



RESEARCH ARTICLE

Women's Attitude and Beliefs about Cervical Cancer and Pap Smear Test by using the Health Belief Model

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Abstract

Background: Determination of women's attitudes and beliefs about cervical cancer and pap smear test are so important to overcome barriers and provide screening behavior. The aim of this study was to determine women's attitude and beliefs about cervical cancer and pap smear test according to Health Belief Model.

Methods: The study was conducted with a sample of 611 women who applied to the hospital, which is located in Turkey. Characteristics of women questionnaire and Health Belief Model Scale for Cervical Cancer and Pap Smear Test are used for the study.

Results: In the study, 31.3% of women had pap smear test and women who had higher socioeconomic status, who had children, had gynecological examination regularly and who were at an advanced age were most likely to have pap smear test. Women with low socio-economic status (education, employment and income status) had low score from health motivation and high score from perceived barriers. Women who had regular gynecological examination had the pap smear test, heard and had information about the test were found to have the higher score for benefits of pap smear tests and health motivation and lower score from perceived barriers subscale. The most important barrier for having pap smear test was found as male doctor (53.9%). Susceptibility score was lower in employed, younger women and women who heard pap smear test. Barriers score was high in younger women, women with three or more children and women who had stillbirth.

Conclusion: Negative beliefs and attitudes about cervical cancer and lower socioeconomic status affect the rate of having pap smear test.

Keywords

Cervical cancer, Pap smear test, Health belief model

Introduction

In the world, 2,784,000 women aged 15 years and over are at risk for cervical cancer and about 527,624 new cervical cancer cases develop per year. The incidence of cervical cancer was determined 27.6 in Africa, 14.9 in America, 12.7 in Asia, 11.4 in Europe, 10.2 in Oceania and 14.0 in the world per 100,000 [1]. Cervical cancer is the 10th most common type of cancer in Turkey and the rate of cervical cancer has decreased compared to the years (4.1 in 2008, 2.0 in 2014) [2]. In terms of cervical cancer mortality, the rate is highest in Africa (17.5) and lowest in Asia (6.4), America (5.9), Oceania (4.5) and Europe (3.8) per 100,000. In the world, cervical cancer mortality rate was found 6.8 [3].

As it is known, HPV plays a major role in the etiology of cervical cancer. The prevalence of HPV types 16 and 18 in women was found 4.1% in the world. The prevalence of HPV types 16 and 18 in cervical cancer was 69.4% [3]. Other risk factors are stated as follows: obesity, poor nutrition of vegetables and fruits, low socio-economical status, use of alcohol and smoking, immune suppression, high number of pregnancy and parity, history of cervical cancer in mother or sisters, multiple sexual partner, history of sexually transmitted disease, irregular use of condom, use of oral contraceptive if combined with sexually intercourse at an early age, early sexual activity and not having pap smear [4-6].

Pap smear test is an effective and easy procedure to detect any abnormality in cervical cells [7] and frequency of screening for cervical cancer and age are different in countries. American College of Obstetricians and Gy-

oncologists recommends that women aged between 21 and 65 should be screened with pap smear test in every three years [8]. In Turkey population-based screening via HPV DNA and pap smear test in every five years is recommended to women aged between 30 and 65 [2]. It was stated that the frequency of the screening in developing countries and Turkey is not in an adequate level [9].

It has been indicated that rate of having pap smear test in women was low in some countries such as Malaysia (43.6%) [10], Iran (32%) [11] and Turkey (24.7%) [4]. In developed countries, 94% of women in Greece [12], 89.1% of women in USA [13], 70.1% of women in Alsace in France [14], 83% of women in United Kingdom [15] had pap smear test very highly. Some published studies pointed out that women who had a general lack of knowledge about cervical cancer had a low level of pap smear test [7,16-18]. However, negative beliefs and attitudes about cervical cancer affecting the rate of having pap smear test [4,17-20]. Misinformation and negative attitudes or beliefs may decrease cervical cancer screening. Health Belief Model (HBM) is one of the models for using the psychological determinants of behavior and is used to define relationships between health beliefs and behaviors. HBM for cervical cancer and pap smear test evaluate susceptibility to cervical cancer (beliefs about likelihood of getting a disease or condition), perceived seriousness of cervical cancer (the severity of a health problem as assessed by the individual), benefits of pap smear tests and health motivation (actions taken to prevent disease or deal with an illness), barriers to pap smear testing (capability of inhibiting factors such as cost of operation and overcome pain) and health motivation (a generalized state of intent that results in behavior designed to maintain or improve health) [7,9,11,21].

Perceived barriers are defined as factors that prevent developing a protective behavior about health. If perceived benefits are more than perceived barriers, the possibility of developing a protective health behavior is increased [21]. In former studies, the most important barrier for having pap smear test was found as male doctor [7,19,20], embarrassment [4,7,19,20], fear of pathological results [4,19,20], lack of knowledge [4,19,22], not having time or health insurance [4,19], having no permission from their partner [4], not knowing where to have pap smear test [4,22] and fear of pain during test [4].

In previous studies, women who had information about cervical cancer and pap smear test had lower perceived barriers than women who had no information about that [7,16-18]. Women with high level of education [17,18,20] and high income [17,20], women who heard and had the pap smear test [7,17,18], employed women [17,18] and women who had a history of gynecologic cancer in relatives [18] had lower perceived barriers and higher perceived benefits.

The aim of this study was to determine women's attitude and beliefs about cervical cancer and pap smear test according to HBM.

Material and Methods

Design and sample

The descriptive and cross-sectional study population consisted of 69,548 women who applied to the obstetric and gynecologic department of Manisa Association of Public Hospitals in Merkezefendi State Hospital in 2014, which is located in the western region of Turkey.

The minimum sample of the study was calculated as at least 595 women with 95.0% confidence level, 4% deviation and 50% unknown prevalence by using universe known formula and the Epi info 2000 statistical software. Women who were over the age of 18, were Turkish speakers and who agreed to join the study were included. Between the October 2015 and October 2016, 651 women applied to the out-patient clinic. Overall, 17 women had older than 65 years, 3 women had gynecologic cancer, 5 women had hysterectomy and 15 women did not want to participate in the study. The sample of the study included 611 women.

Questionnaire

The questionnaire consisted of two parts. The first part consisted of questions to elicit information about the characteristics of women such as age of women, educational, income and employment status of women, fertility characteristics and having gynecologic examination regularly. This part also included questions about knowledge and behavior of women's cervical cancer and pap smear test such as having heard about the pap smear test, having information about the pap smear test and cervical cancer and having pap smear test. The first part included 13 questions.

The second part comprised of the "HBM scale for cervical cancer and Pap smear test". The content validity and format of the scale were developed based on the Champion's Health Belief Model scales. The reliability and validity of the scale were established by Guvenc, et al. This scale has 35 items in five subscales which are susceptibility to cervical cancer (3 items), perceived seriousness of cervical cancer (7 items), health motivation (3 items), benefits of pap smear tests and health motivation (8 items) and barriers to pap smear testing (14 items). All the items of subscales have five-point Likert-type response choices which are "strongly disagree" scores 1 point, "disagree" scores 2 points, "neutral" scores 3 points, "agree" scores 4 points and "strongly agree" scores 5 points. Higher scores indicate stronger feelings related to screening behavior. The subscale of barriers to the pap smear test is a negative association, others subscales are positively related to screening behavior. Each of the subscales is evaluated separately. Cronbach's alpha reliability coefficient for the five sub-

scales and test-retest reliability coefficient were found to be ranged from 0.62 to 0.86 and 0.79 to 0.87, respectively [9].

Ethics of the study

An approval from the Ethics Committee of Manisa Celal Bayar University Faculty of Medicine was obtained (Date: 14.10.2015 Number: 20478486-364). After obtaining permission from the directors of Merkezefendi State Hospital and written informed consent were obtained from the women.

Data collection

The questionnaires were administered before examination in the clinic of the obstetric and gynecologic department with face to face interview and took approximately 20-30 minutes to complete. Women were informed about the aim of the study and invited to participate.

Data analysis

The statistical analysis was done by using SPSS 18.0. Basic descriptive characteristics were analyzed by using frequency distributions. After skewness and kurtosis tests made to check the normality condition of data distribution, it was seen that the groups were homogeneous.

The relationship between characteristics of women and having the pap smear test was evaluated by using χ^2 and Fisher's exact test. One-way ANOVA, t test and Bonferroni test were used for the relationship between characteristics of women and subscale of HBM scale for

cervical cancer and pap smear test. A p-level of < 0.05 was considered as statistically significant.

Results

In the study, the mean age of the women was 35.1 years (SD = 10.6). Overall, 39.0% of women were 30 years old or younger, 39.8% had primary education, 78.4% were housewives, 88.7% had a nuclear family and 93.3% had health insurance. Three out of four women (75.0%) stated that family income was equal to outgoings. When the fertility characteristics of women were examined, 32.6% had two children and 9.0% had still-birth. Majority of the women (80.2%) declared that they had regular sexual activity. In the study, about one third of women (33.3%) stated that they had regular annual visits to a gynecologist. About less than half of women (41.1%) had heard about the pap smear test, 7.9% and 6.1% of the women had information about pap smear test and cervical cancer, respectively (Table 1).

Overall, 43.6% of women aged 41 and older, 46.2% of employed women, 39.3% of primary school graduates and 33.0% of women with nuclear family had a pap smear test. The rate of having pap smear test was found 32.5% for women with health insurance and 34.3% of women with regular sexual life. Nulliparous women (12.4%) had lower rate of pap smear test than the other groups. A higher rate of pap smear test were found to be in women who had regular annual visits to a gynecologist (45.0%), had heard about the pap smear test (67.7%), had information about pap smear test (79.2%) and cervical cancer (64.9%) (Table 1).

In this study, the mean score of "benefits of pap

Table 1: Relationship between characteristics of women and having the pap smear test.

Characteristics of Women	n	%	Having the pap smear test				Test
			Yes		No		
			n	%	n	%	
Age of women							
≤ 30 years	238	39.0	31	13.0	207	87.0	$X^2 = 60.403$ df = 2 p = 0.000
31-40 age	201	32.8	85	42.3	116	57.7	
≥ 41 age	172	28.2	75	43.6	97	56.4	
Employment status							p = 0.000
Employed	132	21.6	61	46.2	71	53.8	
Unemployed	479	78.4	130	27.1	349	72.9	
Education level							$X^2 = 21.142$ df = 4 p = 0.000
Literate/Not illiterate	84	13.8	19	22.6	65	77.4	
Primary school	244	39.8	96	39.3	148	60.7	
Secondary school	105	17.2	18	17.1	87	82.9	
High school	122	20.0	37	30.3	85	69.7	
University	56	9.2	21	37.5	35	62.5	
Number of children							$X^2 = 43.298$ df = 3 p = 0.000
No children	121	19.8	15	12.4	106	87.6	
1 child	140	22.9	41	29.3	99	70.7	
2 children	199	32.6	93	46.7	106	53.3	
3 or more children	151	24.7	42	27.8	109	72.2	

History of stillbirth							
Yes	55	9.0	22	40.0	33	60.0	p = 0.169
No	556	91.0	169	30.4	387	69.6	
Perceived income status							
Income is lower than outgoings	120	19.6	38	31.7	82	68.3	X ² = 0.024 df = 2 p = 0.988
Income is equal to outgoings	458	75.0	143	31.2	315	68.8	
Income is higher than outgoings	33	5.4	10	30.3	23	69.7	
Type of family							
Extended	69	11.3	12	17.4	57	82.6	*p = 0.008
Nuclear	542	88.7	179	33.0	363	67.3	
Health insurance							
Yes	570	93.3	185	32.5	385	67.5	*p = 0.022
No	41	6.7	6	14.6	35	85.4	
Having sexual life regularly							
Yes	490	80.2	168	34.3	322	65.7	*p = 0.001
No	121	19.8	23	19.0	98	81.0	
Regular gynaecologic examination							
Yes	202	33.1	91	45.0	111	55.0	*p = 0.000
No	409	66.9	100	24.4	309	75.6	
Heard about the pap smear test							
Yes	251	41.1	170	67.7	81	32.3	*p = 0.000
No	360	58.9	21	5.8	339	94.2	
Had information about the pap smear test							
Yes	48	7.9	38	79.2	10	20.8	*p = 0.000
No	563	92.1	153	27.2	410	72.8	
Had information about the cervical cancer							
Yes	37	6.1	24	64.9	13	35.1	*p = 0.000
No	574	93.9	167	29.1	407	70.9	

*Fisher Exact Test.

smear tests and health motivation” and perceived barriers was 31.9 ± 5.5 (8-40) and 36.2 ± 9.8 (14-62), respectively. Perceived seriousness of cervical cancer, susceptibility to cervical cancer and health motivation mean scores were 24.1 ± 5.6 (7-35), 7.8 ± 2.4 (3-15) and 9.4 ± 2.5 (3-15), respectively (Data not shown).

When the relationship between the characteristics of women and HBM Scale for cervical cancer and pap smear test were examined, women aged under 30 years had higher perceived barriers score ($p = 0.039$) and had lower susceptibility to cervical cancer score ($p = 0.006$) than the women who were aged between 31 and 40. Employed women had higher susceptibility to cervical cancer ($p = 0.027$) and health motivation scores ($p = 0.045$) and lower perceived barriers score ($p = 0.000$) than unemployed women. The subscale “benefits of pap smear tests and health motivation score” ($p = 0.004$) was found lower and perceived barriers score ($p = 0.000$) was determined higher in literate/illiterate women than in the other groups. Women with two children had higher benefits of pap smear tests and health motivation ($p = 0.013$), and lower perceived barriers ($p = 0.000$) than women with three or more children. Women with a history of stillbirth had lower score for

benefits of pap smear tests and health motivation subscale ($p = 0.033$). The mean score of health motivation was found to be high in women without regular sexual life ($p = 0.036$), women with university education ($p = 0.040$) and was low in women whose family income was lower than outgoings ($p = 0.003$). The mean perceived barriers subscale points were defined high in women had stillbirth ($p = 0.016$), women with three or more children ($p = 0.000$), extended family ($p = 0.006$), who had no health insurance ($p = 0.035$) and had no sexual life regularly ($p = 0.000$) (Table 2).

Women who had a regular gynecological examination had the pap smear test, heard and had information about the test were found to be a high score for benefits of pap smear tests and health motivation and low score from perceived barriers subscale ($p < 0.05$). Women who had no information about cervical cancer had low score from health motivation subscale and high score from perceived barriers ($p < 0.05$). The mean score of health motivation ($p = 0.000$) was found to be higher in women who had gynecological examination regularly than women who had not. Women who had heard the pap smear test had higher susceptibility to cervical cancer ($p = 0.047$) (Table 3).

Table 2: Relationship between characteristics of women and Health Belief Model Scale for cervical cancer and pap smear test.

Characteristics of Women	Benefits and health motivation		Barriers		Seriousness		Susceptibility		Health motivation	
	Mean \pm SD	Test	Mean \pm SD	Test	Mean \pm SD	Test	Mean \pm SD	Test	Mean \pm SD	Test
Age of women*	≤ 30 years (a)	F = 2.781	37.3 \pm 8.9	F = 3.271	24.0 \pm 5.4	F = 2.692	7.4 \pm 2.5	F = 5.240	9.3 \pm 2.4	F = 1.379
	31-40 age (b)	p = 0.063	34.9 \pm 10.2	p = 0.039	24.8 \pm 5.4	p = 0.069	8.2 \pm 2.4	p = 0.006	9.6 \pm 2.5	p = 0.253
	≥ 41 age (c)		36.1 \pm 10.3	a > b	23.5 \pm 5.8		7.7 \pm 2.4	b > a	9.2 \pm 2.6	
Employment status		t = 1.816		t = -4.457		t = -0.639		t = 2.221		t = 2.021
	Employed	df = 609	32.9 \pm 10.0	df = 609	23.8 \pm 5.7	df = 609	8.2 \pm 2.6	df = 609	9.8 \pm 2.7	df = 192.455
	Unemployed	p = 0.070	37.1 \pm 9.5	p = 0.000	24.2 \pm 5.5	p = 0.523	7.7 \pm 2.4	p = 0.027	9.3 \pm 2.4	p = 0.045
Education level*	Literate/Not illiterate (a)	F = 3.816	41.1 \pm 9.6	F = 11.249	23.7 \pm 5.2	F = 2.254	7.7 \pm 2.3	F = 0.932	8.9 \pm 2.2	F = 2.530
	Primary school (b)	p = 0.004	36.4 \pm 9.5	p = 0.000	24.7 \pm 5.5	p = 0.062	7.9 \pm 2.5	p = 0.445	9.3 \pm 2.5	p = 0.040
	Secondary school (c)	b > a, c > a, d > a	36.7 \pm 8.8	a > b, a > c, a > d	24.3 \pm 5.2		7.4 \pm 2.4		9.2 \pm 2.5	e > a
	High school (d)	> a	34.1 \pm 10.2	d, a > e, b > e, c > e	23.7 \pm 5.6		7.8 \pm 2.4		9.6 \pm 2.4	
	University (e)		31.2 \pm 8.8		22.5 \pm 6.3		7.8 \pm 2.5		10.2 \pm 3.0	
Number of children*	No children (a)	F = 3.633	35.5 \pm 9.5	F = 6.512	24.0 \pm 5.5	F = 1.146	7.3 \pm 2.4	F = 1.860	9.7 \pm 2.5	F = 641
	1 child (b)	p = 0.013	36.9 \pm 9.8	p = 0.000	24.2 \pm 5.5	p = 0.330	7.8 \pm 2.6	p = 0.135	9.5 \pm 2.6	p = 0.179
	2 children (c)	c > d	34.2 \pm 9.5	d > a, d > c	24.6 \pm 5.4		7.9 \pm 2.3		9.2 \pm 2.5	
	3 or more children (d)		38.6 \pm 9.7		23.5 \pm 5.9		7.9 \pm 2.5		9.2 \pm 2.4	
History of stillbirth		t = -2.143		t = 2.422		t = -0.313		t = -0.314		t = -1.000
	Yes	df = 609	39.2 \pm 9.3	df = 609	23.9 \pm 4.9	df = 609	7.7 \pm 1.8	df = 76.645	9.0 \pm 2.5	df = 609
No	p = 0.033	35.9 \pm 9.8	p = 0.016	24.1 \pm 5.6	p = 0.754	7.8 \pm 2.5	p = 0.754	9.4 \pm 2.5	p = 0.318	
Perceived income status*		F = 1.596	35.0 \pm 10.3	F = 3.073	24.5 \pm 4.7	F = 0.497	7.7 \pm 2.6	F = 0.171	8.7 \pm 2.5	F = 5.812
	Income is lower than outgoings (a)	p = 0.204	36.7 \pm 9.5	p = 0.047	24.0 \pm 5.7	p = 0.608	7.8 \pm 2.4	p = 0.843	9.5 \pm 2.4	p = 0.003
	Income is equal to outgoings (b)		33.2 \pm 10.2		23.7 \pm 6.2		8.0 \pm 2.2		9.9 \pm 3.1	b > a, c > a
Income is higher than outgoings (c)										
Type of family		t = -0.764		t = 2.768		t = 0.716		t = -1.041		t = 0.116
	Extended	df = 609	39.2 \pm 6.6	df = 609	24.6 \pm 5.9	df = 609	7.5 \pm 2.4	df = 609	9.4 \pm 2.5	df = 609
	Nuclear	p = 0.445	35.8 \pm 9.8	p = 0.006	24.1 \pm 5.5	p = 0.474	7.8 \pm 2.4	p = 0.298	9.4 \pm 2.5	p = 0.908
Health insurance		t = 0.096		t = -2.110		t = -0.504		t = 1.003		t = 1.208
	Yes	df = 609	35.9 \pm 9.7	df = 609	24.1 \pm 5.5	df = 609	7.8 \pm 2.4	df = 43.726	9.4 \pm 2.5	df = 609
	No	p = 0.923	39.3 \pm 9.9	p = 0.035	24.5 \pm 6.1	p = 0.615	7.3 \pm 3.0	p = 0.321	8.9 \pm 2.8	p = 0.227
Having sexual life regularly		t = 1.140		t = -3.670		t = -0.661		t = 1.320		t = -2.100
	Yes	df = 161.809	35.5 \pm 9.5	df = 609	24.0 \pm 5.4	df = 609	7.8 \pm 2.4	df = 609	9.3 \pm 2.4	df = 609
	No	p = 0.256	39.1 \pm 10.1	p = 0.000	24.4 \pm 6.1	p = 0.509	7.5 \pm 2.4	p = 0.187	9.8 \pm 2.7	p = 0.036

*Bonferroni test.

Table 3: Knowledge and Behavior of Women's Cervical Cancer and PapSmear Test and Health Belief Model Scale for cervical cancer and Papsmear test.

Knowledge and Behavior of Women's Cervical Cancer and Pap Smear Test	Benefits and health motivation		Barriers		Seriousness		Susceptibility		Health motivation	
	Mean ± SD	Test	Mean ± SD	Test	Mean ± SD	Test	Mean ± SD	Test	Mean ± SD	Test
Regular gynaecologic examination										
Yes	32.6 ± 5.7	t = 2.356 df = 609 p = 0.019	33.9 ± 10.0	t = -4.150 df = 609 p = 0.000	24.1 ± 6.3	t = 0.042 df = 341.147 p = 0.967	7.6 ± 2.5	t = -1.049 df = 609 p = 0.295	10.0 ± 2.5	t = 4.740 df = 609 p = 0.000
No	31.5 ± 5.4		37.3 ± 9.5		24.1 ± 5.2		7.8 ± 2.4		9.0 ± 2.4	
Heard about the pap smear test										
Yes		t = 4.266 df = 609 p = 0.000		t = -10.659 df = 609 p = 0.000		t = -1.271 df = 609 p = 0.204		t = 1.986 df = 609 p = 0.047		t = -0.491 df = 609 p = 0.623
No	33.0 ± 5.3		31.58 ± 9.2		23.8 ± 5.6		8.0 ± 2.4		9.3 ± 6.7	
	31.1 ± 5.6	t = 2.916 df = 609 p = 0.004	34.4 ± 8.8	t = -10.588 df = 609 p = 0.000	24.4 ± 5.5	t = -1.162 df = 609 p = 0.246	7.6 ± 2.5	t = 1.710 df = 609 p = 0.088	9.4 ± 2.4	t = 0.193 df = 609 p = 0.847
	32.8 ± 5.5		30.4 ± 8.8		23.7 ± 5.9		8.0 ± 2.4		9.4 ± 2.7	
	31.4 ± 5.5		38.8 ± 9.1		24.3 ± 5.4		7.7 ± 2.5		9.3 ± 2.4	
Had information about the pap smear test										
Yes		t = 2.165 df = 609 p = 0.031		t = -5.098 df = 609 p = 0.000		t = -0.826 df = 609 p = 0.409		t = 1.806 df = 609 p = 0.071		t = 1.793 df = 609 p = 0.073
No	33.5 ± 5.1		29.4 ± 8.2		23.5 ± 6.1		8.4 ± 2.3		10.0 ± 2.9	
	31.7 ± 5.6		36.7 ± 9.7		24.2 ± 5.5		7.7 ± 2.4		9.3 ± 2.5	
Had information about the cervical cancer										
Yes		t = 1.479 df = 609 p = 0.140		t = -4.618 df = 609 p = 0.000		t = -0.870 df = 38.718 p = 0.390		t = 0.115 df = 609 p = 0.908		t = 3.260 df = 609 p = 0.001
No	33.2 ± 6.9		29.1 ± 10.9		23.1 ± 7.2		7.8 ± 2.3		10.6 ± 2.8	
	31.8 ± 5.4		36.6 ± 9.5		24.2 ± 5.4		7.8 ± 2.4		9.3 ± 2.5	

The most important barriers for having pap smear test was found male doctor (53.9%), neglect health/cannot remember (46.8%), embarrassment (42.2%), believing that pap smear test cannot prevent it if there is cervical cancer development in their destiny (40.5%), not knowing where to have pap smear test (40.1%), not knowing what will happen (32.2%), fear of a bad result (25.7%), having other problems more important than having a pap smear test in their life (24.1%) and fear of pain (12.8%) (Data not shown).

Discussion

In this study, women's attitudes and beliefs towards cervical cancer and having pap smear test were examined through HBM. In the present study, about four out of ten women had heard about the pap smear test. The finding was parallel to the studies conducted in Erzincan and Manisa in Turkey (44.1% and 43.1%) [4,17], lower than those in Ankara, Turkey (75%) [18] and in Nepal (80.6%) [23]. Our findings were lower than a study reported in Lebanon (19.6%) [24]. In the light of the study findings, only 7.9% of women had information about pap smear test. When the literature was reviewed, it was seen that of women 51.7% in Ankara, Turkey [18] and 57.2% in Nepal [23], 47% of Finnish and 48% of Polish female students had also information about pap smear test [25]. As can be seen in the findings from earlier studies worldwide, being aware of pap smear test and having information about the test were different concepts. For this reason, although there are many educational programs for health in our country, education about screening program for cervical cancer is needed. To raise an awareness in these women, mass media and special education programs towards them can be planned.

In the current study, about one third of women (31.3%) had pap smear test. Similarly, other studies in developing countries indicated that the ratio of women's having pap smear test was low such as 47.6% in Nepal [23], 43.6% in Malaysia [10] and 32% in Iran [11]. In developed countries, the rate of having pap smear test was found 94% in Greece [12], 89.1% in the USA [13] and 83% in UK [15]. It was found in some studies in Turkey that having pap smear test varies between 23.8% and 51.6% [4,7,17,18]. As can be seen, the ratio of having pap smear test was high in most of the studies in developed countries. Thus, education and training of women by health care providers may play an important role for participating screening program.

Consistent with the findings in previous studies [4,7,19,20,23], our study determined that more than half of the women expressed that they had preferred a female doctor, and four of ten women stated that embarrassment was a barrier for having pap smear test. It was emphasized in earlier studies that many women prefer to see a female doctor for gynecological problems in Muslim countries [7,20]. In Turkey women may

get examined by any gender of doctor they choose when they apply to a hospital. Despite of that fact nearly half of the women state the gender of the doctor as an obstruction. This may be related to religious and cultural reasons. Similarly, most of the other studies mentioned that other barriers were lack of awareness [4,11,18,19,22], fear of pathological result [4,11,19,20], having no sign of a medical problem [7,18], no permission from their partner [4], having no time to go a health center [4,19], having no health insurance [4,19], not knowing where to go for a pap smear test [4,22,23] and the fear of painful procedure [4,23]. The barriers could arise from lack of knowledge about the test which can be overcome by health professionals.

In many studies, like in the present study findings, women who had higher socioeconomic status (education status of women, employed and health insurance), who had children, who had gynecological examination regularly and advanced age were most likely to have pap smear test [18,23,24]. According to the present and the other published studies' findings, educational programs for raising consciousness and awareness of women focus on women who had lower socioeconomic status.

In the study, the relationship between characteristics of women and HBM for cervical cancer and pap smear test were examined. Consistent to our study findings, it was found that subscale of perceived barriers score was low [7,16-18], benefits and health motivation subscale was high [7,17,18] in women who had education about pap smear test and cervical cancer. Furthermore, similar to findings of other studies, women who had pap smear test had high health motivation [7,18], low perceived barriers [7,17,24] and high benefits and health motivation [7,17,18]. Being aware of and hearing of pap smear test had positive effects on women's health beliefs. These effects are the bridge during the transformation of knowledge into the behavior. In contrast to our study results, some studies revealed that perceived seriousness of cervical cancer was high in women who had pap smear test [7,11]. In the present findings as in others [17,18,20], women with higher socioeconomic level (education and employment status, income level), women with no children and women who had gynecological examination regularly had low perceived barriers scores. Contrary to a study conducted in Turkey [17], in this study women age under 30 years had higher perceived barriers score than women aged above 30. Determination of health belief of women was so important to define barriers and attitudes towards screening program and cancer. Education level is a crucial factor in transformation of knowledge into behavior. Invitational strategies are also important to increase participation in cervical cancer screening. Invitation letters [26], telephone calls [26-28], educational pamphlet [28,29] and framed messages [26,28] are effective methods that are suggested to increase the uptake of cervical cancer screening.

Limitations

The present study had some limitations. Firstly, the sample of the study was undertaken in one city (Manisa) of Turkey which is located Western Anatolia and has many immigrants from Eastern Turkey. So, the findings of the study may not be generalized to all of the country. Secondly, in our country the target group of cervical cancer screening program is between the age of 30 and 65. American College of Obstetricians and Gynecologists recommends that women aged between 21 and 65 should be screened with pap smear test in every three years. Because of that fact women under the age of 30 are included in the study in order to gain the habit and consciousness of pap smear test.

Conclusion

Women with lower socioeconomic status had the low score from health motivation and high score from perceived barriers. Awareness and having pap smear test were found low in these group of women. Therefore, to increase social awareness, it is suggested that educations of cervical cancer and pap smear test should be spread and provided continuously by multidisciplinary approach (health care providers, political leaders, schools and media).

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Conflict of Interest

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