A Study of Cytological Abnormalities of Pap Smear and its Risk Factors Among Married Women of Reproductive Age in Urban Area - Bagalkot.

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Abstract

Introduction: Cervical cancer is both a preventable and a curable disease, preventable because the pre-invasive stage can be detected by screening and curable because the verily early stage can be cured. The incidence and mortality from this disease in developing countries is very high. Women of low socio-economic status and minority women are at particular risk for not adhering to recommended cancer screening guidelines.

Objectives: 1. To study the cytological abnormalities of pap smear among married women in reproductive age group.
2. To study the risk factors of various stages of cervical dysplasia.

Material and Methods: This study was conducted in the urban field practice area of S Nijalingappa Medical College, Bagalkot during 2009-2010. All married women in reproductive age group were included in the study. After obtaining a informed consent, they were interviewed with the predesigned, pre-structured proforma. Data were obtained on social and demographic factors, education, marital and reproductive history and tobacco chewing was obtained. Under aseptic precautions, pap smear was obtained.

Results: In the present study, 211 married women participated, among them maximum (45%) were in the age group of 26-35 years. The pap smear report of these participants were inflammatory (57.8%). Severe dysplasia was reported in 9 women. Among the study participants, 66(31.3%) of the women had normal pap smear. Inflammatory smear was present more among 26-35 year age group (30.8%), Class II socio economic status (32.7%) and among Hindus(54.1%). Severe dysplasia was maximum reported among 46-55 years age group, class II socioeconomic status and among Hindus.

Recommendation and conclusion: Cervical cancer is a problem with multiple causes and a multipronged approach is essential to combat it. It is essential to provide health education for women, particularly those from the lower socioeconomic strata regarding sexual and genital hygiene and appropriate treatment of sexually transmitted infection.

Key words: Pap smear, cervical dysplasia, married women, reproductive age

Introduction

Invasive cervical cancer is considered as a preventable cancer due to long period before invasion, efficacy of screening programmes and proper therapy of primary lesions[1]. The risk factors for invasive cervical cancer include early age at the time of first sexual intercourse, multiple sexual partners, low socioeconomic status and a history of sexually transmitted diseases[2]. Carcinoma of the cervix is the commonest genital malignancy afflicting women in the developing world. An estimated 1,90,000 women die each year as a result of cervical cancer, with 80% of these deaths occurring in the developing world[3]. High costs of therapy, lack of awareness and absence of adequate health infrastructure have prevented the most low-resource countries from instituting population-wide pap smear screening programmes. Only 5% of women in developing countries undergo cervical cancer screening compared with

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40-50% in the developed world [4]. In India, annually 16% of the world's total cases occur and only 5% are reported in the early stages[5].

The rigorous decision and analytic approach using computer based modeling methods enables linkage of the knowledge gained from empirical studies to real world situations [6]. The incidence of precancerous lesions identified by the pap test is highest among reproductive age group women[7]. In United states, most organizations recommend annual pap tests once a women has become sexually active, with some recommending less frequent screening following three normal test results [8]. WHO has recommended its member countries to develop and integrate cervical cancer screening into their health systems depending on the local, social, cultural and economic contexts [9]. This will ensure a defined referral system for diagnosis, treatment and follow-up.

Pap smear is a cost effective and a useful test for identifying those at risk of developing a cervical cancer and it holds the potential to be used as a tool to identifying women at risk for subsequent development of cervical cancer. There is an imperative need for continued efforts to ensure that medically underserved minority women to have cancer screening services. Hence this study was undertaken to study the various risk factors for cervical precancerous and cancerous lesions and pap smear examination for all the participants in the urban field practice area of S Nijalingappa Medical College, Bagalkot.

Material and Methods

This study was conducted in the urban field practice area of S Nijalingappa Medical College, Bagalkot during 2009-2010. The institutional ethical clearance was obtained.

All married women in reproductive age group were included in the study. After obtaining an informed consent, they were interviewed with the predesigned, pre-structured proforma. Data were obtained on social and demographic factors, education, marital, reproductive history and tobacco chewing was obtained.

Under aseptic precautions, pap smear was obtained. A specimen from the cervix was obtained from each participant using the Ayre's spatula. The specimen was smeared on a slide and fixed using cytofix according to the conventional standard cytological screening procedure. Specimens were examined in the department of pathology. The 1988 Bethesda II classification was used for reporting the pap smear results.

The data was tabulated and analysed using Microsoft excel and OPEN EPI software.

Results

In the present study, 211 married women participated, among them maximum (45%) were in the age group of 26-35 years (Table I).

The pap smear report of these participants were inflammatory (57.8%). Severe dysplasia was reported for 9 women (Table II).

Among the study participants, 66(31.3%) of the women had normal pap smear. Inflammatory smear was present more among 26-35 years age group (30.8%), Class II socio economic

Table I
Showing age distribution of study subjects

Age(years)	Number	Percentage
15-25	19	9
26-35	95	45
36-45	52	24.6
46-55	31	14.7
56-65	14	6.7
Total	211	100

status(SES) (32.7%) and among Hindus(54.1%), which is found to be statistically highly significant(p<0.0001).

Table II
Showing pap smear report of the study subjects

Report	Number	Percentage
Normal	66	31.3
Inflammatory	122	57.8
Mild dysplasia	3	1.4
Moderate dysplasia	11	5.2
Severe dysplasia	9	4.3
Total	211	100

Severe dysplasia was reported maximum among 46-55 years age group, class II socioeconomic status and among Hindus (Table III).

Cervical dysplasia of various stages was

seen maximum among women who have attained menarche at the age of 12-14 years. Age at marriage was taken as proxy for age at first intercourse. It was noticed that earlier the age at marriage, they were at increased risk of developing dysplasia. Infertility was found to be protective against cervical dysplasia among the study participants. Multiparous and grand multiparous women were at more risk of developing cervical dysplasia of various degree, when compared to primi and nulliparous women (Table IV), though it was not statistically significant.

Discussion

In the present study, 211 married women participated, among them 66(31.3%) had normal smear, 122 (57.8%) had inflammatory smear, 3(1.4%) had mild dysplasia, 11(5.2%) had moderate dysplasia and 9(4.3%) had severe dysplasia. None of them had proved malignancy in the cervical cytology.

Chankapa YD et al, in the study conducted in East Sikkim conducted for underserved women noted that 53.2% of the participants had inflammatory smear, which is similar to our study where 60% of the participants were in the age group of 15-35years[12]. Another study conducted in the general practice setting by Kelly et al noted the various causes for inflammatory cervical smears[13] and they found that the infection with Chlamydia trachomatis, Trichomoniasis, Human papiloma virus (HPV) infection as the etiological factors for the occurrence of inflammatory cervical smear. In the present study that inflammatory smear was more common among those who are married at the earlier age compared to older age, similar to the study conducted in East Sikkim[12]. It was also noted in our study, the inflammatory smear was more prevalent among class II and III according to Modified Kuppuswamy's classification, in contrast to the study conducted by Chankapa YD et al. This could be due to the less representation of women from the lower SES class in our study.

Cervical cancer can be detected at an early stage through regular advantage of screening. A qualitative descriptive study was conducted with female members of a urban sikh community in Canada to explore perspectives on cervical cancer screening. Lack of knowledge about the importance of prevention, influence of family and community and health provider issues affected the women's access to screening[10]. The effectiveness of cervical cancer screening programs differs widely in different populations. A nation wide audit of the effectiveness of the Swedish cervical cancer screening programme depicted that the screening program was equally effective for women of all ages and was also effective against non-squamous cancers[11].

In our study 11% of the study participants had dysplasia of various degree, among them 5.2% had moderate dysplasia followed by 4.3% who had severe dysplasia. In the study conducted in Kerala, 17% of them had mild dysplasia, 0.3% of them had moderate dysplasia and 0.8% of them had severe dysplasia[14]. In our study moderate to severe dysplasia was seen maximum among 36-55 years age group, similar to the study conducted in Kerala [14].

In the present study, early age at marriage and first pregnancy was associated with increased occurrence of moderate to severe dysplasia, which is similar to study conducted in East Sikkim [12].

Cervical cancer is both a preventable and a curable disease, preventable because the pre-invasive stage can be detected by screening and curable because the very early stage can be cured. Women of low socioeconomic status are at particular risk for not adhering to recommended cancer screening guidelines[15]. Hence cervical cancer is a problem with multiple causes and a multipronged approach is essential to combat it. It is essential to provide health education for women, particularly those from the lower socioeconomic strata regarding sexual and genital hygiene and appropriate treatment of sexually transmitted infections.

Table III Showing relationship of socio-demographic factors with various stages of cervical dysplasia.

Factors / Age in years	Normal	Inflammatory	Mild dysplasia	Moderate dysplasia	Severe dysplasia	Chi square	p
15-25	6	12	0	0	1		
26-35	26	65	2	1	1		
36 45	17	32	1	1	1	55.57	0.0001
46 55	9	12	0	5	5		
56-65	8	1	0	4	1		
Socioeconomic status							
I	17	30	1	4	4		
II	25	69	2	5	5	17.77	0.123
III	21	23	0	2	0		
IV	3	0	0	0	0		
Religion							
Hindus	63	114	2	9	6		
Muslims	2	4	0	0	3	40.64	0.0001
Jains	0	2	0	1	0		
Christian	1	2	1	1	0		
Total	66	122	3	11	9		

Table IV Showing reproductive variables and various stages of cervical dysplasia.

Factors / Age at Menarche	Normal	Inflammatory	Mild dysplasia	Moderate dysplasia	Severe dysplasia	Chi square	p
≤12	2	10	0	2	1		
13-15	56	96	3	9	8	7.4	0.49
≥16	8	16	0	0	0		
Age at Marriage							
≤15	2	6	0	1	0		
16-18	38	42	0	4	2	17.13	0.14
19 21	14	52	2	4	4		
≥22	12	22	1	2	3		
Age at first pregnancy							
Infertile	2	6	0	0	0		
≤15	0	1	0	0	0		
16-18	23	25	0	4	1		
19-21	16	34	0	1	3	19.45	0.72
22 24	15	38	2	4	2		
25 27	7	10	0	2	1		
≥28	3	8	1	0	1		
Parity							
Nullipara	3	6	0	0	0		
Primi	11	21	0	0	0	12.63	0.39
Multipara	40	75	2	6	5		
Grandmulti para	12	20	1	5	4		
Total	66	122	3	11	9		

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