

## RESEARCH COMMUNICATION

# Factors Affecting Cervical Screening Among Turkish Women

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### Abstract

**Background:** Cervical cancer is second most common cancer among women worldwide. **Objective:** To determinate pap smear test rates and affecting factors among Turkish women. **Methods:** This descriptive and cross-sectional questionnaire study covered 397 women consulting at Gynecology Outpatient Clinic of Birth and Children's Hospital in Ordu province, enrolled non-consecutively as volunteers after providing informed consent. Data for women who had a history of at least one pap smear in her history were compared with those having none. **Results:** 24.7% of women had knowledge about the pap smear test and 11.8% of them had undergone at least one pap smear test. Higher mean age ( $p=0.000$ ), high education level ( $p=0.013$ ), duration of marriage ( $p=0.001$ ), working outside home ( $p=0.000$ ), use of contraceptive method ( $p=0.000$ ), history of cancer in women's family or relatives ( $p=0.021$ ), having a sexually transmitted disease history ( $p=0.042$ ), positive attitude towards gynecologic examination of women ( $p=0.000$ ) and considering oneself in a cervical cancer risk group ( $p=0.004$ ) were positively associated with a pap smear test history. **Conclusion:** Since the rate of pap smear testing was very low, education of women about screening and protection against cervical cancer appears a high priority.

**Keywords:** Cervical cancer - pap test history - influencing factors

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### Introduction

Cervical cancer is second most common cancer among women worldwide and it comprises approximately 12% of all cancers. In 2000, there were over 471 000 new cases diagnosed, and 288 000 deaths from cervical cancer worldwide. Approximately 80% of these deaths occurred in developing countries (World Health Organization, 2002). In majority developed countries where the screening programmes are effective, cancer incidence have been reduced while developing countries the incidence is high, ineffective; The success of developed countries is largely attributed to the widespread and systematic use of the Papanicolaou smear (Elovainio et al., 1997; Cronje, 2005). It is stated that with regular screening programmes, the rates of death from cervix cancer are reduced in different studies at the rate of 35% and 80% (Sepulveda and Prado, 2005). In the studies carried out among women; It is pointed out that the rates of making pap test by women who are educated about the reasons, importance, protection and scanning methods of cervix cancer increased (Markovic et al., 2005; Liao et al., 2006; Uysal and Birsal 2009; Atar Gürel et al., 2009). Cervical screening is a great challenge for developing countries, where lack of resources limits coverage of cervical screening (Gakidou et al., 2008). Also, in developing countries, especially all phenomena, which are consulted to the clinics, are resulted in screening; however the rate of avoiding cervix cancer of this application is low (Miller et al., 2003).

Cervical cancer which a global health problem is the cause of % 5.31 all malignancies affecting Turkish women (Tuncer, 2009). In Turkey, to decrease of cancer as primary prevention, early diagnosis and reduction of cancer mortality are also among major targets. In Turkey, the main targets of cancer control plan, which has now become state policy, are the accurate and regular registration of the cancer burden and the establishment of a cancer screening and training center in each province and cervical cancer screening have begun as a national program in 81 provinces in 2008 (Tuncer and Özgül, 2010). Early Cancer Diagnosis and Screening Centers (KETEM) will be established in all cities to increase the infrastructural support (Tuncer and Özgül, 2010). These applications carried out in Turkey will result in a positive way.

The objectives of this study were to investigate the rate of pap test as a screening test on cervix cancer and to analyze affecting factors on pap testing among Turkish women.

### Materials and Methods

The study was conducted as a descriptive and cross-sectional design. The study included women consulting at Gynecology Outpatient Clinic of Birth and Children's Hospital in Ordu province, in Turkey. 397 volunteer women were enrolled convenience method in the study after verbal informed consent. The study was made between 20th February 2009 and 29th May 2009.

The data were collected with a questionnaire form prepared by researchers (Kalyoncu et al., 2003; Ünalın et al., 2005; Karaca et al., 2008). The questionnaire form had two parts and included questions about characteristics of women and pap test features. The first part of the questionnaire form was about women's age, educational level, occupation, husband's educational level and occupation, place of living, income status, smoking, number of giving birth, weight before pregnancy, marrying age, age at first pregnancy, whether used contraception, using contraceptive method, whether first marriage their husband, before having a Sexually Transmitted Diseases (STD), name of STD and attitude to gynecologic examination .

The second part of the questionnaire form included their hearing pap test, having pap test or not, knowledge about pap test, thought herself in cervical cancer risky group and reasons etc.

The participants were informed by the investigators and through an ethical approval protocol that they would not be paid for their participation in the study. The participants did not receive payment for their participation in the study and a brochure prepared about pap smear by researchers were given to participants. Also, this study has been approved by the appropriate committees related to the institution.

The analysis of the data was made using descriptive statistics (mean, Sd, range, frequency, percentage) for demographic data and independent variables. Data of women who had at least one pap smear in her history were compared to those of women who had no pap smear history. Chi-square test and t test were used to analyze effecting factors to pap test status. A level of  $p < 0.05$  was considered statistically significant.

## Results

Three hundred and ninety-seven participants were recruited in the study. When the socio-demographic characteristics of all of women taking part in the study were taken into consideration, it was seen that average age of the women  $33.7 \pm 10.7$  (range 18-70), 381 of women were married, the average of marrying age of them was  $20.9 \pm 3.9$  (range 13-37 age), duration of marriage of them was  $13.5 \pm 11.2$  years (range 1-49 years). Average age of women at first pregnancy was  $22.1 \pm 4.3$  (range 15-40). The average of number of birth was  $2.3 \pm 1.62$  (range 0-11). 43.6% of women had primary school graduates and 70.1% of them were housewives. It was found that 54.9% of women had experience of living in a province and 64.1% had "middle" income. 31.3% of women smoked cigarette. It was found that 50.9% of them used contraceptive method. The most using contraceptive methods of women were withdrawal (27.9%), condom (23.3%) and IUD (16.3%). It was determined that 8.3% of women had the STD. 63.6% of women stated that they consulted gynecological examination when they had any problems. It was determined that 24.7% of women heard pap smear test and 11.8% of women had at least one pap smear test in her history and 87.8% reported having known result of their pap test. 72.1% of women stated that pap

testing was a test in the past year and 69.6% of women stated that pap testing suggested by doctor.

Background variables differed significantly between the pap testing group and to other; participants with the pap testing (n=47) were older (39.3 versus 33.0 years) and were longer duration of marriage of them (18.9 years versus 12.8 years); it was found out that woman; on her own (25.4%) and her husband (14.7%) graduated from university; the ones working as civil servants (28.1%); the ones living in a local district (14.3%); the ones who have high level of income (14.5%) seem to have high rate of pap testing compared to other women. It was determined that 24.7% of women known pap smear test and 11.8% of them had at least one pap smear test in her history. In addition to older age ( $p=0.000$ ), longer duration of marriage ( $p=0.001$ ), higher education level ( $p=0.013$ ), working outside home ( $p=0.000$ ) were found higher rate in women who had pap smear test history than other women and the differences between groups were found significant (Table 1).

It is indicated that women, using contraceptive method (16.8%); having a STD (24.2%); having the habit of regular gynecological examination (29.6%); having information about pap test (43.9%); thinking that she is in danger of cervical cancer (24.1%); having a history of cervical cancer in her family or relatives (27.3%) and the ones who smoke (14.6%) seem to have higher rate of pap testing. Also, using of contraceptive method ( $p=0.000$ ), having a STD history ( $p=0.042$ ), positive attitude to

**Table 1. Pap Testing According to Socio-Demographic Characteristics**

Demographic variables	Pap (+) n=47 (%)	Pap test (-) n=350 (%)	p value
Age mean	39.31±9.48	33.01±10.66	.000*
Marrying age	20.76±4.45	20.92±3.88	.800*
Age at first pregnancy	21.69±4.90	22.19±4.22	.482*
Birth of number	2.58±1.69	2.28±1.61	.260*
Level of education			
Illiterate	3 (10.3)	26 (89.7)	.013**
Primary	18 (10.4)	155 (89.6)	
Secondary	4 (7.1)	52 (92.9)	
High school	7 (8.8)	73 (91.3)	
Faculty	15 (25.4)	44 (74.6)	
Husband's education			
Illiterate	-	8 (100.0)	.694**
Primary	15 (11.7)	113 (88.3)	
Secondary	7 (9.0)	71 (91.0)	
High school	14 (13.5)	90 (86.5)	
Faculty	8 (14.7)	49 (86.0)	
Working Status			
Housewife	23 (8.3)	254 (91.7)	.000**
Civil servant	18 (28.1)	46 (71.9)	
Laborer	6 (11.1)	48 (88.9)	
Place of residence			
Province	30 (13.8)	187 (86.2)	.052**
Country	11 (14.3)	66 (85.7)	
Village	5 (5.0)	96 (95.0)	
Income status			
High	18 (14.5)	106 (85.5)	.545**
Medium	27 (10.6)	227 (89.4)	
Low	2 (11.1)	16 (88.9)	

\*t test, \*\* $\chi^2$  test

**Table 2. Pap Testing According to Variables**

Variables	Pap Test (+) n=47 (%)	Pap test (-) n=350 (%)	p value
Knowledge about Pap test			
Yes	43 (43.9)	55 (56.1)	.000**
No	4 (1.3)	295 (98.7)	
History of cancer in their family or relatives			
Yes	6 (27.3)	16 (72.7)	.021**
No	41 (10.9)	334 (89.1)	
Thought herself in cervical cancer risky group			
Yes	13 (24.1)	41 (75.9)	
No	22 (12.2)	159 (87.9)	.004**
I don't know	12 (7.4)	150 (92.6)	
Having a sexually transmitted diseases			
Yes	8 (24.2)	25 (75.8)	.021**
No	39 (10.7)	325 (89.3)	
Thoughts about gynecologic examination			
If I cannot cope with	10 (12.3)	71 (87.7)	
If I have a problem	18 (7.6)	218 (92.4)	.000**
Regular examination	16 (29.6)	38 (70.4)	
Contraception use			
Yes	34 (16.8)	168 (83.2)	.002**
No	13 (6.7)	182 (93.3)	
Smoking			
Yes	12 (14.6)	70 (85.4)	.379**
No	35 (11.1)	280 (88.9)	

\*t test, \*\* $\chi^2$  test

gynecologic examination ( $p=0.000$ ), thought herself in cervical cancer risky group ( $p=0.004$ ) and having knowledge of pap smear test ( $p=0.000$ ) and history of cancer in their family or relatives ( $p=0.021$ ) were found higher rate in women who had pap smear test history than other women and the differences between groups were found significant (Table 2).

## Discussion

Cervical cancer screening through pap testing is extremely effective in detecting the cervical neoplasia at very early stage (İmam et al., 2008). In our study, 11.8% of participants had at least one pap test. The rate of making pap test is indicated as 2.6% in Pakistani (İmam et al., 2008), 27% in South Africa (Wellensiek et al., 2002), 93% in USA (Sirovich and Welch, 2004). In the studies carried out in Turkey; according to Akyüz et al., (2006) the rate of pap testing of women is 51.2%, while it is 16.2 according to Karaca et al., (2008). On the other hand, Atar Gürel et al., (2009) states the rate as 30.4%. In majority studies, it was found that the socio-demographic characteristics of women had an influence on the rate of having pap testing (Akyüz et al., 2006; Kaku et al., 2008; Atar Gürel et al., 2009; Jun et al., 2009; Uysal and Birsal 2009). In this study, while socio-demographic characteristics of the women such as age mean, education level, duration of marriage, working status were determined as influential factors on having pap testing; marrying age mean, age mean at first pregnancy, birth of number, husband's education level, place of residence and income status of women were not determined as influential factors on having pap testing. In this issue studies, it stated that age group, duration of marriage (Akyüz et al., 2006), age mean

(Atar Gürel et al., 2009), working status (Karaca et al., 2008), level of education, place of residence (Akyüz et al., 2006; Coughlin et al., 2006; Atar Gürel et al., 2009; Jun et al., 2009) and status of income (Kaku et al., 2008) are influential on having pap smear testing. As women grow older, and with the increase in their marriage period, the frequency of consulting to a doctor increases by such gynaecological and obstetric reasons as giving a birth, miscarriage, infection, contraception, correspondingly it is thought that being aware of pap test, informed about pap test, and the rate of making pap test increase. In this study, it was found out that the increase of women' education level and having a job has a positive effect on the rate of making a pap test, and university graduates and the women working as civil servants are more liable to making a pap test than others. The most important determiner of the rate of making a pap test among women in a society is the level of knowledge and awareness about this subject. In the studies carried out in our country, it is stated that the rate of being aware of pap test changes between 72.2%-76.9% in bigger cities (Kalyoncu et al., 2003; Ünalın et al., 2005; Akyüz et al., 2006); while it is between 29.9% (Karaca et al., 2008) and 30.4% (Atar Gürel et al., 2009) in smaller cities. In our study the rate of being aware of pap test was found at the rate of 24.7%. If we compare this rate with the results of other studies, it is lower than the results of the studies carried out in bigger cities and it is also lower than the studies in smaller cities in the middle and east. Also in this study, it was determined that knowing about pap test is effective on making pap test and difference were significant ( $p=0.000$ ), (Table 2). In the studies, it was seen that making a regular pap test rate increased among women who were educated about the reasons of cervix cancer, protection and screening methods (Markovic et al. 2005; Liao et al., 2006; Atar Gürel et al., 2009; Uysal and Birsal 2009). This finding shows that when women are educated about pap test, it is possible to increase the rate of making a pap test.

It has been found that there is a significant relation between thinking herself in a risky group or having a story of cervical cancer in her family or relatives, and making a pap test. ( $p=0.004$ ,  $p=0.021$  respectively), (Table 2). Karaca et al., (2008) stated that the women who have knowledge about pap test think that they feel more risky about cervix cancer than the others who are less knowledgeable. It was found out in this study, parallelly to the studies carried out, the rate of making a pap test is higher among women whose family or relatives have a story of cervix cancer and the women thinking that they are in the risk of cervix cancer (Nguyen et al., 2002; Karaca et al., 2008; Uysal and Birsal 2009).

In the study, it was determined that women's attitudes towards gynaecological examination is effective on making a pap test and there is a relationship between women's attitudes towards gynaecological examination and making a pap test ( $p=0.000$ ). The women who have STD make pap test more than the ones who haven't and difference was statistically significant ( $p=0.021$ ). The rate of making a pap test is higher among the women using contraception method than the ones who don't use and

difference was significant (Table 2). In the study carried out, parallel to the increase in the number of gynecological examination, having information about pap test increased (Kalyoncu et al., 2003). In another study, it was pointed out that the group having a pap test experience has more gynecological examination number (Atar Gürel et al., 2009). It is thought that the women who consult to a regular gynecological examination or the women who have gynecological examination because of various problems or with the aim of using contraceptive are getting more aware of cervix cancer and the ways of protection. Also, it is thought that via these examinations the rate of making a pap test increases.

In conclusion, we determined that knowledge about pap test and rate of the pap testing of women were very low. In addition to, older age, high education level, duration of marriage, working outside home, having knowledge about pap smear test, using of contraceptive method, history of cancer in women's family or relatives, having a STD history, positive attitude towards gynecologic examination and thought herself in cervical cancer risky group were found to be related with their condition of having pap testing. According to the results of the research, it is needed to have screening programmes suitable to country conditions and to put forward cervix cancer prevalence. During this period, it is necessary to educate women, and to give them consulting service, and to suggest them make a pap smear test to improve their consciousness about pap smear test with the aim of early diagnosis and prevention of cervix cancer. Advance studies with larger populations may provide detailed information in determining beliefs and attitudes concerning cervical cancer and having pap testing.

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