

RISK FACTORS OF CERVICAL CANCER IN WOMEN ATTENDING A TERTIARY CARE CENTER: A CROSS SECTIONAL STUDY

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**Abstract**

Background: Cervical cancer ranks fourth globally in terms of common cancer-related deaths, following lung, colorectal, and breast cancers. It is the second most common cause of cancer in women in India. Worldwide, there are new cases diagnosed every year. A number of risk factors can result in cervical cancer. This study was undertaken mainly to determine the risk factors of cervical cancer in women attending a tertiary care centre. **Materials and Methods:** A prospective study was undertaken in Department of Anatomy of World Medical College, Jhajjar. A total of 500 females attending OPD with or without history of risk factors for cervical carcinoma between the age group of 18 to 65 years were included. After obtaining informed consent from the women attending colposcopic clinic, a detailed history including risk factors was obtained. After complete physical examination, colposcopy was done to look for any abnormal findings. **Result:** Majority of the cases attending colposcopic clinic were aged between 51 – 60 years. About 36.4% of the cases in this study were educated up to high school and belonged to class 3 socio economic status. The duration of married life was 15 – 20 years for most of the cases. post coital bleeding was present in 24.0% of the cases, Leucorrhoea in 21.4% of the cases, early menarche of less than 18 years in 20.6% of the cases and LBA and history of consumption of OC Pills in 20.4% of the cases. Other risk factors were DUB, Dyspareunia, Age of menarche more than 18 years, spotting, and irregular MR. **Conclusion:** This study had shown that, Post coital bleeding, leucorrhoea and early age of menarche were the common risk factors for cervical cancer.

INTRODUCTION

Cancer is a non-communicable disease which accounts for 12-15% of the total deaths worldwide and is the third major cause of mortality being next to cardiovascular diseases that involves abnormal cell growth with the potential to metastasize to other parts of the body.^[1,2] Cancer develops from the transformation of normal cells into tumour cells in a multistage process that generally progresses from a pre-cancerous lesion to a well-defined malignant tumour.^[3] Change in lifestyle, urbanisation, industrialization, and modernization have been blamed to be leading to genomic instabilities, resulting in infertility, congenital malformations, and malignancies, and have shown a paradigm shift in the disease.^[4,5] The ageing and population growth of the world along with the increased adoption of cancer-causing behaviours in economically developing nations are the main reasons behind the ongoing increase in the global cancer burden.^[6]

Cervical carcinoma can be diagnosed at an early stage with screening since cervical intraepithelial neoplasia has a long latency period. Cervical cancer and HPV infection are strongly associated risk factors.^[7,8] About 11.4% of women in the general population are estimated to be infected with the Human Papilloma Virus (HPV) at any given time. Approximately 70–90% of invasive cervical cancer cases globally are linked to HPV16 and HPV18.^[9] In this method nuclear anomalies which are suggestive of genotoxicity includes budding, binucleation, micronucleation, broken eggs, karyorrhexis, and karyolysis, and it also can be seen either as chromosomal breakage or chromatid fragments or a whole chromosome that could not get incorporated into the daughter cell during mitosis.^[10,11]

MATERIALS AND METHODS

A prospective study was undertaken in Department of Anatomy of World Medical College, Jhajjar. A

total of 500 females attending OPD with or without history of risk factors for cervical carcinoma between the age group of 30–70 years were included in the study for a period of one year between September, 2022 to August, 2023. An informed written informed consent was obtained and numbered carefully to avoid repetition and confusion.

Parameters

1. MN- Micro nucleated cells
2. BN - Binucleated cells
3. KR- Karyorrhesis
4. KL- Karyolysis
5. Budding

RESULTS

Table 1: Distribution of the study group according to Education

Education	Frequency	Percent
Illiterate	32	6.4
Primary school	108	21.6
High school	182	36.4
PUC/ Diploma	143	28.6
Graduate and above	35	7.0
Total	500	100

Table 2: Distribution of the study group according to duration of married life

Duration of married life	Frequency	Percent
Less than 5 years	70	14.0
5 – 10 years	48	9.6
10 – 15 years	99	19.8
15 – 20 years	283	56.6
Total	500	100

Table 3: Distribution of the study group according to risk factors

Risk factors	Frequency	Percent
DUB	53	10.6
LBA	102	20.4
Leucorrhea	107	21.4
Dyspareunia	97	19.4
Post coital bleeding	120	24.0
Early menarche < 13 years	103	20.6
Age of menarche < 18 years	105	21.0

DISCUSSION

Age group: Most of the cases in this study belonged to 51 – 69 years. The risk of cervical cancer increases with increasing age. In a study by Reis Campos et al, the mean of the cases included was 58.2 years similar to the findings of this study.^[9]

Education: About 36.4% of the cases in this study were educated up to high school in this study.

Socio economic status: About 35.6% of the cases belonged to Class 3 of socio economic status in this study. A study by Gandhi et al noted that, low socio – economic status is correlated with poor hygiene and hence is significant risk factor for inducing cancer cervix.^[12]

Duration of married life: The duration of married life was 15 – 20 years in 56.6% of the cases in this study. A study by Gandhi et al had noted that, early marriage is a significant risk factor for carcinoma cervix and correlated this with the increased micronucleus frequency in urothelial cells.^[12] There was a positive correlation of elevated micronucleus urothelial cells with patients with early marriage.^[2]

Risk factors and age group: The age group was not significantly associated with any of the risk factors in this study. Early menarche was the main risk factor in cases of less than 20 years old, post coital bleeding

in 21 – 30 years age group, age at menarche more than 18 years in 31 – 40 years age group, LBA in cases of 41 – 50 years age group, post coital bleeding in 51 – 60 years age group and leucorrhea in more than 60 years of age group were the main risk factors. There has been evidence that younger women who engage in sexual activity have an increased chance of developing cervical cancer.^[13,14]

CONCLUSION

This study had shown that, post coital bleeding, leucorrhea and early age of menarche were the common risk factors for cervical cancer.

REFERENCES

1. Nagai H, Kim YH. Cancer prevention from the perspective of global cancer burden patterns. *J Thorac Dis.* 2017 Mar;9(3):448-451.
2. Gandhi G, Sharma P. The micronucleus test in urothelial cells of cervix cancer patients. *Ind J Hum Genet* 2002;8(2).
3. Bray F, Jemal A, Grey N, Ferlay J, Forman D. Global cancer transitions according to the Human Development Index (2008-2030): A population-based study. *Lancet Oncol.* 2012;13(8):790-801.
4. Institute for Health Metrics and Evaluation. The challenge ahead: Progress in breast and cervical cancer. Institute of Health Metrics and Evaluation, 2011. Available at

- <http://www.healthmetricsandevaluation.org/publications/policyreport/challenge-ahead-pr> [Serial online] [Cited on 11/11/2023].
- Singh D, Vignat J, Lorenzoni V, Eslahi M, Ginsburg O, Lauby-Secretan B, Arbyn M, Basu P, Bray F, Vaccarella S. Global estimates of incidence and mortality of cervical cancer in 2020: a baseline analysis of the WHO Global Cervical Cancer Elimination Initiative. *Lancet Glob Health*. 2023 Feb;11(2):e197-e206.
 - ICO Information Centre on HPV and cancer. Human papillomavirus and related diseases in India (summary report 2019-06-17) 2019.
 - Mustafa WA, Ismail S, Mokhtar FS, Alquran H, Al-Issa Y. Cervical Cancer Detection Techniques: A Chronological Review. *Diagnostics (Basel)*. 2023 May 17;13(10):1763.
 - Singh M, Jha RP, Shri N, Bhattacharyya K, Patel P, Dhamnetiya D. Secular trends in incidence and mortality of cervical cancer in India and its states, 1990-2019: data from the Global Burden of Disease 2019 Study. *BMC Cancer*. 2022 Feb 7;22(1):149.
 - Reis Campos LM, Luz Dias Fd, Antunes LM, Murta EF. Prevalence of micronuclei in exfoliated uterine cervical cells from patients with risk factors for cervical cancer. *Sao Paulo Med J*. 2008 Nov;126(6):323-8.
 - Crum CP, Egawa K, Barron B, Fenoglio CM, Levine RU, Richart RM. Human papilloma virus infection (condyloma) of the cervix and cervical intraepithelial neoplasia: a histopathologic and statistical analysis. *Gynecol Oncol*. 1983 Feb;15(1):88-94.
 - Kaarthigeyan K. Cervical cancer in India and HPV vaccination. *Indian J Med Paediatr Oncol*. 2012 Jan;33(1):7-12.
 - Gandhi G, Sharma P. The micronucleus test in urothelial cells of cervix cancer patients. *Ind J Hum Genet* 2002; 8: 2: 121 – 126.
 - Cortés-Gutiérrez EI, Dávila-Rodríguez MI, Vargas-Villarreal J, Hernández-Garza F, Cerda-Flores RM. Association between human papilloma virus-type infections with micronuclei frequencies. *Prague Med Rep*. 2010;111(1):35-41.
 - Samanta S, Dey P, Nijhawan R. Micronucleus in cervical Intraepithelial lesions and Carcinoma, Department of Pathology and Cytology, post Graduate Institute of Med Edu Res Ind, *Acta cytologica*. 2011; 55:42-7.