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Explained: What India's cancer map shows

India's current registries cover 10% to 18% of the population from 23 states and Union Territories

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According to the World Health Organization (WHO), "between 30% and 50% of cancers can currently be prevented by avoiding risk factors and implementing existing evidence-based prevention strategies" (Representative image)

Analysis of data from 43 cancer registries revealed that the lifetime risk of developing cancer in India stood at 11%, with an estimated 15.6 lakh cancer cases and 8.74 lakh cancer deaths occurring in 2024.

Population-based cancer registries collect data on new cancer cases, deaths and trends in specific geographical areas. India's current registries cover 10% to 18% of the population from

23 states and Union Territories. Based on these registries' data from 2015-19, researchers have identified key trends on the incidence of cancer with significant policy implications.

The trends

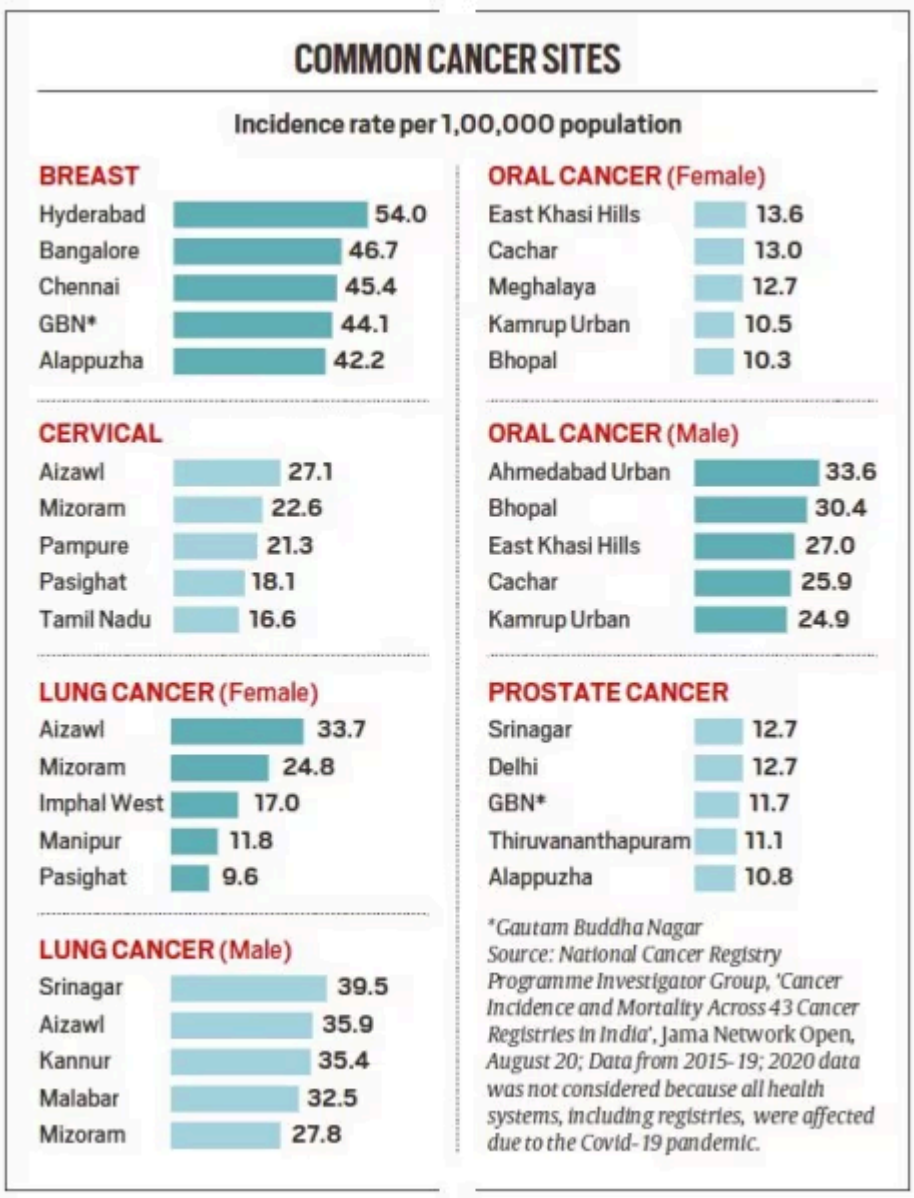
Women accounted for a higher proportion of the total cancer cases (51.1%) recorded in the registries but a lower proportion of deaths (45%). "This apparent disparity between cases and deaths can largely be explained by the types of cancers most common in women," Dr Prashant Mathur, director of ICMR-National Centre for Disease Informatics and Research which coordinates the country's cancer registry, told The Indian Express.

Breast and cervical cancers, which together account for 40% of cases in women, are easier to detect early and have better outcomes. In contrast, Dr Abhishek Shankar, oncologist at the All India Institute of Medical Sciences (AIIMS), said that "commonly occurring cancers in men such as lung and gastric cancers are more difficult to treat."

"Breast cancer is easier to detect early as women may feel the lump themselves. Lung cancer, in comparison, does not have such easily identifiable symptoms which would lead someone to seek care," he said.

There has been an increase in the incidence of oral cancer in the country. In fact, the data show that oral cancer has overtaken lung cancer as the most common cancer in men.

This is despite tobacco consumption, the most important risk factor for oral cancer, going down in India. The proportion of adults consuming tobacco decreased from 34.6% to 28.6% between 2009-10 and 2016-17, the Global Adult Tobacco Survey found.



The finding can likely be explained by the long latency period after the first exposure to a carcinogen like tobacco, and other, less appreciated risk factors. Dr Shankar, specifically pointed to the consumption of alcohol.

"Apart from liver cancer, consumption of alcohol is known to increase the risk of seven cancers including oral cancer, cancer of the pharynx, gastric cancer, and colorectal cancer. In fact, dual use of alcohol and tobacco compounds the risk of cancer."

The incidence of cancers was the highest in the Northeast, with the highest occurrence of cervical cancer, lung cancer in women, and oral cancer in women all reported from states in this region.

Dr Mathur pointed to a number of factors: "The use of tobacco among both females and males in the Northeast is significantly higher than the national average… Certain dietary habits such as consumption of sa-um (fermented pork fat), smoked dried salted meat and fish, very spicy food, hot beverages, and the use of soda as a food additive also contribute to cancer risk."

"The prevalence of infections such as Helicobacter Pylori, hepatitis, salmonella typhi, and Human papillomavirus (HPV) which may act as carcinogens in several cancers, is also high in the region," he said.

There is much variation in cancer incidence across India. The highest lifetime risk of cancer was found to be in Mizoram, where it stood at 21.1% for men and 18.9% for women, higher than the 11% rate nationally.

The accompanying table shows cities/regions/states with the highest incidence of oral, breast, cervical, lung, and prostate cancers.

Significance of findings

This data can help the Centre and states effectively plan their cancer care programs, from screening programs in primary health centres and specially organised camps to treatment of cancer in tertiary centres under the Centre's flagship Ayushman Bharat programme.

Talking about the Northeast, Dr Mathur said that "addressing the cancer burden in this region requires a comprehensive approach that includes strengthening healthcare infrastructure, increasing community involvement, promoting socio-behavioural changes (such as tobacco cessation, dietary and lifestyle modifications), spreading awareness, and enhancing screening and early detection programs targeted at regionally common cancers."

The data also show the importance of activities such as awareness campaigns, screening, and public health initiatives such as vaccination against HPV. Breast cancer alone contributes 30% of cases, which can be detected early in screening program.

Dr Mathur said cervical cancer incidence is below 4 per 100,000 in only two registries, emphasising the need to strengthen cervical cancer screening, HPV vaccination, and cancer awareness.

According to the World Health Organization (WHO), "between 30% and 50% of cancers can currently be prevented by avoiding risk factors and implementing existing evidence-based prevention strategies." This burden can be further reduced through early detection of cancer and appropriate treatment and care of patients who develop cancer. "Many cancers have a high chance of cure if diagnosed early and treated appropriately," the WHO's cancer fact sheet states.

Analyses such as these can help reduce cancer incidence and mortality, and improve overall health outcomes.