Original Article

# Carcinoma cervix: Prevalence and risk factors in patients from rural India

Balaji P Nalwad[1*], Rajesh V Darade[2], Chate Preshit[3]

[1,3]Assistant Professor, Department of Obstetrics and Gynaecology, MIMSR Medical College, Vishwanathpuram, Latur, Maharashtra, INDIA.
[2]Professor, Department of Obstetrics and Gynaecology, Government Medical College, Latur, Maharashtra, INDIA.
**Email:** drbpnalwad@gmail.com

## Abstract

**Aims and Objectives**: To know prevalence and risk factors of carcinoma cervix in patients from rural India. **Methodology:** This study was conducted in tertiary care institute over period of 2 yrs. from May 2005 to Sep 2007. Cases included were all gynecological cases of carcinoma cervix diagnosed on histopathological examination denovo in our hospital or private hospital with established diagnosis. Total 18278 cases were studied. Cases excluded from study were all pregnant patients with carcinoma cervix. The data is presented in the form of Table and percentages. **Result:** Incidence of carcinoma cervix in tertiary care institute in our study is 2.7 per 1000 women per two years and in an average 1.35 per 1000 annually. Mean age of presentation was 48.4 years in our study. Out of 50 patients 38(76%) are from rural areas where as 14% are from semi-urban and 5% from urban areas. Maximum number of patients belong to lower socioeconomic status. group i.e. 72% Commonest age at menarche as per our study is between 12-13 years in 58%Maximum number of patients 22 out of 50(44%) in our study are peri-menopausal 50% of women married before age 18 years. All 50 patients are married, commonest duration of married life found to be 25 to 29 years Frequency of Coitus (FOC) per week is found more than 3 in 44 out of 50 patients (88%). Most of the patients were having marriage before 19 years of age. 90% of patients in our study are with parity 3 or more. The most common symptom was vaginal bleeding i.e. in 70 % Most common sign in growth on cervix i.e. 68% followed by cervix that bleeds on touch 62%. However normal looking cervix is found in 3 out of 50 patients. **Conclusion:** The incidence of carcinoma cervix in our institute was 2.29/1000 OPD cases incidence was maximum in 4thand 5th decade in rural areas and in lower socioeconomic, strata of society. Important risk factors associated with carcinoma of cervix were early age of menarche, prolonged duration of menstrual activity early age of marriage, prolonged duration of sexual activity, increased frequency of coitus, early age of first pregnancy and multiparty. Vaginal discharge was the commonest presenting symptoms and cervix that bleeds on touch was commonest sign.

**Key words:** Carcinoma cervix, HPV, Increased Frequency of Coitus (FOC)

[*]**Address for Correspondence:**
Dr. Balaji P Nalwad, Assistant Professor, Department of Obstetrics and Gynaecology, MIMSR Medical College, Vishwanathpuram, Latur, Maharashtra, INDIA.
**Email:** drbpnalwad@gmail.com
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## INTRODUCTION

Carcinoma cervixis a disease which was known in India and Egypt year before birth of Christ [1]. Cervical cancer is the second most common cancer worldwide after breast cancer is second commonest cancer in women in developing countries. In India, cervical cancer is the commonest malignancy in female and account for 25 % all cancers in the world occur in India. About 18% of all cervical cancer in worlds occur in India[2]. Its association with early sexual activity and sexual promiscuity in particular, has been well established in a number of epidemiological studies in the West [3–6]and in Asian populations.[7] It has been suggested that cervical cancer might be caused by sexual transmission of an infectious agent. The human papillomavirus (HPV) has been identified as the leading candidate for the sexually transmitted etiological factor in cervical cancer.[8] Despite a very high incidence of cervical cancer in India, the role of sexual promiscuity has not been well addressed in Indian populations, where the rate of promiscuity among women is known to be very low. [9] A recent case-control

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study [10]in India found male promiscuity responsible for increased risk of cervical cancer. This study was carried out to know prevalence and risk factors of carcinoma cervix in patients from rural India.

## METHODOLOGY

This study was conducted in tertiary care institute over period of 2 yrs. from May 2005 to Sep 2007. Cases included were all gynecological cases of carcinoma cervix diagnosed on histopathological examination denovo in our hospital or private hospital with established diagnosis. Total 18278 cases were studied. Cases excluded from study were all pregnant patients with carcinoma cervix. The data is presented in the form of Table and percentages.

## RESULT

**Table 1:** Incidence of carcinoma cervix at tertiary care institute

| Year | Total no.of Gynac OPD patients | No.of cases |
|---|---|---|
| May 2005 to Sept 2006 | 6910 | 25 |
| Sept 2006 to sept 2007 | 8668 | 25 |
| **Total** | **18278** | **50** |

Total no. of GynacOPD patients in 2 years are 18278. Total no of carcinoma cervix patients is 50. So, incidence of carcinoma cervix in tertiary care institute in our study is 2.7 per 1000 women per two years and in an average 1.35 per 1000 annually.

**Table 2:** Age wise distribution of cervical cancer

| Age in years | No.of cases | % of cases |
|---|---|---|
| <35 | 2 | 4 |
| 35-44 | 13 | 26 |
| 45-54 | 24 | 48 |
| 55-64 | 8 | 16 |
| >65 | 3 | 6 |
| **Total** | **50** | **100** |

Percentage of cases start increasing from 35 years onwards and reach peak at 45-54years. Mean age of presentation was 48.4 years in our study.

**Table 3:** Carcinoma cervix distribution as per area

| | No.of pts | %of pts |
|---|---|---|
| Rural | 38 | 76 |
| Semi urban | 7 | 14 |
| Urban | 5 | 10 |
| **Total** | **50** | **100** |

Out of 50 patients 38(76%) are from rural areas where as 14% are from semi-urban and 5% from urban areas. Thus, carcinoma cervix found commonly in rural areas.

**Table 4:** Carcinoma cervix relation to socioeconomic status

| Socioeconomic status | No. of pts | %. of pts |
|---|---|---|
| Higher middle | 5 | 10 |
| Lower middle | 9 | 18 |
| Upper lower | 11 | 22 |
| Lower lower | 25 | 50 |
| **Total** | **50** | **100** |

This showed that cervical carcinoma has higher incidence in lower socioeconomic status. Maximum number of patients belong to this group i.e. 72%

**Table 5:** Distribution of carcinoma cervix cases according to age at menarche

| Age in years | No. of cases | % of cases |
|---|---|---|
| 10-11 | 6 | 12 |
| 12-13 | 29 | 58 |
| 14-45 | 11 | 22 |
| 16-18 | 4 | 8 |
| **Total** | **50** | **100** |

Commonest age at menarche as per our study is between 12-13 years in 58% cases that correlate with average age at menarche 13.04yeasrs.

**Table 6:** Distribution of carcinoma cervix cases to menstrual history

| Menstrual history | No. of cases | % of cases |
|---|---|---|
| Peri-menopausal | 22 | 44 |
| Post-menopausal | 16 | 32 |
| Premenopausal | 12 | 24 |
| **Total** | **50** | **100** |

Maximum number of patients 22 out of 50(44%) in our study are peri-menopausal out of which 17 patients are from age 40-49 and 5 from 50-55years.

**Table 7:** Distribution of carcinoma cervix cases according to age at marriage

| Age in years | No.of cases | % of cases |
|---|---|---|
| <16 | 2 | 4 |
| 16-18 | 25 | 50 |
| 19-21 | 20 | 40 |
| 22-24 | 2 | 4 |
| 25-27 | 1 | 2 |
| 28-30 | 0 | 0 |
| >30 | 0 | 0 |
| **Total** | **50** | **100** |

50% of women married before age 18 years i.e. before the legal age of marriage

**Table 8:** Carcinoma cervix in relation to duration of married life

| Duration in years | No. of cases | % of cases |
|---|---|---|
| 10 to 14 | 7 | 4 |
| 15 to 19 | 4 | 8 |
| 20 to 24 | 8 | 16 |
| 25 to 29 | 14 | 28 |
| 30 to 34 | 8 | 16 |
| 35 to 39 | 8 | 16 |
| 40 to 44 | 2 | 4 |
| 45 to 50 | 4 | 8 |
| **Total** | **50** | **100** |

All 50 patients are married, commonest duration of married life found to be 25 to 29 years. In (28%) of cases. 60% of patients are married for 25 to 39 years.

**Table 9:** Carcinoma cervix in relation to frequency of coitus (FOC)

| Frequency of intercourse | No. of pts | % of pts |
|---|---|---|
| 1-2 times/wk | 6 | 12 |
| 3-4 times/wk | 20 | 40 |
| 5-6 times/wk | 17 | 34 |
| daily | 7 | 14 |
| **Total** | **50** | **100** |

FOC per week is found more than 3 in 44 out of 50 patients (88%).

**Table 10:** Carcinoma cervix relations to age at first pregnancy (n=49)

| Age in years | cases | % |
|---|---|---|
| <17 | 2 | 4 |
| 17-19 | 24 | 48 |
| 20-21 | 19 | 38 |
| 22-23 | 3 | 6 |
| 24-25 | 1 | 2 |
| **Total** | **49** | **98** |

One patient is nulliparous. 26 out of 49 patients in our study had gave birth to their first child before 19 years of age.

**Table 11:** Carcinoma cervix in relation to parity

| Parity | Cases | % |
|---|---|---|
| Nulli | 1 | 2 |
| 3-4 | 19 | 38 |
| 5-6 | 21 | 42 |
| 7-8 | 5 | 10 |
| **Total** | **50** | **100** |

About 90% of patients in our study are with parity 3 or more

**Table 12:** Carcinoma cervix as per Symptoms

| Symptoms | No. of pts | % pts |
|---|---|---|
| Vaginal bleeding | 35 | 70 |
| Irreg. BPV | 32 | 64 |
| Pain in abdomen | 18 | 36 |
| PM bleeding | 15 | 30 |
| Pc bleeding | 11 | 22 |
| Cachexia | 8 | 16 |
| Urinary complaints | 5 | 10 |

The most common symptom was vaginal bleeding i.e. in 70 %

**Table 13:** Carcinoma cervix clinical signs

| Signs | No. of pts | % of pts |
|---|---|---|
| Cervix that bleeds on touch | 31 | 62 |
| Growth on cervix | 34 | 68 |
| Cervical hypotrophy | 29 | 58 |
| Friable cervix | 26 | 52 |
| Nodular cervix | 9 | 18 |
| Suspicious cervix | 1 | 2 |
| Normal looking cervix | 3 | 6 |

Most common sign in growth on cervix i.e. 68% followed by cervix that bleeds on touch 62%. However normal looking cervix is found in 3 out of 50 patients.

## DISCUSSION

Carcinoma of cervix has got greatest attention. It is considered highly curable disease because various methods available for its early detection, effective screening programs. Long pre-invasive phase, effective treatment, modalities, hence attempt has been made in this study of study various etiologic factors, associated risk factors so that preventive measures can be applied that start from early reproductive life of female. Also, clinical scenario of disease and treatment offered are discussed in details with follow up of 1-2 years.

**Incidence of carcinoma cervix:** Our study is conducted in tertiary care institute over period of 2 years from May 2005 to sept. 2007. During this period 18278 patients attended. Gynae OPD out of which 50 patients are diagnosed as a case of carcinoma cervix. The incidence of cervical carcinoma in our study was found to be 2.7 per 1000 gynecological patients attended OPD total No.of cases of cervical carcinoma found are 50.

**Age-incidence:** In our study percentage of cases start increasing from 35 years onwards and reach peak at 45 to 54 years. Nearly 70% of patients of carcinoma cervix are aged above 45 years. National cancer registry programme[11].

Carcinoma cervix and role of residence: Maximum distribution of carcinoma cervix is found in rural areas 76% in our study distribution is very low in urban and less in semiurban areas. this can be attributed to better eduction, better living condition and socioeconomic development in urban areas.

Carcinoma cervix and socioeconomic status: In our study majority of patients were from low socioeconomic status 72% that correlated well with previous studies by Dr. B. Reddy (10%) and Dr. Mira Rathod (91.3%)

Carcinoma cervix and menstrual history: In our study majority of patients are concentrated around menopause. 76% of patients are either peri menopausal or menopausal. This is because maximum number of cases are found in 45-54 years. Of age group. Presence of carcinoma at the end of menstrual life also signifies that longer the duration of menstruation greater the chances of carcinoma cervix, total 38 patients are menopausal. Out of which 16 pts. (32%) had postmenopausal bleeding, presence of carcinoma cervix in patients having prolonged menstrual life also suggest its presence in female who are sexually active for longer duration. This is because in longer group of population a woman is considered to be sexually active as long as she is

menstruating and that sexual activity subsidies after the menstruation ceases.

**Carcinoma cervix and age at marriage, duration of marriage, age at first pregnancy parity:** Factor of early marriage is predominant in the present study 50% of the population consummated marriage before age 18. [12,13]In their study found that estimated relative risk for developing cancer among women getting married before 17 years. Of age was found to be 7.9 as compared to women who are married after the age of 17 years. Mohanty *et al*[14]in their study observed that there was decline of cancer cervix as the age of marriages in our first pregnancy advanced to 20-24 years. Average age of marriage in our study is 18-42 years. 26 out of 49 women in present study who had children, gave birth to their first child before 19 years. Of age. Mohanty *et al* in their study found that the mean age of first pregnancy was as low as 18.13years. there is decline in cancer occurrence as age at first pregnancy advanced to 20-24 years. Similarly, data *et al* observed in their study the relative risk of acquiring the disease was 6 times more in case of women who had fist parity before 18 years. Of age as compared to those who hard first parity after the age of 18 yrs. This may be attributed to early sexual activity, hormone change during pregnancy or may be due to cervical trauma during delivery at relatively pregnancy or may mother. In ICMR collaborative study, also reported highest rate of cancer cervix where age at first pregnancy was up to 19 years.

## CONCLUSION

The incidence of carcinoma cervix in our institute was 2.29/1000 OPD cases incidence was maximum in 4$^{th}$and 5$^{th}$ decade in rural areas and in lower socioeconomic, strata of society. Important risk factors associated with carcinoma of cervix were early age of menarche, prolonged duration of menstrual activity early age of marriage, prolonged duration of sexual activity, increased frequency of coitus, early age of first pregnancy and multiparty. Vaginal discharge was the commonest presenting symptoms and cervix that bleeds on touch was commonest sign. Anemia is most frequency associated condition.

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