

# Evaluation of Demographic Details and Pattern of Distribution of Neoplasia Patients in Wardha City (Maharashtra): An Institutional Based Study.

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## ABSTRACT

**Background:** Cancer can affect all living cells in the body, at all ages and in both genders. A host of other environmental exposures, certain infections as well as genetic predisposition play an important role in carcinogenesis. **Methods:** A total of 110 subjects were included in the study (n=110) with and without abnormality like unhealing ulcer, mucosal patches, subjects were asked to fill a performa about their personal, familial and occupation details determining their habits and lifestyle for ease of understanding. **Results:** Maximum affected patient from study group were more than 60 year of age and from rural population. Most of them were malignant oral lesions. **Conclusion:** Public health initiatives directed at improving nutrition, better urban planning to provide exercise space, and prevention of obesity in India's population would also slow increases in lifestyle-associated cancers.

**Keywords:** Cancer, premalignant, benign, epidemiology, gender, age.

## INTRODUCTION

Cancer is a major cause of morbidity and mortality in developing and developed countries alike.<sup>[1]</sup> According to WHO, cancer afflicts all communities worldwide. It is an uncontrolled growth of tissues that is irreversible and persists even after the stimulus has been removed.<sup>[2]</sup> Cancer can occur at any site or tissue of the body and may involve any type of cells. Unfortunately, in most of the cases, the patients present themselves to a medical facility when the disease is far advanced and is not amenable to treatment.<sup>[3]</sup> In many low-income and middle-income countries, including India, most of the population does not have access to a well organised and well regulated cancer care system. A diagnosis of cancer often leads to catastrophic personal health expenditures.<sup>[4]</sup> The International Agency for Research on Cancer GLOBOCAN project has predicted that India's cancer burden will nearly double in the next 20 years, from slightly over a million new cases in 2012 to more than 1.7 million by 2035. These projections indicate that the absolute number of cancer deaths will also rise from about 680 000 to 1.2 million in the same period.<sup>5</sup> With vast experience over the years, clinicians have realized that the early detection of cancer is extremely necessary to

prolong the life span of cancer patient.<sup>[6]</sup> Efforts were made around the world to detect the cancer cases at an early stage through scientific advances as well as through social awareness campaign about the disease.<sup>[7]</sup> In our present study, we reviewed the literature available on the epidemiology of cancer in India, distributions of its types based on location, occupation, habits and other factors. We explore the social determinants of cancer occurrence in India, and opportunities for improving prevention and treatment through the enhanced application of existing knowledge, coupled with ongoing scientific and health service innovation.

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## MATERIALS AND METHODS

The present study was undertaken in department as a part of the survey to determine and categorise patients coming to the daily OPD for a duration of 30 days. A total of 110 subjects were included in

the study (n=110). 50 subjects with no abnormality were included into the control group. The other 60 subjects showed some unusual features like unhealing ulcers, a lump or mass, swelling, whitish patches and unusual weight loss. All the subjects were asked to fill a performa about their personal, familial and occupation details determining their habits and lifestyle for ease of understanding. Details of patients were recorded on structural performa and was analysed statistically.

## RESULTS

All subjects were analysed carefully. It included 30 males and 20 females in control group and study group included 32 males and 28 females. The study demarcated the comparison of positivity of test in male and female subjects of both control as well as study group.

The [Table 1] showed that male distribution was more as compared to females. It could be stated that male patients were more prone to malignancy as compared to females.

The subjects were also categorised based on the age, which ranged from 20 to 75 years [Table 2]. The efficacy of test was 100% in each age group while graph showed that subjects less than 30 years of age were less prone while those above 30 years were more prone to develop the neoplastic changes. As a part of the survey conducted, the subjects were also classified as being from the rural or urban background [Table 3]. Subjects in both, i.e., control and study groups, belonged to rural as well as urban areas. However, majority of patients were from rural areas and were also more prone to develop neoplasia than that of urban area.

When distribution of patients was done according to the system involved, the study group included the patients suffering from neoplasia of GIT, male reproductive system, female reproductive system, endocrine system, nervous system, oral cavity etc [Table 4]. Majority of patients, i.e. 12 patients showed neoplasm of oral cavity followed by 9 patients having neoplasm of endocrinal system. Also, 8 females and 6 males had reproductive system involvement.

Based on the stage of neoplasm, the study group included the patients suffering from precancerous conditions, benign conditions and malignant conditions [Table 5].

**Table 1: Sex wise distribution of patients in control and study groups.**

Gender	Control Group	Study Group	Total	P-Value
Male	30	32	62	0.56
Female	20	28	48	
Total	50	60	110	

NS-Not significant if  $P>0.05$

**Table 2: Age wise distribution of patients.**

Age Group(Yrs)	No. of patients	Significant +ve	Non-significant -ve
20-30	3	3	0
30-40	12	12	0
40-50	15	15	0
50-60	11	11	0
60 and above	19	19	0
Total	110	110	0

**Table 3: Geographical distribution of subjects.**

Area	Control Group	Study Group	Total	p-value
Rural	30	40	70	0.55 NS $p>0.05$
Urban	20	20	40	
Total	50	60	110	

NS - Not Significant

**Table 4: System wise distribution of patients of study group.**

System Affected	No. of Patients	Significant +ve	Non Significant -ve	p-value
GIT	7	5	2	0.65
Male Reproductive System	6	4	2	
Female Reproductive System	8	4	4	
Skin and General	2	1	1	
Endocrinal Diseases	9	7	1	
Oral Cavity	12	10	2	
Respiratory System	2	2	0	
Nervous System	2	2	0	

NS-Non Significant if  $P>0.05$

**Table 5: Stage wise distribution of patients in study group.**

Group	No. of cases	Significant +ve	Non significant -ve	P-value
Benign	11	10	1	0.74
Malignant	47	40	7	
Premalignant	02	2	0	

NS - Not-Significant if  $P>0.05$

## DISCUSSION

The term cancer refers to a group of diseases, which share similar characteristics. Cancer can affect all living cells in the body, at all ages and in both genders. The causation is multifactorial and the disease process differs at different sites. Tobacco is the single most important identified risk factor for cancer. A host of other environmental exposures, certain infections as well as genetic

predisposition plays an important role in carcinogenesis.<sup>[8]</sup>

Most of the cancers have a monoclonal origin and arise from single transformed cell. It is now known that the mutations of two classes of genes, cause transformation. Some other causes of cancer are:

- Hereditary.
- Defective immune mechanisms.
- Excessive, inadequate or abnormal use of senses, other organs.
- Allergy.
- Drugs.
- Attitude towards life. Those who feel that life is miserable and not worth living, those who are under depression are more prone to develop cancer.<sup>[9]</sup>

Cancer organizations in many countries remind the public for early warning signs ("danger signals") of cancer.<sup>[10]</sup> These are:

- a. A lump or hard area in the breast.
- b. A change in a wart or mole.
- c. A purulent change in digestive and bowel habits.
- d. A persistent cough or hoarseness.
- e. In female excessive loss of blood (the monthly period or loss of blood outside the usual dates).
- f. Blood loss from any natural orifice.
- g. A swelling or sore that does not get better.
- h. Unexplained loss of weight.<sup>[11]</sup>

The National Cancer Registry Programme (NCRP, established by the Indian Council of Medical Research in 1981) provides population-based data from a selected network of 28 cancer registries located across the country.<sup>[12]</sup> In addition to the NCRP data, the Million Deaths Study is another important data resource. Researchers independently assigned causes to 122 429 deaths in 1.1 million homes in 6671 randomly selected rural and urban areas of India, using a validated verbal autopsy-based method to establish mortality cause. The Million Deaths Study provides additional useful data about the nationwide cancer burden and on regional, state, and rural versus urban variations.<sup>[5]</sup> Diagnostic infrastructure in the country is limited. There are many districts in the country, which do not have a pathologist, and pathology/cytology services, which are crucial for diagnosing cancer.<sup>[13]</sup> Financial, and geographic constraints, and lack of manpower have contributed to the urban concentration of facilities. An unestimated number of cancers diagnosed in the population are not treated.<sup>[14]</sup> Methods of cancer screening were comprehended by the government, which are as follows:

1. Mass screening by comprehensive cancer detection by examination: A rapid clinical examination and examination of one or more body sites by the physician is one of the important approaches for screening for cancer.

2. Mass screening at single sites: This comprises examination of single sites such as uterine cervix, breast or lung.
3. Selective Screening: This refers to examination of those people thought to be at special risk, for example, parous women of lower socio-economic strata above 35 years of age for detection of cancer cervix, chronic smokers for lung cancer etc.<sup>[15]</sup>

When the literature on gender distribution of cancer cases was reviewed, all cancers in Indian men other than oral, lung, stomach, colorectal, pharyngeal, and oesophageal cancers have an incidence of five per 100000 men or less. This, according to US and EU definitions, makes such cancers orphan diseases. Women have an age-adjusted incidence rate of 104.5 per 100000 women. With the exceptions of breast, cervical, and colorectal cancers, all other cancers in Indian women also have a recorded incidence of less than five per 100000 women.<sup>[16]</sup>

In our present study, it was stated that males are more prone to malignancy. This may be attributed to the vast use of tobacco products in India.

Considering the age of individuals to determine the prevalence of cancer, our study stated that subjects were more prone to cancer after 30 years of age. Ageing and cancer are engaged in a fascinating relationship that has epidemiological, biological and clinical significance. Continued research into these affiliations will be necessary for directing future cancer prevention strategies, devising new treatment modalities and ultimately reducing the anticipated burden of cancer.<sup>[17,18]</sup>

A substantial difference also exists between the ratios of cancer incidence to mortality recorded in economically developed countries compared with emergent economies. India is no exception to this pattern, which is affected by causal variations, stage at diagnosis, and the availability and use of cancer treatments.<sup>[5]</sup> Rural cancer patients are diagnosed at later stages of disease. Also, higher proportions of rural cancer cases are unstaged at diagnosis, and that cancer patients are at a more advanced stage of illness when referred to home health care agencies, suggest that rural cancer patients are disadvantaged when compared to their urban counterparts.<sup>[19]</sup> Our present study stated that subjects from the rural area were more prone to develop neoplastic changes as compared to the urban subjects. This may be because of the lack of education and knowledge regarding the disease and its management.

A larger sample size for the present study could have determined even more efficient results. Proper screening of every subject involved in the study was essential to classify and stage of the disease or condition. Also, a thorough support on behalf of the subjects being true to the information being provided through the performa is essential to determine the prevalence of disease efficiently.

## CONCLUSION

Measures to curb the use of tobacco products through vigorous implementation of laws are essential to control and minimize the cases of cancer. Preventive measures, such as vaccination and screening programmes at frequent intervals available for masses can aid in controlling the mortality rate. Affordable and accessible diagnostic, therapeutic and palliative care services should be made available. Public health initiatives directed at improving nutrition, better urban planning to provide exercise space, and prevention of obesity in India's population would also slow increases in lifestyle-associated cancers.

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