

RESEARCH ARTICLE

Women's Perceptions and Attitudes about Cervical Cancer in Turkey: Kato's Device as an Alternative to the Pap Smear

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Abstract

Aims: To determine the status of women's perception and attitudes about cervical cancer and their thoughts on Kato's self-sampling device. **Materials and Methods:** This descriptive research was conducted between July-December 2012 with a study population of married women older than 18 years. **Results:** A total of 246 women volunteered, with a mean age of 34.9 ± 9.22 (19-52). In the last year, 52.0% had been examined by a gynecologist to address a complaint or for a periodic health check. Of the 118 who had not had a gynecological examination, 42.4% indicated negligence, 26.3% stated the reason was no complaint, 14.4% feared they might receive bad results from the examination, and 8.5% stated that were shy or embarrassed. Of all of the women, 35.0% answered that they had information about cervical cancer, and 0.7% had heard about the HPV vaccine. No one in their families had received the vaccine. Of the women, 28.5% had had a Pap smear, and 71.4% of those had normal results. Of those who had never had a Pap smear, 47.2% had never heard about the test; 18.8% explained the reason for not having a test as shyness or embarrassment with a male doctor. None of the women had heard about Kato's device. Once the women were informed, 73.6% expressed interest in use; 51.9% answered they could use it and not be embarrassed, 30.9% would use it because they did not have to see a doctor, and 17.1% would use it as it allows them to take a smear in all conditions and whenever they want. Of the women, 60.0% thought that they could not successfully use Kato's device; 40.0% thought that a smear should be taken by a doctor. **Conclusions:** Most of the women in our population had never had a Pap smear and wanted to use the Kato's device

Keywords: Cervical cancer - Pap smear - Kato's device - perception

Asian Pac J Cancer Prev, 15 (2), 905-910

Introduction

Cervical cancer is the third most common cancer in women, and the seventh overall, with an estimated 530,000 new cases in 2008. More than 85% of the global burden occurs in developing countries, where it accounts for 13% of all female cancers. Overall, the mortality: incidence ratio is 52%, and cervical cancer is responsible for 275,000 deaths in 2008, about 88% of which occur in developing countries: 53,000 in Africa; 31,700 in Latin America and the Caribbean; and 159,800 in Asia. The incidence of cervical cancer is estimated to be 4.2/100,000 in Turkey according to the data from Globocan, 2008. Based on these data, 1443 women were diagnosed with cervical cancer in 2008 in Turkey, with almost 556 women dying of cervical cancer within the same year (IARC, 2013).

The risk factors known to increase the incidence of cervical cancer are early marriage (child marriage) and sexual practice, delivery of the first baby before the age of 20, too many or too frequent childbirths, multiple

sexual partners, poor personal hygiene practice, low socio-economic status, Human Papilloma Virus (HPV), Herpes Simplex Virus type II, HIV positivity, use of oral contraceptive pill, and smoking. (Raychaudhuri et al., 2012). Most cervical lesions do not progress to cancer, and those which do, progress slowly, making cervical cancer largely preventable through effective screening (Tran et al., 2011). The Pap smear test, developed by Papanicolaou and Trout, is a very notable screening method for not only being cheap and easy-to-use, but also for being easily applicable to and accepted by different target populations in the community screenings, with a resulting noteworthy decrease of deaths from cervical cancer (Chew, et al., 2004).

Low coverage rate for Pap smear test is one important factor for the outcome of the screening program not only in the normal population but also among health personnel (Pengsaa, et al., 1989 ; Kritpetcharat, et al., 2003). Those who do not cooperate and comply when advised to take the test often state that shyness is one reason for not

having a pelvic examination, while some indicated that they do not have time to come to the health offices because of work responsibilities (Kritpetcharat, et al, 2003). To cope with these problems, a self-administered device has been advised, known as the Kato method, and found to give 100% sensitivity and 99.6% specificity in detecting abnormal cells suspicious for malignancy (Pengsaa, et al., 2003). The acceptance and feasibility of a self-administered device for cervical cancer screening of rural women in Northeast Thailand have already been tested (Pengsaa, et al., 1997). The results obtained from testing the so-called Kato device (Noguchi, et al., 1982) have been promising. The device was found to be suitable for mass screening campaigns (Sanchaisuriya, et al., 2004).

In this study, we aimed to determine women's perception and attitudes about cervical cancer, and we wanted to learn their thoughts on using Kato's self-scraping device in our family medicine clinic.

Materials and Methods

This descriptive research was conducted between July 1st-December 31st, 2012. The study population comprised married women older than 18 years of age, who visited the Family Medicine Central Outpatient Clinic of Ondokuz Mayıs University in Samsun, for any reason other than gynecological problems. During the dates of this study, all married women, who were admitted to the clinic and who agreed to participate and who supplied the study conditions, were included in the research. A total of 246 women were included in the research. The study was approved by the Ethical Commission of the Medical School of Ondokuz Mayıs University.

Data were collected by the researcher, applying face-to-face structured interview techniques with a questionnaire developed after a relevant literature review. The time allocated for a woman to complete the questionnaire was approximately 10-15 minutes. The questionnaire consisted of two sections. The first section included the socio-demographic characteristics of women, and the second included questions about their knowledge of Pap smears, their status of taking the test, and associated factors, as well as their risk perceptions of cervical cancer.

We provided information about how to use the instrument for Kato's self-scraping method. This easy-to-use examination instrument is specially designed for at home use for early detection of cervical cancer (Pengsaa, et al., 2003). Then, we gave them brochures for informational purposes.

All the data were entered and analyzed using SPSS version 16.0 for Windows (SPSS Inc., Chicago, IL). Descriptive statistics and Chi-square tests were used to analyze the data. P values <0.05 were accepted as statistically significant.

Results

Socio-demographic characteristics of women who participated in the study are summarized in Table 1. A total of 246 women volunteered for this investigation. The mean age was 34.85±9.22 (19-52). Of the women, 104

Table 1. Socio-demographic Characteristics of the Women

Characteristics	N	%	
Age (Years)	19-29	80	32.52
	30-39	85	34.55
	40-52	81	32.92
The average age	34.85±9.22 (19-52)		
Education	Primary school	14	5.7
	Secondary school	33	13.4
	High school	104	42.3
	University	95	38.6
Employment status	Yes	96	39
	No	150	61
Social insurance	Insured	246	100
Economic status	0-1000 TL	38	15.4
	1001-2000 TL	119	48.4
	2001-Over TL	89	36.2
Age at marriage	22.91±3.81 (16-38)		
Parity	0	43	17.5
	1-2	147	59.7
	3-4	56	22.8
Use of oral contraceptives	Yes	30	12.2
	No	216	87.8
Smoking	Yes	81	32.9
	No	165	67.1
Family history of female cancer	Yes	96	39
	No	150	61

Table 2. Knowledge about Cervical Cancer, HPV Vaccination, Pap Smear, and Kato's Device

Characteristics	N	%
Knowledge about cervical cancer		
Never heard of cervical cancer	160	65
Heard of cervical cancer from	86	35
Friends/Neighbor	13	15.1
Doctor	46	53.5
Nurse/Midwife	19	22.1
TV/ Internet/Newspaper	8	9.3
Knowledge about HPV vaccination		
Never heard of before	146	59.3
Heard of HPV vaccination from	100	40.7
Friends/Neighbor	22	22
Doctor	17	17
Nurse/Midwife	8	8
TV/ Internet/Newspaper	53	53
Knowledge about the Pap smear test		
Never heard of the Pap smear test	164	66.7
Heard about Pap smear test from	82	33.3
Friends/Neighbor	15	18.3
Doctor	43	52.4
Nurse/Midwife	19	23.2
TV/ Internet/Newspaper	5	6.1
Knowledge about a self-administered device (Kato's device)		
No	246	100

(42.3%) graduated from high school and 96 (39%) worked outside of the home. All of them had social insurance. Of the women, 147 (59.7%) had one or two children. Their age for their first marriage was 22.91±3.81 (16-38). Of the total, 165 (67.1%) were non-smokers, and 216 (87.8%) did not use oral contraceptives. Of the women, 96 (39.0%) had a family history of female cancer.

Of the group in the last year, 128 (52.0%) had been examined by a gynecologist for either control of an existing

condition or to address a complaint. Of the 118 (48.0%) women who had not had a gynecological examination, 31 (26.3%) said they had not had an exam because they had no gynecological problems, 50 (42.4%) they were negligent, 10 (8.5%) indicated they were shy about such examinations, 10 (8.5%) feared the examination itself, and 17 (14.4%) feared that they might receive bad news as a result of the examination.

Of all of the women, 86 (35.0%) stated that they had information about cervical cancer, and 100 (40.7%) had heard about the HPV vaccine. However, the women indicated that no one in their families had had an HPV vaccine. Of the 82 (33.3%) women who had heard about a Pap smear, 43 (52.4%) received this information from a doctor. A total of 53 (53.0%) got information about the HPV vaccine from the television, Internet, or a newspaper (Table 2).

The likelihood of having a gynecological examination significantly increases with income, use of oral contraceptives, smoking, a family history of gynecological cancer or cervical cancer, having information about the HPV vaccine and Pap smears, having had a Pap smear, and the desire to use Kato's device (Table 3).

Our study shows that being informed about cervical cancer increases with age and income, having a family history of gynecological cancer, having had a gynecological examination in the last year, having information about Pap smears and the HPV vaccine, having had a Pap smear test, and having a desire to use Kato's device (Table 4).

Having had a Pap smear had a statistically significant

Table 3. Factors Affecting the Women to Undergo a Gynecological Examination in the Last Year

	Gynecological examination		p value
	Yes (n%)	No (n%)	
Economic status (Turkish Liras)	128 (52.0)	118 (48.0)	
0-1000	9 (3.7)	29 (11.8)	0.001
1001-2000	69 (28.0)	50 (20.3)	
2001-over	50 (20.3)	39 (15.9)	
Use of oral contraceptives			
Yes	22 (8.9)	8 (3.3)	0.013
No	106 (43.1)	110 (44.7)	
Smoking			
Yes	34 (13.8)	47 (19.1)	0.027
No	94 (38.2)	71 (28.9)	
Family history of female cancer			
Yes	78 (31.7)	18 (7.3)	<0.001
No	50 (20.3)	100 (40.7)	
Knowledge about cervical cancer			
Yes	73 (29.7)	13 (5.3)	<0.001
No	55 (22.4)	105 (42.7)	
Knowledge about HPV vaccination			
Yes	85 (34.6)	15 (6.1)	<0.001
No	43 (17.4)	103 (41.9)	
Knowledge about the Pap smear test			
Yes	72 (29.3)	10 (4.1)	<0.001
No	56 (22.8)	108 (43.9)	
Having taken a Pap smear test			
Yes	62 (25.2)	8 (3.3)	<0.001
No	66 (26.8)	110 (44.7)	
Wanting to take smear using Kato's device			
Yes	68 (27.6)	113 (45.9)	<0.001
No	60 (24.4)	5 (2.0)	

association with income, smoking, having gynecological examinations, having information about cervical cancer, understanding who should undergo a Pap test, and wanting to take smear with Kato's device (Table 5).

Of the women, 70 (28.5%) had had a Pap smear test, of those, 50 (71.4%) had normal smear results. Of those who had never had a Pap smear, 83 (47.2%) stated that they had never heard about a Pap smear test, 33 (18.8%) said they had not had a Pap smear because they are in

Table 4. Factors Affecting Having Information about Cervical Cancer

		Yes (n%)	No (n%)	p value
Age (years)	19-29	86 (35.0)	160 (65.0)	0.001
	30-39	36 (14.6)	44 (17.9)	
	40-52	16 (6.5)	69 (28.0)	
Economic status (Turkish Liras)	0-1000	34 (13.8)	47 (19.1)	0.017
	1001-2000	6 (2.4)	32 (13.0)	
	2001-over	49 (19.9)	70 (28.5)	
Gynecological examination in the last year	Yes	31 (12.6)	58 (23.6)	<0.001
	No	73 (29.7)	55 (22.4)	
Family history of female cancer	Yes	13 (5.3)	105 (42.7)	<0.001
	No	52 (21.1)	44 (17.9)	
Knowledge about HPV vaccination	Yes	34 (13.8)	116 (47.2)	<0.001
	No	62 (25.2)	38 (15.4)	
Knowledge about the Pap smear test	Yes	24 (9.8)	122 (49.6)	0.001
	No	40 (16.3)	42 (17.1)	
Having taken a Pap smear test	Yes	46 (18.7)	118 (48.0)	0.002
	No	35 (14.2)	35 (14.2)	
Wanting to take smear using Kato's device	Yes	51 (20.7)	125 (50.8)	0.001
	No	52 (21.1)	129 (52.4)	
		34 (13.8)	31 (12.6)	

Table 5. Factors Affecting Having a Pap Smear Test

	Taken Pap smear test		p value
	Yes (n%)	No (n%)	
	70 (28.5)	176 (71.5)	
Economic status (Turkish Liras)			
0-1000	4 (1.6)	34 (13.8)	0.004
1001- 2000	44 (17.9)	75 (30.5)	
2001- over	22 (8.9)	67 (27.2)	
Cigarette smoking			
Yes	10 (4.1)	71 (28.9)	<0.001
No	60 (24.4)	105 (42.7)	
Gynecological examination in the past year			
Yes	62 (25.2)	66 (26.8)	<0.001
No	8 (3.3)	110 (44.7)	
Knowledge about cervical cancer			
Yes	35 (14.2)	51 (20.7)	0.002
No	35 (14.2)	125 (50.8)	
Why is the Pap test?			
Cancer	1 (0.4)	43 (17.5)	<0.001
Infection	21 (8.5)	42 (17.1)	
Don't know	48 (19.5)	91 (37.0)	
Who should undergo a Pap test?			
Have a complaint	1 (0.4)	32 (13.0)	0.004
Elder than 40 years	9 (3.7)	26 (10.6)	
Married woman	12 (4.9)	27 (11.0)	
Don't know	48 (19.5)	91 (37.0)	
Wanting to take smear using Kato's device			
Yes	5 (2.0)	176 (71.5)	<0.001
No	65 (26.4)	-	

front of a male doctor.

None of the women had heard about Kato's device; however, once the women were informed about Kato's device, 181 (73.6%) wanted to use it. The reasons stated by the women for wanting to use Kato's device include: 94 (51.9%) said she would not be embarrassed to use it, 56 (30.9%) stated that there was no need to see a doctor, and 31 (17.1%) indicated the convenience of being about to take a smear whenever she wants. Of the women, 39 (60.0%) said that she would not be able to use Kato's device to take the smear herself, and 26 (40.0%) thought that only doctors should take a smear.

After the interview, we gave the patients brochures for informational purposes and all of them read the brochure.

Discussion

Studies show that the women's attitudes about gynecological examinations affect whether they have examination and Pap smears. In a study in Turkey (Karaca, 2008), 92.8% of women had had at least one gynecological examination. In a study by Bekar (2011) 79.1% and in a study by Erbil (2008) 66.3% indicated that they had had at least one gynecological examination. Based on previous gynecological examination experience, the women indicated that they did not have a gynecological examination because of the following: 67.1% indicated anxiety around privacy, 39.6% were irritated by the doctor's attitude, and 62.5% stated they were shy, 38.8% were anxious, 37.9% were scared, and 21.7% were concerned about pain during the examination (Bekar et al., 2011). In our study, 128 (52.0%) of the women had a gynecological examination in the last one year. The reasons given for not visiting the gynecologist were similar across the studies.

Various studies reported different rates of taking a Pap smear test for example, 2.6% in Pakistan (Imam et al., 2008), 27.0% in South Africa (Wellensiek et al., 2002), 20.0% in Kenya (Gichangi et al., 2003), 40.3% in Jordan (Barghouti et al., 2008), 69.0% in Spain (Byrd et al., 2004), and 93.0% in the United States of America (Sirovich et al., 2004). In the studies conducted in Turkey, this rate was reported as 20.0% by Kalyoncu et al. (2003); 51.3% by Akyuz et al. (2006); 16.2% by Karaca (2008); 28.9% by Gurel et al. (2009); 19.4% by Ak et al. (2010); 11.8% by (Erbil et al., 2011); 9.4% by Demirhindi et al. (2012), and 16.6% by Karabulutlu (2013). It was determined in our research that 70 out of the 246 women (28.5%) included in the study had taken a Pap smear test before, while 176 of the women (71.5%) had never taken the test.

The rates for having a Pap smear once, twice, or three times was found to be 58.0%, 30.1%, and 11.7%, respectively, in Akyuz's study and 88.9%, 11.1%, and 0%, respectively, in Karaca's study. In our study, the rates were 65.7%, 25.7%, and 8.6%, respectively.

It was established that women's opinions affecting their frequency of having gynecological examination was also effective in taking the Pap Smear Test, and a significant relationship was found between having gynecological examination and taking Pap Smear Test. In many studies, it was determined that the socio-

demographic characteristics of women had an influence on the rate of having Pap testing (Akyuz et al., 2006; Jun et al., 2009; Uysal et al., 2009). The rate of taking the Pap Smear Test among women in Turkey according to their socio-demographic characteristics has been investigated in various studies conducted by Turkish researchers. For example, Akyuz et al. (2006) noted that the rate of taking the Pap smear test was highest among women who were between 30-39 years and who were secondary school graduates, unemployed, married for 11-20 years, and had given birth four or more times. Kalyoncu et al. (2003) reported that this rate increased in women older than 35 years and who had been married for a longer period. On the other hand, Ak et al. (2010) reported this rate to be low among women with a low level of education and who lived in rural areas. Karaca (2008) indicated that having social insurance and availability of gynecological examinations in university hospitals had a positive effect on the rates of hearing about and taking the Pap smear test. According to Gurel et al. (2009), the average age was higher among women who took a Pap smear test. These women had more gynecological examinations, lived in the city center, and had a higher socio-economic level as well as a higher level of knowledge Pap smear testing, and a higher education level. In our study, the rate of taking Pap smear test was observed to be higher among women who had middle socio-economic level, had gynecological examination and as higher level of knowledge about Pap smear.

Matin and LeBaron (2004) examined the utilization of preventive health care by immigrant Muslim women against breast and cervical cancer; they determined that the religious and cultural values of these women, such as virginity and bodily privacy, play a preventive role in their health care. Among the factors that affect the Pap test are having a male doctor and the feeling of embarrassment. Women in Turkey according to the research by Guvenc et al. (2010) preferred to see a female physician, and they were embarrassed to have a smear test. The reasons for the barrier to having a Pap smear test are reported here and in some other studies (Allahverdipour and Emami, 2008; Reis et al., 2012), to be caused by religious and cultural factors. Wong et al. (2008) reported, for example, that due to religious affiliation and cultural beliefs, Muslim women in particular felt most comfortable with female health care providers. Research has shown that easy access to female doctors contributed to the increased likelihood of receiving a Pap smear test (Reis et al., 2012). Therefore, accurate health care information and communication by health providers may be important to close the gap between women's subculture and that of health professionals, thereby eliminating the stigma and pain perception associated with cervical screening. From the literature review, the most common reasons given by patients who avoid Pap smears are fear of vaginal examination, embarrassment, lack of any symptoms, carelessness, male doctor, never heard about it, and the physician does not request (Coughlin et al., 2005; Imam et al., 2008; Oranratanaphan et al., 2010; Reis et al., 2012; Thippeveeranna et al., 2013; Demirtas et al., 2013). Lack of a physician recommendation contributes to under-use of Pap screening by many eligible women. (Coughlin

et al., 2005) In our study, the most common reasons for avoiding a Pap smear test were: lack of any symptoms, no reason/never thought about it, fear of pathological result, and fear of vaginal examination, embarrassment/male doctor and carelessness.

As observed in the previous survey, acceptance of the Kato's device by women was generally good. However, a larger proportion of women with a higher educational background were somewhat more skeptical towards the device than their counterparts from the villages. The higher educated women were more suspicious of the device and thought that it might be harmful to use it or that it might carry the risk of infection. A greater proportion of the higher educated women tended to put their trust more in Pap smear tests done by medical doctors, and many of them would prefer to be screened again by a doctor. From the results of this survey (Pengsa et al., 1997), it might be concluded that the use of the Kato device is justified in situations where resources for mass screening with the conventional Pap smear is limited. Efforts need to be made to lower the women's suspicions that the device is unsafe or not accurate. Especially the higher educated females must be convinced of the usefulness and safety of the device, if the intention is to integrate them into a scheme where the Kato device is used. It seems that, especially women in the villages could be persuaded to volunteer for mass screening using the device. Suitable health facilities to help distribute the device to women in villages might be the health centers and district hospitals (Sanchaisuriya, et al., 2004). In our study, embarrassment and being scared of the examination were the causes for avoiding a Pap smear, which is similar to the literature. Kato's device may be good alternative for those women.

Most of the women found the device to be convenient to use. However, most of them were not convinced that the method was safe or accurate. The participants were divided almost in half over the question of what screening method they would prefer to use the next time and what method they would recommend to a friend or neighbor, if there were a choice. Almost 24% of them found no difference in the application of the two methods, but 38% considered the Kato device to be less harmful (Pengsa et al., 1997). In our study, most of the women wanted to use Kato's device.

In conclusion, the attitude of a health professional before and during a gynecological examination is very important. It is important that physicians and nurses understand women's attitudes towards gynecological examinations because this affects their willingness to have gynecological examination and take the Pap smear test, so that they can adopt the appropriate approach in informing and educating women on this subject.

This study also showed that the women readily accepted training to prevent cervical cancer and that their knowledge of the benefits of screening and the risk factors improved.

The Kato method seems to offer a suitable alternative to improve the coverage and frequency of cervical cancer screening in developing countries like Turkey. Females have to be trained on how to use the device, and they have to be convinced that the device is safe and acceptable as

a tool for screening.

Acknowledgements

The authors thank Janice O. Vantrease for a grammatical review.

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