Report of National Cancer Registry Programme, 2020

A scientific way to understand about Cancer

The *Report of National Cancer Registry Programme, 2020* was released on 18th August 2020 by Director General, ICMR. It provides reliable cancer data to policymakers, health care providers, researchers and laypersons. The National Cancer Registry Programme (NCRP), which is a flagship programme of the Indian Council of Medical Research (ICMR) was initiated in 1982, with the coordinating centre at the National Centre for Disease Informatics and Research (NCDIR) in Bengaluru. Previously published reports are available to download freely from www.ncdirindia.org

The NCRP has a network of 272 registry sites in medical colleges, specialised cancer hospitals, multi-speciality hospitals in the public and private sector. Broadly there are two types of cancer registries under the programme. A Population-Based Cancer Registry (PBCRs) collects data on all cases of cancer from multiple sources in a geographically defined population. Active case-finding methods are used for the identification of cancer patients, who have been residents of the area for more than one-year before cancer diagnosis. The Hospital Based Cancer Registries (HBCRs') record information on cancer patients who are availing care at a particular hospital, with a focus to collate information on clinical care, treatment and outcome. Patients may come from any part of the country. With the present network of cancer registries, the NCRP covers about 10% of the Indian population. Thus, not all cases of cancer which occur in the country get captured in the registries.The NCRP has gained respect in international cancer registry networks for the quality of its data. Its data is used by the WHO- International Agency for Research on Cancer (IARC) to estimate cancer statistics for several other countries of the region which are similar to India, and do not have a robust registry network.

Why is cancer registry data needed?

Advances made in the prevention, screening and treatment has prolonged the life span of patients of cancer. Data on new cases of cancer, deaths, geographical distribution and quality of life is needed to enforce monitoring and evaluation of cancer prevention and control efforts. Thus, NCRP helps map cancer-related data on a national and state-wide level through the functioning of the registries.

The *Report of National Cancer Registry Programme, 2020* helps gain a better understanding of the prevailing status of cancer in the country and trends over past several years. The information is much needed by crucial decision-makers to plan for setting up or expanding cancer care services and strengthening preventive measures in people who are not affected by cancer. It is useful for policymakers and health programme managers to prepare and support policies directed towards the control of cancer-related risk

factors such as tobacco, alcohol, unhealthy diet and exposure to specific carcinogens and also to promote early detection and provision of quality cancer care.

What does the report contain?

The *Report of National Cancer Registry Programme, 2020* includes the following data from 28 PBCRs and 58 HBCRs whose data for the years between 2012-2016 were complete and acceptable in quality.

- Number of new cases and deaths
- Cancer affected body sites and their distribution
- The extent of the spread of disease at the time of presentation

Number of new cases and deaths

The highest caseload of cancer in India has been recorded in the northeastern region, followed by the southwestern coastal areas. Incidence is one among the many other essential measures when it comes to monitoring disease. Incidence refers to the number of new cases of a specific disease within a particular period and can be expressed as a risk or an incidence rate. The 'crude incidence rate' is expressed in terms of the number of new cases per 1,00,000 population. The term 'age-adjusted incidence rate' is used after making statistical adjustments in the age factor, which ensures standardisation in reporting. Aizawl district in Mizoram recorded the highest age-adjusted incidence rate (269.4 cases per 1,00,000 males) of cancers among males.

In contrast, for females, the age-adjusted incidence rate (219.8 cases per 1,00,000 females) was found to be highest in Papumpare district in Arunachal Pradesh.Osmanabad and Beed district in Maharashtra recorded the lowest age-adjusted incidence rate in males (39.5 cases per 1,00,000 males) and females (49.4 cases per 1,00,000 females). Wide variations are seen in the number of cancer deaths. Similar to incidence rates, cancer deaths are expressed in terms of the crude or age-adjusted mortality rate. The crude death rate is the ratio of the number of deaths in a particular geographic area in one year divided by the average population in that area during the year. The crude mortality rate varied from as low as 9.7 deaths per 100,000 males in Aurangabad to as high as 115.0 per 100,000 males in Aizawl district of Mizoram state. Among females, it ranged from 6.8 deaths per 100,000 females in Nagaland PBCR to 69.6 per 100,000 females in Aizawl district.

Cancer affected body sites and their distribution

The Report highlights that cancer of lung, mouth, stomach and oesophagus are the most common cancers among men while cancer of breast and cervix uteri are the most frequent cancers among women. Aizawl district had the highest rank in lung incidence rates in both males (38.8 cases per 100,000 males) and females (37.9 cases per 100,000 females). Lung cancer has continued to be leading cancer from 1988 to 2015 among men in Mumbai and Delhi. The highest incidence rate of head and neck cancers (which also include mouth

cancer) has been reported among males (78.5 cases per 1,00,000 males) in the East Khasi Hills of Meghalaya and females (21.7 cases per 1,00,000 females) in Papumpare district in Arunachal Pradesh. The number of breast cancer cases are on the rise, while cervical cancer is on the decline. The highest burden of breast cancer was observed in the metro cities of Hyderabad, Bangalore and Chennai. Papumpare district in West Arunachal had the highest incidence of cervical cancer (27.7 cases per 100,000 females). Among childhood cancers, Delhi recorded the highest proportion (3.7%) of childhood cancers in the 0-14 age groups. Thyroid cancer cases are being increasingly diagnosed in females in the districts of Thiruvananthapuram and Kollam in Kerala.

The extent of the spread of disease at the time of presentation

Most of the cases of cancer tend to be diagnosed at a later stage as a result of which timely treatment cannot be offered. Many patients were found to present with 'loco-regional spread', that is spread of cancer beyond the initially affected body site. Locoregional was the most typical presentation for cancer mouth (males 65.8% and females 70.2%) and stomach cancer (males 51.0% and females 50.3%). Similarly, 60.0% of the cervical cancer patients and 57.0 % of breast cancer patients, presented with locoregional spread.

In contrast, distant metastasis (far spread to other organs) was the most familiar presentation for cancer lung. Nearly half of lung cancer patients (44.0 % among males and 47.6% among females) presented with distant metastasis.

Cancer prevention- An area of concern

The Report highlights that India's cancer burden could increase from 1.39 million during this year to 1.57 million in 2025. Tobacco-related cancers are likely to account for 27.1% of India's cancer cases in 2020.

The risk of developing cancer depends on a range of factors: behavioural, genetic and environmental. Behavioural risk factors include tobacco use, excess body weight, alcohol intake, unhealthy diet, and physical inactivity. Such risk factors are amenable to change and can be addressed by adopting a healthy lifestyle and avoiding the use of tobacco and alcohol.

Healthy choices like exercising, avoiding tobacco and alcohol, maintaining a healthy weight can reduce the chances of ever developing cancer. Fewer vaccines like human papillomavirus (HPV) and hepatitis B vaccine can also help lower cancer risk; this is primary prevention. Regular cancer screening tests detect few cancers early (before they spread) when treatment is most likely to be effective, thus serving as the best protection; this is secondary prevention. These two forms of cancer prevention and control when used, can act as lifesaving tools.

Tertiary prevention focuses on preventing complications and improving the quality of life of patients with cancer. Once cancer treatment is completed, receiving good quality follow-up care is crucial for improved survival.
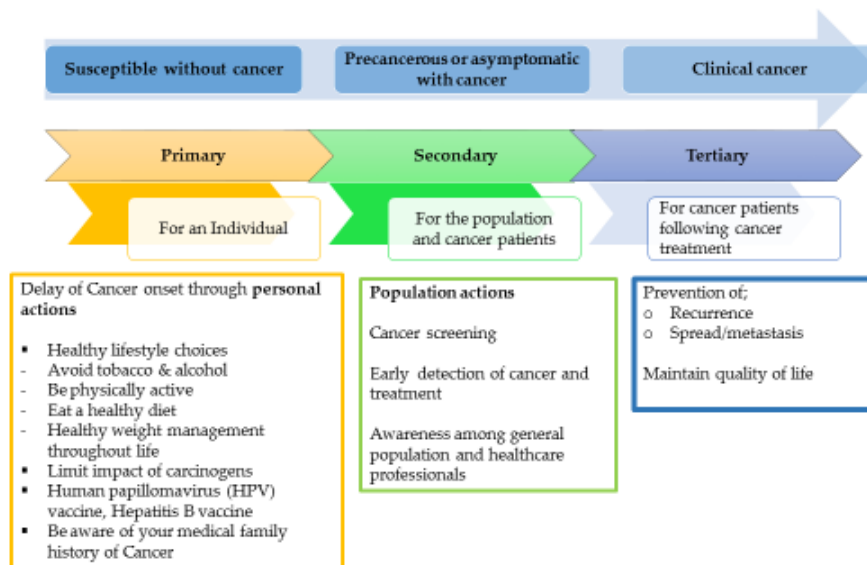

Fig1: Levels of Cancer prevention

Adapted from "Lippman SM, Abate-Shen C, Colbert Maresso KL, Colditz GA, Dannenberg AJ, Davidson NE, et al. AACR white paper: shaping the future of cancer prevention - a roadmap for advancing science and public health. Cancer Prev Res. (2018) 11:735–78. doi: 10.1158/1940-6207.CAPR-18-0421"

As a Nation, we shouldn't lose ground on this critical area that demands attention. It is imperative to note that there are steps that can be taken today to help avert, delay, or even halt the cancer process.

How can Citizens contribute?

The data being collected by the registries is dependent on the information provided by the patients and their caregivers from time to time to the treating doctor/team of doctors. Better and complete information is the beginning step for a good registry. Whenever patients move from one hospital to another for treatment-related matters, well preserved medical records and investigation reports must be taken along and shared with the treating doctor which will enable better documentation and understanding of past events and treatment. A good documentation and record maintenance will also help saving time and resources for investigations. By following and complying with prescribed treatment, incomplete and partial treatment can be avoided. Strict follow up should be done as prescribed for long periods, which will enable a better understanding of the outcomes of the disease, treatments offered and survival.

The NCRP data must be intensely used to create awareness for early diagnosis of cancer, starting of treatment at the earliest, completing treatment, and stringent follow up. All risk factors which favour

the occurrence of cancer and its progression must be given up. The major known risk factors (tobacco in any form, alcohol, inappropriate diet, low physical activity, overweight and obesity, air pollution, etc.) must be avoided through appropriate behaviour change.

Cancer is preventable, treatable and can be managed effectively when diagnosed early!

Please visit https://www.ncdirindia.org/All_Reports/Report_2020/default.aspx for more details
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