

## RESEARCH COMMUNICATION

# PAP Smear Screening among Married Women Living in Osmangazi University ALPU Training Area

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### Abstract

An inquiry including questions about socio-demographic and fecundity properties and covering the knowledge and attitudes of women about Pap smears was applied to 585 women living in Alpu district of Eskisehir, Turkey. Smear specimens were taken from 513 women and colpography was performed before and after acetic acid application with a digital camera. The women who had cervical lesions and/or aceto-white epithelium during the gynecological examination and/or had pathological findings in the smear and/or had suspicious findings at the colpography were invited (n=125, 24.4%) to the Department of Gynecology for colposcopic evaluation. Colposcopy was performed to 77 and biopsies were taken from 40 of the women during colposcopic examination. Of the biopsy specimens, 31 were accepted as benign while 9 were reported as pathology positive, one being high grade squamous intraepithelial lesion (HGSIL) and 8 low grade squamous intraepithelial lesion (LGSIL).

**Key Words:** Pap smear - colposcopy - colpography

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### Introduction

Cervical cancer is the second among gynecologic cancers in all over the world and the first in the developing countries. It has high mortality unless diagnosed early (Morris et al., 1996). In countries where active screening programs have been developed, an important decrease has been recorded in invasive cervical cancer incidence (Lonky., 2002, Idestrom et al., 2002, Twinn et al., 1999). Invasive cancer can be prevented if smear screening programs are applied properly in the society, and cervical cancer morbidity and mortality will be reduced with an active screening program (Lonky., 2002, Idestrom et al., 2002, Twinn et al., 1999, Saslow et al., 2002, Claeys et al., 2002). It is reported that through organized active pap smear screening programs, cervical cancer incidence and deaths from this illness are reduced by 70-80% (Berkman., 1999, Lonky., 2002, Sawaya et al., 2000, Vasilev., 2002, Aksu, 1999, Felix et al., 2002).

The aims of this study were: 1) To evaluate the knowledge, attitude and approach of women about smears; 2) To establish a smear screening programme and to evaluate the cervical cytological abnormalities in the area; 3) To determine the applicability and limitations of a multiphase population screening program; 4) To determine the sensitiveness, specificity and positive predictivity of the Pap smear.

### Materials and Methods

According to our knowledge, this is the first cervical screening program in Turkey. Because of limited sources of our institute, the screening was planned for 500 women. The study was supported by Osmangazi University Research Foundation and planned in multiphases. In this rural district there were 547 women suitable for screening who were married or had been married in the past. In the first phase of screening, an inquiry was applied to determine socio-demographic and fecundity characteristics and knowledge levels of women on smear by visiting houses (Morris et al., 1996, Idestrom et al., 2002, Saslow et al., 2002, Vasilev., 2002, Aksu, 1999, Kalyoncu et al., 2003).

The women who were not in their houses on the first visit were revisited later, and 473 out of 547 women could be reached. After the inquiry, the women were invited to Alpu Health Centre, which was allocated to the research team and equipped by Osmangazi University Research Foundation, in order to have their smears taken in the proper time of their menstrual periods. Those invited to the centre were advised that they should not take a vaginal shower, have sexual intercourse, or use a tampon, gel or vaginal cream within 48 hours before coming to the centre.

In the second phase, women's gynecological examinations were done, their smears were taken with a special endocervical brush and colpography was

performed with a 4 mega pixel digital camera before and after acetic acid application. The women who had aceto-white lesions were classified as “naked eye visual inspection with acetic acid (VIA) positive”. The women who were VIA positive and/or who had suspicious lesions in the gynecological examination were considered as “clinically positive”. After the gynecological examination, all of the women were informed about contraception, and for those who wished, an appointment was given for the application of an intrauterine device which was provided from Eskisehir Health Office.

The women were informed about smear and also about self breast examination. The women were also informed that they would be reinvited, according to the results of smears. Women (n=112), who were not in the research area but wanted to be screened, were also included in the study, firstly with the intention of not to refuse them but then to evaluate the demographic characteristics of this group. Their smears were taken as well and colpographies were performed after gynecological inspection.

The smears were all fixed with ethanol and sent to Osmangazi University Pathology Department to be evaluated at the end of every working day. The enlarged colpographs were evaluated on a computer screen at the Gynecology Department by the same physician. The women, who had dense aceto-white lesions with clear borders, were considered as “magnified VIA (VIAM) positive”.

In the third phase, smears were evaluated according to 2001 Bethesda system. The women who had atypical squamous cell, one of the potential premalign squamous lesions (ASCUS) [cells the significance of which was not defined] and lesions that high grade couldn't be excluded (ASCH), LGSIL, and those who were VIA positive or VIAM positive were invited to Osmangazi University Medical Faculty Gynecology Department for colposcopy.

Transportation of women for colposcopy was facilitated by the university vehicles. In the third phase, colposcopic examinations of the women were performed in Gynecology Department and biopsies were taken when it was necessary. Biopsy material was evaluated in Pathology Department. Women with positive results were informed for evaluation and treatment. The flow of the study is shown in Table 1.

SPSS version 10.0 for Windows was used to evaluate the data.

## Results

Demographic characteristics of 401 women on whom the inquiry was applied in the area and 112 women who came voluntarily (total 513 women) are shown in Table 2. The smear results of 43 (8.4%) women out of 513 whose smears were taken in the second phase were reported as “unsatisfactory for evaluation”. Of the evaluated 470 smears, 182 (38.7%) were accepted as within normal limits. Infection was reported in a total of 234 smears (49,8%) as *Herpes simplex* in one smear, *Trichomonas* in four, *Gardenella* in 37, non-specific in 192. Reactive cell differences were observed in 136 (28,9%) of the smears while epithelial cell anomalies were seen in 25 (5.3%) of

**Table 1. The Flow of the Study**

Target population of the research	547
The number of women reached	473
The number of the women who came for a Pap smear test	401
Total smear number	513
The number of the women invited for colposcopy	125
The number of the women who came for colposcopy	84
The number of colposcopies performed	77
The number of the women from whom biopsies were taken	40
Reported as positive by pathology	9

the smears. It is reported that 19 of the epithelial cell anomalies were ASCUS, four of them were AGUS, one of them was both ASCUS and AGUS and one of them was LGSIL.

After the evaluation of the gynecological examination, colpography and smear results, totally 125 women, who had cervical lesion and/or acetic acid white epithelium and/or pathology at pap smear and/or those whose colpography was found abnormal or suspicious were invited to Gynecology Department. The distribution of the invitation criteria for colposcopy is shown in Table 2.

Eighty-four women out of 125 invited women came. Colposcopy was performed on 77 (91.6%). Seven women were not suitable because of menstruation. Biopsies were taken from 40 women and the biopsy material sent to the Pathology Department.

There were no significant links between demographic characteristics of the women and whether a biopsy was taken or they were pathology positive. Eight of 9 women whose biopsy results reported as “pathology positive” were LGSIL and one of them was HGSIL.

## Discussion

The study was conducted on 513 women whose ages

**Table 2. The Distribution of the Study Group According to Demographic Characteristics**

Parameter	n	%	
Age	<29	126	24.6
	30-39	188	36.6
	40-49	125	24.4
	50+	74	14.4
Education	Under primary	125	24.4
	Primary	339	66.1
	Secondary+	49	9.6
Social Security	None	103	20.1
	SSK	137	26.7
	Ba_-Kur	103	20.1
	. San.	67	13.1
	Green Card	103	20.1
Pregnancy No.	0	18	3.5
	1-3	244	47.6
	4-6	185	36.1
	7+	66	12.9
Abortion	No	405	78.9
	Yes	108	21.1
Curettage	No	328	63.9
	Yes	185	36.1
Gynecological Examination	No	228	44.4
	Yes	285	55.6
Total	513	100.0	

**Table 3. Invitation Criteria for Colposcopy**

Indication	n	%*	%**
Not invited	388	75.6	
Smear + VIA positive + VIAM positive	2	0.4	1.6
VIA positive + VIAM positive	36	7.0	28.8
Smear + VIA positive	7	1.4	5.6
Smear + VIAM positive	1	0.2	0.8
Smear	15	2.9	12.0
VIA positive	48	9.4	38.4
VIAM positive	16	3.1	12.8
Total	513	100.0	100.0

\*Among a total of 513 women\*\* Among 125 invited women

were between 16 and 71 years old with an average of 37,6 ± 10,44 years. Illiterates were among 50 years and older while secondary school or over educated ones were among 29 years or younger age group. The proportion of illiterate was 15.9% in 29 or younger group, while it was 41.9% in 50 and over group.

Forty three smears (8,4%) which were taken from 513 women in the second phase were evaluated as insufficient. This proportion has been given as 0.7% in the clinical based study performed by Tuncer et al (2003). Some 182 (38.7%) of our evaluated 470 smear results were in normal limits. Here we focus on earlier results in Turkey. In clinical-based studies, values were about 20% and 25% (Tuncer et al., 2003, Öner et al.,2004). In our study, infection was found in 234 of the evaluated smears (49,8%). It was observed that there were changes in accordance with Gardenella in 37 smears, Trichomonas in four, and Herpes simplex infection in one smear. Since changes were not found in accord with a specific infection agent in 192 of them, the results were regarded as non-specific infection. Infection was found in 79.1% of smears (1,2% Gardendale) in the study of Güngör et al (2001), and 50.6% (5,0% Gardenella vaginalis, 4,1% Candida, 2,4% Trikomonas, 0,2% Aktinomices, 0,3% viral and 0,1% Chlamydia infection) in the study of Tuncer et al (2003), and 74.6% of smears in that of Öner et al (2004).

Of the evaluated 470 smears, 136 (28.9%) demonstrated reactive cellular changes and 25 (5.3%) epithelial cell anomalies. Of the epithelial cell anomalies 19 were reported as ASCUS, four were AGUS, one of them was both ASCUS and AGUS and one was LGSIL. In the study of Tuncer et al (2003), epithelial cell anomaly was reported as 1.0%, and in the study of Güngör et al (2001) it was 3,4%. In the study of Öner et al (2004), epithelial cell changes were found as 1,8% (n=5), 3 ASCUS, 1 LGSIL, and 1 HGSIL.

Only eighty four (67.2%) women out of 125 invited women came. The reasons of the women who did not come were not inquired, but women who had an abortion previously were relatively frequent (p=0.059). There were no other differences related to demographic characteristics between the women who came and those who didn't come.

Although the service was free and transportation was supplied, it was found remarkable that one in three women who were called didn't come to the hospital for advanced examination. To compensate for the observed insufficient knowledge in the society, training of people in the health

sector whose responsibility is to educate and direct women about related subjects is a high priority.

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