RESEARCH ARTICLE

Pap Smear Screening Results for Turkish Pregnant Women

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Abstract

> <u>Objective</u>: Cervix cancer is one of the most common gynecological cancer types that cause cancer deaths among women. This study was planned based on a descriptive method in order to evaluate the results of PAP smear screening during pregnancy for prevention of cancer. <u>Materials and Methods</u>: The research involved 110 pregnant women registered at the Obstetrics and Gynecology Polyclinic of Bagcilar Training and Research Hospital and 86 non-pregnant women of the same ages as a control group. As criteria for acceptance were conditions such as not being in coitus within the last 48 hours, not using vaginal ovule, and not performing vaginal lavage. A survey consisting of 33 questions was conducted and the results were processed using Bethesda. <u>Results</u>: The average ages were 27.1±4.70 for the pregnant women and 28.8±4.24 for the control group. 60.7% of cases had previously heard of a PAP smear test, 49% were aware of why PAP smear tests were conducted, 26.4% of pregnant participants and 27.3% of non-pregnant participants had previously undergone a smear test. In this study, smear results of all cases were 95.4% sufficient. 18.2% of pregnant cases had an infection, 54.5% had reactive cellular change, and 0.9% had atypical squamous cells of undetermined significance (ASC-US). 16.3% of non-pregnant cases had an infection, 58.1% had reactive cellular change, 3.5% had atypical squamous cells of undetermined significance (ASC-US), and 1.2% had low-grade squamous intraepithelial lesions (LGSIL). <u>Conclusion</u>: PAP smear test is a good opportunity to identify pre-invasive lesions in early phases of pregnancy.

Keywords: Pregnancy - cervical cancer - PAP smear screening - Turkey

Introduction

Cervical cancer is one of the three most common malignant processes, among females, worldwide (Ferlay et al., 2004). Every year, more than 493,000 individuals are diagnosed with and 274,000 die from cervical cancer, worldwide. The majority of these cases (80%) are experienced in developing countries (Parkin et al., 2005). In Turkey, cervical cancer ranks tenth among all female cancer types, and the number of incidences is 4.76 in every hundred thousand (Akyüz et al., 2006).

In the last fifty years, there has been a decrease in cervical cancer incidences and its mortality due to the cervical cancer screening programmes conducted in many developed countries. However, high incidence and mortality rates continue in developing countries due to the lack of screening programmes (Canfell et al., 2006; WHO 2008).

According to literature, all sexually active women constitute the risk group. It is thought that those with a low socio-economic status and those that become sexually active at a younger age suffer from cervical cancer more. In addition, studies prove that one in every hundred cervical cancer patients are pregnant when diagnosed (Vural et al., 2004). According to recommendations by the American

Cancer Society (ACS) and the American Congress of Obstetricians and Gynecologists (ACOG), cervical cancer screenings should be conducted 3 years after first sexual intercourse, or at the age of 21 (Saslow et al., 2002; ACOG, 2003). In our country, according to a public mandate published by the Ministry of Health (2009), the objective of social-based cervical cancer screening studies is that at least one (1) smear test should be conducted on all women aged between 30 and 40.

While in most Western countries cytological screening is a standard part of antenatal controls, no such screening programme exists in our country (Zemheri et al., 2005). This study is designed as descriptive to investigate results of PAP smear screening conducted on pregnant women, popularise smear tests, establish a routine, and contribute to the national screening programme.

Materials and Methods

This study was conducted at a state hospital in Istanbul, northwest Turkey. The population of the study comprised of pregnant and non-pregnant women, who applied the polyclinic of Obstetrics and Gynecology at Bagcilar Training and Research Hospital between December 2008 and April 2009. The sample group comprised of 110

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pregnant women from the study population, who agreed to participate in the study, and 86 non-pregnant women from the same age group. No coitus, no use of vaginal ovule, and no vaginal lavage in the last 48 hours were among the study inclusion criteria.

Women were asked to complete a 33-question survey, prepared by the researcher. The survey, prepared by the researcher, comprised of questions in order to obtain data regarding participants' socio-demographic characteristics, their gynecological and obstetrical history, their habits, and their knowledge level of pap smear tests and cervical cancer. The smear test was carried out once information of a PAP smear test was provided, and consent was obtained. In their study, conducted in 2004, Vural et al concluded that no complications were seen in pregnant women using Ayre's spatula. As a result, Ayre's spatula was used to conduct smear tests in this study. All smears were immediately sprayed with a fixative, and sent to the department of Pathology at Bagcilar Training and Research Hospital. Smears were examined in accordance with the 2001 Bethesda system.

Data analysis

The data collected were analyzed using SPSS-15.0 for Windows Descriptive statistical methods for each question were carried out according to the different demographic data on the collection of respondents. Statistical evaluation was accomplished using the Pearson chi-square test to test the relationship of sample characteristics and categorical variables. P value of less than 0.05 was regarded as significant.

Ethical considerations

The purpose of the investigation was explained to the participants and a verbal informed consent was obtained. Furthermore, all study participants were told that they had the right to withdraw from the investigation at any time and that all information would be kept strictly confidential. The required approvals were obtained from the governorship, National Health Ministry, and the management of Bagcilar Training and Research Hospital.

Results

In this study, the average age of pregnant women was 27.05±4.70, and the average age of those not pregnant was 28.75±4.24 (p=0.755). 22.8% of pregnant women were in their first trimester, 63.6% were in their second trimester, and 13.6% were in their third trimester (the average week of pregnancy was 17.4±6.7). 70% of pregnant women and 84% of those not pregnant were primary/secondary school graduates. In this study, 98.5% of cases were housewives, and 96.4% had a moderate socio-economic level. The average age of marriage for pregnant participants was 20.65±2.94 and 19.86±2.14 for participants that were not pregnant. In our study, 19.1% of pregnant women and 9.3% of participants that were not pregnant were smokers. In our study, women that were pregnant and not pregnant had similar socio-demographic characteristics.

60.7% of cases had previously heard of a PAP smear test, 49% were aware of why PAP smear tests were

Table 1. The Distribution of the Study Group According

	Pregnant		Non-pregnant		Total	
	n	%	n	%	n	%
Pap smear results	(n=110)		(n=86)		(n=196)	
Enough	104	94.5	83	96.5	187	95.4
Limited	40	36.4	12	13.9	52	26.5
Reactive Cellular Changes	60	54.5	50	58.1	110	56.1
Infection	20	18.2	14	16.3	34	17.3
Infection Factors	(n=110)		(n=86)		(n=196)	
Candida	3	2.7	3	3.5	6	3.1
Trichomonas	1	0.9	4	4.6	5	2.5
Lactobacillus	16	14.5	7	8.1	23	11.7
Smear results	(n=110)		(n=86)		(n=196)	
Normal	32	29.1	18	9.2	50	25.5
ASCUS	1	0.9	3	3.5	4	2
(atypical squamous cells)						
LGSIL	-	-	1	1.2	1	0.5
(low grade squamous intraepithelial lesion)						

conducted, 26.4% of pregnant participants and 27.3% of non-pregnant participants had previously undergone a smear test (p=0.39). 80.5% of women had undergone smear tests upon recommendation by a doctor, and 19.5% had undergone smear tests at their own will.

In this study, smear results of all cases were 95.4% sufficient. 18.2% of pregnant cases had an infection, 54.5% had reactive cellular change, and 0.9% had atypical squamous cells of undetermined significance (ASC-US). 16.3% of non-pregnant cases had an infection, 58.1% had reactive cellular change, 3.5% had atypical squamous cells of undetermined significance (ASC-US), and 1.2% had low-grade squamous intraepithelial lesions (LGSIL) (Table 1).

Discussion

In our study, we identified that 60.7% of cases had heard of a PAP smear test, 49% knew why PAP smear tests were conducted, and 30.1% had previously undergone a smear test. In their study, conducted on 139 women in Malatya, Ak et al. (2010) concluded that 46.8% had heard of a pap smear test, and 19.4% had undergone a smear test. 68.1% of those applying a University Hospital in Jordan had heard of the test, and 40.3% had undergone a test. A study conducted in Vietnam identified that 74% had heard of the test, and 76% had undergone a smear test (Nguyen et al., 2002; Barghouti et al., 2008).

Conducted studies prove that cervical cytology conducted during pregnancy is as reliable as those conducted when the individual is not pregnant (Vural et al., 2004). Catching the disease during pregnancy will increase if screening methods become routine during pregnancy. In their cervical smear screening study, conducted on 812 pregnant women, Yatlı et al. (2003) observed infection in 69.95%, and reactive and reparative changes in 2.67% of cases. In their study, Vural et al. (2004) observed infection in 55.15% of 194 pregnant women, and reactive cellular change in 5.67% of 194 pregnant women. In our study we observed infection in 18.2% and reactive cellular change in 54.5% of pregnant cases, and infection in 16.27% and reactive cellular change in 58.1% of non-pregnant cases. Aksu (2008) identified that a high rate of candida (20.8%)

caused infection in pregnant women. According to a study conducted by Pisharodi and Jovanaska (1995), candida and trichomonas are the agents most frequently found in vaginitis. In this study, lactobacillus (14.5%) had the highest rate in pregnant women.

In their study, Vural et al. (2004) identified ASC-US in 1.55% of pregnant women, and high-grade squamous intraepithelial lesions (HGSIL) in 0.51% of pregnant women. In their study, Yatlı et al. (2003) identified that 0.086% of pregnant women has ASC-US, 0.049% had SIL (HPV compatible), and 0.012% had invasive cervical carcinoma. In our study, ASC-US was detected in 0.9% of pregnant cases and 3.5% of non-pregnant cases, and LGSIL was detected in 1.2% of non-pregnant cases. In their study, conducted on 143 pregnant women, Khaengkhor et al. (2011) identified 10 abnormal PAP smear test results; four cases had ASC-US, five cases had LSIL, and one case hade HSIL. In their study, conducted on 11,906 pregnant women, Fan et al. (2010) identified 9.52% of cases with ASC-US, 0.94% of cases with AGUS, 1.92% of cases with LSIL, and 0.62% of cases with HSIL.

It is highly important to follow up lesions identified during pregnancy. According to a retrospective study conducted in the USA, while lesions regressed in 64% of pregnant cases diagnosed with ASC-US and SIL, lesions were preserved in 34% of pregnant cases; for 67% of patients with CIS, lesions were preserved during postpartum (Siddiqui et al., 2001). In another study, where there were abnormal PAP smear results, PAP smear results returned to normal in 46% of cases during postpartum, PAP smear results regressed in 57% of cases during postpartum, and PAP smear results were preserved in 40% of cases during postpartum. The same authors set forth that self-regression after natural delivery has something to do with the increase in desquamation of the cervical epithelial, or the increase in local reparative immune response (Strinicetal, 2002).

The management of the pregnant patient should be based on the results of cytology, and colposcopy and biopsies. If an invasive tumor is excluded after cytology, and colposcopy and biopsy, no treatment is performed during pregnancy, and the treatment is postponed after delivery following a complete cervical reevaluation. If an invasion cannot be excluded with the biopsy; a diagnostic conization completed with a cerclage should be performed. This procedure should be exceptionally performed (Selleret, 2008).

In conclusion, our study proved that the PAP smear test is reliable as a prenatal screening test. Pregnancy creates an important opportunity to screen the cervix for neoplastic and infectious diseases, and create awareness on the subject in women. Therefore, it should be placed among routine pregnancy tests.

In developed countries, nurses trained on the subject of cancer early diagnosis programmes have taken on an essential role in public health screening, and working in collaboration with health and social care personnel in training programmes (Tessaro and Herman, 2000; Ertem, 2008; Yaren et al., 2008). Nurses have responsibilities such as: providing the necessary information about early diagnosis and prevention of cervical cancer in women; encouraging high-risk families to undergo screening; conducting smear tests; and gathering and assessing data obtained from screening.

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