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Utility of cervical cytology in asymptomatic women under rural conditions in India

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Abstract
Problems -The present study was carried out in the rural asymptomatic women who avoided Pap smear examination during counseling on the pretext that they are healthy and have no gynecological problems.
Experimental approach- Rural cervical cancer screening is in progress in Lucknow and 2912 women have been cytological examined till December 2019. Of these, 924 women were asymptomatic.
Major findings- The incidence of squamous intraepithelial lesions of cervix (SIL) was very high (16.5%) in asymptomatic women which may be related to poor personal genital hygiene due to illiteracy. The SIL rate was high in women presenting cervical lesions and in the illiterate women and showed increasing trend with rising age and parity.
Conclusion- Cytological screening in asymptomatic rural women is mandatory because carcinoma cervix is mostly asymptomatic in its pre-invasive phase and when detected and treated will help in checking the incidence of the disease in the rural population screened.

Keywords: Asymptomatic women, SIL, ASCUS, clinical lesions of cervix.

Introduction
In India, though the incidence of cervical cancer has declined in the urban population but it is still dominating in the rural areas of the country [1]. This is because organized cervical cancer screening programs are almost negligible in the rural population and there is lack of awareness of the risk factors of the disease and knowledge about the utility of the early detection of the carcinoma cervix is almost lacking [2]. A cervical cancer screening program is in progress in the Lucknow West since May 2013 and during the camps it was seen that majority of the asymptomatic women were adamant for not undergoing Pap smear examination because they thought that they were healthy and had no gynecological problems. Hence, they do not need any intervention or treatment. A lot of counseling and motivation was done to these women during which they were told that carcinoma cervix in its pre-invasive phase is mostly asymptomatic and the symptoms arise when disease becomes advanced. When detected earlier, these premalignant lesions can be treated easily with minimal costs. Because the majority of rural women were illiterate, it was very difficult to convince them about the usefulness of Pap screening even when there had no problem but some of them agreed to undergo Pap smear examination after repeated motivation. During the camp screening for more than six years, a total of 2912 have been cytologically examined and 924 of them were asymptomatic. The detailed cytological findings obtained in these 924 women have been analyzed in the context of different predisposing factors of cervical carcinogenesis and are presented in this paper.

Material and methods
Cervical cancer screening has been carried out in the rural women population of Lucknow West since May 2013 and till December 2019, a total of 183 camps have been organized covering 156 villages. On the day preceding the camp, the women of 100 houses of the village were extensively counseled and motivated (through pamphlet containing informative material about cervical cancer) for attending the camp and undergoing Pap smear. The attendance was not found to be satisfactory because of following reasons-

1. The majority of rural women being illiterate were ignorant of risk factors of the carcinoma cervix and utility of early detection of disease
2. There is fear in the mind of these women that what will happen if some abnormality is detected. This may involve financial and family burden.

3. Most of the women wanted privacy and did not attend the camp because of social taboo.
4. As many women were asymptomatic and had no problem, they felt no need of Pap test. However, when they were told about the utility of the early detection of the disease, as cervical cancer in its pre-invasive phase is mostly asymptomatic, most of them agreed to undergo Pap test.

Out of 18300 women counseled (183 camps X 100 women motivated in an village), only 5209 attended the camp (28.5%). Of these 5209, 2912 had Pap test (55.9%). The informed consent of the patients was obtained in the form of thumb impression if they were illiterate or signature if literate. The collected Pap smear in the camps were stained in the cytology lab of the Department of Pathology of the college according to Papanicolaou's technique and the cytological findings in the smears were graded according to the Revised Bethedsa System of Classification of 2002 [3].

All the collected data have been subjected to the statistical analysis using *Chi-square test.* The software used was SPSS version 22. Ethical clearance was also obtained from the Ethical Committee of the college for carrying out the cervical cancer screening program.

Results

Out of the total 2912 women registered, 1988 were symptomatic (68.3%) and remaining 924 were asymptomatic (31.7%). The incidence of SIL and ASCUS in these 924 asymptomatic women was found to be as follows-

ASCUS -60(6.4%)
SIL -153(16.5%)

The SIL rate was found to be higher in the rural asymptomatic women (16.5%) though the ASCUS was less common (6.4%) A high SIL incidence may be due to lack of knowledge of personal genital hygiene as most of the rural women were illiterate. However, STD infection was found to be rare in the asymptomatic women as only 4 cases of Candida infection were seen and 1 of these 4 was associated with SIL.

The clinical lesions of cervix were found to be present in 84 of the 924 asymptomatic women (9.1%). The remaining 840 women had healthy cervices (90.4%). The SIL and ASCUS rate in these two groups have been shown in Table 1

Table 1: SIL and ASCUS incidence in relation to clinical lesions of cervix

clinical lesions of cervix	No. of cases (924)	SIL (153)	ASCUS (60)
Erosion cervix and unhealthy cervix	46	14 (30.4%)	9 (19.5%)
Hypertrophic cervix	8	4(50%)	1(12.5%)
Others (cystocoele, cervicitis etc)	30	13(43.3%)	-
Total women showing cervical lesions	84	30(35.7%)	10(11.9%)
Healthy cervix	840	123(14.6%)	50(5.9%)

The SIL rate was more than double with cervical lesions (35.7%) than with healthy cervix (14.6%). This difference was found to be statistically very highly significant. (χ^2= 33.37; p<.001) The ASCUS rate was also two times higher with clinical lesions(11.9%) than with healthy cervix(5.9%) (χ^2 =13.05; p<.001). Thus, the women showing clinical lesions of cervix on clinical examination should be considered as high risk group for harboring premalignant lesions of cervix and hence need mandatory cytological evaluation. This will help in clinically downstaging the carcinoma cervix.

Different risk factors to cervical carcinogenesis such as age, parity, educational status and religion was also investigated in the 924 asymptomatic women. The SIL and ASCUS incidence in relation to the age in 924 asymptomatic women is shown in Table 2

Table 2: SIL and ASCUS incidence in relation to age in 924 asymptomatic women

Age group	No. of cases (924)	SIL (153)	ASCUS (60)
16-30 years	294	41 (13.9%)	30 (11.2%)
31-40 years	260	29(11.1%)	23(8.8%)
>40 years	370	83(22.4%)	7(1.8%)

The SIL rate was maximum in the older women beyond 40 years and the difference between different age groups has been highly significant (χ^2 = 18.6; p<.001). However, reverse trend was seen with ASCUS which was found to be higher at younger age between 16-30 years and subsided with increasing age. Here also the difference in the ASCUS rate in the different age groups was highly significant (χ^2 = 21.4; p<.001).

The SIL and ASCUS rate in relation to parity in 924 women is shown in Table 3

Table 3: SIL and ASCUS incidence in relation to parity in 924 asymptomatic women

Parity	No. of cases (924)	SIL (153)	ASCUS (60)
Nulliparous	45	1 (2.2%)	1 (2.2%)
Para 1	45	9(20%)	2(4.4%)
Para 2	83	14(16.8%)	4(4.8%)
Para 3 and above	751	129(17.1%)	53(7.1%)

Both SIL and ASCUS rate showed rising trend with increasing parity but the difference was more pronounced with SIL. However, there was no significant difference in the SIL rate between different parity groups (SIL- (χ^2 = 8.5; p = 0.043); and also in ASCUS cases (χ^2 = 2.71; p= 0.438). It should be pointed out here that majority of 924 women of the study were multiparous (751-81.2%).

Illiteracy is very common in rural women. The SIL and ASCUS rate was also analyzed in relation to educational status of 924 asymptomatic women is shown in Table 4.

Table 4: SIL and ASCUS incidence in relation to illiteracy in 924 asymptomatic women

Educational status	No. of cases (924)	SIL (153)	ASCUS (60)
Illiteracy	602	106(17.6%)	45 (7.4%)
Literacy	322	47(14.5%)	15(4.6%)

Both SIL and ASCUS rate was found higher in the illiterate group than in the literate women but the difference was significant only in SIL cases (χ^2 = 11.51; *p*<.001). Poor genital hygiene and poverty prevailing in the illiterate women may be the reason for a high SIL rate in these women. The SIL and ASCUS rate was also analyzed in relation to the religion of 924

asymptomatic women and is shown in Table 5.

Table 5: SIL and ASCUS incidence in relation to religion in 924 asymptomatic women

Religion	No. of cases (924)	SIL (153)	ASCUS (60)
Hindu	863(93.3%)	144 (16.6%)	58 (6.7%)
Muslim	61(6.6%)	9(14.7%)	2(3.2%)

Of the total 924 women of the study, 863 were hindus (93.3%) while only 61 were muslims (6.6%). The SIL and ASCUS rate was found to be slightly higher in hindus (16.6% and 6.7%) than 14.7% and 3.2% respectively noticed in the muslims. The difference in the SIL and ASCUS rate between the two groups was found to be insignificant ($\chi^2 = 0.152$; p= 0.697).

Discussion

The study revealed a high incidence of 16.5% of SIL in 889 women inspite of any symptom being present. This incidence is much higher than the SIL rate of 7.2% reported by Misra JS *et al*. in asymptomatic urban women of Lucknow and 6% reported by Shaki, O *et al*. in the urban asymptomatic women of Mumbai suburbs [4, 5]. It appears that a high percentage of SIL in the rural women may be associated with poor personal genital hygiene as most of them were illiterate.

As women showing clinical lesions of cervix were found to show high SIL rate than those with healthy cervices, the study shows immense utility of clinical downstaging of carcinoma cervix in detecting large number of premalignant cases under rural setup. Similar findings have also been reported by Misra JS *et al*. in the urban population of Lucknow [6]. The other studies from India also lend support to this observation [7, 8].

The study showed some relationship between SIL rate and risk factors of the cervical cancer such as high age and parity and illiteracy. The prolonged sexual life play a major role in a high SIL incidence with high age and multiparity in rural women as the marriages are performed at an early age. Lawson *et al*. have also enumerated these etiological factors of carcinoma cervix [9].

In the present study, majority of asymptomatic women were found illiterate and ignorant of risk factors of cervical cancer. The coverage for cancer screening is very low because of lack of organized screening program and hence they are at great risk of development of carcinoma cervix due to poor personal genital hygiene [10]. Quadrias *et al*. and Loerzel *et al*. have emphasized this point for women of low socio-economic status in urban community [11, 12]. Hislop *et al*. in their experience of cervical cancer screening in British Columbia, Canada have also found that the knowledge of risk factors of the disease influences Pap screening behavior and appropriate intervention is required addressing Pap testing and risk factors of cervical cancer [13].

In conclusion, it can be said that great efforts have to be made in the rural area of the country by our Health Managers for proper education of women to create awareness regarding hazards and risk factors of carcinoma cervix and usefulness of Pap smear screening for early detection and management of the disease. Regular health camps also involving cervical cancer screening should be organized at regular interval and proper linkage between diagnosis and treatment of the disease has to be ensured if any meaningful results on minimizing the incidence of carcinoma cervix and associated mortality has to be achieved.

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References

1. Badwe DA, Dixit R, Laversanne M, Bray F. Cancer incidence trends in India. Jpn J Clin Oncol. 2014; 44(5):401-407.
2. Dhamija S, Sehgal A, Luthra UK, Sehgal K. Factors associated with awareness and knowledge of cervical cancer in a community: Implication for health education program in developing countries. JR Soc Health. 1993; 113(4):184-186.
3. Solomon D, Davay DG, Kurman R, Moriarty A, O'Connor D, Prey M *et al*. The 2001 Bethesda system terminology for reporting results of cervical cytology. JAMA. 2002; 287: 2114-9.
4. Misra JS, Srivastava S, Singh U, Srivastava AN. Risk-factors and strategies for control of carcinoma cervix in India: Hospital based cytological screening experience of 35 years. Indian J Cancer. 2009; 46:155-9.
5. Shaki O, Chakrabarty BK, N. Nagaraja. A study on cervical cancer screening in asymptomatic women using Papanicolaou smear in a tertiary care hospital in an urban area of Mumbai, India J Family Med Prim Care. 2018; 7(4):652–657.
6. Misra JS, Singh U. Results of longterm hospital based cytological screening in asymptomatic women. Diagn Cytopathol. 2006; 34(3):184-7.
7. Garud MA, Saraiya UB, Lulla M, Khan S, Paraskar M, Daftary D *et al*. Cytology screening program in an urban and rural community in India. Review of a ten-year experience. Acta Cytol. 1983; 27(4):429-31.
8. Sardana S, Sodhani P, Agarwal SS, Sehgal A, Roy M, Singh V *et al*. Epidemiologic analysis of Trichomonas vaginalis infection in inflammatory smears. Acta Cytol. 1994; 38(5):693-7.
9. Lawson HW, Henson R, Bobo JK, Kaeser MK. Implementing recommendations for the early detection of breast and cervical cancer among low-income women. Oncology (Williston Park). 2000; 14(11):1528-30.
10. Misra JS, Srivastava AN. Assessment of the different risk factors of carcinoma cervix in rural women population of India. IJSR. 2019; 8(4):72-75.
11. Quadros CAT de, Victora CG, Costa JSD da. Coverage and focus of a cervical cancer prevention program in southern Brazil. Rev Panam Salud Publica. 2004; 16(4):223-32.
12. Loerzel V W, Bushy A. Interventions that address cancer health disparity in women. Fam. Community Health. 2005; 28(1):79-89.
13. Hislop TG, Teh C, Lai A, Ralston JD, Shu J, Taylor VM *et al*. Pap screening and knowledge of risk factors for cervical cancer in Chinese women in British Columbia, Canada. Ethn Health. 2004; 9(3):267-81.