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Cancer Registry: Understand the composition in Tamil Nadu and its utility.

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ABSTRACT

Introduction: Cancer being a major health problem in India, Cancer registry plays a crucial role in formulating as well as monitoring their success. Cancer registry is an organization for systematic collection, storage analysis, interpretation and reporting of data on subjects with cancer. **Objectives:** To understand the cancer registration pattern in Tamil Nadu. To explore the cancer burden using cancer registry. **Methodology:** **Type of study:** Descriptive Study. **Type of data:** Secondary data. **Tools used:** Publications of NCDIR-ICMR (2012 -2014) were reviewed. **Results:** Population Based Cancer Registry, PBCR monitors incidence of cancers every year and Hospital Based Cancer Registry ,HBCR monitors the cancer therapy. There is one PBCR & 9 HBCR's as of now in Tamil Nadu. Chennai is among top five PBCRs to register maximum number of cases of about 11659 and having highest crude rate The incidence of cancer was more in women than in men in both PBCR (sex ratio:87%) and HBCR (91%). Most common cancers in males were lung cancer and in females is breast cancer. Mean age of cancer was 35-64 years. Tobacco use accounts for about 22% of cancer deaths. The incidence of tobacco related cancers in HBCR&PBCR were more in males (43.1 %& 40.7%) than females(14.8%&13.8%))respectively. The incidence of childhood cancer was more in boys and Leukemia (lymphoid leukemia) was the predominant in both sexes. The microscopic examination in which primary histology was used more for diagnosis than other methods. **Conclusion:** As Cancer Registry helps to assess and control the impact of cancer in the community, the number of cancer registries to be increased for better representation and for effective use.

Key Words: Cancer registry, PBCR, HBCR, NCDIR, Tamilnadu, Cancer epidemiology.

INTRODUCTION

Cancer is a disease in which abnormal cells divide uncontrollably and destroy body tissues. Cancer is the second leading cause of death globally, and is responsible for an estimated 9.6 million deaths in 2018. Globally, about 1 in 6 deaths is due to cancer and 70% of deaths from cancer occur in low- and middle-income countries.¹ For both sexes combined worldwide, lung cancer continues to be the most commonly diagnosed cancer (2.1 million, 12% of the total) and the leading cause of cancer death (1.8 million, 18%) because of its poor prognosis. Female breast cancer is the second most common cancer overall (2.1 million, 12%) but the fifth leading cause of cancer death (627,000, 7%) because of its relatively favorable prognosis Colorectal cancer is the third most frequently-diagnosed cancer globally, but second only to lung cancer in terms of mortality (1.8 million cases and 881,000 deaths). Prostate cancer is the fourth most frequently diagnosed cancer, while stomach and liver cancer remain major causes of cancer death in 2018.²

The number of cancers diagnosed in India in 2012, according to GLOBOCAN estimates, was 1 157 294, versus 1 069 000 in the Global Burden of Disease (GDB) India study.³ According to GLOBOCAN 2012 data, there were 10,14,934 new cancer cases in India in both men and women, 6,82,830 deaths and 17,90,498 people living with cancer. ⁴

The cancer registry is an organization for the systematic collection, storage, analysis, interpretation and reporting of data on subjects with cancer. There are two main types of cancer registry: hospital-based and population based cancer registries.⁵ The country's first cancer treatment center, Tata Memorial Center, was commenced in Mumbai in 1941.⁶

Hospital-based cancer registries are concerned with the recording of information on the cancer patients seen in a particular hospital. The main purpose of such registries is to contribute to patient care by providing readily accessible information on the subjects with cancer, the treatment they received and its result. Population-based

cancer registries seek to collect data on all new cases of cancer occurring in a well-defined population. As a result, and in contrast to hospital-based registries, the main objective of this type of cancer registry is to produce statistics on the occurrence of cancer in a defined population and to provide a framework for assessing and controlling the impact of cancer in the community. Thus, the emphasis is on epidemiology and public health.^{5,7}

The National Cancer Registry Programme (NCRP) was initiated by the Indian Council of Medical Research (ICMR) with a network of cancer registries across the country in December 1981. The main objectives of this Programme were to generate reliable data on the magnitude and patterns of cancer, undertake epidemiological studies based on results of registry data and help cancer control and train in cancer epidemiology. With these objectives three Population Based Cancer Registries (PBCRs) at Bangalore, Chennai and Mumbai and three Hospital Based Cancer Registries (HBCRs) at Chandigarh, Dibrugarh and Thiruvananthapuram were commenced from 1 January 1982. The PBCRs have gradually expanded over the years and as of now there are 23 PBCRs under the NCRP network.⁸ World Cancer Day is observed in 4th February every year.^{9,10}

Objectives: To understand the cancer registration pattern in Tamil Nadu. To explore the cancer burden using cancer registry.

METHODOLOGY

Type of study: Descriptive Study.

Type of data: Secondary data.

Tools used: Publications of NCDIR-ICMR (2012 -2014) were reviewed.

Data analysis: The data were grouped any analyzed by rate, proportion.

RESULTS

The two types of cancer registries include Population Based Cancer Registry (PBCR) and Hospital Based Cancer Registry (HBCR). PBCR monitors incidence of cancers every year and HBCR monitors the cancer therapy. There is one PBCR & 9 HBCR's as of now in Tamil Nadu.

Chennai is among top five PBCRs to register maximum number of cases of about 11659 and having highest crude rate. The incidence of cancer was more in women than in men in both PBCR (sex ratio:87%) and HBCR (91%). Most common cancers in males were lung cancer and in females is breast cancer. Mean age of cancer was 35-64 years. Tobacco use accounts for about 22% of cancer deaths. The incidence of tobacco related cancers in HBCR&PBCR were more in males (43.1 %& 40.7%) than females (14.8%&13.8%))respectively. The incidence

of cancer is more in females than females but overall mortality is more in males than females. (Figure 21).

Figure 1. Incidence , mortality of cancers in Tamilnadu.

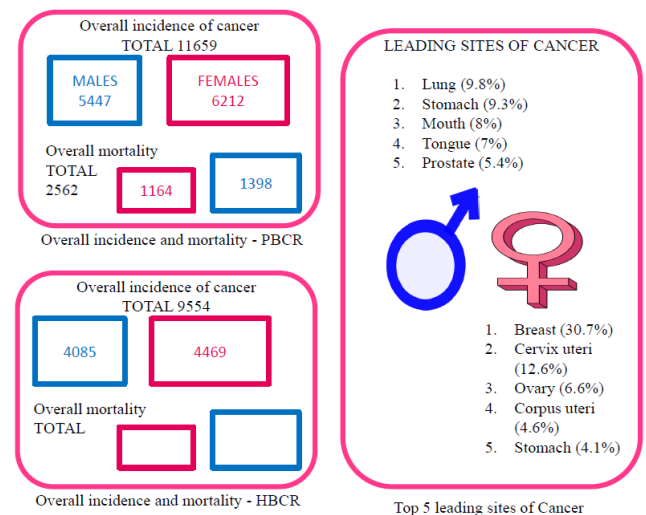


Table 1: Comparison between PBCR and HBCR for both the sexes

Particulars	PB	CR	HB	CR
	Males	Females	Males	Females
Incidence of cancer	6212	5447	4085	4469
Mortality	1398 (25.7%)	1164 (13.8%)		
Most common	Lung (9.8%)	Breast (30.7%)	Lung (10%)	Breast (24.3%)
Least common	NHL (3.7%)	NHL (2.4%)	NHL (3.1%)	Thyroid (3%)
Age related			2538 (62.1%)	3270 (73.1%)
Tobacco related cancers (Lung cancer)	2217 (40.7%)	859 (13.8%)	1762 (43.1%)	663 (14.8%)
Childhood cancers	158 (2.9%)	82 (1.3%)	138 (3.4%)	90 (2%)
Basis of Diagnosis (Microscopic Examination)	4357 (80%)	5174 (83.3%)	3301 (80.8%)	3869 (86.6%)
Primary Histology	3871 (71.1%)	4782 (77%)	2635 (79.8%)	3287 (28.1%)

Tobacco use accounts for about 22% cancer deaths. The proportion of Microscopic Examination is more than other methods for basis of diagnosis. Primary Histology - Predominant form of microscopic diagnostic in all registries in both the sex. In most of the cases patients present in the hospital when the extent of the disease is regional i.e. cancer has spread to nearby tissues, lymph nodes, tissues, organs in both the sexes. There are more number of patients (60% males and 46.5% females) who have neither received nor accepted any type of treatment and their treatment status is unknown. Due to increasing population size and age, by 2030 it is projected that the number of cancer cases and cancer related cases worldwide will increase to 21.4 million and 13.2 million cases respectively. 1 in 16 men 1 in 10 women Will be diagnosed with cancer before age 64 and 1 in 8 men 1 in 7 women Will be diagnosed with cancer before age 74.

The incidence of childhood cancer was more in boys and Leukemia (lymphoid leukemia) was the predominant in both sexes. The microscopic examination in which primary histology was used more for diagnosis than other methods. Among the diagnosed and registered cancer cases, 240 in PBCR and 228 in HBCR were childhood cancers. Leukemia (mostly lymphoid leukemia) is the predominant form of cancer in both boys and girls.

DISCUSSION

Cancer registries are key elements for a cancer control programme. To improve the quality of data, Government of Tamilnadu declared Cancer a notifiable disease on 17/04/2012.¹¹ Notification leads to have more knowledge about etiological agents and preventable causes and hence better utilization of health resources in screening and treatment programs which ultimately improves the survival rates.¹² However cancer registration is restricted to urban areas. More challenging is rural population as most of them does not have access to a well-organized cancer care systems and moreover they are not aware of the signs of cancer. Hence cancer related data are missing from large part of country. Cancer survival is important in present times with improved modalities and better modes of treatment. The cases need to be followed up for estimating survival rate of groups of cancer patients from PBCRs. Survival rates will help to evaluate the cancer care services in a particular region.

Conclusion: As Cancer Registry helps to assess and control the impact of cancer in the community, the number of cancer registries to be increased for better representation and for effective use.

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