

## Pap Smear Screening Results in Kahramanmaraş

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**OBJECTIVE:** To evaluate the Pap smear results in our region.**STUDY DESIGN:** Results of 3795 Pap smear reports, performed at Kahramanmaraş Maternity and Children Hospital were evaluated retrospectively.**RESULTS:** There were 68 cases (1,7%) with epithelial abnormalities consisting of 51 (1,3%) ASCUS, 12 (0,3%) ASC- H, 1 (0,02%) LSIL, 4 (0,1%) HSIL. In these pathologies the ratio of advanced epithelial abnormalities (LSIL and HSIL) were determined lower than the literature. Lower HPV infection ratios in our country when compared with the literature might be due to this.**CONCLUSION:** Pap smear screening can be apply infrequently, at least in the populations with low incidence of epithelial abnormalities like our region.**Key Words:** Pap smear, Epithelial abnormalities, HPV, Kahramanmaraş*Gynecol Obstet Reprod Med;14:3 (182 - 185)*

## Introduction

Cervix cancer is still in the second rank behind breast cancer among the cancer related women death in the world.<sup>1</sup> On the other hand especially in the developed countries, there is a noticeable decrease in the incidence of cervix cancer. Although cervix cancer was at the first place for cancer mortality in USA once, now it has been decreased down to thirteenth place and recently a reduction of 70% in the mortality rate has been observed.<sup>2</sup>

The decrease in cervical cancer incidence is thought to be due to the widespread use of annual screening programs and successful adaptation into clinical practice. But cervix cancer is still the second cause of cancer mortality in the world, especially due to insufficient use of screening programs in underdeveloped countries. Pap smear screening test has become a current issue at the end of 1920's and was firstly described by Papanicolaou in 1942. In the following years, after the publishing of two articles in American Journal of Obstetrics and Gynecology, it has been joined to clinical practice.<sup>3,4</sup>

A test should supply the essential conditions to be used for

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the screening purposes. Of these conditions the most known and acceptable ones are manifested (exhibited) by Wilson and Jungner:<sup>5</sup>

1. The searching condition must be an important health problem
2. There must be an acceptable treatment modality for the determined patients.
3. The diagnose and the treatment of the screened disease must be possible.
4. There must be an adequate latent or early symptomatic period for early determination of the disease.
5. There must be an adequate test or examination method.
6. The test have to be acceptable by the public.
7. The natural progress of the disease must have to be completely understood.
8. There must be an agreed policy about whom will be treated as a patient.
9. The expenditure must be cost effective.
10. The case determination must be continual process, not for once.

On the base of these criteria, cervical cancer screening with Pap smear is accepted as one of the effective approach for the prevention of cervical cancer. The diagnose and treatment of cervical lesions at premalign stage declines the cancer incidence and mortality. Hence the US Preventive Health Services Task Force has recommended the screening of breast, cervix and colorectal cancers.<sup>6</sup>

The cervix cancer incidence shows a broad interval distri-

bution between regions. It is reported as 42,7 per 100.000 at East Africa, 14,5 per 100.000 at East Europe, 12,1 per 100.000 at North Europe, and 5,8 per 100.000 at North Asia.<sup>7</sup> Although the data is not enough in Turkey, according to the available ones cervix cancer is the 5. cause of cancer mortality in women and frequency of cervix cancer was reported lower, as 3,96 per 100.000, reported in a research performed at 8 cities.<sup>1</sup>

Similar to the data from Turkey, we saw that epithelial abnormalities and cervical cancer cases, observed in our region, were lower than the ones given in literature. So we wanted to evaluate data of our region. For this purpose we decided to evaluate Pap smears results of Kahramanmaraş Maternity and Children Hospital retrospectively.

## Material and Method

In our study we retrospectively evaluated the results of 3795 Pap smear that were examined at the Kahramanmaraş Maternity and Children Hospital, Department of Pathology. All of the Pap smears were performed by the gynecologists. All the substance were examined and classified due to Bethesda 2001 system by the same pathologist.

## Results

We found 54,8% (2085 in 3795) non-specific infection, 28% (1098 in 3795) normal, 7,5% (288 in 3795) reactive changes, 3,1% (124 in 3795) specific infection, 2,8% (108 in 3795) repair changes, 1,7% (68 in 3795) epithelial abnormalities and 0,6% (24 in 3795) atrophic situation (Table 1). Of the 68 epithelial abnormalities were 1,3% (51 in 3795) ASCUS, 0,3% (12 in 3795) ASC- H, 0,02% (1 in 3795) LSIL, 0,1% (4 in 3795) HSIL. None of the Pap smear result demonstrated cervical cancer.

Table 1: Results of Pap Smear reports

PAP Smear Results	Number	%
Normal	1098	28,93
Non-specific infection	2085	54,94
Specific infection	124	3,26
Epithelial abnormalities	68	1,79
• ASCUS	51	1,34
• ASC- H	12	0,31
• LSIL	1	0,03
• HSIL	4	0,11
Reactive Changes	288	7,59
Atrophic situation	24	0,63
Repair changes	108	2,86
Total	3795	100

## Discussion

Stany et al reported 7% ASCUS when they examined 550.000 Pap smear at a multicenter study performed in USA

and Europe. In the same study when 150.000 Pap smear result from Northeast Region were evaluated; 3,6% ASCUS, 0,2% ASC-H, 1,96% SIL and 1,87 ASCUS/SIL ratio was reported.<sup>8</sup> Kendall et al determined 9,2 % ASCUS ratio at 8022 Pap smear.<sup>9</sup> A recent study published by American sources reported 2,9% LSIL.<sup>10</sup> As seen in these studies epithelial abnormalities are significantly high in the Pap smear results worldwide.

Our epithelial abnormalities ratio was significantly lower than the literature. We determined 1,7% (68 in 3795) epithelial abnormalities consisting of 1,3% (51 in 3795) ASCUS, 0,3% (12 in 3795) ASC- H, 0,02% (1 in 3795) LSIL, 0,1% (4 in 3795) HSIL. Also there was a difference within the distribution of cytological abnormalities. In literature ASCUS and SIL have been reported at similar ratio, the ASCUS/ SIL ratio as 1,03.<sup>8</sup> LSIL and HSIL ratios of our study were very low (0,02% and 0,1%), so ASCUS/SIL ratio was 10,8 that is obviously higher in favour of ASCUS.

The data of other studies from Turkey revealed the similar low results as ours. In two different studies performed in Ankara and in Elazığ, cytological abnormalities (epithelial cell abnormalities) was found 1,2% and 2,2% respectively.<sup>11,12</sup> In the second study epithelial abnormalities were as 1,7% ASCUS, 0,3% AGUS and 0,15% LSIL.<sup>12</sup> These results show us that the ratio of cytological abnormalities were lower than that given in the European literature. Among these especially rarity of advanced lesions (LSIL, HSIL) is noticeable.

Invasive cancer risk at a ASC lesion is between 0,1% and 0,2% .<sup>13</sup> According to this ratio, no invasive cancer could be determined among the 68 cytological abnormalities of 3795 pap smear in our study. The total cost of the screening in our study was; 3795x38.8 YTL=147.246 YTL (One smear cost was 38,8 YTL due to 2008 Income Application Instruction). If to this cost also time spend by gynecologist and pathologist included, cost-effectivity of Pap smear as a screening in our country is subject to dispute.

Risk factors for cervical cancer are; early onset of sexual activity, multiple partners, low socioeconomic status, Human Papilloma Virus (HPV) infection, cigarette smoking, vitamin A deficiency.<sup>14</sup> But epidemiological studies have concluded that HPV infection is the major risk factor for cervical cancer.<sup>1,15</sup> It is so that, HPV infection prevalence can reach to as high ratio's as 99,7% at the studies of cervical cancer cases.<sup>15</sup> This result showed that cervix cancer couldn't be without HPV infection.

To conclude about the cost efficiency of cervical cancer screening, we have to know the HPV prevalence in our country. HPV prevalence in the world was reported as; 14% in India, 24% in Nigeria, 15% in Argentine, 7,8% in Italy.<sup>16</sup> HPV infection (HPV DNA) prevalence in Turkey has reported as 6%

at a study performed with 230 women in Inside Anatolia Region.<sup>17</sup>

Another research, performed in 53 women with normal Pap smear to investigate existence of HPV types of 6, 11, 16, 18, 31, 33, 35, 42, 43, 45, 51, 52 and 56, has not detected HPV DNA at any case.<sup>18</sup> Recently, a research that investigated data of 1353 women in İzmir, have been reported epithelial abnormalities in 9 (0,7%) cases. HPV DNA prevalence in same study was as 1,5 % (20 in 1344) in patients with normal cervical Pap smear and 100% (9 in 9) in patients with epithelial abnormalities.<sup>19</sup> These data has confirmed that there is low HPV infection prevalence in our country.

In a recent meta-analysis, HPV frequency has been reported as 76% in patients with LSIL. Advanced lesions like LSIL and HSIL are good indicators for HPV infection.<sup>19</sup> In our study, especially existence of advanced cervical abnormalities at low ratio can be indirect indication of low HPV infection frequency in our region. When the informations from other regions of our country were investigated, the low ratio of cytological abnormalities are due to the low frequency of HPV infection.

It could be said that the differences about the frequency of cervical cancer among countries, are due to the differences between HPV frequency. We think that its important to investigate the HPV prevalence in the populations. Unfortunately, the HPV DNA data in our country is limited.

## Conclusion

Due to the results of our study and studies performed in other regions of our country the ratio of epithelial abnormalities and especially advanced epithelial lesions were lower than literature. Lower HPV infection ratios in our country might be the reason for this.

According to our results, cost-effectivity of Pap smear as a screening test in our region is high. For this reason, our opinion is to make Pap smear screening infrequently, at least in the populations with low incidence of epithelial abnormalities like our region

## Kahramanmaraş'da Pap Smear Tarama Sonuçları

Çalışmamızda Kahramanmaraş Kadın-Doğum ve Çocuk Hastanesi'nde yapılan 3795 Pap smear sonuçları retrospektif olarak incelendi.

Tüm olguların 51'i ASCUS (%1,3), 12'si ASC- H (%0,3), 1'i LSIL (%0,02), 4'ü HSIL (%0,1) olmak üzere 68 (%1,7) olguda epitelyal anormallik saptandı. Bu patolojilerin içinde özellikle LSIL ve HSIL gibi ileri dönem lezyonları literatüre göre daha düşük oranda saptandı. Bu düşük oran, ülkemizde HPV enfek-

siyonu sıklığının literatüre göre daha az oranda görülmesine bağlı olabilir.

Bölgemiz gibi düşük epitelyal anormallik oranı gösteren popülasyonlarda Pap smear taraması daha seyrek olarak yapılabilmektedir.

**Anahtar Kelimeler:** Pap smear, Epitelyal anormallikler, HPV, Kahramanmaraş

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