



## Screening for cervical cancer and the associated factors among women in Delhi, India

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### ARTICLE HISTORY

Received: 28.06.2012

Accepted: 17.07.2012

Available online: 10.11.2012

### Keywords:

Cervical cancer, screening, awareness

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### ABSTRACT

Cervical cancer is one the fastest growing preventable malignancies globally. In 2008, there were 72826 deaths from cervical cancer in India in women of all age-groups, and this figure is projected to increase up to 116171 by the year 2025. Several factors contribute to high burden of disease and advanced stage at presentation including poor knowledge about the disease. Furthermore, there is a lack of screening among general population. The present study is a cross sectional, descriptive, hospital based study undertaken to assess the screening behaviour regarding cancer of cervix uteri among women. A total of 379 subjects were included in the study. The data was collected by questionnaire method after taking informed consent. It was observed that the majority (90.76%) of the participant women had never had a Pap smear. The reasons cited for not having a Pap smear were embarrassment (76.45%), family responsibilities (20.93%), fear of pain (1.75%), and lack of awareness (0.87%). The study reveals some alarming facts regarding cervical cancer screening. Most of the women decided not to get screened due to embarrassment. Many were convinced that they would never get the disease, a clear example of optimistic bias.

### INTRODUCTION

Cervical cancer is one the fastest growing preventable malignancies globally. It is also one of the leading causes of morbidity and mortality amongst the gynecological cancers worldwide, especially in developing countries. The South Asian region harbors one fourth of the burden of cervical cancer [1]. Cancer of the cervix has been the most important cancer in women in India over the past two decades [2]. According to WHO, cancer of the cervix uteri is still the second most common cancer among women worldwide, with an estimated 529 409 new cases and 274 883 deaths in 2008. Of these, an estimated 134 420 cases occurred in India. About 86% of the cases of cervical cancer occur in developing countries, representing 13% of female cancers. The crude incidence rate of cervical cancer in India was estimated to be 23.5 (per 100,000 women) and the age-standardized rate (per 100,000 women) was estimated to be 27.0. Therefore, by 2008, cancer of the cervix uteri became the leading cancer in Indian females of all ages. Even among females in the age-group of 15-44 years, cervical cancer is the predominant type of cancer with a crude incidence rate of 15.5 per 100,000 women. Cervical cancer is the leading cause of both

mortality and morbidity in India in the recent years, as estimated by the WHO. In 2008, there were 72826 deaths from cervical cancer in India in women of all age-groups, and this figure is projected to increase up to 116171 by the year 2025 [3].

Several factors contribute to high burden of disease and advanced stage at presentation including poor knowledge about the disease. Furthermore there is a lack of screening among general population<sup>(1)</sup>. Little is known about the screening behaviors of Indian women related to cervical cancer. However, the few studies carried out on the topic reveal that most of the women in India rarely turn up for screening even though are aware of the same [4]. This situation needs to be changed as invasive cancer of the cervix is essentially a preventable cancer because it has a long pre-invasive stage, because cervical cytology screening programmes are available, and the treatment for pre-invasive lesions is effective[5]. Recent researches are of the view that the knowledge level of risk factors can influence the uptake of health promoting behavior such as screening [6].

As a general rule, most of the measures for primary prevention and early detection of cancer are strongly related to personal

behaviors and lifestyles, as well as to awareness of health issues. Therefore, the WHO recommends that the general public should be provided with sufficient information and guidance on the risk factors and how to avoid them. They need to know what may cause cancers, how to prevent some types of cancers, and how to recognize early signs of cancer. This is particularly true of cancers of the breast, cervix, mouth and skin [7]. As it usually takes 10-20 years for precursor lesions to develop into invasive cervical cancer, most of these can be prevented by early detection and treatment of precancerous lesions [8].

According to the American Cancer Society guidelines (2010), ideally cervical cancer screening should begin approximately 3 years after a woman begins having vaginal intercourse, but no later than 21 years of age. Screening should be done every year with conventional Pap tests or every 2 years using liquid-based Pap tests. At or after age 30 years, women who have had 3 normal test results in a row may get screened every 2 to 3 years with cervical cytology (either conventional or liquid based Pap test) alone, or every 3 years with an HPV DNA test plus cervical cytology. Women more than 70 years of age who have had more than 3 normal Pap tests and no abnormal Pap tests in the last 10 years and women who have had a total hysterectomy may be allowed to stop further screening [9].

## MATERIAL AND METHODS

The study was undertaken to assess the screening behaviors regarding cancer of cervix uteri in females of reproductive age-group. The study was conducted among the women attending the Urban Family Welfare Centre at Majeedia Hospital, New Delhi. Duration of the study was three months. The study was completed in 2011 [10].

Females of reproductive age-group (15-49 years) [11], who were educated up to graduation (Bachelor's degree in any discipline) and above were included in the study, irrespective of marital status. Those who refused to participate in the study or those who could not understand the questionnaire were excluded. An all-inclusive sampling method was followed. All subjects fulfilling the eligibility criteria were included in the study. A total of 405 subjects were found suitable for the study of which 26 refused to participate. Thus, 379 subjects formed the final sample.

The questionnaire used in the study, "Awareness of HPV and Cervical Cancer Questionnaire" was developed at Florida Atlantic University where stability-reliability of the instrument was established through test-retest procedures. The instrument

was used after taking permission from the author. It was translated into the local language (Hindi) for convenience. Socioeconomic status was calculated according to the Kuppaswamy's socioeconomic status scale (modified for 2007 by N. Kumar, C. Shekhar, P. Kumar and A. S. Kundu) [12].

The data was collected by questionnaire method. Subjects fulfilling the eligibility criteria were informed about the aims and objectives of the study; and the terminology was explained in simple words; and informed consent was taken. Subjects were asked to fill up the questionnaire themselves. The subjects who had any difficulty in filling up the questionnaire were provided assistance for the same. Both the English and Hindi versions of the questionnaire were available and the subject had the choice to fill it in any language according to her preference.

After completing the questionnaire, the researcher spent some time with each participant to clear her misconceptions or answer any queries of her. Many of the women were interested in knowing whether they had answered the questions correctly; they were also explained the same in simple words.

## OBSERVATIONS AND RESULTS

**Demographic data:** 67.54 % of the subjects belonged to the age-group of 25-34 years, 29.55% of the subjects belonged to the age-group of 15-24 years and 2.9% of the subjects belonged to the age-group of 35-49 years. 92.08% of the subjects were married while rest of them were unmarried. 72.56 % of the subjects were Hindu by religion; followed by Muslims-21.64%. 5.80% of the subjects were Sikh by religion. 65.96% of the subjects belonged to Upper Middle class, 18.99% belonged to the Upper class, 12.93% belonged to Middle / Lower Middle Class while 2.11% belonged to the Lower Middle Class. None of the subjects belonged to Lower class. 90.76% of the subjects were graduates while 9.23% had a post-graduate qualification. 6.59% of the subjects reported a family history of cervical cancer, 86.01% of the subjects reported a negative family history of cervical cancer while the remaining 7.39% of them were ignorant of the same.

**Screening for cervical cancer:** It was observed that the majority (90.76%) of the participant women had never had a Pap smear. There was only a small minority who had a Pap test within the past one year (before the study), and another 4.74% had taken a Pap test more than one year back.

The reasons for having a Pap test or not having one were also enquired. It was found that most of the subjects (57.14%) had a Pap smear done because they were advised by the doctor. In the

**Table 1:** Distribution of subjects according to the history of having Pap Smear (n=379)

H/o having Pap Smear	Age-group (yrs)						Total	(%)
	15-24	(%)	25-34	(%)	35-49	(%)		
Never	104	27.44	231	60.95	9	2.37	344	90.76
Within the past year	4	1.05	12	3.16	1	0.26	17	4.48
Not within last one year*	4	1.05	13	3.43	1	0.26	18	4.74

Note : \*It includes those subjects who had a Pap smear more than one year back.

age-group of 15-24 years, 37.50% of the subjects had a Pap smear because they were advised by the doctor, 12.50% had a Pap smear on own initiative and 50.00% had a Pap smear because of a gynecological problem. In the age-group of 25-34 years, 64.00% of the subjects had a Pap smear because they were advised by the doctor, 4.00% had a Pap smear on own initiative and 32.00% had a Pap smear because of a gynecological problem. In the age-group of 35-49 years, 50.00% of the subjects had a Pap smear because they were advised by the doctor and the rest 50.00% had it because of a gynecological problem.

Among those who had not had a Pap smear, the reasons were as follows: Most of the subjects (76.45%) did not have a Pap test due to embarrassment over having the test. 20.93% of the subjects could not have a Pap smear because of their family responsibilities, 1.75% of the subjects did not have a Pap smear because they feared that it might cause pain and 0.87% of the subjects did not have a Pap smear because of lack of awareness about it.

## DISCUSSION

In the present study, a large majority (90.77%) of the subjects had never had a Pap smear, 17 (4.48%) of the subjects had done a Pap smear within the past year, while 18 (4.75%) of the subjects had a Pap smear more than one year back at the time of the study. Among those who had a Pap smear done, 23.53% were in the age-group of 15-24 years, 70.58% were in the age-group of 25-34 years and 5.88% were in the age-group of 35-49 years. Similar results were reported by Roy B et al (2008) in a hospital-based study in Kolkata, where only 10% of the participants had a Pap smear at least once [13]. In another similar study conducted by Bourne PA et al. (2010), it was found that older women are more likely to have done a pelvic examination compared to younger women ( $P < 0.001$ ) [14]. The difference in these findings may be because, in India, older women tend to be more conservative and have less liberty, while the younger women are more outgoing and also health conscious. Similarly, Maaita M et al. (2002) conducted a study to assess the attitudes of women regarding cervical cancer and cervical screening among 600 women attending gynaecology clinics at King Hussein Medical Centre, Amman, Jordan. 75% of women had never had a Pap smear before; however, the majority agreed that it is important [15].

In the present study, most of the subjects (76.45%) did not have a Pap test due to embarrassment over having the test. 20.93% of the subjects could not have a Pap smear because of their family responsibilities, 1.75% of the subjects did not have a Pap smear because they feared that it might cause pain and 0.87% of the subjects did not have a Pap smear because of lack of awareness about it. In a study conducted by Price JH et al (1996), it was found that the main barriers identified by non-regular Pap screeners ( $N = 127$ ) were no health insurance (33%), forgetting to get a Pap test (32%), and not liking to get a Pap test (31%) [16]. In another similar study conducted by Al Sairafi M et al (2008) among women aged 19-60 years, it was found that the knowledge about Pap test was adequate in 147 (52.3%) women, while 86 (30.6%) had adequate attitude towards the test and only 67 (23.8%) had an adequate practice. The main reason given for not having had a Papanicolaou smear was that it was not suggested by the doctor [17]. This is similar to the findings in our study that most of the subjects did not have a Pap smear due to lack of awareness about it. Moriera ED et al. (2006) carried out a study to assess the knowledge and attitudes about human papillomavirus (HPV), cervical cancer, and Papanicolaou (Pap) smears among

young urban women (16-23 years) attending a public clinic. The main reasons for not having a Pap smear test done before were embarrassment (63%) and fear of pain (61%) [18].

During the study, it was noted that many of the women simply shied away on being asked about Pap test and had to be coaxed into answering the questions. The unmarried ones were simply unwilling to discuss anything related to sexual behaviors. Many other women (not included in the study) had never heard the word 'cervical cancer' and confused it with some disease related to cervical spine. This was quite unexpected as those women were having a good education.

Another alarming fact was that many women who even understood the importance of Pap test were unwilling to go for the same, even though they considered themselves at risk. A 40 year-old woman simply stated: '*Why should I trouble myself and my family unnecessarily....if it happens, then we'll see*'. This idea of putting family first was evident among many women, although most of them did not express it. Curiously, many women were even afraid of getting screened-some because of the pain, and some others due to the fear of a positive diagnosis.

It was heartening to note that many women who took a Pap test did it simply because their Gynecologists had advised it. Also, many of them had got the knowledge of the disease through doctors. Awareness programmes on television were also a common source of knowledge, indicating the importance of such programmes. But despite that, the number of women getting screened was very low despite all available facilities, which indicates a lack of motivation.

## CONCLUSION

This is one of the very few studies done to assess the screening behavior for cervical cancer in India, specifically Delhi. The study reveals some alarming facts regarding cervical cancer screening. It was alarming to note that the young, urban, educated women residing in the capital city of India were embarrassed to get screened for a disease which is among the leading causes of mortality and morbidity in the country. On top of that, many of them were reluctant to the very idea of getting screened. The trend is a matter of concern because the prevention of cervical cancer is easily possible through early detection.

Although all these women were highly educated and did not report any risk behavior [10], still, the importance of regular screening is not diminished; because several factors play a role in the formation of precursor lesions and their malignant transformation. This undue optimism- '*this will not happen to me*' is to be removed immediately if the fight against cervical cancer is to be won. This indicates an urgent need for motivation programmes, both among educated and uneducated women.

**Conflict of interest statement:** The authors declare that there are no conflicts of interest.

## ACKNOWLEDGEMENTS

The authors would like to thank the concerned authorities of Jamia Hamdard and Majeedia Hospital for their cooperation in carrying out this study.

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