

**UNDERSTANDING THE LANDSCAPE: - A COMPREHENSIVE REVIEW OF CANCER STATUS IN INDIA**

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**Article Received date:** 08 March 2024

**Article Revised date:** 29 March 2024

**Article Accepted date:** 18 April 2024



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**ABSTRACT**

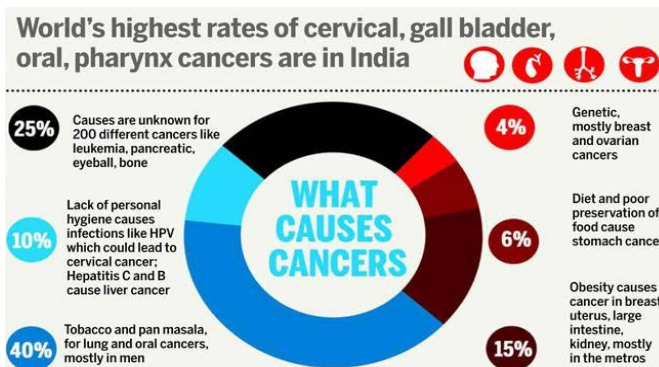
Cancer is an increasing health challenge in India, impacting lives across diverse socio-economic and geographies of the country. The burden of cancer in the country is on the rise, with an increasing number of cases reported each year. Since 1981, the National Cancer Registry Programme (NCRP) under the Indian Council of Medical Research-National Centre for Disease Informatics and Research (ICMR-NCDIR), Bengaluru, has been systematically been collecting cancer data in India through 7757 sources of data across hospitals, laboratories and several agencies. It provides reliable data on new cancer occurrences, trends over time, changing patterns and their distribution, management practices, outcome of cancer and survival. These inputs inform action, monitor impacts and encourage relevant research.

**KEYWORDS:** The burden of cancer in the country is on the rise, with an increasing number of cases reported each year.

**INTRODUCTION**

Cancer ranks either first or second among the leading causes of death before the age of 70 years across 91 out of the 172 countries worldwide. The GLOBOCAN 2018, reported 18.1 million new cancer cases and 9.6 million deaths globally. By 2040, the cancer incidence and mortality are expected to rise to 29.5 million and 16.3 million, respectively. New and challenging problems — rapid urbanization, population ageing, inactive and unhealthy lifestyles, indoor and outdoor air pollution, etc., are responsible for the emerging cancer burden across the globe, majorly impacting the middle-to-low socio-economic countries including India.

There have been previous attempts to estimate the cancer burden in different parts of India. The Global Burden of Disease (GBD) 2016 study, attributed 8.3% of deaths and 5% of disability-adjusted life years (DALYs) to cancer alone. The GLOBOCAN 2018, reported 1.1 million cancer cases and more than 0.7 million cancer deaths. The Medical Certification of Cause of Death, 2018 reported cancer as the fifth leading cause of death amounting to 5.7% of all deaths in India. The cancer burden has shown a steady increase with an estimated 0.8 million new cancer cases every year. In 2040, nearly 2 million new cancer cases and more than 1 million deaths are estimated.

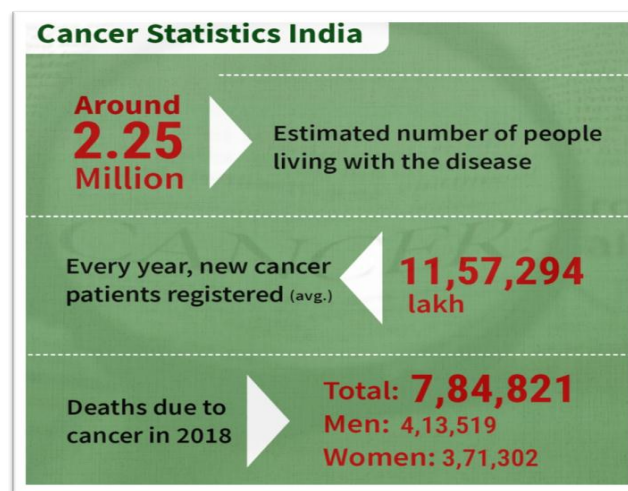


### BURDEN OF CANCER IN INDIA

In 2022, the projected number of new cancer cases in India was 1,461,427, with a crude incidence rate of 100.4 per 100,000 individuals. Approximately one in nine people in India is expected to face a cancer diagnosis during their lifetime. Notably, lung cancer ranked highest among males, while breast cancer held the top spot for females. Within childhood cancers (0-14 years), lymphoid leukemia emerged as the predominant site, accounting for 29.2% in boys and 24.2% in girls. Looking ahead, an estimated 12.8% increase in cancer incidence by 2025 is expected as compared to 2020.

The projected cancer burden in India is expected to rise from 26.7 million DALYs (adjusted mortality to incidence) in 2021 to 29.8 million in 2025, with the highest burden in the north and northeast regions. Among non-communicable diseases, cardiovascular disease contributes the most to the death rate (63.3%),

followed by cancer (18.1%). The rise in disability-adjusted life years for cancer indicates a decline in premature mortality. Efforts should focus on sustaining and scaling up NCD screening, education, health promotion, and tobacco control using digital innovations at the population level. Various factors contribute to the rising magnitude of cancer in India; lifestyle changes, environmental factors on an underlying genetic predisposition. According to the National NCD Monitoring Survey (NNMS) conducted during 2017-2018, prevalence of tobacco and alcohol use was 32.8% respectively. More than one-third (41.3%) adults were physically inactive, nearly all (98.4%) consumed less than 5 servings of fruits and / or vegetables per day and mean salt intake was 8 g/day. The rising burden of cancer in India presents a formidable challenge to public health.



### CANCER CARE IN INDIA

Cancer care in India is a complex and evolving landscape, encompassing prevention, diagnosis, treatment, and supportive care for individuals. One of the key concerns is the existing care gap, where access to quality cancer care and treatment is not uniformly distributed. This gap is particularly noticeable in rural areas where healthcare facilities are limited. Cancer survival rates and staging at the time of diagnosis serve as a dependable metrics to assess the effectiveness of cancer control initiatives in a region, offering a comprehensive evaluation of the overall efficiency of healthcare services for cancer.

Eight-year data (2012-2019) from 96 Hospital Based Cancer Registries report that a considerable proportion of patients with lung cancer (49.2% males and 55.5% females), followed by gall bladder cancer (40.9% males and 45.7% females) and prostate cancer (42.9%) had distant metastasis at the time of presenting to a health facility.

The rise of childhood cancers is becoming a significant issue in India, highlighting the absence of a dedicated programme or policy to tackle and control childhood cancer. Four per cent of all cancers in India are among children aged 0-14 years. A situational analysis of childhood cancer care services in India observed that less than half of public (41.6%) and private (48.6%) had a dedicated paediatric oncology department. Childhood cancer care services were provided at over one-third (40%) of the secondary level charitable hospitals. Over two-thirds of the government tertiary hospitals had referral linkages with non-childhood cancer-treating facilities. Most tertiary-level hospitals had supportive care facilities. Over 90% of the tertiary hospitals had facilities for histopathology and over 80% of the tertiary hospitals had radio diagnostic facilities. Availability of specialised manpower was low in public tertiary hospitals. Less than 50% of the public tertiary hospitals had stocks of all four classes of cancer treating drugs.

### CLOSING THE CARE GAP

The need of the hour is to deliver cancer care to those who need it the most, by breaking the barriers of access

overcoming disparities in cancer care availability. Bridging this gap requires a multifaceted strategy involving multiple stakeholders comprising of responsible communities, health care providers, key decision and policy makers. The need to enhance the healthcare infrastructure is crucial, ensuring that effective cancer diagnostics and treatment services are accessible to all. This involves not only the establishment of advanced cancer centers but also a concerted effort to extend the reach of these facilities to underserved areas. While the efforts of public insurance programs including Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) to overcome the financial barriers have been laudable, collaborative efforts between public and private sectors can play a pivotal role in making essential treatments more accessible and affordable to those who may not be eligible for public insurance schemes. The journey through cancer is not just about medical interventions; it is about providing a holistic support system that addresses the emotional and mental well-being of the patients and their families throughout the continuum of care. Therefore, closing the care gap is not just a goal; it is a commitment to a more equitable healthcare in India.

#### **GIVING A BOOST TO CANCER RESEARCH AND OTHER INITIATIVES BY THE GOVERNMENT FOR CANCER CARE**

- National Cancer Institute (NCI) at Jhajjar, a state-of-the-art Tertiary Cancer care cum Research Institute constructed at the AIIMS Jhajjar campus, was dedicated to the nation by Prime Minister Narendra Modi on 12 February 2019. Facilities include surgical oncology, radiation oncology, medical oncology and approximately 700 patient care beds, among others. As India's premier institute of cancer, NCI, Jhajjar is responsible for identifying priority areas for Research & Development carrying out basic and applied research in molecular biology, genomics, proteomics, cancer epidemiology, radiation biology and cancer vaccines.
- The Centre for Integrative Oncology (CIO) has been established as a joint venture of All India Institute of Ayurveda (AIIA) and National Institute of Cancer Prevention and Research (NICPR-ICMR) with the intention of collaborative research activities in cancer. CIO was inaugurated in February 2017.
- The second campus of Chittaranjan National Cancer Institute<sup>15</sup>, Kolkata is also a key step in the same direction. It was inaugurated by the Prime Minister on 7 January 2022. It is a 460 bedded hospital. Out-Patient Department (OPD) services and IPD services had started with effect from August 2020 and August 2021, respectively.
- Cervical cancer ranks as the 2nd most prevalent cancers in India and accounts for nearly one-fourth of the world's cervical cancer deaths despite being largely preventable.<sup>18</sup> India has launched its first indigenously developed vaccine, "CERVAVAC" for the prevention of Cervical Cancer. This affordable

and cost-effective vaccine takes India a step closer to the vision of Atmanirbhar Bharat.

- Establishment of Ayushman Bharat Health and Wellness Centres (AB-HWCs) across the country was announced by the Government of India in February 2018. Screening of three common cancers i.e. oral, breast and cervical, along with other common Non-Communicable Diseases, is an integral part of service delivery under the AB-HWCs.

#### **CONCLUSION**

Cancer is rapidly emerging as a matter of public health concern in India. In 2020, there were an estimated 1.39 million cancers in India. Globally, cancer is among the leading causes of death, contributing to about 10 million deaths during 2020.<sup>1</sup> Cancer is being diagnosed and treated at various levels in the Government health care system. The Government has taken a range of steps in recent years to address the challenge of cancer more effectively. These range from population level initiatives for prevention, control and screening for common types of cancer, to strengthening cancer care infrastructure.

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