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V-Discover

THE STUDENTS DIGITAL MAGAZINE

Theme : Cancer Care

SWAMY VIVEKANANDHA COLLEGE OF PHARMACY

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Cancer Care

INTRODUCTION

Cancer is a large group of diseases that can start in almost any organ or tissue of the body when abnormal cells grow uncontrollably, go. beyond their usual boundaries to invade ad joining parts of the body and /or spread to other organs.

Cancer is a major contributor to global mortality, causing about 1 in every 6 deaths and affecting nearly every household. Globally, there were an estimated 20 million new cases of cancer and 9.7 million deaths from cancer in 2022. The cancer burden will increase by about 77% by 2050; further straining health systems, people and communities.

Lung, prostate, colorectal, stomach and liver cancer are the most common types of cancer in men, while breast, colorectal, lung, cervical and thyroid cancer are the most common among women.

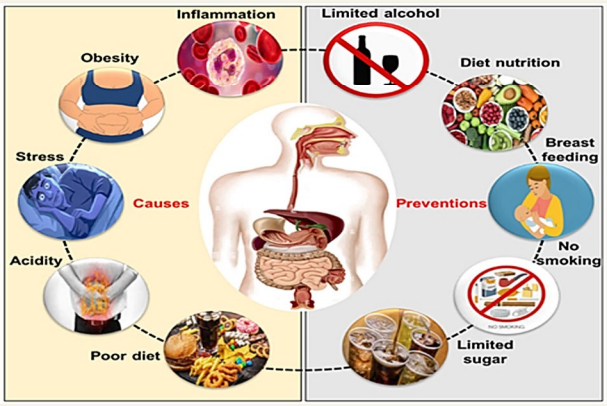
HIGHLIGHTS:

• Cancer is caused by irregularities at the cellular level, specifically transformations in our genes and genetic material.

• Cancer cells can develop at any time, but if the cellular changes are minimal the body's white blood cells will be able to detect and eliminate them.

• However, other people may have many cellular irregularities occur at once, allowing the cancer cells to grow strong enough to fight off or evade the white blood cells.

• These cancer cells then develop and multiply until they reach a tumorous size or form into what we know as cancer.



✦ Drinking alcohol and smoking are two of the greatest dangers when it comes to developing various forms of cancer.

✦ Cancer in its initial stages can be detected and diagnosed during annual health check-ups.

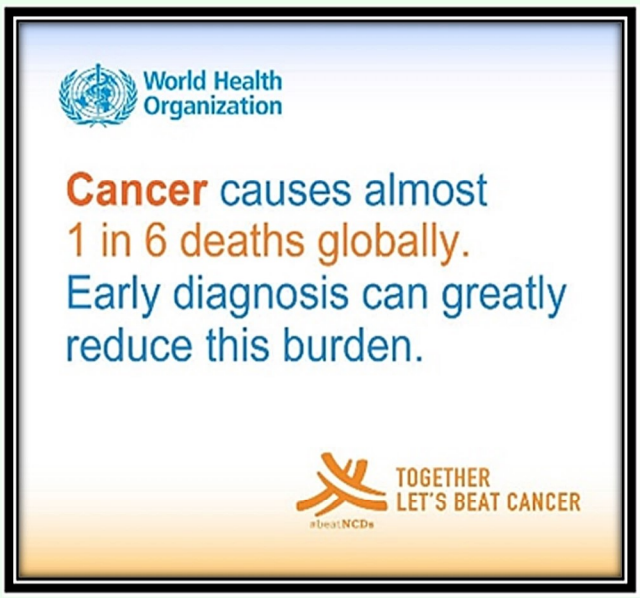
✦ Targeted therapy can be up to 80% effective, but traditional courses of chemotherapy only offer an approximately 30% chance of success.

GLOBAL CANCER BURDEN

The cancer burden continues to grow globally, exerting tremendous physical, emotional and financial strain on individuals, families, communities and health systems. Many health systems in low- and middle-income countries are least prepared to manage this burden, and large numbers of cancer patients globally do not have access to timely quality diagnosis and treatment. In countries where health systems are strong, survival rates of many types of cancers are improving thanks to accessible early detection, quality treatment and survivorship care.

The increasing cancer burden is due to several factors, including population growth and aging as well as the changing prevalence of certain causes of cancer linked to social and economic development.

This is particularly true in rapidly growing economies, where a shift is observed from cancers related to poverty and infections to cancers associated with lifestyles more typical of industrialized countries.



GLOBAL CANCER PATTERNS BY SEX

• Lung cancer is the most commonly diagnosed cancer in men (14.5% of the total cases in men and 8.4% in women) and the leading cause of cancer death in men (22.0%, i.e. about one in 5 of all cancer deaths). In men, this is followed by prostate cancer (13.5%) and colorectal cancer (10.9%) for incidence and liver cancer (10.2%) and stomach cancer (9.5%) for mortality.

• Breast cancer is the most commonly diagnosed cancer in women (24.2%, i.e. about one in 4 of all new cancer cases diagnosed in women worldwide are breast cancer), and the cancer is the most common in 154 of the 185 countries included in GLOBOCAN 2018. Breast cancer is also the leading cause of cancer death in women (15.0%), followed by lung cancer (13.8%) and colorectal cancer (9.5%), which are also the third and second most common types of cancer, respectively; cervical cancer ranks fourth for both incidence (6.6%) and mortality (7.5%).

STATISTICAL DATA:

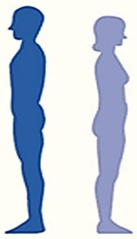
Cancer is the second leading cause of death globally, accounting for an estimated 9.6 million deaths, or 1 in 6 deaths, in 2018.

• These estimates are best on the data available from the best resources in different countries in the year 2022. In 2022, there were an estimated 20 million new cancer cases and 9.7 million deaths. The estimated number of people who were alive within 5 years following a cancer diagnosis was 53.5 million. About 1 in 5 people develop cancer in their lifetime, approximately 1 in 9 men and 1 in 12 women die from the disease.

• The total cancer estimate for India was 14,13,316 with a male and female distribution of 6,91,178 and 7,22,138. The age-standardized incidence rate was higher in females than males (100.8 vs 97.1). Most five cancers in India were found to be Lip and oral cavity, lung, esophagus, colorectum, and stomach in males whereas cancers of the breast, cervix, ovary, lip and oral cavity, and colorectum were the five most common in women.

• Almost 50% of cancers in women were gynecological cancers including breast cancer. There is more effort needed to empower gynecological cancer care in India. Cervix cancer is one of the preventable cancers with an effective vaccination strategy and early detection with screening modality. WHO's 90/70/90 strategy (three key strategies - an increase of HPV vaccination to 90%, twice-life time cervical screening to 70%, and treatment of pre-invasive lesions and invasive cancer to 90% known as 90-70-90 targets) for the elimination of cervical cancer needs commitment at the country level in terms of vaccination, screening, and treatment of cervical cancer to achieve the desired goals. There are disparities and inequalities in access and outcomes for gynecological cancer, necessitating the incorporation of operations management strategies and mechanisms.

Male				Female		
Prostate	299,010	29%		Breast	310,720	32%
Lung & bronchus	116,310	11%		Lung & bronchus	118,270	12%
Colon & rectum	81,540	8%		Colon & rectum	71,270	7%
Urinary bladder	63,070	6%		Uterine corpus	67,880	7%
Melanoma of the skin	59,170	6%		Melanoma of the skin	41,470	4%
Kidney & renal pelvis	52,380	5%		Non-Hodgkin lymphoma	36,030	4%
Non-Hodgkin lymphoma	44,590	4%		Pancreas	31,910	3%
Oral cavity & pharynx	41,510	4%		Thyroid	31,520	3%
Leukemia	36,450	4%		Kidney & renal pelvis	29,230	3%
Pancreas	34,530	3%		Leukemia	26,320	3%
All sites	1,029,080			All sites	972,060	

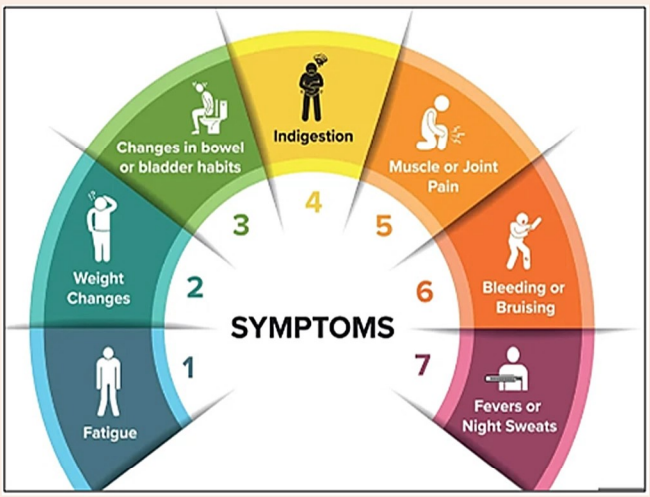


Cancer Institutions in India

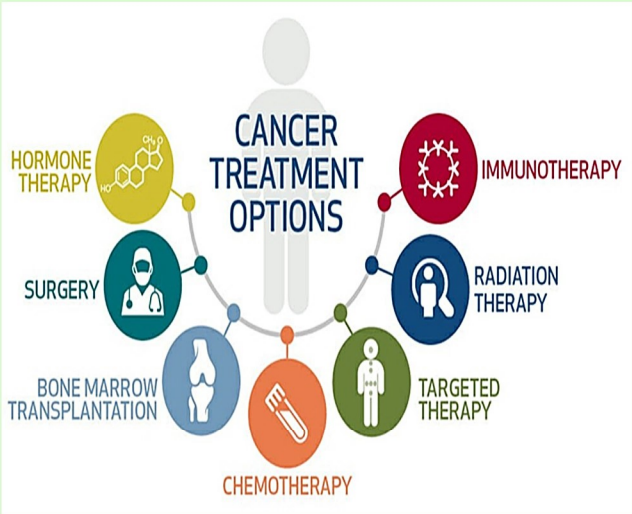
Name of State / Union Territory	Name of the Institution
Andhra Pradesh	M.N.J. Institute of Oncology& Regional Cancer Centre, Hyderabad.
Assam	Dr. B. Borooah Cancer Institute, Guwahati.
Bihar	Indira Gandhi Institute of Medical Sciences, Patna.
Chandigarh	Post Graduate Institute Medical Education & Research, Chandigarh
Chhattisgarh	Pt. J.L.N Medical College &Dr. B. R. Ambedkar Memorial Hospital, Raipur
Delhi	Dr.B.R.Ambedkar. Institute - Rotary Cancer Hospital, AIIMS,New Delhi
Gujarat	The Gujarat Cancer & Research Institute, Ahmedabad.
Haryana	Post Graduate Institute of Medical Sciences, Rohtak.
Himachal Pradesh	Indira Gandhi Medical College, Shimla.
Jammu & Kashmir	Sher-I-Kashmir Institute of Medical Sciences., Srinagar.
Jammu & Kashmir	Government Medical College, Jammu.
Karnataka	Kidwai Memorial Institute of Oncology, Bangalore.
Kerala	Regional Cancer Centre, Thiruvananthapuram.
Madhya Pradesh	Cancer Hospital & Research Institute, Gwalior.
Maharashtra	RashtrasantTukdoji Regional Cancer Hospital & Research Centre, Nagpur.
Maharashtra	Tata Memorial Hospital, Mumbai.
Manipur	Regional Institute of Medical Sciences, Imphal.
Mizoram	Civil Hospital, Aizawl.
Orissa	Acharya Harihar Regional Cancer Centre, Cuttack.
Puducherry	Jawaharlal Institute of Postgraduate medical Education & Research
Rajasthan	Acharya Tulsi Regional Cancer Treatment & Research Institute, Bikaner.
Tamil Nadu	Govt. Arignar Anna Memorial Cancer Research Institute & Hospital, Kancheepuram.
Tamil Nadu	Cancer Institute (WIA),Adyar, Chennai.
Tripura	Civil Hospital, Agratala.
Uttar Pradesh	Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow.
Uttar Pradesh	Kamla Nehru Memorial Hospital, Allahabad.
West Bengal	Chittaranjan National Cancer Institute, Calcutta.

CANCER SYMPTOMS

Cancer symptoms can vary widely depending on the type of cancer and its stage. However, some common signs and symptoms of cancer include:

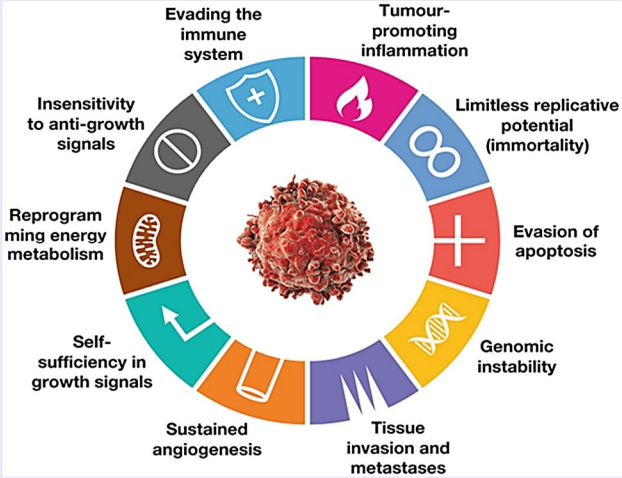


CANCER DIAGNOSIS AND TREATMENT



In many cases, cancer treatment involves a combinational approach, known as multimodal therapy. The choice of treatment depends on factors such as the type and stage of cancer, the patient's overall health, and their preferences. It's important for patients to discuss their treatment options with their healthcare team to develop a personalized treatment plan that meets their needs.

KNOWLEDGE BOOM IN CANCER RESEARCH



Despite the enormous, global scale of cancer, it is fundamentally a genetic disease whose underlying mechanisms require an understanding of the disease at the subcellular and molecular scale. Cancer research has undergone an explosion of new knowledge in recent decades spurred on by relatively recent advances in DNA sequencing and whole genome sequencing. The daunting complexity of the ever-expanding body of knowledge defies comprehension, but has been simplified by the hallmarks of cancer framework. Cancer development and progression entails stepwise attainment of traits that allow it to behave like cancer. These skills include mitogenic self-sufficiency, insensitivity to growth suppression, limitless replicative ability, evasion of the immune system, reprogramming metabolism, sustained angiogenesis, evasion of death, invasion and metastasis, and two enabling characteristics. These skills together give the cell the ability to behave like cancer cells and cause disease. Insights into the molecular mechanisms of malignant transformation and progression have revolutionized the development of novel diagnostic and therapeutic modalities and introduced entirely new classes of cancer drugs with better specificity, lower side effects, and better outcomes.

GOVERNMENT SCHEMES FOR CANCER TREATMENT

Assistance from Government is essential for poor & needy...

India has over 1 million cancer patients and a major chunk of them belong to weaker sections of society. Cancer treatment being an expensive proposition, schemes of Central and State Governments help in mitigating the financial burden to a certain extent, supplementing affordable treatment options and financial aid from NGOs.

- The recently launched 'Ayushman Bharat - National Health Protection Scheme' covering hospitalization expenses to the extent of Rs 5 Lakh per family per year will be of great benefit to poor citizens.

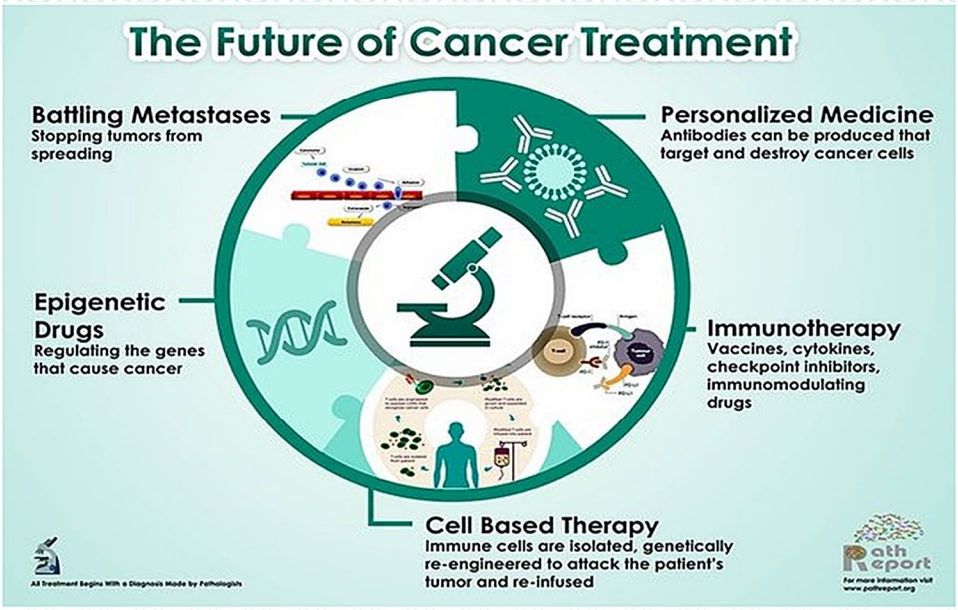
- Our country does not have full-fledged, wide-spread and effective national cancer screening programmes. As a result, cancer is not detected at an early stage by most of the poor and especially those from rural areas. If a patient comes to the hospital at an early stage, an inexpensive simple surgery might cure the individuals. A wide range of schemes by Central & State Governments…

- 'Ayushman Bharat' and the other schemes are of great help to poor and deprived Indians numbering 100 million families or 500 million people, assuming an average family size of five people.

All India	*Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)*
	Health Minister's Discretionary Grant (HMDG)
	Cancer Patients Concession for Travel by Air
	Health Minister's Cancer Patient Fund (HMCPF) of Rashtriya Arogya Nidhi (RAN)
	Railways: Facilities for Passengers who are Cancer Patients
	Central Government Health Scheme (CGHS)
Andhra Pradesh	*Free Cancer Treatment Under Arogyasri Scheme of A.P. Govt*
Goa	*Mediclaim Scheme' of Directorate of Health Services*
Jammu & Kashmir (Union Territory)	*CTMFFP Scheme (Cancer Treatment & Management Fund for Poor)*
Karnataka	*Chief Minister's Relief Fund*
Kerala	*Cancer Suraksha' Scheme by Kerala Social Security Mission*
Madhya Pradesh	*State Illness Assistance Fund' of Directorate of Health Services, Govt of M.P.*
Maharashtra	*Chief Minister's Relief Fund (CMRF)* *Mahatma Jyotiba Phule Jan Arogya Yojana*
Odisha	*Free Chemotherapy Programme of Odisha Govt.*
Punjab	*Mukh Mantri Punjab Cancer Raahat Kosh Scheme*
Rajasthan	*Free Cancer Medicines' Scheme of Rajasthan Government*
Telangana	*Aarogyasri Scheme*
West Bengal	*Free Cancer Treatment in Govt Hospitals*

PROSPECTS FOR CANCER THERAPY AND MORBIDITY IN THE FUTURE

Future of cancer research and treatment is promising, with a growing emphasis on personalized and targeted approaches, early detection, and supportive care to improve outcomes and quality of life for cancer patients. Collaboration among researchers, clinicians, industry partners, and patient advocates will be essential to translate these advances into meaningful clinical benefits.



FIRST CANCER HOSPITAL

'The Tata Memorial Center for Cancer'.

Dr.Suresh Advani Oncologist (MBBS, MD). First oncology Specialist In India Despite being struck by polio at the age of 8 which left him paralyzed from the waist down, Dr.Advani beat the odds and became the first oncologist who successfully performed a bone marrow transplant in India. He worked at Tata Memorial Hospital for many years as a medical oncologist.

JRD Tata was a trustee of Dorabji Tata Trust for 50 years . Under his guidance, the trust established the first cancer hospital in Asia in 1941 named, 'The Tata Memorial Center for Cancer'.

Dr.Suresh Advani Oncologist (MBBS, MD)

VIVEKANANDHA EDUCATIONAL INSTITUTIONS

TIRUCHENGODE CAMPUS

- ★ SWAMY VIVEKANANDHA MEDICAL COLLEGE HOSPITAL AND RESEARCH INSTITUTE
- ★ VIVEKANANDHA DENTAL COLLEGE FOR WOMEN
- ★ SWAMY VIVEKANANDHA COLLEGE OF PHARMACY
- ★ VIVEKANANDHA COLLEGE OF NURSING
- ★ VIVEKANANDHA SCHOOL OF ANM
- ★ SWAMY VIVEKANANDHA PHYSIOTHERAPY COLLEGE
- ★ VIVEKANANDHA ALLIED HEALTH SCIENCE COLLEGE (Co-Ed)
- ★ KRISHNA INSTITUTE OF OPTOMETRY AND RESEARCH
- ★ VIVEKANANDHA INSTITUTE OF HEALTH SCIENCE & RESEARCH (Boys)
- ★ KRISHNA INSTITUTE OF HEALTH SCIENCE (Boys)
- ★ VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN (AUTONOMOUS)
- ★ VIVEKANANDHA COLLEGE OF TECHNOLOGY FOR WOMEN
- ★ VIVEKANANDHA INSTITUTE OF INFORMATION AND MANAGEMENT STUDIES
- ★ VIVEKANANDHA COLLEGE OF ARTS AND SCIENCES FOR WOMEN (AUTONOMOUS)
- ★ VIVEKANANDHA COLLEGE FOR WOMEN
- ★ VIVEKANANDHA COLLEGE OF EDUCATION FOR WOMEN
- ★ KRISHNA COLLEGE OF EDUCATION FOR WOMEN
- ★ KRISHNASHREE COLLEGE OF EDUCATION FOR WOMEN
- ★ VIVEKANANDHA VIDHYA BHAVAN MATRIC HIGHER SECONDARY SCHOOL
- ★ VIVEKANANDHA MEDICAL CARE HOSPITAL (VMCH)
- ★ THIRU BALAJI SCAN CENTER
- ★ ALLWIN GROUP OF COMPANIES
- ★ M.K.G. FOODS AND FEEDS
- ★ M.K.G. ENTERPRISES

SANKAGIRI CAMPUS

- ★ SWAMY VIVEKANANDHA NATUROPATHY AND YOGA MEDICAL COLLEGE (Co-Ed)
- ★ VIVEKANANDHA PHARMACY COLLEGE FOR WOMEN
- ★ VIVEKANANDHA NURSING COLLEGE FOR WOMEN
- ★ VIVEKANANDHA ANM SCHOOL
- ★ VIVEKANANDHA INSTITUTE OF HEALTH SCIENCE (Boys)
- ★ VIVEKANANDHA ARTS AND SCIENCE COLLEGE FOR WOMEN
- ★ RABINDHARANATH TAGORE COLLEGE OF EDUCATION FOR WOMEN
- ★ VISWABHARATHI COLLEGE OF EDUCATION FOR WOMEN

★★★

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