Investigation of Married Women's Knowledge of, and Attitudes and Behaviors towards Cervical Cancer and Pap Smear

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Abstract

Introduction: The present study was aimed at determining married women's knowledge of, and attitudes and behaviors towards cervical cancer and pap smear.

Materials and Methods: The study is a descriptive and cross-sectional one. The population of the study included married women aged 15-49 and registered to a family health center affiliated to Gaziantep Public Health Directorate. Of the women who presented to the family health center between November 2017 and January 2018, 217 who were selected through the random sampling method comprised the study sample. In the study, the Personal Information Form and Health Belief Model Scale for Cervical Cancer and Pap Smear were used to collect the study data.

Result: Of the women who participated in the study, 28.1% heard of the pap smear and 19.8% of HPV. The mean scores the participants obtained from the subscales of the Health Belief Model Scale for Cervical Cancer and Pap Smear were as follows: Pap smear benefits/health motivation (28.98±6.50), perception of Pap smear barriers (41.57±10.41), perception of seriousness of cervical cancer (24.02±5.47), perception of susceptibility to cervical cancer (8.27±2.41) and health motivation (9.05±2.87).

Conclusion: In the present study, it was found that the rate of women who underwent pap smear and heard of pap smear was rather low. In the present study, it was determined that the mean scores obtained from all the subscales of the Health Belief Model Scale for Cervical Cancer and pap smear were higher than average, and that the participants' education levels, employment status, income status and history of pap smear affected these scores.

Key Words: Cervical cancer, health beliefs, pap smear, women

Introduction

Cancers, an important public health problem, due to their high morbidity and mortality rates, rank second among all causes of deaths in the world and are estimated to rank first by 2030 due to rapid increases in cancer cases (Kaya, 2009). Cervical cancer, the fourth most common cancer type in women in the world, ranks seventh in the whole population. It is reported that cervical cancer accounts for 7.5% of all cancer deaths worldwide, and that in 2012, 266,000 deaths due to cervical cancer occurred. This rate is even higher in underdeveloped countries, and approximately nine out of ten cancer-related deaths (87%) occur due to cervical cancer (GLOBACAN, 2012). In Turkey, cervical cancer which ranks ninth in women of all age groups is the fourth most common cancer in women in the

25-49 age group (Cancer Statistics 2015, 2018). There are many epidemiological studies conducted on the development of cervical cancer. Risk factors for cervical cancer and its precursor lesions are similar, and in most of the studies, these risk factors are stated as follows: polygamy, early sexual intercourse (<16 years), smoking, lack of previous screening and sexually transmitted disease history (Taskın, 2012; Jensen et al., 2011; Unang et al., 2011; Kaya, 2009). The most important risk factor for cervical cancer is the sexually transmitted human papilloma virus (HPV). Of more than 80 HPV types identified, 31 were found to cause infection in the anogenital region (Unang et al., 2011; Cervical Cancer National Screening Standards 2009; ACS, 2013). Screening with Pap smear, encouraging smokers to quit smoking, raising the public's awareness of risk factors for cervical cancer, and particularly raising awareness of cervical cancer and HPV infection in women of childbearing age play a very important role in the prevention of cervical cancer (WHO, 2013; Kaya, 2009). Cervical cancer can be easily diagnosed in women who are experiencing symptoms like unusual and malodorous discharge, abnormal vaginal bleeding (menorrhagia and metrorrhagia), also post-coital bleeding in menopausal women. Pap smear is one of the most effective screening tests for early diagnosis of cervical cancer (Mehraban et al., 2018).

In a study conducted with Iranian women, approximately 25% of the women were determined to have had the Pap smear (Jeihooni et al., 2015). The results of many studies have demonstrated that women are not knowledgeable enough about the Pap smear. According to a study conducted in China by Baloch et al. (2017), women had a moderate level of knowledge about cervical cancer, whereas their knowledge and awareness of HPV and HPV vaccine was very low. Kivistik et al. (2011)   In general, stated awareness of cervical cancer risk factors is poor and it does not depend on socio-demographic factors. Thapa et al. (2018) in their study's stated that majority of the participants (87.4%) had inadequate knowledge and almost equal number of women (86.4%) had never done cervical cancer screening practice, but interestingly 71.7% of the women had a favorable attitude towards cervical cancer screening. In Turkey, Saylam Kurtipek et al. (2016) stated that women's knowledge levels about genital warts, cervical

cancer, prevention methods, screening methods and HPV vaccine were very low.

In another study conducted by Pasinlioglu and Karabulutlu (2016) in Turkey, it was determined that married academic women's knowledge of cervical cancer, its risk factors, prevention of cervical cancer and Pap smear was not at a desired level. Hacıhasanoglu Asılar et al. (2015) reported that in Turkey, of the women, 33.7% were knowledgeable about cervical cancer and screening, 44.1% knew about Pap smear, 39.7% knew that this test was performed to diagnose cervical cancer early, and 23% underwent the Pap smear.

The purpose of this study was aimed at determine married women's knowledge of, and attitudes and behaviors towards cervical cancer and pap smear.

Materials and Methods

The study is a descriptive and cross-sectional one. The study was conducted between November 2017 and January 2018 in a Family Health Center affiliated to the Public Health Directorate in Gaziantep, a province in the Southeastern Anatolia Region in Turkey. The population of the study included married women aged 15-49 and registered to a family health center affiliated to Gaziantep Public Health Directorate. Of the women who presented to the family health center between November 2017 and January 2018, 217 who were selected through the random sampling method comprised the study sample. In the study, the Personal Information Form and Health Belief Model Scale for Cervical Cancer and Pap smear were used to collect the study data.

Personal Information Form: The form developed by the researchers has 16 items questioning the participants' socio-demographic characteristics, gynecological characteristics and knowledge of cervical cancer and Pap smear (e.g. age, educational status, employment status, family income status, marital age, number of births, smoking status, undergoing Pap smear).

Health Belief Model Scale for Cervical Cancer and Pap Smear: The scale developed by Guvenc et al. in 2010 can be administered to all literate women in the adult age group.

The scale has 35 items in five subscales: Pap smear benefits/health motivation (8 items), perception of Pap smear barriers (14 items),

perception of seriousness of cervical cancer (7 items), perception of susceptibility to cervical cancer (3 items) and health motivation (3 items).

All the items are rated on a five-point Likert scale ranging from 1 to 5 (1=completely disagree, 2 = disagree, 3 = undecided, 4 = agree and 5 = completely agree).

Each dimension of the scale is assessed separately. There is no total score for the overall scale.

As the scores increase so do the perception of seriousness of cervical cancer, perception of susceptibility to cervical cancer, and health motivation. High scores obtained from the Pap smear benefits/health motivation and perception of Pap smear barriers subscales indicate that benefits and barriers are perceived highly respectively. The subscales other than the perception of Pap smear barrier subscale are positively associated with Pap smear screening behavior. The high score for the perception of the Pap smear barriers subscale shows that the person has high levels of barriers to undergoing a Pap smear.

In the original scale, the Cronbach's coefficient was 0.78 for the perception of susceptibility to cervical cancer subscale, 0.78 for the perception of seriousness of cervical cancer subscale, 0.81 for the health motivation subscale, 0.81 for the Pap smear benefits/health motivation subscale and 0.82 for the perception of pap smear barriers subscale. In the present study, the Cronbach's coefficient was 0.65 for the perception of susceptibility to cervical cancer subscale, 0.85 for the perception of seriousness of cervical cancer subscale, 0.73 for the health motivation subscale, 0.82 for the Pap smear benefits/health motivation subscale and 0.88 for the perception of Pap smear barriers subscale.

The statistical analysis of the data was performed using the SPSS 23.0. In the analysis of the data; numbers, percentages and mean values were calculated and Kolmogorov Smirnov test, t test, and variance analysis were used. The statistical significance level was accepted as p <0.05. The permission to use the scale for data collection was obtained from the authors who performed the validity and reliability study of the scale. Before the study was conducted, ethical approval was obtained from the SANKO University Clinical Research Ethics Committee, and permission to perform the study was obtained from the Public Health Directorate to which the Family Health Center where the study was to be conducted was affiliated, and verbal consent was obtained from the participants.

Results

Of the women who participated in the study, 47% were in the 25-34 age group, 41.5% had primary school and lower education, 52.1% had an income equal to expenses, 91.2% were housewives, 98.2% did not enter menopause, 32.7% had two births, and 63.1% used a family planning method. Among the most used family planning methods were intra uterine device and condom (35.03% and 22.63% respectively). The mean age at menarche and marriage was 12.66 ± 1.59 and 20.72 ± 3.57 respectively (Table 1).Of the women who participated in the study, 28.1% heard of the Pap smear. Of them, 49.2% heard of it at a health center and 26.2% on TV, and 11.1% underwent Pap smear. Of the participants, 19.8% heard of HPV. Of those who heard of HPV, 32.6% heard it on TV and 27.9% heard at a health center (Table 2).The mean scores the participants obtained from the subscales of the Health Belief Model Scale for Cervical Cancer and Pap Smear were as follows: Pap smear benefits/health motivation (28.98±6.50), perception of Pap smear barriers (41.57±10.41), perception of seriousness of cervical cancer (24.02±5.47), perception of susceptibility to cervical cancer (8.27±2.41) and health motivation (9.05±2.87) (Table 3).

The comparison of the mean scores the participants obtained from the subscales of the health belief model scale for cervical cancer and Pap smear in terms of some of their characteristics revealed that there was a statistically significant difference between the mean scores the participants obtained from the perception of seriousness of cervical cancer, Pap smear benefits/health motivation and perception of Pap smear barriers subscales in terms of their education status (p<0.05). While the mean scores obtained from the perception of seriousness of cervical cancer subscale by the participants with primary school or lower education were higher than were those obtained by the other participants, the university graduates obtained higher mean scores from the Pap smear benefits/health motivation subscale and lower mean scores from the perception of Pap smear barriers subscale than did the other participants (p<0.05).

Table 1. Socio-Demographic and Gynecological Characteristics of Women

Characteristics (n=217)	n	%
Age		
18-24 years	56	25.8
25-34 years	102	47.0
35-44 years	53	24.4
45-49 years	6	2.8
Education status		
Primary school or lower	90	41.5
Junior high school	56	25.7
Senior high school	52	24.0
University	19	8.8
Income status		
Income less than expenses	91	41.9
Income equal to expenses	113	52.1
Income more than expenses	13	6.0
Employment status		
Housewife	198	91.2
Employed	19	8.8
Number of births		
None	18	8.3
One	34	15.7
Two	71	32.7
Three	46	21.2
Four or more	48	22.1
Entering menopause		
Entered	213	98.2
Not entered	4	1.8
Use of a family planning method		
Yes	137	63.1
No	80	36.9
Family planning method used (N=137)		
Condom	31	22.6
Intra uterine device	48	35.1
Birth control pill	29	21.2
Withdrawal	21	15.3
Injection	5	3.6
Tubal ligation	3	2.2
	Mean±SD	
Age at menarche	12.66±1.59 (min. 9 max. 17)	
Age at marriage	20.72±3.57 (min. 14 max.33)	

Table 2. Participating Women's Knowledge of Pap Smear, HPV, and Cervical Cancer

Knowledge of Pap Smear, HPV, and Cervical Cancer (n=217)	n	%
Heard of Pap Smear		
Not heard	156	71.9
Heard	61	28.1
Source where Pap Smear was heard (n=61)		
TV	16	26.2
Family and environment	9	14.8
Medical Center	30	49.2
Internet	6	9.8
Undergoing Pap Smear		
No	193	88.9
Yes	24	11.1
Heard of HPV		
Not heard	174	80.2
Heard	43	19.8
Source where HPV was heard (n=43)		
TV	14	32.6
Family and environment	8	18.6
Medical Center	12	27.9
Internet	9	20.9

Table 3. Mean Scores the Participants Obtained from the Subscales of the Health Belief Model Scale for Cervical Cancer and Pap Smear

Subscales	Min.	Max.	Mean ± SD
Pap smear benefits/health motivation	8	40	28.98±6.50
Perception of Pap smear barriers	16	70	41.57±10.41
Perception of seriousness of cervical cancer	7	35	24.02±5.47
Perception of susceptibility to cervical cancer	3	15	8.27±2.41
Health motivation	3	15	9.05±2.87

The comparison of the mean scores in terms of the employment status revealed that there were statistically significant differences between the participants regarding the mean scores they obtained from the health motivation and perception of Pap smear barriers subscales, and that the employed participants obtained higher scores from the health motivation subscale whereas the housewives obtained higher scores from the perception of pap smear barriers subscale (p<0.05). Given the income status, a statistically significant difference was observed between the mean scores the participants obtained from the Pap smear benefits / health motivation and perception of Pap smear barriers subscales (p <0.05). While those with an income greater than expenses obtained higher scores from the pap smear benefits/health motivation subscale, those with an income lower than expenses obtained higher scores from the perception of the Pap smear barriers subscale (p <0.05). The comparison of the participants in terms of undergoing Pap smear demonstrated that the mean scores obtained from the perception of Pap smear barriers subscale were statistically significantly different (p<0.05). The mean score for the perception of the Pap smear barriers subscale was higher among those who underwent Pap smear (Table 4). The comparison of the participants in terms of age revealed no statistically significant difference between the mean scores obtained from the Health Belief Model Scale for Cervical Cancer and Pap Smear and its subscales (p>0.05).

Table 4. Comparison of Mean Scores the Participants Obtained from the Subscales of the Health Belief Model Scale for Cervical Cancer and Pap Smear in terms of Some of Their

Characteristics	Subscales of the Health Belief Model Scale for Cervical Cancer and Pap Smear				
	Perception of susceptibility to cervical cancer Mean ± SD	Perception of seriousness of cervical cancer Mean ± SD	Pap smear benefits/health motivation Mean ± SD	Health motivation Mean ± SD	Perception of pap smear barriers Mean ± SD
Education status					
Primary school or lower	8.60±2.36	25.16±5.59	29.42±6.17	8.77±2.94	41.81±9.91
Junior high school	8.07±2.66	23.94±4.75	28.16±6.55	8.75±2.50	43.03±9.68
Senior high school	8.09±2.18	22.61±5.88	27.69±6.77	9.40±2.95	43.23±10.56
University	7.84±2.40	22.66±4.83	32.73±5.89	10.31±3.07	31.57±9.59
Test value / Significance	F=0.978 p=0.40	F=2.899 **p=0.03**	F=3.306 **p=0.02**	F=1.996 p=0.11	F=7.237 **p=0.00**
Employment status					
Housewife	8.27±2.41	24.13±5.56	28.83±6.49	8.87±2.84	42.12±9.96
Employed	8.31 ±2.45	22.89±4.37	30.52±6.50	10.94±2.43	35.78±13.19
Test value / Significance	t=.018 p=0.94	t=1.624 p=0.34	t=.098 p=0.27	t=2.158 **p=0.00**	t=4.214 **p=0.01**
Income status					
Income less than expenses	8.40±2.40	23.42±5.07	27.89±6.28	9.15±2.77	44.62±10.69
Income equal to expenses	8.22±2.44	24.65±5.76	29.24±6.51	8.84±2.99	40.27±9.31
Income more than expenses	7.84±2.19	22.66±5.28	34.30±5.26	10.23±2.12	31.46±9.25
Test value / Significance	F=.367 p=0.69	F=1.666 p=0.19	F=6.003 **p=0.00**	F=1.466 p=0.23	F=12.04 **p=0.00**
Undergoing Pap Smear					
Yes	8.66±2.59	24.75±6.82	30.87±7.94	9.29±3.27	32.50±9.61
No	8.22±2.38	23.93±5.30	28.76±2.59	9.02±2.82	42.69±10.01
Test value / Significance	t= 0.840 p=0.40	t= 0.684 p=0.49	t= 1.517 p=0.13	t= 0.427 p=0.67	t= 4.747 **p=0.00**

Discussion

Cervical cancer, one of the most common cancer types unique to women in the world, is an important public health problem threatening women's health. Healthy sex life and early diagnosis are of importance in the prevention of cervical cancer. The findings of the present study aimed at investigating married women's knowledge of, and attitudes and behaviors towards cervical cancer and Pap smear were discussed in the light of the literature.

While 28.1% of the women in the present study stated that they heard of Pap smear, the review of the literature showed that the rate varied between 40% and 50% among women who heard of / were knowledgeable about Pap smear (Karabulutlu and Pasinlioglu, 2016; Ak et al., 2010; Gucuk et al., 2011; Kolutek and Aydın Avcı, 2015). The fact that the rate of hearing of Pap smear was rather low in the present study compared to other studies indicates that the women in the present study lacked knowledge.

While only 11.1% of the women had a Pap smear in the present study, the rate was 19.4% in Ak et al.'s study (2010) and 23.7% in Ozdemir and Bilgili's study (2010) conducted with nurses. In another study, 30.3% of the women underwent Pap smear (Demirgoz Bal, 2014).

In two studies conducted with Iranian women, approximately 25% of the participants in one study (Jeihooni et al. 2015) and 32% of the participants in the other study (Karimy et al. 2017) underwent Pap smear. In Kurtuncu et al.'s (2018), Mehraban et al. (2018) and Sivri et al.'s (2015) studies, the rate of undergoing Pap smear was 44%, 52 % and 63.8% respectively. The rate of women having undergone Pap smear in the present study was rather low compared to the rates in other studies. Hearing of Pap smear or being aware of its existence has a positive effect on women's health beliefs. In the present study, the rate of those who underwent Pap smear or heard of it was rather low. Therefore, it is very important that nurses provide training and counseling to women about Pap smear in all areas they serve.

The mean scores obtained from each subscale of the Health Belief Model Scale for Cervical Cancer and Pap Smear by the women who were included in the present study were higher than average. The comparison of the mean scores obtained from the subscales in the present study with those obtained in other studies in the literature showed that they were the same as or a little above average (Hacıhasanoglu Asılar et al., 2015; Baloch et al., 2017; Gokgoz and Aktas 2015; Reis et al., 2012; Egelioglu Cetisli et al., 2016; Mehraban et al., 2018).

According to the Health Belief Model, the increase in scores indicates that the perception of seriousness, susceptibility, and health motivation increases, and that benefits stated in the Pap smear benefits/health motivation subscale and barriers stated in the perception of Pap smear barriers subscale are perceived highly. The subscales other than the perception of Pap smear barrier subscale are positively associated with Pap smear screening behavior. As women's perceptions of barriers to Pap smear increase, so do their negative health behaviors (Guvenc et al., 2010).   As the results of the present study indicated, Hacıhasanoglu Asılar (2015) reported that the women's having high mean scores for the perception of barriers was due to lack of their knowledge about the disease and Pap smear, and the feelings of fear, shyness and distress they experienced when they underwent Pap smear.

Given the educational status of the women participating in the study, the mean scores they obtained from the Health Belief Model Scale for Cervical Cancer and Pap Smear varied.

For instance, the university graduate participants obtained higher scores from the Pap smear benefits/health motivation subscale and lower scores from the perception of Pap smear barriers subscale than did the other participants. Gokgoz and Aktas (2015) obtained similar results in their study. The participants obtained higher scores from the cervical cancer health motivation and Pap smear benefits/health motivation subscales and lower scores from the perception of barriers to undergoing Pap smear subscale as their education levels increased. In another study, it was stated that the women's beliefs about the screening of cervical cancer were influenced by their education levels, and that their intend to receive regular health services and beliefs about the protective effect of Pap smear against cervical cancer increased and barriers to undergoing Pap smear decreased as their education levels increased (Reis et al., 2012). Demirgoz Bal (2012) also found that the women with low levels of education had lower mean scores for the perceived benefits / motivation and health motivation subscales, and higher mean scores for

the perception of barriers subscale. Jia et al. (2018) refered that womens who were younger than 45 years old or who had lower incomes, positive family histories of cancer, secondary or higher levels of education, higher levels of knowledge and fewer barriers to screening were more willing to participate in cervical cancer screenings than women without these characteristics.

According to the results of the present study, while the employed participants obtained higher scores from the health motivation subscale, the housewives obtained higher scores from the perception of Pap smear barriers subscale. Similarly, Demirgoz Bal (2012) determined that the employed participants obtained higher mean scores from the benefits / health motivation subscale and lower mean scores from the perception of Pap smear barriers subscale than did housewife participants. Egelioglu Cetisli et al. (2016) also stated that the employed participants' perceptions of benefits scores were higher and their perceptions of barriers scores were lower.

In the present study, while the perception of benefits scores obtained by the participants whose income was greater than their expenses were higher, the perception of barriers scores obtained by the participants whose income was lower than their expenses were higher (p <0.05). Reis et al. (2012) reported that the women whose income was lower than their expenses had higher scores for the perception of Pap smear barriers and lower scores for the health motivation.

According to the results of the present study, the participants who did not undergo a Pap smear had higher scores for the perception of barriers (p <0.05). Jeihooni et al. (2015) found that the women who underwent Pap smear obtained lower perception of barriers scores and higher perception of benefit scores than did the women who did not undergo Pap smear. Similarly, in another study, those who underwent Pap smear had significantly higher scores for the perception of Pap smear benefit / health motivation and lower scores for the perception of barriers than did the women who did not undergo Pap smear (Hacıhasanoglu Asılar et al., 2015).

According to the Health Belief Model, as women's positive perceptions of the benefits of Pap smear increase so do their perceptions of susceptibility, seriousness and health motivation (Guvenc et al. 2010).

In conclusion, in the present study, it was found that the rate of women who underwent Pap smear and heard of Pap smear was rather low. In the present study, it was determined that the mean scores obtained from all the subscales of the Health Belief Model Scale for Cervical Cancer and Pap Smear were higher than average, and that the participants' education levels, employment status, income status and history of pap smear affected these scores.

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