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Research Article

Oral Contraceptives as risk factors for cervical intraepithelial neoplasia*

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ABSTRACT

A Clinic initiated community oriented cross sectional study on, *"A Study of efficacy of VIA Technique in Screening of Carcinoma of cervix in Situ"* was conducted by department Preventive and Social Medicine, Jamia Hamdard, New Delhi. Analysis of positive Pap smears and VIA (Visual inspection with acetic acid) with use of oral contraceptives was done using chi square test at degree of freedom 1 and C.I 95%. Probability of positive Pap smears and VIA in subjects with use of oral Contraceptive practices was more.

Key words: Cervical cancer, Contraceptives, Risk.

INTRODUCTION

Cervical cancer is the seventh most common cancer, and in women it comprises 12% of all cancers. Globally, cancer of cervix is the second most common cancer in women following breast cancer [WHO, 2005a]. In India Cervical cancer is the most common malignancy affecting female population. An estimated 132 thousand new cases, or more than one-fourth of the worldwide total, are reported annually [ACCP, 2004].

According to the data compiled by Indian council of Medical Research (2005) from the cancer registries cervical cancer ranks first among cancers in women (ICMR, 2005). Cervical cancer incidence and mortality have been reduced significantly through Pap smear screening and a more promising visual screening approach, visual inspection with acetic acid (VIA).The role of oral contraceptives in cervical cancer is not well established yet. Recent evidence from IARC's multi-center, case-control studies suggests that both oral contraceptive use and high parity have a significant association with increased risk for cervical cancer (Munoz 2002). Matos. A *et.al*, (2005) clarified the role of oral contraceptives in the persistence and progression of cervical lesions. Present study was conducted to evaluate association of use of oral contraceptives with positive cervical cytology and visual inspection with acetic acid.

MATERIALS AND METHODS

A Clinic initiated community oriented cross sectional study on, *"A Study of efficacy of VIA Technique in Screening of Carcinoma of cervix in Situ"* was conducted by department of Tahaffuzi Preventive and Social Medicine, Jamia Hamdard, New Delhi. The subjects were from Sangam Vihar, Tughlakabad, Khanpur and Vasant Kunj attending Surjit wasu memorial charitable trust and Vasant Kunj health centre. The study was conducted between October 2005 to January 2006.

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Ninety eight sexually active women between the age group of 30-60 years of age were included in study. After informed consent had been obtained from the subjects, the eligible subjects were first laid in lithotmy position and Pap smear was taken by scraping cervix with Ayer's spatula. Then 5% acetic acid was applied on cervix and findings were noted after one minute. Definite acetowhite lesions near the transformation zone were regarded as positive. An interview of the subject was conducted by using the instrument of pre-tested, translated, re-translated vernacular questionnaire by face-to-face interview in the clinic. A follow up and more detailed in depth interview of the study subjects was conducted in the community to elicit their sexual history, contraceptive practices and Socio-Economic Status and other variables.On the basis of eligibility for the study subjects attending Vasant Kunj Health Centre and Surjit wasu Memorial Trust were taken using random number technique and screened. Out of 2230 female subjects who attended Surjit wasu memorial Trust and Vasant Kunj Health Centre in South Delhi, 419 (18.78%) were found eligible for screening. Out of them 189 (45% of eligible subjects or 8% of the total subjects) agreed to participate in the study. One hundred were located in the community. Further 2 more subjects were lost due to attrition, so 98 (4.4%) subjects formed the final sample set. Analysis of Pap smear and VIA with use of oral contraceptives was done by Chi Square test at degree of freedom 1 and C.I 95%.

RESULTS AND DISSCUSSION

Distribution of study subjects by use of contraceptives was seen. Almost one third of the subjects did not use any contraceptive method. Two third of the subjects (72%) among those using contraceptives used IUD and Tubal ligation (See table 1and Fig 1). Analysis of positive Pap smear with use of contraceptives was done. Probability of positive Pap smear in subjects with Contraceptive practices was more. Cell value being less than 5 statistical significance was not clear(Table 2) . Probability of positive VIA in subjects with Contraceptive practices was more and statistically significant (Table 3). In this study a stronger association was found between use of oral contraceptives and cervical cancer. Same association was found by Schneider A,1987 who reported an increased risk of cervical cancer among oral contraceptive (OC) users mainly among long-term users. The plausibility of the association rests on the potential for hormonal effects on HPV-containing cervical cells, as it has been shown that steroid stimulation may trigger viral oncogene-related events that could culminate in integration of the virus into the host.s genome (Schneider A *et.al* ,1987). Evidence from IARC's multi-center, case-control studies suggests that both oral contraceptive use and high parity have a significant association with increased risk for cervical cancer (Munoz *et.al,* 2002). Matos. A *et.al*, (2005) also clarified the role of oral contraceptives in the persistence and progression of cervical lesions (Matos. A *et.al*, 2005). Confounding factors are that women who use contraception tend to be more sexually active than those who do not, and women using OC are less likely to use barrier methods of contraception, which have been shown in some studies to exert a protective effect against CIN (Molina R, 1988). The World Health Organization (WHO) commissioned a review of the published evidence of a possible link between oral contraceptive (OC) use and cervical cancer and found a causal relationship between long-term use of OCs and cervical cancer. But Miller.K,(2004) opposed this review article by Smith et al and postulated that it did not confirm a causal connection between long-term use of OCs and cervical cancer and argued that seeing the health and contraceptive benefits of OC use, the risks associated with cervical cancer can be best addressed by investing accessible, low-cost screening tools as VIA and targeting women with substantial risk factors. Parazzani.F,(1988) also reported no relationship with oral contraceptive use. Munoz.N,*et.al*,(1993) reported that use of oral contraceptives did not show significant or consistent associations with cervical cancer.

Results indicate that there is an excess risk of cervical cancer associated with long-term use of oral contraceptives but further studies are needed to confirm it. It is also possible that some associations may be due to detection bias, since OC users undergo more frequent gynecological examinations than non-users, thereby enhancing detection of early disease.

Table 1 : Distribution of study subjects by use of contraceptives

n=98

Contraceptive methods adopted	Frequency	Percentage (%)
a) Oral Pills	6	*6.1*
b) IUD	25	*25.5*
c) Barrier Method	14	*14.3*
d) Tubal Ligation	27	*27.6*
e) None	26	*26.5*
Total	98	100

Note:

- Oral contraceptives refer to Mala.D that is provided in the dispensary.
- IUD refers to Cu T.
- Mostly Nirodh Condoms were used which were provided in the dispensary.
- Tubal ligation refers to Laparoscopic tubal ligation...

Inference:

- Almost one third of the subjects did not use any contraceptives.
- Two third of the subjects (72%) among those using contraceptives used IUD and Tubal ligation.

Fig 1 : Distribution of study subjects by their contraceptives practices

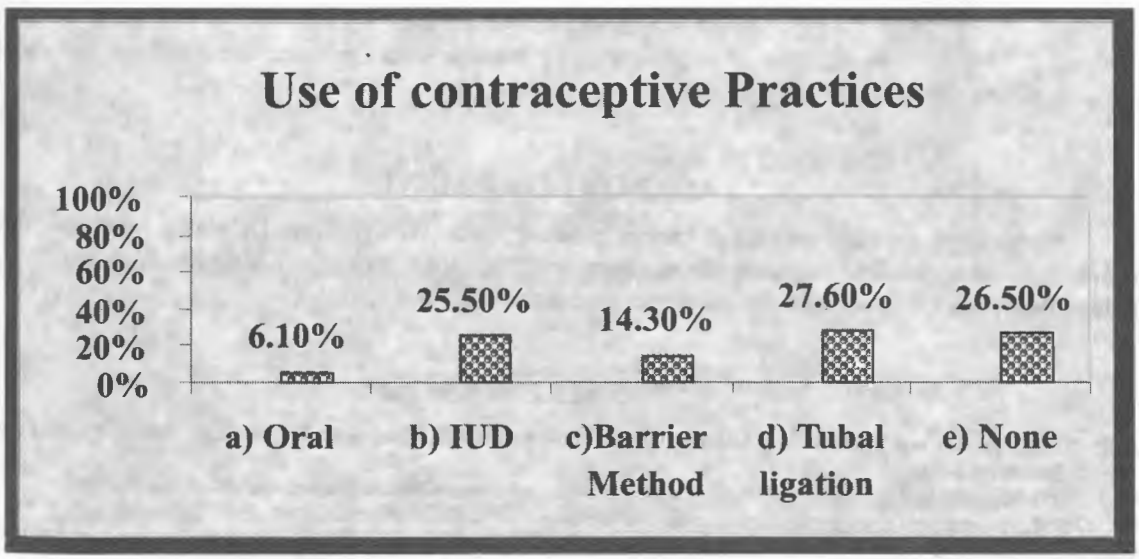

Table 2: Analysis of positive Pap smear with use of contraceptives

n=98

Contraceptive practices	Pap smear		
	Positive	Negative	Total
Positive	5	20	25
Negative	3	70	73
Total	8	90	98

(D.f 1,C.I 95%) $X^2 = 6.4$

Inference:

- Probability of positive Pap smear in subjects with Contraceptive practices was more. Cell value being less than 5 statistical significance was not clear.

Table 3: Analysis of positive VIA with use of contraceptives

n=98

Contraceptive practices	VIA		
	Positive	Negative	Total
Positive	13	12	25
Negative	5	68	73
Total	18	80	98

(d.f 1, C.I 95%) $X^2 = 24.9$

Inference:

- Probability of positive VIA in subjects with Contraceptive practices was more and statistically significant.

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