=478)

Variable	Characteristics	n	%
Method of obtaining data	Web-based questionnaire form Face-to-face interview	209 269	43.7 56.3
Age Mean age 34.27±10.32 (min-max: 20-65; median: 34)	35 years and under 36 years and over	270 208	56.5 43.5
Place where she lived for a long-time	Urban region Rural region	325 153	68.0 32.0
Age of first intercourse 21.89±4.03 (min-max: 10-40)	18 years and under 19 years and over	87 364	19.3 80.7
Does she often change her sexual partner? (n=451)	Yes No	13 465	2.7 97.3
Does your partner have any other partners?	Yes No I do not know	9 412 57	1.9 86.2 11.9
Recently graduated school	Literate Primary school graduate Secondary school graduate High school graduate Graduated from a universty	91 12 61 129 183	19.1 2.5 12.8 27.1 38.4
Having a child	Yes No	340 138	71.1 28.9
Perception of income level	High income High expenses Income equals expenses	131 199 148	27.4 41.6 31.4
Has she heard about the pap smear test?	Yes No	292 186	61.1 38.9
Has she been diagnosed with any cancer?	Yes No	28 442	5.9 94.1
Are there any family members diagnosed with cervical cancer?	Yes No	36 442	7.5 92.5
Has she been educated on cervical cancer?	Yes No	175 303	36.7 63.3
Has she had a pap smear test?	Yes No	172 306	36.1 63.9

The total mean HPS of the participants was 40.86±8.24 years (min-max: 18-63), and the total mean ASTEDCC was 94.35±12.09 (min-max: 54-142). The mean scores of the HPS and ASTEDCC sub-scale are provided in Figure 1.

It was found in the study that the ASTEDCC scores were higher whereas there was no significant difference in the HPS scores of the participants in whom the data were collected face-to-face. In addition, both HPS and ASTEDCC scores were found to be significantly higher in those 36 years and older, those who experienced their first sexual intercourse at the age of 18 and below, those who spent the majority of their lives in rural areas, those who had not heard of the PST before and those who had not been trained on CC (Table 2).

It was found in this study that income perception and education level variables made a difference in terms of both HPS and ASTEDCC. It was found in the post-hoc analysis that both HPS and ASTEDCC scores of those with high income were high. It was seen that the HPS score also increased as the level of education increased. However, this is in the opposite direction in ASTEDCC, and the ASTEDCC score ranking of the group with a high level of education was lower.

Factors affecting the participants' PST were found to be age (1.04 times), not being diagnosed with any type of cancer (0.27 times), not having children (0.13 times), and not having education about CC (0.18 times) (p<0.001) (Table 3).

A positive and very weak relationship was found between age and HPS, and a moderate and positive relationship was found between HPS and ASTEDCC (p<0.001) (Table 4).
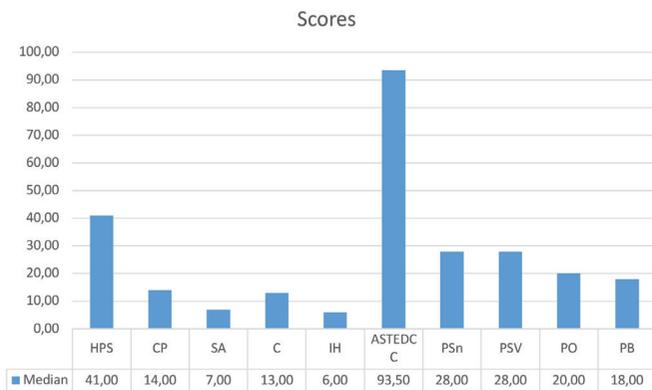

Figure 1.
Scores of total and sub-factors of participants' HPS and ASTEDCC scales (n=478)
HPS=Health perception scale, C=control point, SA=self-awareness, C=certainty, IH=importance of health, ASTEDCC=attitude scale toward the early detection of cervical cancer, PSn=perceived sensitivity, PSv=perceived severity, PO=perceived obstacle PB=perceived benefit

Discussion

CC is the most common cancer in women and is a serious public health concern. Its annual incidence in the world is 500,000, of which approximately 274,000 die (17). CC screening decreases mortality and incidence. World Health Organization defines CC as a preventable disease in this respect. Early screenings are even more important where signs and symptoms are not seen until the advanced stage in CC. Women's decisions in the CC screening are influenced by a wide variety of factors such as socio-cultural factors, cancer awareness, knowledge, attitudes and beliefs, and attitudes and recommendations of health professionals (18).

Perception of health is an individual assessment of their personal health (19). It was found that women in the study had low perceptions of health. The lowest mean score was found in the IH sub-scale whereas the highest mean score was in the C sub-scale. It was seen in the study of Kolaç et al., (20) that health perception was moderate, the lowest score was obtained from the IH sub-scale and the highest score was obtained from the CP sub-scale, and there was a significant difference between education and health perception.

One of the most important demographic factors affecting health perception is age (19). The accompanying chronic diseases with the progression of age adversely affect the health perceptions of individuals. It was also explained in the study conducted with women in menopause that women's perceptions of health were poor, women under 45 years of age had better perceptions of health compared to those who were older, and there was a relationship between negative health perception and rural life and low education level (21). It was found in this study that those 36 years of age and older, those who spend most of their lives in rural areas, those with high income, and those with high education have high perceptions of health. Socio-demographic characteristics affecting health perception are consistent with the literature.

The rank averages of the participants that were collected through the web-based questionnaire were found to be high. IH sub-scale is to determine to what extent the individual attaches importance to her health, to what extent she makes financial sacrifices in this regard, and whether the importance she attaches to health is one of the priorities in his/her life (22). When approached in terms of the way the data is collected, the web-based interview method may affect the individual's being more objective due to reasons such as the lack of fear of being judged or stigmatized.

The attitude scores of the participants towards early diagnosis of CC were found to be moderate in the study. It was found that the participants' perceptions of severity towards early diagnosis of CC were high, their perceptions of sensitivity and benefit were moderate, and their perceptions of obstacles were low. Önal and Yilmaz (23) stated in their study that women's perceived sensitivity to early diagnosis

of CC was moderate and their severity, obstacle, and benefit perception scores were low. The fact that the services are free of charge is considered to be effective in the participants' low perception of obstacles in addition to the easy access to cancer early diagnosis and screening centers units and the services offered there, in Turkey.

High awareness of women about CC enables them to recognize CC and receive medical assistance. The likelihood of avoiding the factors that cause the development of the disease and their behavior of going to screening tests increases when women are aware of the causes and risk factors of CC and perceive themselves at risk (24). Altintas and Aslan (25) found in their study that women's overall perceptions of CC early diagnosis, their perceptions of severity and obstacles were moderate, and their perceptions of sensitivity and benefit were low. Cimke and Borekci (26) reported in their study that women's attitudes towards early diagnosis of CC were positive.

It was found in the study that age, income level, age of first sexual intercourse, where she spent most of her life, whether she heard of PST, and whether she received education about CC made a difference in the early diagnosis attitude of CC. In addition, the ASTEDCC scores were higher while they were lower in those with high education levels in the participants whose data were collected face-to-face.

It was determined in a study conducted in Ghana that the awareness of women who were educated about CC increased about CC and early diagnosis (27). Early sexual intercourse, multiple sexual partners, smoking, obesity, race, parity, and low socio-economic status are mentioned as risk factors for CC in the literature (28). Approximately one in five women experienced their first sexual intercourse during the adolescent period in our study. It is promising that the attitudes of women in the risk group in terms of CC in early diagnosis are positive. It was reported in a study that the age of first sexual intercourse did not affect the attitudes of women towards early diagnosis of CC, unlike our results (29). The reason for these differences is thought to be the research methodology and socio-cultural characteristics of the participants.

Women's perceptions of early diagnosis of CC are influenced by their individual, social, and cultural characteristics. It was reported in a study conducted by Altintas and Aslan (25) that women's perceptions of early diagnosis of CC differed significantly in terms of their employment status, economic status, social security status, and family types and that their characteristics such as age, marital status, and having children, menopause status, family cancer, and presence of CC did not differ. The perception of early diagnosis was low in those with high education levels while it was significantly high in those who did not know PST (25). Age, which supports

Table 2.
Distribution of Socio-demographic Characteristics of Participants on Total Scores of HPS and ASTEDCC (n=478)

Variable	Characteristics	HPS Mean rank	Test value (p)	ASTEDCC Mean rank	Test value (p)
Method of obtaining data	Web-based questionnaire form Face-to-face interview	228.25 246.53	0.150	206.77 264.93	**0.001**
Age	35 years and under 36 years and over	220.60 261.97	**0.001**	234.47 246.03	0.364
Place where she lived for a long-time	Urban region Rural region	225.07 267.12	**0.002**	219.60 281.78	**0.001**
Age of first intercourse	18 years and under 19 years and over	267.67 214.75	**0.001**	257.37 218.50	**0.012**
Recently graduated school	Literate Primary school Secondary school High school Universty	211.33[a,d] 299.33[a] 228.67[e] 272.85[b,d,e] 224.63[b]	**0.003**	211.45 263.71 252.81[c] 266.38[b] 211.45[b,c]	**0.009**
Perception of income level	High income High expenses Income equals expenses	252.79[a,b] 248.58[a] 212.43[b]	**0.020**	262.29[a,b] 254.67[a] 198.93[b]	**0.001**
Has she heard about the pap smear test?	Yes No	226.62 257.18	**0.018**	220.78 268.89	**0.001**
Has she been educated on cervical cancer?	Yes No	208.56 255.75	**0.001**	212.33 255.02	**0.001**

[a,b,c,d,e]=Indicate the groups from which the difference originates, HPS=health perception scale, ASTEDCC=attitude scale toward the early detection of cervical cancer

the results in this study, affected the attitude towards early diagnosis in another study and it was determined that a high positive attitude developed in those with high income (30). However, there is also a study reporting that income level did not make a difference in early diagnosis attitudes of women (29).

Young women of reproductive age living in rural areas with limited access to education and economy are the most at risk in the lack of awareness of CC. Rural women who are poorer and less educated are less knowledgeable about CC. The level of education affects CC awareness, and the increase in education increases the likelihood of awareness (31). Different results may be due to the negligence of educated women living in the city who have easy access to health services in terms of early diagnosis in our study. It is gratifying that the attitudes towards early diagnosis were more positive in the group whose data were collected face-to-face.

Screening and treatment of precancerous lesions can prevent almost 100% in CC (31). It was seen in this study that two out of every three women knew about PST, but only one out of every three women had the test. Age, not being diagnosed with any cancer, not having children, and not having an education on CC were determined as the factors significantly affecting PST. It was stated in a study conducted in Malaysia that women still had insufficient awareness of CC and screening programs, that religious and cultural belief variables masked women's health beliefs and created confusion, uncertainty, and obstacles to screening (17). CC is usually asymptomatic at an early stage and it is possible to detect it by screening test at this stage. This is one of the few cancers that can be easily detected during the stage of cancer premalignancy. PST is an effective method that has become the gold standard for CC screening due to its low cost, easy application, and repeatability (32,33). However, women are reluctant to have this test for a wide range of reasons. Age and level of knowledge were stated as effective factors in getting tested in a study by Ashtarian et al., (32) investigating the factors affecting PST. On the contrary, It was found that the majority of the participants did not have PST before and this was caused by neglect, not seeing themselves in the risk group, and a sense of shame in a study conducted with female physicians who were expected to have high knowledge and awareness about CC (34). it was found that 41.2% of women heard of PST but did not know when to have it and only 27.8% had the test in another study investigating the CC awareness of women in different professions. Studies conducted in Turkey show that the number of women undergoing PST, including health personnel, is generally quite low. These data show that the

Table 3.
Factors Affecting Participants' Performing Pap Smear Test* (n=478)

Variable		β	p	OR	95% CI
Age (scale)		0.047	**0.001**	**1.048**	1.020-1.076
Age of first intercourse (scale)		0.043	0.167	1.044	0.982-1.109
HPS (scale)		-0.021	0.170	0.979	0.949-1.009
ASTEDCC (scale)		0.000	0.980	1.000	0.979-1.021
Method of obtaining data	Web-based questionnaire form			1.00	
	Face-to-face interview	-0.529	0.102	0.589	0.312-1.11
Place where she lived for a long time	Urban region			1.00	
	Rural region	-0.320	0.238	0.726	0.427-1.236
Perception of income level	High income			1.00	
	High expenses	0.055	0.881	1.057	0.512-2.181
	Income equals expenses	0.330	0.334	1.392	0.712-2.719
Does she often change his sexual partner?	Yes			1.00	
	No	-1.087	0.170	0.337	0.071-1.595
Having a child	Yes			1.00	
	No	-1.970	**0.001**	**0.139**	0.069-0.283
Has she been diagnosed with any cancer?	Yes			1.00	
	No	-1.307	**0.009**	**0.271**	0.102-0.718
Are there any family members diagnosed with cervical cancer?	Yes			1.00	
	No	0.185	0.685	1.204	0.491-2.951
Has she been educated on cervical cancer?	Yes			1.00	
	No	-1.616	**0.001**	**0.185**	0.119-0.331

*Nagelkerke R Square: 454.44, Omnibus Test of Model Coefficients p=0.001, OR=odds ratio, CI=confidence interval, HPS=health perception scale, ASTEDCC=attitude scale toward the early detection of cervical cancer

Table 4.
The Relationship Between Some Characteristics of the Participants and Total Scale and Sub-scale Scores of HPS and ASTEDCC

		Age	Age of first intercourse	HPS	CP	SA	C	IH	ASTEDCC	AD	AC	AE	AY
Age	Rho*	1											
	p												
Age of first intercourse	Rho*	0.034	1										
	p	0.470											
HPS	Rho*	0.143**	-.0127**	1									
	p	0.002	0.007										
CP	Rho*	0.150**	-0.158**	0.754**	1								
	p	0.001	0.001	0.001									
SA	Rho*	0.022	0.055	0.516**	0,140**	1							
	p	0.634	0.245	0.001	0.002								
C	Rho*	0.130**	0.128**	0.672	0.371**	0.101*	1						
	p	0.004	0.006	0.001	0.001	0.028							
IH	Rho*	-0.028	0.048	0.439**	0.017	0.435**	0.088	1					
	p	0.545	0.310	0.001	0.711	0.001	0.054						
ASTEDCC	Rho*	-0.001	-0.128**	0.326**	0.380**	-0.060	0.346**	-0.056	1				
	p	0.980	0.006	0.001	0.001	0.192	0.001	0.225					
PSn	Rho*	0.036	-0.095*	0.290**	0.364**	-0.065	0.304**	-0.049	0.775**	1			
	p	0.436	0.045	0.001	0.001	0.156	0.001	0.284	0.001				
PSv	Rho*	0.041	-0.075	0.107*	0.180**	-0.109*	0.186**	0.156**	0.728**	0.407**	1		
	p	0.374	0.112	0.020	0.001	0.018	0.001	0.001	0.001	0.001			
PO	Rho*	-0.075	-0.144**	0.336**	0.323**	0.044	0.285**	0.085	0.666**	0.375**	0.278**	1	
	p	0.100	0.002	0.001	0.001	0.342	0.001	0.064	0.001	0.001	0.001		
PI	Rho*	0.029	-0.059	0.157**	0.212**	-0.065	0.164**	-0.094*	0.486**	0.317**	0.218**	0.155**	1
	p	0.534	0.211	0.001	0.001	0.157	0.001	0.040	0.001	0.001	0.001	0.001	

*=Spearman correlation analysis, HPS=Health Perception Scale, CP=Control Point, SA=Self-Awareness, C=Certainty, IH=Importance of Health, ASTEDCC=Attitude Scale Toward the Early Detection of Cervical Cancer, PSn=Perceived Sensitivity, PSv=Perceived Severity, PO=Perceived Obstacle, PB=Perceived Benefit

CC screening program still does not reach the vast majority of women (26). The fact that those who have regular PST in Turkey are below the desired levels especially according to the rates in developed countries may be due to the obstacles created by religious and cultural values (35).

A positive correlation was found between age and health perception, and a positive correlation was found between health perception and early diagnosis attitude. Şen and Öztürk (36) found that the perception of health changed inversely with age. CC screening program has been carried out in Turkey since 2012. People know these practices and even if they are easily accessible, it is at their own discretion whether or not to have them done. Individuals' attitudes towards these screenings should be questioned In order to be successful in cancer prevention and early diagnosis (36). People's perceptions of health have an impact on their health-protective behaviors. As a matter of fact, Kızılırmak et al., (37) found a significant difference between self-breast examination and health perception score in their study.

Study Limitations

The limitations of this research are that the data were collected at a certain time cross-section and only through the questionnaire.

Conclusion

It was found that there was a positive and moderate relationship between HPS and ASTEDCC scores of women in the study, their perceptions of health were low, and their attitudes towards early diagnosis of CC were moderate. It was seen that the health perceptions of the participants also increased as the age of the participants increased. Determining the obstacles of women for early diagnosis of CC to be positive and ensuring their adaptation with different practices such as motivational interview methods. Increasing educations and campaigns through both healthcare professionals and social media in order to raise awareness about CC and PST. PST is recommended to be performed free of charge not only to women aged 30-65 years but also to all women.

Ethics Committee Approval: The participants were informed through an information text placed at the top of the study form in accordance with the criteria of the Declaration of Helsinki. "Giresun University Clinical Research Ethics Committee" permission was obtained for study (KAEK 2019-7).

Informed Consent: Informed consent was obtained.

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