



CANCER INSTITUTE (WIA)



2021 - 2022

Cancer Institute

SHAGWAN ADINATH JAIN COMPLEX 卐



**Annual & Scientific
Report**

CANCER INSTITUTE (WIA)

ANNUAL REPORT & SCIENTIFIC REPORT 2021-2022

CANCER INSTITUTE (WIA)

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MISSION STATEMENT

The Cancer Institute (WIA), Chennai was established in 1954 by the Women's Indian Association Cancer Relief Fund under the leadership of Dr. Muthulakshmi Reddy, as a "MISSION" to provide scientific treatment and promote health education amongst all sections of people. The ethos of the Cancer Institute (WIA) is "Service To All" irrespective of social or economic class. It was established in the faith that selfless service would generate its own strength and funds would always be found. The Institute will not be confined to the four walls of a multi - storey building but will strive to reach out to every nook & corner of the state.

The Cancer Institute (WIA) shall aspire to be a symbol of man's eternal quest to conquer disease and an inspiration that reaches out to humanity.



6 Decades of Dedication

SERVICE ABOVE SELF
Treatment affordable and equitable
20% of patients totally free and 40% nominal cost



She stretcheth out her hands to the poor; Yea she reacheth forth her hands to the needy.

Strength and honour are her clothing; and she eateth not the bread of idleness.

Her children arise up and call her blessed; and her own works praise her in the gates.

Dr. Mrs. MUTHULAKSHMI REDDY

(1889 - 1968)

Our Founder

“Yes, I’m, contented with my life, I’ve lived not for myself but for others.

No, I’m not satisfied with what we’ve achieved at the Cancer Institute. There’s more to be done. But I’ve no regrets.”

It was the voice and tone of a pioneer who had, with a sense of mission, struggled hard and long to build an Institution.



Dr. S. KRISHNAMURTHI

(1919-2010)

Adviser - Research and Planning

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GOVERNING BODY OF THE CANCER INSTITUTE (WIA)
Regd. Under the Societies Registration Act of 1860

Shri. R. Seshasayee Chairman, Cancer Institute (WIA), Adyar, Chennai – 600 020	Chairman
Dr.E.Hemanth Raj Executive Vice Chairman, Cancer Institute (WIA), Adyar, Chennai - 600020	Secretary
Dr.A.V.Lakshmanan Adviser II, Cancer Institute (WIA), Adyar, Chennai – 600020	Joint Secretary
Ms. V. Susheela Member – Finance Board, Cancer Institute (WIA), Adyar, Chennai – 600020	Member
Dr.T.G.Sagar Director (Emeritus), Cancer Institute (WIA), Adyar, Chennai – 600020	Member
Dr.A.Vasanthan Director (Admin), Cancer Institute (WIA), Adyar, Chennai - 600020	Member
Dr.G.Selvaluxmi Director, Cancer Institute (WIA), Adyar, Chennai - 600020	Member
Shri N. Sugalchand Jain Siyat House, No.961, Poonamallee High Road, Purasawalkam, Chennai – 600084	Member
Shri M.A. Alagappan Adviser, Murugappa Group, 10, Chittaranjan Road, Teynampet, Chennai – 600018	Member
Shri. T. Shankar Chief Executive Officer, Management Solutions, Prasad Chambers, 169, Peters Road, Royapettah, Chennai – 600014	Member
Shri M.K.Jain Managing Director, Asia(Chennai) Engg Company Pvt. Ltd., No.2, 1 st Floor, Golden Bridge, Wheat Crofts Road, Nungambakkam, Chennai – 600034	Member
Mrs.Mallika Srinivasan Chairman, Tractors & Farms Equipments Limited (TAFE) 77, Nungambakkam High Road, Chennai – 600034	Member
Mr. Ram Santhanam Chairman, Wheels India Limited, Chennai - Tiruvallur High Road, Padi, Chennai – 600050	Member
Mr. C.N.Raghavendran Managing Director, C.R.Narayana Rao (Consultants) Private Limited, No.10, Karpagambal Nagar, Mylapore, Chennai – 600004	Member
Mr. N.L. Rajah Senior Advocate, No.8, Venkateswara Nagar 4 th Street, Adyar, Chennai – 600020	Member
Mrs. Girija Vaidhyathan New No.7 (Old No.4), Central Avenue, Kesavaperumalpuram, Chennai – 600028	Member
Mr.Kamal Kishore Falor Director, Standard Pencils Pvt Ltd., Guindy Industrial Estate, Chennai - 600032	Member
Dr.K.Sundaram Clinical Professor, Department of Otolaryngology SUNY Downstate Medical Center, Brooklyn, NY 11203, USA	Member
Dr.TS Ravikumar 231-C, Kilpauk Garden Road, Chennai - 600010	Member
Addl Secretary & Financial Adviser Govt. of India, Ministry of Health & Family Welfare, Nirman Bhawan, New Delhi – 110011	Member
Secretary, Department of Health Research & Director General, Indian Council of Medical Research, New Delhi - 110029	Member
Director of Medical Education Govt.of Tamil Nadu, 162, Poonamallee High Road, Chennai – 600010	Member

M/s.R.Janakiraman & Co. Approved Auditors

ADMINISTRATIVE STAFF

Shri R. Seshasayee, CA	:	Chairman
Dr. A. V. Lakshmanan, MA, MSc, Ph.D (UK)	:	Adviser II
Dr. E. Hemanth Raj, MS, MCh, Ph.D	:	Executive Vice Chairman
Ms. V. Susheela	:	Member Secretary, Finance Board
Dr. T. G. Sagar, MD, DM	:	Director (Emeritus)
Dr. A. Vasanthan, MD, DMRT	:	Director (Admin)
Dr. G. Selvaluxmi, MD, DMRT	:	Director
Dr. Kalpana Balakrishnan, M.B.B.S., D.A., DNB.	:	Associate Director
Dr. R. Swaminathan, M.Sc, Ph.D (Stat, Epide)	:	Associate Director
Mrs. Varalakshmi, M.Sc	:	Associate Director (Admin)

Nursing

Nursing Supervisor

Ms. R. Sathyabala

Nursing Tutors

Ms. R. Gnana Sundari

Ms. T. Divya

Nursing In-charge

Ms. T. Thangamalar

Ms. Bala Christopher

Ms. J. Jasmine Ruby

Infection Control Nurse

Ms. A. Beula Roselin

Ms. J. Vijaya Shanthi

Ms. A. Lakshmi

Ms. T. Renuka

Ms. Leema Rose

Link Nurse

Ms. Ayary

Ms. Prem Sheeja

Ms. Punitha

Ms. Doshy Joseph

Accounts

General Manager – Finance & Accounts

Mr. C. V. Narasimhan, BBA, LLB, ACA, ACS

Manager

Ms. Srividhya Shankar, B.Com, AICWA

Assistant Manager

Mrs. S. Parameswari, M.Com

Senior Assistant

Ms. A. Vidhya, M.Com

Assistant

- Mr. S. Balamurugan, B.Com
- Mr. V. Ananda Kumar
- Mr. G. Prabhu

Cash

Manager (Credit Billing & Medmantra)

Mr. S. Nagarajan

Assistant

- Ms. D. Maharani, DMLT
- Ms. N. Aruna, B.Sc
- Ms. M. Uma Maheswari, B.Com
- Ms. R. V. Chitra, BA, DCA
- Ms. A. Kalaimayil, M.Com
- Ms. D. Srilekha, B.Com,
- Ms. Remani Mahendran
- Ms. B. V. Srividya, MCA
- Ms. S. Malarmathi, MBA
- Mr. J. Maria Kulothungan, M.Sc
- Mr. L. Vijay, MCA
- Mr. M. A. Gokulnaath, B.Sc, MCA
- Mr. S. Samson, MBA
- Ms. N. Hamitha, BA
- Ms. A. Abiya, MBA
- Ms. V. Bhuvaneshwari, B.Com, ICWA Inter
- Ms. S. Divya, B.Sc.
- Mr. M. Elangovan, B.Tech
- Ms. M. Kiruthika, B.Sc.

General Administration

Academic Officer

Dr.Santhi N

General Manager - CSR

Mr. R.Rajshekar, Exe.MBA

Administrative Officer

Mr.R.Senthil Kumar

Human Resources

Senior Manager – HR & in-charge

Mr.M.V.Rajasekharan, M.A(Sociology),

Dip. in Business Management

HR Officer

Mr.A.Niranjan, MBA

Junior HR Officer

Ms.G.Swetha Shree, B.Sc,

MBA(Hospital & Health Care Management)

Steno-Typist

Mrs.T.Hemalatha, DCP, B.Com

Spl Secretary to Chairman

Mr.R.Dhanasekaran, BA

Personal Secretary to Chairman

Ms.Priya Ganesh, B.Com

Office Coordinator

Mr.V.Sundaram, BA

Secretary

Mr. V.Krishnakumar, +2

Finance

Volunteer

Mr.P.Krishnamoorthy

Assistant Managers

Mrs.R.Santhi, D.C.P.

Mrs.M.Bharathi, B.Com

Telephone Operators

- Ms.S.Rosaline Mary
- Ms.N.V.Varalakshmi
- Ms.T.Ramya
- Ms.D.Shoba
- Ms.S.Divya

Pharmacy

Chief Pharmacist

Ms.M.Padmavathi, D.Pharm

Pharmacists

- Ms.M.A.Gayathri, D.Pharm
- Ms.A.R.Valarmathi, B.Pharm
- Ms.T.Lakshmi, D.Pharm
- Ms.J.Muthulakshmi, B.Pharm
- Ms.T.Rupavathi, D.Pharm
- Ms.P.Aishwarya, D.Pharm
- Ms.P.Muneeswari, B.Pharm
- Ms.M.Kotteshwari, D.Pharm

Dieticians

Dr.K.Parvathy, M.Sc.,Ph.D.

Ms.K.Santhana Lakshmi, B.Sc

Ms.S.Sundari, B.Sc.

Ms.D.Bhuvaneswari, M.Sc.

Ms.G.Amirtha, M.Sc.

Ms.Arsha Vincent, M.Sc.

Ms.J.Revathi, B.Sc.

Ms.C.Sangeetha, B.Sc.

Kitchen Supervisors

Ms.M.Mala

Ms. Adilakshmi

Ms.G.Arockia Sahaya Selvi

Ms. Bala Imalda Rani

Ms. R. Lakshmi

Ms. G. Ponnammal

Ms.P.Kavitha

Ms.P.Parimala

Assistant Manager, Dharmasala

Ms.Nalini

Clinical Trial Services Unit (CTSU)

Senior Clinical Research Coordinators

Mr. V. Paulson Vijay Kumar

Ms.S.Deyva Manohari

Clinical Research Coordinators

Ms.K.Swarnalakshmi

Mr.B.Gokul

Mr.M.Nizamudin

Ms.U.Kripa

Clinical Trial Coordinator

Mr.A.Bhakiyanathan

Ms.B.Monica

BIRAC Project in Clinical Research Dept.

Ms. Vidya Anand – Project Manager

OVERVIEW

Cancer Institute(W.I.A), a non-profit voluntary charitable institution founded by Dr. Muthulakshmi Reddy and nurtured by Dr. S. Krishnamurthi and Dr. V. Shanta, has traversed an eventful journey of 68 years. Since its inception in 1954, the Institute has witnessed a steady growth, enriching itself as a social organization in the process.

Dr. Krishnamurthi and Dr. Shanta struggled for the development of the Institute from a cottage hospital of 12 beds to a comprehensive cancer centre with over 550 beds, a research division, college of oncological sciences and preventive oncology division. Both of them devoted their entire life till their last breath to the Institute and worked in a mission mode towards caring for cancer patients, revolutionising cancer treatment, making it accessible & affordable to all, especially for the poor and the under privileged.

Our grateful thanks to the Government of India and the Government of Tamil Nadu for their continued support. We extend our sincere thanks to our major donors Sanmar Group, Tatineni Premkumar, Adhesives and Chemicals Pvt. Ltd., Cancer Institute Foundation Inc., Ms. Rajee Rajagopalan, Sun TV Network Limited and L& T for their kind donation. We thank all our benevolent donors for their generous support with which, we continue to deliver quality care to our patients using cutting edge technology and treatment protocols that are on par with the best in the world.

The implementation of Ayushman Bharat scheme by Government of India, Ministry of Health and Family Welfare, for the benefit of the poor patients living below the poverty line started in 2019 and is ongoing. The Prime Minister's National Relief Fund (PMNRF) also sanctioned grants for cancer treatment. The Govt. of Tamil Nadu's Tamil Nadu Health Systems Project under Chief Minister's Comprehensive Health Insurance Scheme will also continue to support BPL patients towards Bone Marrow Transplant.

Since April 2020, COVID-19 pandemic continues to be a major challenge for the entire healthcare systems in the world. It has been a challenging time for us as it had a major impact on the treatment of our patients, we are continuing to provide all the services like Inpatient treatment, OPD services, daycare services and telephonic consultations during these tough times, our dedicated team work with clear responsibilities and prompt action continues to help us in managing this crisis.

We salute the spirit of doctors, nurses, paramedical and all other staff who are in the front line and working without fear of their lives.

National Accreditation Board for Hospitals & Healthcare providers-NABH, under the Quality Council of India, has granted accreditation on 27.07.2019 for a period of 3 years from July' 2019 to July' 2022. We thank every one of the staff for their participation for getting this accreditation. As part of the NABH journey, we have initiated many quality control measures across all departments, all of them are patient centric emphasizing on proper documentation and

implementation. Staff who were actively involved during the final assessment in April 2019 are continuing to ensure that all policies and procedures in their departments and members of the Core Committee, Chapter Champions & Quality Implementers are working towards continuous quality improvement. NABH has certified that the surveillance audit done by them in 2020 is satisfactory & we are preparing ourselves to face reaccreditation this year.

Academics: The Institute has taken major strides in the year 2021-2022.

Congratulations to the faculty, staff and students, who continued to bring laurels to the Institute. The Institute has comprehensive facilities for patient care, research (basic and clinical) and academics with teaching programs in medical and para-medical fields.

The following paramedical courses are being offered at the Institute – M.Sc Radiotherapy, B.Sc. Radiotherapy, B.Sc. Nuclear Medicine, B.Sc Radiology & Imaging & B.Sc Anesthesia.

During the year, the faculty and the students published many research papers in reputed national and international journals. The different departments organized various virtual conferences, workshops, CMEs, at state, national and international levels.

Cancer Prevention & Awareness:

Organized Cancer Screening Programs are being conducted by the Institute across the State for over a decade:

- ❖ District Cancer Screening Program, Chennai [2008 Onwards]
- ❖ Villupuram Cancer Screening Project, Villupuram [Sep 2014 Onwards]
- ❖ Gummidipoondi Cancer Screening Project, Gummidipoondi [April 2016 onwards]
- ❖ Pudukkottai Cancer Screening Project, Pudukkottai [Mar 2018 Onwards]
- ❖ Tiruvannamalai Cancer Screening Project, Tiruvannamalai [Nov 2018 Onwards]
- ❖ Mammobile Project [Dec 2016 onwards]

Institute has launched the population based cancer screening project in 2014 at Villupuram, targeting 1,04,000 women of age 30 - 59 years, for screening breast, cervix and oral cancers. This project is supported by Infosys Foundation. HPV/DNA testing has been implemented as the primary screening method for cervical cancer. The population based cancer screening project in Pudukkottai district launched in 2018, targeting 114361 women of age 30 - 59 years, for screening breast, cervix and oral cancers, supported by Cancer Institute Foundation, USA is ongoing.

A mammogram unit has been installed in the Pudukkottai centre and baseline mammogram will be offered to all women above 40 years of age and to women who have any suspicious changes in the breast on clinical examination.

The population based cancer screening project in Thiruvannamalai district launched in 2018, targeting 96020 women of age 30 - 59 years, for screening breast, cervix and oral cancers and the Manali Cancer Screening Project launched in 2019 are ongoing.

Mammobile project – Villupuram - Mobile mammogram is operational in Villupuram district since 2016. Around 1259 women have been screened in the facility during 2021-22.

Inauguration of ponnamaravathi cancer screening program

Cancer education and screening program in Ponnamaravathi taluk was inaugurated and commenced by honourable minister of law, courts, prisons, and prevention of corruption of Tamilnadu Mr. S.Ragupathy on 24th Oct 2021.

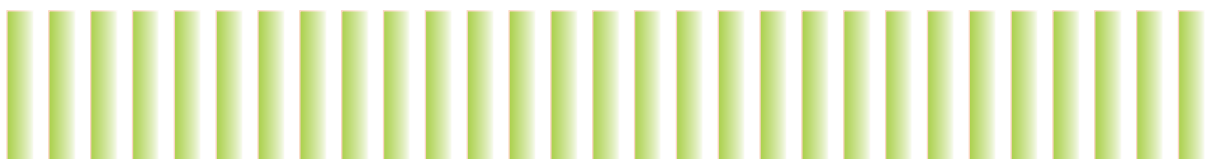
TNCRP is an ambitious project of the Institute for Statewide surveillance for generating cancer incidence statistics of entire Tamil Nadu from year 2012. The TNCRP report 2021 is a comprehensive account giving cancer incidence pattern by year, age-group, sex, district and site. The total incident cancers in Tamil Nadu in 2017 were 69,517 with a crude incidence rate of 87.9 per 100,000 population (Male: 79.2; Female: 96.6). The common cancers among men were stomach (7.0), lung (6.6) and mouth (6.6); among women, the order was breast (25.5), cervix (18.7) and ovary (5.2). The estimated new cancers in 2021 were 81,814. An online reporting system for TNCRP has commenced from 2021 and is continuing. A total of 6,80,975 notifications have been registered in TNCRP during 2012-21.

Tobacco Control: We have always been on the forefront on early detection, prevention of cancer and tobacco control. Tobacco is the greatest killer and causes cardio vascular diseases, cancer, hypertension, stroke etc. A total of 675 tobacco users have been registered at the Tobacco Cessation Clinic since April 2021 to March 2022, individual intervention in the form of behavioral counseling, medication or nicotine replacement therapy is being offered. The Institute has conducted sensitization workshops, capacity building workshops and cancer awareness program for Women Self-help Group and for students. We provide technical support and human resource expertise for offering cessation in the Tobacco Cessation Centre under the District Tobacco Control Cell in Madurai and Tirunelveli.

Dharmasala for patients waiting for admission is now maintained by the Cancer Institute (W.I.A) since 2019. Average occupancy is 160 one patient with one attendant. Food and accommodation is provided totally free.

We continue to follow the ethos enunciated 67 years ago by our founders, providing the state of art oncologic care without social or economic divide. We remain all as a non-profit voluntary charitable institution not losing focus amidst worrying changes in the concepts in medical care in a corporate environment.

***We are committed to the care of the underprivileged and we shall do our best,
our journey continues.***



EVENTS

WORLD NO-TOBACCO DAY – 31.05.2021

In view of World No Tobacco Day 2021, Cancer Institute and HCL Foundation in association with the Department of Public Health, Government of Tamil Nadu organized an E-Discussion on ‘Tobacco Free Tamil Nadu: Assisting Tobacco Quitters’. It was a virtual meet with over 200 participants comprising of members from Tobacco Free Association, Trade Union Association, shop keepers, tobacco users, Head Community Organizers & Community Resource Persons (Self-help group women) and other NGO partners and volunteers.

REMEMBRANCE DAY - 02.07.2021



Remembrance day of our beloved adviser Dr. S. Krishnamurthi was observed on 02.07.2021. We paid our homage and tribute to the memory of Dr. S. Krishnamurthi, who passed away on 2nd July 2010. It was his far sighted vision that coined the mantra

“Today’s Research is Tomorrow’s Treatment”

He, pioneered the first cancer control project in 1968, introduced the very concept of oncology, a transition from cancer to oncology and the introduction of the super specialities in oncology for the 1st time in the country in 1984. Today we have increasing numbers of super specialities and sub super specialities. Cancer Institute (WIA) has tried to keep pace with progress to the extent possible despite obstacles and financial stringency.

We dedicate whatever we have achieved to the memory of our Adviser.

Dr. S. Krishnamurthi Memorial Oration by Dr. D. Raghunadha Rao on September 14th 2021 at the Tamilnadu Dr. M.G.R Medical University

Dr. D. Raghunadha Rao a noted Medical Oncologist and former Director of Homi Bhabha Cancer Hospital and Research Centre, Visakhapatnam, delivered the memorial oration in memory of the late Dr. S. Krishnamurthi, founder of Cancer Institute (WIA). He spoke about the value systems in cancer care, education, research, public policy and the crucial role played by individuals who struggle against all odds to nurture and shape ethical yet excellent institution like the Cancer Institute(WIA). Dr. Sudha Seshayyan, Vice-Chancellor of The Tamil Nadu Dr. MGR Medical University, Dr. Aswath Narayanan, Registrar, Dr. Hemanth Raj, Executive Vice Chairman & Dr. Selvaluxmy, Director of Cancer Institute were present.

The Chair of the Selection Committee, Dr. Pala Rajesh, Vice-President of the Royal College of Surgeons of Edinburgh & Dr. K. Sundaram Clinical Professor, Department of Otolaryngology SUNY Downstate Medical Center, Brooklyn, New York joined on an virtual mode & graced the occasion. Staff of the University & governing body members, staff of the Institute participated in large numbers.

Dr. S. Krishnamurthi had made significant impact in changing the cancer scenario, he could never accept class differences and so the ethos at the Institute has always been “Service to all irrespective of Social or Economic Class” - An architect of what the Institute is today.

His life was purposeful and totally dedicated to Science and Cancer Care
We can stand up and say to all the world
Here was a man, Whence Come Another?

CANCER AWARENESS BUS FLAGGED OFF



Health Minister Ma. Subramanian flagged off cancer awareness bus at the Cancer Institute (WIA), on oct 2021. The bus will go travel to all districts and create awareness about cancer and dispel myths. Speaking to the reporters after flagging off the bus in the presence of Health Secretary J Radhakrishnan and other officials, the Health Minister said, the bus will travel to 98 places in the State. Started on April 15th from Chengalpattu

district, around 23,323 visitors from 37 institutions have visited so far & the campaign in Kanchipuram district would start from 1st August.



NATIONAL CANCER AWARENESS DAY – 07.11.2021

Cancer awareness drive was conducted by all the project team (Chennai, Villupuram, Gummidipoondi, Pudukkottai, Thiruvannamalai) of the Preventive Oncology Department.

Cancer Institute (WIA), MAMTA and HCL Foundation jointly organized an awareness program on 'Cancer Awareness' on 10th January, 2022 in Ezhil Nagar, Perumbakkam, in view of the National Cancer Awareness Day 2021. This program was primarily targeted towards women in that community. Around 30 women from community participated and benefited from the program.

WORLD CANCER DAY ON 4TH FEB 2022

Department of Psycho-oncology & RCTC, and HCL Foundation observed the 'World Cancer Day' on 4th February 2022 under the theme 'Close the Care Gap'. An online program was conducted for Healthcare professionals, NGOs and public under theme 'Together We Can Close the Care Gap - A dialogue between Health-care professionals and NGOs'. Around 70 staffs participated in the program and benefited through the same.



YOUTH HEALTH MELA - 2021

The 6th Youth Health Mela 2021 was successfully conducted virtually in view of the COVID-19 restrictions. Cancer Institute & HCL Foundation jointly organized 'Youth Health Mela 2021' to create awareness among school and college students about non-communicable diseases.

The program consisted of various competitions including poetry writing, slogan writing, photography, short film, memes creation, piece it together (collage), poster designing, pencil shading and pen it down. A total of 4046 entries were received.

We strongly believe that this event had enlightened the students to gain insight on the importance of a healthy lifestyle and prevent of NCD, as the themes of the event revolved mainly around this domain.

DR. V. SHANTA 1st MEMORIAL ORATION

Shri. Gopalkrishna Gandhi delivered the first Dr. V. Shanta Memorial Oration titled “The Razor’s Edge - a reflection on our times,” at the Institute. He said that the reference of “razor’s edge” was a translation of the Sanskrit phrase kshurasya dhara found in a Kathopanishad verse, which likened the path to salvation to a razor’s edge. Mr. Gandhi listed key issues the country and the society faced, which in his views were the razor’s edge. These included global warming and the melting of Himalayan glaciers in particular, the possibility of threat from China and Pakistan in the light of the recent war in Ukraine, and the inability of the people to do self-evaluation.



He said the “razor’s edge of all razor’s edges” for India at present was intolerance and counter intolerance. Highlighting that majorities and minorities had always lived together and shared resources in India, he said the partition led to the presence of people and outfits that polarised society.

While terrorism was an active form of war that ought to be fought by the State with swift action, intolerance was a passive form of civil war that had to be countered by the State and society.

He said the real success of Dr. Shanta, was in striving, which, he said, was her razor-sharp path to her individual and professional salvation. “Making success a god, instead of striving has let us, as people and as individuals, to seek shortcuts,” he said.

He said if cancer was an imperial power, as it was popularly described as the “emperor of all maladies,” then Dr. Shanta should be recognised as the empress of anti-imperialism. She raised and rallied human, technological, and financial resources to cancel cancer’s claim to tide over human’s destiny, he added.



உங்கள் பயம் புற்றுநோய்
பற்றியதாக இருக்கவேண்டாம்,
காலதாமதப்படுத்துவதை
பற்றியதாக இருக்கட்டும்.



Cancer Institute (WIA)

THE COLLEGE OF ONCOLOGICAL SCIENCES

DM - Medical Oncology



Mch - Surgical Oncology



THE COLLEGE OF ONCOLOGICAL SCIENCES

The college is recognized by The Tamil Nadu Dr. M.G.R. Medical University for conducting super-speciality training in Medical Oncology, Surgical Oncology and Radiation Oncology courses and Bachelor degree courses in Radiotherapy Technology, Radiology & Imaging Technology and Nuclear Medicine Technology. The college is also recognised by The Tamil Nadu Dr.M.G.R. Medical University and University of Madras for conducting Ph.D, M.Phil courses and M.Sc. Medical Physics course by the Anna University. The Tamil Nadu Dr. M.G.R. Medical University has granted provisional affiliation to start Diploma in Operation Theatre & Anaesthesia Technology under Allied Health Courses in 2013-2014.

Degrees awarded in 2021

D.M. (Medical Oncology)	M.Ch. (Surgical Oncology)	M.D.(Radiotherapy)	DMRT
1. Dr. Ashutosh Daga 2. Dr. Kiran Kumar. S. 3. Dr. Bharathi Devi. G. 4. Dr. Induja. M.V. 5. Dr. Ankit Batra 6. Dr. Devleena Gangopathayay	1. Dr. Manish Jethani 2. Dr. Keerthi 3. Dr. Madhusudhan Reddy 4. Dr. Vivek Patel 5. Dr. Arun Mitra	1. Dr.M.S.Arun 2. Dr.Begum Yesmin Nureja 3. Dr.Gopika Rajeev 4. Dr.B.Mukesh 5. Dr.S.Narendran	1. Dr.Kartika Menan

No. of students undergoing Degree / Post-graduate Degree / Ph.D. courses

Courses	No. of Students
M.Ch (Surgical Oncology)	15
D.M (Medical Oncology)	18
MD (RT)	21
Ph.D (Molecular Oncology) FT-6, PT-1	7
Ph.D (Nuclear Medicine)	1
Ph.D (Psycho-oncology) FT-3, PT-3	6
Ph.D (Preventive Oncology-Research) FT-2, PT-2	4
M.Sc. Course	
Radiotherapy Technology	6
B.Sc. Courses	
Radiotherapy Technology	26
Radiology & Imaging Technology	22
Nuclear Medicine Technology	10
OT & Anaesthesia Technology	25

*Cancer is preventable,
cancer is curable
and
early detection
makes it possible*



CANCER INSTITUTE (WIA)



DEPARTMENT OF RADIATION ONCOLOGY



RADIATION ONCOLOGY

Dr.G.Selvaluxmi

Director, Professor & Head, Radiation Oncology

The Radiation Oncology department was established in the year 1954. The department is involved in various teaching and training programmes. Diploma in Medical Radiation Therapy (D.M.R.T) course was started in 1990 and the Doctor of Medicine (M.D.) course in Radiotherapy was started in 1992 both affiliated to The Tamil Nadu Dr.M.G.R.Medical University. B.Sc in radiotherapy technology course affiliated to The Tamil Nadu Dr.M.G.R. Medical University and approved by AERB was started in 2011. Cancer Institute strongly believes that there will no progress without research. Being the pioneers of multidisciplinary approach in malignancies of various sites, the department is involved in clinical trials.

Faculty:

Dr. G. Selvaluxmy MD DMRT Director and Head of Department

Dr. Alexander John MD DMRT Professor

Associate Professor

Dr. B. Ananthi MD DMRT

Dr. Priya Iyer MDRT

Dr. M.N. Arun Kumar MDRT

Dr. C. Vasanth Christopher Jayapaul MDRT

Dr. Ram Madhavan MDRT

Dr. Harishkumar MDRT

Assistant Professor Tutor

Dr. K. Ramanaiah MDRT Dr.Mukesh, MDRT

Dr Gautam V V DMRT DNB (RT) Dr.Runitha, DMRT

Dr Vengada Krishnan MDRT

Radiation Technologists

Ms. Ponni N Ms. Sarathi

Mr. Arulprakash Ms. Athimathi P

Ms. Shobana M Ms. Sathya

Ms. Sangeetha E Ms. Priya S

Ms. Priyadharshini D Ms. Bhavya R

Ms. Durgadevi S Mr. John Kishore

Ms. Praveena P.A. Mr. Udayakumar C

Ms. Mahalakshmi E Mr Karthick

Supporting Staff

Ms. Shyamala Ms. Sahaya Anitha

Students registered for M.D (Radiotherapy) Degree

Dr Divya Dr Meera Devi

Dr Vivek nath Dr Mounageetha

Dr Prisca Dr Sunil

Dr Priyadharshini Dr Ashok

Dr Aravind Dr Sai pranav

Dr Swathi Dr Surjith

Dr Sundara Vadhana Dr Manjula

Students registered for B.SC. (Radiotherapy Technology) Degree

N. Narmadha	T Sudesh
V. Thanaselvi	S. Thilagavathy
M.Zaina Begum	P.Vidhya
Aravindhnan	Rajesh P
Kaviya Priya	Dhayalan M
Monika G	Nisha
Rupa	Soniya D
Anand A	Vijayalakshmi
Sajjeev S	Durga K
Guhan K	Aarthi
Abinaya	Jaya Amirtha
Maha	Sakthivel
Kabilan	

Students registered for M.SC. (Radiotherapy Technology) Degree

Mr. Udayakumar. C
Ms. Praveena P.A
Mr. John Kishore
Ms. Durga Devi
Mrs. Sathya
Ms. Mahalakshmi

Students passed MD (Radiotherapy) Degree

Dr. Mukesh Dr Arun
Dr Gopika rajeev Dr Yesmin
Dr Narendran

Students passed D.M.R.T. Degree Dr. Karthika

Students passed B.SC. (Radiotherapy Technology) Degree

Mr. Dany Joel	Mr. Raja
Ms. Narmadha	Ms. Jagadeeshwari
Ms. Ilampirai	Ms. Sandhiya
Ms. Nishanthi	

36th Annual Conference of Radiation Oncologists of India TN & PY Chapter held at Trichy

- Dr. Ayesha Fathima: Evaluating the faesibility and toxicity of early inter digitation of ICA during EBRT in early cervical cancer. Won Padham Singh award.
- Dr. Priyadharsini: Hypopfractionated accelerated radiation therapy with synchronous chemotherapy in locally advanced tongue cancers using IMRT technique with SIB. Won distinguished paper award.
- Dr. Moushmi: Feasibility of accelerated and hypofractionated palliative radiotherapy in locally advanced unresectable oral cavity cancers with respect to quality of life and response rate. Won distinguished paper award.
- Dr Ezhil: Assessing the feasibility and toxicities of concomitant boost radiotherapy in locally advanced squamous cell carcinoma of head and neck cancers.
- Dr. Dinesh: Role of capecitabine concurrent with radiotherapy in cervical cancer.

Academics:

Conferences

- Dr Arun Kumar : Moderator “ Changing perspectives in rectal cancer” in AROI TN PY 2021.
- Dr Ram Madhavan : Panelist “ Role of Radiotherapy in Lymphomas” in AROI TN PY 2021.
- Dr Vasanth Christopher : Panelist “ Cancer in Pregnancy” in AROI TN PY 2021.
- Dr Priya Iyer : Panelist “ Cancer in Pregnancy” in AROI TN PY 2021.
- Dr Harish Kumar : Participated in “Proadvance – Advances in prostate cancer Management – South Zone”.
- Dr Gautam V V: Participated in “Proadvance – Advances in prostate cancer Management – South Zone”.
- Dr Gautam V V: Participated in “Proadvance – Advances in prostate cancer Management – National level CME”.

External beam therapy new cases	2032
Total number of treatments delivered	50801
Total number of fields delivered	211537
Conventional treatment planning	568
Conventional treatment with shapers	85
3D CRT	1154
IMRT	185
Rapid arc therapy	31
SBRT	5
Total body radiation	16
SRT / ELECTRON	4
Brachytherapy applications	682



**சரியான
சிகிச்சையை
தேர்ந்தெடுங்க,
புற்றுநோயை
வென்றிடுங்க!**



Light up your life...
Not a cigarette !



Tobacco kills
in any form

DEPARTMENT OF SURGICAL ONCOLOGY



SURGICAL ONCOLOGY

Dr. E. Hemanth Raj
Executive Vice Chairman & Chairman of Surgical Oncology

The Department of Surgical Oncology has been providing state of the art cancer care ever since the inception of the Cancer Institute in the year 1954.

Faculty

Dr.E.Hemanth Raj	Chairman
Dr. Arvind Krishnamurthy	Professor & Head of the Department

Professor	Associate Professor
Dr. V. Sridevi	Dr. V. Venkatesh
Dr. A. S. Ramakrishnan	Dr. Ujwala Prakash Wakepajain
Dr. Anand Raja	Dr. Vijay Sundar
	Dr. Chandrakumar

Assistant Professor	
Dr. Ajit Aggarwal	Dr. Pradeep Jayakumar
Dr. Kamakshi	Dr. Manikandan
Dr. Madhu Priya	Dr. Jagan Murugan
Dr. Amy Jose	Dr. Vivek Patel
Dr. Shobana Sekar	Dr. Arun Mitra
Dr. Shruthi	Dr. Madhusudhan Reddy
Dr. Jayashree	Dr. Kingston

Medical Officer	Other staff
Dr. Bala Priya	Ms. Vilasini Raman, Speech Therapist
Dr. Hanuchand	Mrs. Prema, Bone Bank Technician
Dr. Mariam	

Reconstructive Surgeon	Medical Gastroenterologist
Dr. Vishwamadesh	Dr. Thirumoorthy

Post Graduates

3 rd Year	2 nd Year	1 st Year
Dr. Shalini Shree	Dr. Lesin Kumar	Dr. Shrinivas Venkatesh
Dr. Nossam Rama Subba Reddy	Dr. Pushkala	Dr. Gaurav R Kumar
Dr. Shailesh Patidar	Dr. Gouri Mukhopadhyay	Dr. Raksha R
Dr. Manikandan	Dr. Nutakki Madhri	Dr. Saravanan M
Dr. Malar Raj	Dr. Karnawat Anand Vinay	Dr. Anand M H M

Passed out in 2021

Dr. Manish Jethani
Dr. Keerthi
Dr. Madhusudhan Reddy
Dr. Vivek Patel
Dr. Arun Mitra

Total Number of Major Oncological Surgeries

Head and Neck	463
Thoracic	67
Gastrointestinal	391
Urology	147
Musculoskeletal	170
Breast I	266
Breast Unit II	317
Gynaecology	329
Neurosurgery	90
Total	2240

Endoscopies in Endoscopic Suite in the 2nd Floor OT

DLDP: 481
 Cystoscopy: 389
 OGD: 143
 SG Dilatations: 120
 Bronchoscopy: 139
 Nasal Endoscopy: 154
 Others: 250 procedures
 ESD: 3

Academics

Dr.Arvind Krishnamurthy, lecture

- Endoscopic Resection for Stomach/Esophagus, MIDCON IASO 2022, Shillong in March.
- Master Videos? How I do it Master Videos in Sentinel Node Biopsy in Breast Cancer, PONSICON 2021, Pondicherry.
- Panelist in “Metastatic Neck nodes from unknown Primary” ASICON 2021 in December.
- Challenges in management of Recurrent and Second primary oral cavity cancer. 34th Annual Conference of the Indian Association of Surgical Oncology (NATCON IASO 2021) in October.
- How to Analyse a journal Article & Panelist in FHNO-AOMSI ORAL CANCER – SYMPOSIUM, Foundation for Head-Neck Oncology (FHNO) Annual Meeting- FHNO 2021, in December.
- VATS principle and technique, Tamil Nādu Chapter of ASI, Chennai, in November.
- Panellist and Tumour Board Member of Multidisciplinary Tumour Board on Lung Cancer and Multidisciplinary Tumour Board 8 on Head Neck Cancer. 45th Indian Cooperative Oncology Network (ICON) Hybrid Conference, Pune in October.
- Dr.Arun Menon Poster presentation at NATCON 2021 (National Conference of Indian Association of Surgical Oncology), original article, “Are We Resecting Too Many Benign Kidney Tumors?”

KNOW ABOUT CANCER

- 1 Is cancer contagious?**
Cancer does not spread from one person to another. It is not contagious.
- 2 Is cancer a curse ?**
Cancer is not a curse. Anyone can get cancer. There are internal and external factors that trigger cells to grow uncontrollably and cause cancer. Cancers can be cured and contained, and early detection is the key.
- 3 Is cancer a death sentence?**
Cancer is not a death sentence. Early cancers are curable. Survivors can resume their normal day to day activities after treatment completion. So, there is life after cancer.
- 4 Can cancers be prevented?**
People who consume tobacco are at high risk of cancer. Not only cancer, it also increases the risk of other diseases. Cancer can be prevented by maintaining a healthy lifestyle, free from tobacco and alcohol, avoiding non-nutritive processed food and by being physically active.
- 5 Does surgery cause cancer to spread?**
Surgery is an important treatment modality in cancer. Biopsy as well as surgery does not cause the spread of cancers.
- 6 Are 'Light', 'Mild' cigarettes less harmful?**
There is no such thing as a safe cigarette. Tobacco is harmful in any and all forms.
- 7 Do all tobacco users get cancer ?**
Not all tobacco users get cancer. Of the people who have cancer, 40% are due to tobacco use. Tobacco use increases the cancer risk and is identified as the only fully preventable cause for few cancers by the WHO.
- 8 Does cancer have symptoms ?**
For many cancers there are warning signs and symptoms, and the benefits of early detection is indisputable. Few common cancers can even be detected at the precancerous stage and treated, thereby preventing cancer.

**Cancer is Preventable,
Cancer is Curable and Early Detection makes it Possible**

DEPARTMENT OF MEDICAL ONCOLOGY



DEPARTMENT OF PEDIATRIC ONCOLOGY



MEDICAL ONCOLOGY

Dr. T.G.Sagar

Director (Emeritus) & Chairman

The division of Medical Oncology was started at the Institute as early as 1960, it is the oldest in the country and deals with systemic management of cancer. The department is performing haploidentical and matched identical donor bone marrow transplants and is one of the few charitable hospitals in the country that is offering these sophisticated BMT. The numbers have consistently increased over the past few years. The department is actively involved in multiple research projects including multicentre clinical trials, faculty and students have presented their research in major national and international conferences, won awards & have publications in national and international journals.

Faculty

Dr. T.G. Sagar, MD, DM	Director(Emeritus) &Chairman
Dr. K.Krishna Rathnam, MD, DM, FRCAP	Prof & Head, Stem Cell Transplant Unit
Dr. R.Venkatraman, MD, DM, M.Sc.	Professor & Head of the Department
Dr. Rakesh Gopal	Consultant – Cardiologist
Dr.T.Subash Chandhar	Consultant – Cardiologist
Dr.Anitha Jagannath	Consultant - Nephrologist
Dr. Thiyagesh Devaganapathy	Interventional Pulmonologist

Associate Professor	Assistant Professor	Medical Officer
Dr.P.K.Jayachandran,MD,DM,MRCP	Dr. K.K.Parathan, MD, DM	Dr.O.Zainab Zelina, MBBS
Dr. Nikita J Mehra, MD, DM	Dr. K.Sivasree, MD, DM	
Dr. S.Gangothri, MD, DM	Dr.S.M.Carthikeyan, MD, DM	
	Dr.M.V.Indhuja, MD, DM	
	Dr.S.Kiran Kumar, MD, DM	
	Dr. T.K.Balaji, M.D	

Other Staff : Patient Coordinator, Data Manager, Social Worker, ICS Coordinator, Dietician & Pharmacist

Post Graduates

3 rd Year	2 nd Year	1 st Year
Dr.Jerin J Ovet	Dr.Abhishek Charan	Dr.T.Pragadeesh
Dr.MD Nadeem Ahmed Dastagir	Dr.R.K.Spartacus	Dr.Navya Manasa Vuriti
Dr.Raut Kapil Uttam Rao	Dr.Prabhat Ganju	Dr.G.Ramana Shiva Swaminathan
Dr.Haridas P Mani	Dr.M.Ram Kumar	Dr.Siddappareddygari Kishore Kumar
Dr.Kolluru Saikrishna	Dr.V.Kritthivasan	Dr.Neelam Singh
Dr.Gundrathi Vamsivihari	Dr.M.Mangai Suseela	Dr.Jyothsna Jayaraj

Senior Residents (PGs) completed in 2021

- Dr. Ashutosh Daga
- Dr. Kiran Kumar. S.
- Dr. Bharathi Devi. G.
- Dr. Induja. M.V.
- Dr. Ankit Batra
- Dr. Devleena Gangopthayay

Total No. of BONE MARROW TRANSPLANTS

- Allogeneic- 18 (previous year 12)
- Autologous- 28 (previous year 19)

Daycare chemotherapy administered

Special daycare: 5172 (previous year 3619)

General daycare: 9036 (previous year 5027)

MNB Day care: 1769

Procedure	2021-22	2020-21
Lumbar puncture	766	550
Bone marrow aspiration and biopsy	886	725
Central Line	294	175
Ascitic fluid tapping	622	622
Pleural Tapping	249	244
PICC line	14	4
FNAC	22	53
Skin biopsy	2	11

Pediatric Division Statistics	2021-22	2020-21
Total new patients	208	181
Total number of inpatients chemotherapy prepared	7334	4390
a) Total number of outpatient's chemotherapy prepared	5171	5757
b) Transplant		
i. Allogeneic	6 (haplo 3, sib 3)	4
ii. Autologous	3	5
c) Procedures		
i. Lumbar puncture	1396	1253
ii. Bone marrow aspiration and biopsy	212	192
iii. Central line	156	132

List of important achievement, events and activities

Interventional Pulmonology and Nephrology has been started in 2021. Interventional pulmonology and Nephrology procedures done are as follows:

- Bronchoscopy: Diagnostic bronchoscopy/ Transbronchial lung biopsy/Endobronchial biopsy.
- Endobronchial ultrasound (EBUS)- (EBUS guided FNAC / FNB) and Radial EBUS for peripheral lung lesions.
- Fluoroscopy guided lung biopsy / Medical thoracoscopy – for pleural biopsy / Tracheal stenting
- Rigid bronchoscopy guided- Endobronchial tumour debulking (palliative airway maintainance / lung collapse secondary to endobronchial tumour)
- Broncho pleural fistula – endobronchial glue / spigot application.
- Nephrology- Dialysis

Portable Ultrasound machine has been procured which is very helpful for bed side diagnostic and interventional procedures like Echocardiogram/ultrasonography and central line insertion mainly in ICU/ BMT units and procedure room. It is very helpful in improving the patient care by avoiding delay in diagnostic and therapeutic interventions especially in the covid setting with many technical and practical challenges.

Academics

Dr. Venkatraman Radhakrishnan

- Completed Masters in Global Child Health, St. Jude Children's Research Hospital, USA. August 2021.

Certificate Courses Attended

- Global Initiative for Cancer Registry Development (ChildGICR). Childhood Cancer Train the trainers Workshop Global. International Association for Cancer Research (IARC). April-July 2021.
- POEM-St. Jude Research Workshop: Advanced Research Methods: Critical Analysis of Biomedical Literature and Application of Quality Improvement Methodology in Health Care. November 12, 13, 19 & 20, 2021
- Union for International Cancer Control (UICC) Master Course on addressing the threat of Antimicrobial Resistance for better cancer care outcomes. Dec 2021.
- Good Clinical Practice, Current regulatory and ethical requirements for conducting clinical trials/research in India. Clinical Development Services Agency (CDSA). Oct 2021.
- CDSA certificate training program on Bioethics. Dec 2021.

Lecture

- Pediatric Non-Hodgkin Lymphoma. Apollo Proton Meeting. Feb 2021.
- Relapsed/Refractory Osteosarcoma. IMSOS meeting. Feb 2021.
- Panel moderator on pediatric AML, March 2021
- Covid19 panel moderator, May 2021
- ICON supportive care panel moderator, June
- Blinatumomab versus CART debate & Osimertinib as first line in EGFR positive lung cancer, debate, lung cancer masterclass, August.
- Blood cancer in children, Columbia University, September
- St. Jude Global Alliance meeting, talk on pediatric oncology nursing, September
- Emirates oncology conference, panel moderator, September
- How to write a research protocol, Hematology Cancer Consortium, September
- Palbociclib panel discussion moderator, November
- ESMO preceptorship case presentation on immunotherapy, November
- NALCON conference debate on the role of chemotherapy in lung cancer, November
- IAP talk on nutrition and cancer, November
- PHOCON talk on pediatric AML, December
- PHOSCCON meeting talk on access to care, December
- Panel moderator on MET positive lung cancer, YIR lung meeting, December
- ISMPO meeting sarcoma panel moderator, January

Ongoing Trials

1. A collaborative, multicenter, national trial for newly diagnosed patients with acute lymphoblastic leukemia (ICICLE).
2. Phase 3 randomized controlled trial comparing the effectiveness of Dexamethasone in reducing cancer associated fatigue in patients on palliative chemotherapy.
3. Neoadjuvant Concurrent Chemo-radiation with Paclitaxel and Trastuzumab versus Neoadjuvant chemotherapy with trastuzumab followed by sequential radiation in locally advanced Her2 neu positive breast cancers: a phase 2 randomized controlled trial.

Trials planned to start in 2022

1. Anti-emetic prophylaxis for chemotherapy-induced nausea and vomiting without dexamethasone: a double-blind, phase 3 randomized controlled trial.
2. Anti-emetic prophylaxis for chemotherapy-induced nausea and vomiting without dexamethasone for Children and Adolescents receiving highly emetogenic chemotherapy: investigator-initiated, open-label, multi-center, phase 3 randomized controlled trial: INPHOG-SUPP-22-03.

Dr. Jayachandran P K

- Awarded the Fellow of Royal College of Physicians – FRCP (Glasg) by Royal College of Physicians and Surgeons of Glasgow.
- Presentation, “Systemic Therapy in Metastatic Thyroid Cancers” in the 10th National conference TYACON 2021 conducted by Teenage and young adult cancer Foundation on virtual mode in September 2021.

Completed project in 2020

- Prospective trial of early switch to Nilotinib in patients with chronic myeloid leukemia on Imatinib.

Ongoing Projects as Principal investigator

- Induction related mortality score in Acute myeloid Leukemia: Prospective Validation study – HCC-pRISM-S study Generic low dose Dasatinib for chronic myeloid leukemia trial – GlAD-CML

Dr. Nikita Mehra

Ongoing Projects

- Phase II Study of GVDexa (Gemcitabine, Vinorelbine and Dexamethasone) regimen as salvage therapy in relapsed Hodgkin’s lymphoma
- Role: Principal Investigator
- Collaborating Institute- JIPMER Puducherry
- Price regulation & Value-based Pricing for Anti-Cancer Drugs: Implications for Patients, Industry, Insurer and Regulator
- Multicentre study lead by Prof. Shankar Prinja- Executive Director (HP&QA), National Health Authority, Ayushman Bharat PM-JAY, Government of India
- Role: Principal Investigator at Cancer Institute (WIA)
- COVID-19 with Hematological Cancers Registry of India (CHCRI)
- Role: Principal Investigator at Cancer Institute (WIA)
- COVID-19 vaccination status in patients with multiple myeloma (MM) and AL amyloidosis
- Role: Principal Investigator at Cancer Institute (WIA)
- Early versus delayed treatment in patients with biochemical relapse of multiple myeloma: A Multi-centre, Randomized phase III trial
Role: Principal Investigator at Cancer Institute (WIA)

Presentation

- Management of Hodgkin Lymphoma in 2022 & Beyond: Frontline Therapy in Hodgkin Lymphoma- Hemat Colloqium: Tata Medical Centre, Kolkata- March 2022
- Debate: Role of upfront ASCT in patients with multiple myeloma 7th Molecular Oncology Society Conference (MOSCON)- February 2022
- Member of Inspection Team - Christian Medical College, Vellore, D.M. Medical Oncology, TamilNadu Dr.MGR University Inspection for the purpose of grant of Provisional Affiliation for the academic year 2021-2022.

Dr. Gangothri Selvarajan

Certificate course in Basic course in Biomedical Research Certificate Aug 2021.

Certificate course in Bioethics course – By CDSA -BIRAC-NBM for Clinical Trial Network Training program Dec 2021.

Projects

- COMPLETED prospective study-Effect of Metronomic Methotrexate and Celecoxib on Quality of Life among Advanced head and neck squamous cell carcinomas (Role - Primary Investigator). Secondary endpoints-PFS/OS.
- Ongoing: SOCCER trial
SOCCER: a phase two randomised trial comparing organ preservation after Short course radiation Or Chemoradiation and Consolidation chemotherapy in Rectal cancer
- Yet to start NAGA trial
Neoadjuvant chemotherapy followed by Surgery versus Surgery followed by adjuvant chemotherapy for resectable Gastric adenocarcinoma- 2x2 Factorial Phase 3- Multicentric Randomized Controlled Trial Study Acronym- NAGA study (Neoadjuvant vs Adjuvant Gastric Adenocarcinoma)

Dr. Parathan Karunakaran

Manuscript published (as first author)

- Therapeutic Outcomes in High-Grade B-Cell Lymphoma, NOS: Retrospective Analysis South Asian J Cancer 2021;00(00):00–00. DOI <https://doi.org/10.1055/s-0041-1739365>

Courses completed

- Basic Course in Biomedical Research – By NPTEL
- Bioethics course – By Clinical Trial Network Training program
- ICH Good Clinical Practice – By Global Health Network

Conferences attended

- Indian Society for Bone Marrow Transplant 2022

Dr. Siva Sree Kesana

Manuscript published (as first author)

Real-World Experience of Treating Pediatric Chronic Myeloid Leukemia: Retrospective Study from a Cancer Center in Southern India. Indian J Med Paediatr Oncol 2021; 42(06): 561-568. DOI: 10.1055/s-0041-1740951

Courses completed

- Basic Course in Biomedical Research – By NPTEL

Conferences attended

- Indian Co-operative Oncology Network (ICON) Conference 2022

Dr. Carthikeyan S M

- Completed MRCP SCE (Medical oncology) in september 2021
- Completed Basic course in biomedical research conducted by ICMR- NIE- October 2021

Dr.Kiran Kumar .S attended:

- 3rd Indo-Oncology Summit in September 2021 organised by International Association of Oncology & Sparsh Hospital, Bhubaneshwar.
- 10th Conference-International Conference on Pediatric Super speciality (Virtual) held in October 2021 organised by Sri Venkateswara Medical College Alumni Association and Indian Medical Association, Tirupathi.
- 12th Annual Conference of Indian Society for Study of Lung Cancer held in November/December 2021.
- Workshop on Diagnostics in Pediatric Oncology and 24th Annual Pediatric Hematology-Oncology conference organized by Basavatarakam Indo American Cancer Hospital and Research Institute, Hyderabad held in December 2021.
- Certified with Basic life support and Advanced Cardiovascular life support provider course by Medtigo Health Education in February 2022
- TPPOG MDT meet held in December 2021 and March 2022
- 7th Molecular Oncology Society Conference (MOSCON) held in February 2022.
- Conducted NABH -Internal Audit on Initial Assessment and Care Plan, Requirement of Prescription and Nutritional Assessment and Reassessment in November 2021.
- Conducted an Audit on Antibiotic Stewardship for NABH Internal Audit in the medical oncology patients of Dr.V.Shanta Campus and Children Ward on February 2022.

Research activities

Ongoing/Planned clinical trials and research protocols

- Dr. Venkatraman - A collaborative, multicenter, national trial for newly diagnosed patients with acute lymphoblastic leukemia. ICICLE study.
- Dr. Venkatraman - Phase 3 randomized controlled trial comparing the effectiveness of Dexamethasone in reducing cancer associated fatigue in patients on palliative chemotherapy.
- Dr. Venkatraman-Neoadjuvant Concurrent Chemo-radiation with Paclitaxel and Trastuzumab versus Neoadjuvant chemotherapy with trastuzumab followed by sequential radiation in locally advanced Her2 neu positive breast cancers: a phase 2 randomized controlled trial
- Dr. Venkatraman - Anti-emetic prophylaxis for chemotherapy-induced nausea and vomiting without dexamethasone: a double-blind, phase 3 randomized controlled trial.
- Dr. Venkatraman - Anti-emetic prophylaxis for chemotherapy-induced nausea and vomiting without dexamethasone for Children and Adolescents receiving highly emetogenic chemotherapy: investigator-initiated, open-label, multi-center, phase 3 randomized controlled trial: INPHOG-SUPP-22-03.
- Dr. Jayachandran - Induction related mortality score in Acute myeloid Leukemia: Prospective Validation study – HCC-pRISM-S study.
- Dr. Jayachandran - Generic low dose Dasatinib for chronic myeloid leukemia trial – GlAD-CML.
- Dr. Nikita - Price regulation & Value-based Pricing for Anti-Cancer Drugs: Implications for Patients, Industry, Insurer and Regulator- Multi-Institutional collaborative study.
- Dr. Nikita - Early versus delayed treatment in patients with biochemical relapse of multiple myeloma: A Multi-centre, Randomized phase III trial- Multi-Institutional collaborative study

- Dr. Nikita - COVID-19 with Hematological Cancers Registry of India (CHCRI).
- Dr. Nikita - COVID-19 vaccination status in patients with multiple myeloma (MM) and AL amyloidosis.
- Dr. Nikita- Phase II Study of GVDexa (Gemcitabine, Vinorelbine and Dexamethasone) regimen as salvage therapy in relapsed Hodgkin's lymphoma.
- Dr. Gangothri - SOCCER: a phase two randomised trial comparing organ preservation after Short course radiation Or Chemoradiation and Consolidation chemotherapy in Rectal cancer.
- Dr. Gangothri - Neoadjuvant chemotherapy followed by Surgery versus Surgery followed by adjuvant chemotherapy for resectable Gastric adenocarcinoma- 2x2 Factorial Phase 3-Multicentric Randomized Controlled Trial Study Acronym- NAGA study (Neoadjuvant vs Adjuvant Gastric Adenocarcinoma).

Residents Awards/Presentations

Dr Ankit Batra

- Poster Presentation -Factors that impact the outcomes in Ewing's Sarcoma family of tumours in low and middle-income countries in SIOP 2021 –Virtual Congress-October.
- Prestigious SIOP 2021 scholarship recipient.
- Stood first place (along with Dr Manish-surgical oncology resident) for Best PG institution Oncology Quiz at ICON 2021 in June.
- 3rd prize for Quiz Competition held by Oncology peer to peer education network in June.

Dr Devleena, participated in Post graduate Debate on Colo-Rectal Cancer –organised by oncoclub – TAMPOS in March.

Dr Jerin J Ovet

- Awarded 2nd Prize for Quiz Competition held during the 12th Annual conference clinical practice guidelines in Oncology in December.
- 3rd prize for Quiz Competition held by Oncology peer to peer education network in July.
- Participated in 10th National Conference on Teenage and Young Adult Cancers-2021.

Dr Kapil Raut

- Awarded 3rd Prize for Quiz Competition held during the 12th Annual conference clinical practice guidelines in Oncology in December.
- Attended 5th Annual International Precision Oncology&IBC Conference in October.
- Attended 4th Virtual Indian Myeloma Congress 2021 in April.
- Attended XXIII Annual CME 2021 by International academy of pathologist's Indian division in September.

Dr. Sai Krishna, attended the 45th Indian Cooperative Oncology Network (ICON) Conference in October & 7th Molecular Oncology Society Conference in February.

Dr. Ram Kumar, awarded 3rd Prize for Quiz Competition held during the 12th Annual conference clinical practice guidelines in Oncology in December.

Dr. Kritthivasan, awarded 3rd Prize for Quiz Competition held during the 12th Annual conference clinical practice guidelines in Oncology in December.

Dr. Mangai Suseela, awarded 2nd Prize for Quiz Competition held during the 12th Annual conference clinical practice guidelines in Oncology in December.

BLOOD BANK

Dr.G.Deepa Devi, MD, Head of the Department

Assistant Professor	Dr.G.Deepa Devi, MD
Medical Officer	Dr. Y.Swapna, M.B.B.S, DCP
Senior Resident	Dr.C.Sudesh, MD

Other Staff: Technicians, Staff Nurse, Data Entry Operator, Social Worker & Counsellor

Statistics:

	Donor Statistics (Total Collection -6962)		Patient Statistics (Total Screening -8950)	
Blood Grouping	14,498		16,486	
Rh Typing	14,498		16,486	
	No	%	No.	%
HBsAg+VE	37	0.53	192	2.14
HIV+VE	2	0.03	76	0.85
HCV+VE	8	0.11	30	0.33
SYPHILIS +VE	18	0.30		
MALARIA +VE	1	0.01		

Component Statistics:

Total Transfusion	13,371
Packed Red Cells (PRC)	6024
Random Donor Platelet (RDP)	5300
Fresh Frozen Plasma (FFP)	1297
Single Donor Platelet (SDP)	631
Granulocyte Concentrate (GC)	119

Total Crossmatching	7536	
Total Camps	13	
Total Camp Collection	841	
Total Plasma issued to Reliance Life Science	4639	
Therapeutic Plasma Exchange	12	
Peripheral Blood Stem Cell Collection	Autologous	51
	Allogenic	18
Donor Lymphocyte Collection	By Apheresis	2
	By Blood Collection	3
Therapeutic Leucoreduction	Nil	
Therapeutic Phlebotomy	4	

Future projects

- NAT testing on the donor blood to reduce the window period of transfusion transmissible infections of HBV, HCV and HIV – Approximate budget of Rs.1200 for each donor testing.
- Radio frequency identification (RFID) enhanced real time inventory management with patient safety solutions – Approximate budget of Rs.175 per RFID tags.

Academics

Dr. G. Deepa Devi lecture on “Anti tubercular drug induced anemia and its management in the difficult to treat DRTB clinic on virtual platform organized by Govt.Hospital of Thoracic Medicine, Tambaram Sanatorium in January & lecture for the refresher training in blood transfusion services conducted by TANSACS for Lab Technician and Staff Nurse at Rajiv Gandhi Government General Hospital, Chennai.

Dr. G.Deepa Devi, attended

- TRANSCON 2022 46th Annual National conference Indian Society of Blood Transfusion and Immunohaematology organized by ISBTI Karnataka in March.
- 9th TRASMEDCON National conference Indian Society of Transfusion Medicine hosted by Guwahati, Assam in December.
- Webinar on D&C Gazette 166E: How to go ahead while applying for new products/procedures organized by Young professional forum of ISTM in December.
- CME & Workshop on “Cellular Therapies: An Update” Organized by the Department of Transfusion Medicine, Haematology and Central Research Lab, ESIC Medical College & Hospital in November.
- Webinar LDL Apheresis organized by Young professional forum of ISTM in October.
- QSKOOL modules on various medical laboratory aspects as Virtual Learning Modules conducted by Quality & Accreditation Institute held from August to October.
- National level CME and workshop on irregular antibody screening & identification CHETTRANSCON 2021 Insight into the essence of pretransfusion testing by Chettinad Hospital and Research Institute in April.
- Webinar on Investigations and management of Pre-operative Anemia organized by Young professional forum of ISTM in April.

Dr. Y.Swapna, attended

- Yellow Belt Lean Six Sigma Session in May.
- Clinical Lab Infection Control conducted by Medical Education & Learning point in June.
- International e-conference CHET VIROCON -2021 organized by Department of Microbiology on Emerging & Re-emerging Viral Infection at Chettinad Hospital & Research Institute in November.
- National Seminar on Research Ethics held on 29th Nov 2021 organized by Chettinad Hospital & Research Institute in November.
- Apheresis - A comprehensive Appraisal conducted by Saveetha Medical College & Hospital in December.
- 9TH TRASMEDCON 2021, hosted virtually in December.
- Virtual workshop on therapeutic Apheresis (Lipo Protein Apheresis) in March.
- TRANSCON 2022 in March.
- Skill Development workshop on Statistical Analysis using Excel in March.

Dr. C.Sudesh attended the online 9th TRASMEDCON National conference Indian Society of Transfusion Medicine hosted by Guwahati, Assam in December.

Latest Technology and Equipments: Spectra Optia

The Spectra Optia (TerumoBCT) Apheresis machine uses the Continuous flow technology, the yield of the intended product is high with lesser contamination of other components, the procedure duration is lesser and has the added advantage of maximum yield alarm, better donor and patient comfort especially for paediatric patients (lesser vasovagal reactions in donor and patients as the extra corporeal volume is less as it is a continuous flow technology). For stem cell collection the main advantage is better yield with less volume of collection, increase quality and decreased platelet and WBC contamination.

ANAESTHESIOLOGY, PAIN & PALLIATIVE CARE

Dr. Kalpana Balakrishnan, DA, DNB, Associate Director, Head of the Department

Associate Director	Associate Professor
Dr. Kalpana Balakrishnan, MBBS, DA, DNB	Dr.C.Punitha, MBBS, DNB Dr.S.Nivedhyaa, MBBS, MD Dr.Subramanian, MBBS, MD Dr.Aravind Narayanan, MBBS, MD

Assistant Professor	Tutor
Dr Prasanna Vani, MBBS, MD, DNB Dr. Radhika Dash, M.B.B.S. M.D. Intensivist Dr.R.Aishwarya, MBBS, MD, DNB Dr.S.Sahitya, MBBS, MD Dr.Nairita Das, MBBS, MD Dr.Pritha Raj, MBBS, MD Dr.Poorna, MBBS, MD Dr.Vallary Modh, MBBS, MD Dr.Hariesh, MBBS, MD Dr.Karthik, MBBS, MD, DNB, DM	Dr.Pavithra, MBBS, MD

Palliative Care	
Associate Professor	Medical Officer (Hospice)
Dr.V.V.Meenakshi, MBBS, DA, MD, DNB	Dr.Shobha Patil, MBBS
Assistant Professor	
Dr.R.Thendral, MBBS, DA	
Dental Surgeon	
Dr.Daniel Raj, BDS	

Statistics	
No. of Elective Cases	4157
No. of Emergency cases	89
Total no. of ASA 3 cases &	203
Total no. of ASA 4 cases	
Cases done under General Anesthesia	
Oral intubations	2074
Nasal intubations	243
Tracheostomies	84
No. of LMA	231

Cases done with the help of Regional Anaesthesia	
Epidurals	706
Subarachnoid blocks	243
Upper limb nerve blocks	52
Lower limb nerve blocks	13
TAP blocks	45
Combined spinal Epidural	34
No. of other blocks	22

Cases done with the help of specialized airway procedures	
Awake Fibro-optic intubations	71
Double lumen tube insertions	48

Cases under GA in the Endoscopic ultrasound room	
Endoscopic ultrasound – GA	80
IV sedation	37
Includes - ERCP/PTBD/PCN/ESR/Colonoscopy /PEG/SG/OGD/DLDP etc	

Cases done under anaesthesia outside OT – 89

Invasive Lines placements	
Central lines	93
Arterial lines	160

D & C	
D & C	5
Cone biopsy	0

Pediatric Ward	
Bone Marrow	206
Central lines	146

IORT	
ICAs	636
Other cases	42

Pre anaesthesia Checks	
New cases	3906
Review cases	2189
Total	6095

	OPD	Ward	Hospice
New	1971	369	170
Review	3991	1432	45
Total	5962	1801	215

Palliative Care – Number of cases

Home visits	249
Phone call service	955

Pain interventions	
No. of OPD cases	22
Total no. of interventions	22
Image guided	18
Others	4

Ongoing Projects

- Dr. Kalpana Balakrishnan, Field testing the validity and feasibility of the NCG-SHS screening Tool for Serious Health-related suffering, at tertiary healthcare institutions across India – A multi centric study.
- Dr. Kalpana Balakrishnan & Dr.Punitha, Effects of anesthetic agents on biomarkers release and natural killer cells in stage 3 epithelial ovarian cancer surgeries; A prospective pharmacodynamic cohort study.
- Dr. Meenakshi, Patterns of End-Of-Life Care in Children with Cancer in India – A Multicentre Retrospective Study (InPOG-PALL-18-01) & ENCORE Trial. The effects of anaesthetic techniques on time to start of adjuvant chemotherapy, and early and late outcomes following surgery for colorectal cancer: A prospective, multicenter, international, observational, pragmatic study.
- Dr.Prasanna Vani, A retrospective analysis of the prevalence of preoperative anaemia and its association with postoperative outcomes after major cancer surgery.
- Dr.Subramanian & Dr. Vallary Modh, Effect of intraoperative celiac plexus block on postoperative analgesia in major upper abdominal surgeries.

Future Project - Dr.Prasanna Vani, Prehabilitation in ovarian cancer cytoreductive surgery and its effect on postoperative morbidity (PROSPERITY): A randomized controlled trial.

Academics

- The department conducted Indian association of palliative care certificate course in essential of palliative care in July and December 2021 as a national online class.
- ELNEC Programme in October 2021.
- Pain and Palliative Care department conducted program for nurses on Oral Care in Oncology.
- Dr Meenakshi – Received an international scholarship to attend the virtual 12th Pediatric pain and palliative care master class at UCSF in December.

Dr. Nivedhyaa

- Completed a certificate course in Oncology Nutrition from Indian Association of Parenteral and Enteral Nutrition (IAPEN), Ashakiran Jubilee Hope Hospital, Pune.
- Completed The Refresher Course in Pain and Palliative Medicine through Trivandrum Institute of Palliative Medicine.
- Completed the Basic course in Biomedical Research (BCBR) by ICMR as mandated by the National Medical Commission.

Dr. Prasanna Vani

- Completed the clinical trial network training programme on Bioethics in Dec 2021 organised by the clinical development services agency.
- Completed the Queen's University Department of Oncology, Global Oncology Program: Master class in Critical Appraisal-The Randomized Clinical Trial.
- Attended the ISCR Workshop on Basic workshop: Key principles of conducting Real world evidence (RWE) studies held on in August.
- Attended the ISCR Workshop on Authoring Clinical Study Protocols held in August.
- Attended the Prehabilitation in Cancer Care-Virtual Online Course on 02/07/2021 organized by healthcare conferences UK.

Dr.Nairita Das, webinar on Controversies in Paediatric Anesthesia by ISA Thrissur City in February 2022.

Dr. Sahithya Sriman

- Diplomate of European Society of Anesthesiology and intensive Care.
- Completed the clinical trial network training programme on Bioethics in Dec 2021 organised by the clinical development services agency.

Dr. Daniel Raj, online Course on medical certificate of cause of death.

Lecture

Dr. Kalpana Balakrishnan

- Society of Onco-anaesthesia and perioperative medicine (SOAPCCON) -Sep 2021 – Restrictive fluid therapy in major oncological surgeries - Panel discussion.
- Certificate course in essential of palliative care Jan 2022(CCEPC) - Management of respiratory symptoms.
- Indian association of palliative care (IAPCON) Feb 2022 - Early integration of palliative care in oncology- panel discussion.
- TMC National Conference on HPB & GI Anesthesia and Perioperative Care-2022- 26th march (HPBGI) - Risk stratification in Major oncological surgery.
- Attended the European society of anaesthesia meeting virtually.

Dr. Meenakshi, attended IAPCON 22 at JAIPUR through Zoom in February 2022.

- Talk on Pediatric palliative care in October 2021.
- Faculty for training community nurses for palliative care (NHM –SHS- TN –NPPC- Extension of “Makkalai Thedi Maruthuvam”- State level Hands-on training of staff nurse for palliative care in the community) in October 2021.
- Faculty in SOAPCCON 2021. Presented a Pro-con session in Sept.2021.
- Attended course in death certification from St. John's Hospital March 2022.

Dr. Thendral, attended

- IAPCON 22 at JAIPUR through Zoom in February 2022
- Workshop on use of methadon in February 2022 lapcon
- Teaching methodology workshop in February 2022
- Attended ASCO palliative care ecourse in October 2021
- Attended pre conference workshop SOAPCCON 2021 on 25th September 2021
- Course in death certification from St. John's Hospital March 2022
- Faculty for training community nurses for palliative care (NHM –SHS- TN –NPPC- Extension of “Makkalai Thedi Maruthuvam”- State level Hands-on training of staff nurse for palliative care in the community) in October 2021
- Dr. Punitha, Faculty to chair the session on cardiothoracic oncosurgery – 3rd annual conference of society of Onco anesthesia and perioperative care. SOAPCCON 2021 in September & speaker – Fluid management in oncosurgeries September 3 2021 & Health club VIT vellore in September.
- Dr. Aravind Narayanan, Indian College of Anaesthesiologists (ICA) Webinar on – OXYGEN Therapy. Title: Industrial Manufacture and Distribution of Oxygen – Perspectives in COVID Times. – July, 2021.
- Dr. Daniel Raj, webinar on Palliative Care February 2022.
- Dr. Aravind Narayanan, presented Venous Thromboembolism Prophylaxis in Obese and Elderly, at KISACON – Conference of Indian Society of Anaesthesiologists, Kerala, Nov 2021.





**புற்றுநோயை
தடுக்க முடியும்
விழிப்புணர்வே
மூலதனம்**





புற்றுநோயின் பொதுவான அறிகுறிகள்

- ❖ ஆறாத புண்
- ❖ உடலிலுள்ள இயற்கை துவாரங்களில் (வாய், மூக்கு, மலவாய், பிறப்புறுப்பு) வழக்கத்திற்கு மாறான இரத்தக் கசிவு
- ❖ மார்பகம் அல்லது உடலின் வேறு பாகங்களில் கட்டி அல்லது வீக்கம் ஏற்படுதல்
- ❖ அஜீரணம் அல்லது உணவு விழுங்குவதில் தொடர்ந்து சிரமம் ஏற்படுதல்
- ❖ சிறுநீர் மற்றும் மலம் கழிப்பதில் ஏற்படும் மாற்றம்
- ❖ மரு, மச்சம் மற்றும் குரல் போன்றவற்றில் மாற்றம் ஏற்படுதல்
- ❖ காரணமில்லாத எடை குறைவு அல்லது சோர்வு ஏற்படுதல்
- ❖ தொடர் காய்ச்சல் மற்றும் இருமல்

மேலே குறிப்பிட்டுள்ள அறிகுறிகள் புற்றுநோயாக இருக்க வேண்டும் என்ற அவசியம் இல்லை. இந்த அறிகுறிகள் தென்பட்டால் புற்றுநோய் மருத்துவரை அணுகி ஆலோசனை பெறுவது அவசியம்.

தவிர்க்கவும்

- ❌ புகையிலை பொருட்கள் (சிகரெட், பீடி, குட்கா, ஹன்ஸ் மற்றும் பல)
- ❌ சாத்வீக புகை (Passive Smoking)
- ❌ மது பழக்கம்
- ❌ அதிக கொழுப்பு மற்றும் பதப்படுத்தப்பட்ட உணவுகள்
- ❌ ஒருமுறை பயன்படுத்திய சமையல் எண்ணெயை மீண்டும் பயன்படுத்துதல்
- ❌ மாசுகலந்த காற்றை சுவாசித்தல்
- ❌ பலருடன் உடலுறவு வைத்தல்



கடைபிடிக்கவும்

- ✓ சத்தான சரிவிகித உணவு
- ✓ காய்கறிகள், பழங்கள் மற்றும் நார்ச்சத்துள்ள உணவை உட்கொள்ளுதல்
- ✓ தவறாமல் உடற்பயிற்சி
- ✓ எப்பொழுதும் மகிழ்ச்சியாக மற்றும் சுறுசுறுப்பாக இருத்தல்
- ✓ பிறப்புறுப்புகளை சுத்தமாக வைத்திருத்தல்



விழிப்புணர்வுடன் இருங்கள்!!

உங்கள் விழிப்புணர்வு புற்றுநோய்க்கு எதிரான போராட்டத்தில் மாற்றத்தை ஏற்படுத்தட்டும்!



Cancer Institute (WIA)

**“Today’s Research
Is
Tomorrow’s Treatment”**

MOLECULAR ONCOLOGY

Dr. T. Rajkumar, Professor and Head of the Department

Faculty

Dr. T. Rajkumar, MD, DM, PhD, DSc., D.Sc (Hon Causa), FAMS Professor & Head

Professor	Associate Professor
Dr.K.Sabitha, Ph.D Dr.G.Gopal, Ph.D Dr.Samson Mani, Ph.D	Dr.R.Balaji, Ph.D
Assistant Professor	Lecturer
Dr.R.Priya, Ph.D Dr.Mayilvahanan Bose, M.Phil, Ph.D	Dr.A.K.Deva Magendhra Rao, Ph.D

Other Staff: Scientific Assistant, Lab Technologist, Lab Assistant, Animal House technician, Research Associate, Lab Technician, Social Investigator, Part-time PhD Scholar, Senior Research Fellow, SRF – INSPIRE & CSIR, INSPIRE JRF & Junior Research Fellow.

Molecular Oncology diagnostic unit

Test Services offered	No.of samples
BCR ABL Qualitative analysis	221
BCR ABL Quantitative analysis	1190
EWS FLI analysis	1
NGS Breast cancer gene panel	29
NGS colon & lung cancer gene panel	12
NGS cancer hotspot gene panel	4

Gastro-intestinal cancer gene panel service will be offered from May 2022.

Completed projects

A randomised controlled trial of neoadjuvant chemotherapy with FEC vs concurrent chemoradiation with FEC in locally advanced breast cancer and identification of predictive biomarkers for pathologic complete response.

Ongoing projects

1. Modeling of EWS-FLI orthotopic homograft reporter mice

Ewings sarcoma (ES) is caused by a unique chimeric fusion protein (EWS-FLI) formed as a result of tumor-specific translocation and has a great potential for targeted therapy. Despite EWS-FLI represent a clear therapeutic target, there is a lack of proper disease model to study ES and to identify targeted therapies. Several research groups attempted to create a whole animal EWS-FLI disease model, but ended up with limited or no success. This project proposes the generation of novel EWS-FLI orthotopic allograft reporter mice with osteochondrogenic progenitor cells (OCPC), neural crest cells (NCC) and mesenchymal stem cells (MSCS) as presumed ES cells of origin. These cells will be transfected with a construct that will be modeled in such a way that the reporter gene expression mirrors the EWS-FLI functional activation dynamics. These transfected cells will then be used to develop homografts in NODSCID/NSG mice. A total of three homograft models will be generated with each of OCPC, NCC and MSCs. Collectively these models will be called as battery models. This animal model should serve as a surrogate end point to understand the dynamics of EWS-FLI, say in response to a drug or during the course of tumorigenesis to study disease biology.

2. OPTIMISTICCC (OPportunity To Investigate the Microbiome's Impact on Science & Treatment In Colorectal Cancer) Large bowel microbiome disease network–Phase 2

In our previous phase 1 project “Large bowel microbiome disease network. Creation of a proof of principle exemplar in colorectal cancer across three continents” we collaborated with researchers in the UK, Chile, Argentina and Vietnam. We tested a low-cost method to collect faecal samples for microbiome research (by using bowel cancer screening cards or gFOBT) and showed that the microbiome is stable on developed gFOBT cards that are stored and transported internationally at room temperature. We showed that the faecal microbiomes of each country were distinct. However, despite these geographical differences in overall faecal microbiome profile, the CRC-associated microbiome of each country was similar. We would now like to build on this pilot project, by launching phase 2. The second phase is funded as part of a Cancer Research UK Grand Challenge - OPTIMISTICCC; the OPTIMISTICCC team represents an international consortium of researchers investigating the CRC-associated microbiome. The current study was planned with the following objective; to build on the phase 1 pilot project in which we showed that the CRC-associated faecal microbiome of non-Western countries resembles that of Western countries. Collecting more samples and more detailed data will allow us to further explore inter-country differences, as well as to build a more accurate Random Forest model in order to better determine the screening potential of the CRC-associated faecal microbiome with the view to developing a microbiome-based CRC screening test.

3. Identification of novel dysregulated circular RNAs in early-stage breast cancer

Circular RNAs (circRNA) are a large group of non-coding RNAs that result from back splicing of linear RNA and are covalently closed circular single-stranded RNA molecules lacking both 5'-cap and 3'-tail. Understanding the functional role of circular RNAs in tumorigenesis and progression is still at its preliminary stage. The structure of circular RNA provides a longer half-life, increasing the probability of interaction with other biomolecules. Most common role of competing endogenous RNAs is a well-known function of circular RNA. The circRNAs mediated gene expression control by sponging microRNAs could be an early event, which drives breast carcinogenesis. Whole transcriptome sequencing with an insight of circRNA, microRNA and mRNA expression will indicate the preliminary gene regulation orchestrated by circular RNAs. We attempted to identify circular RNAs differentially expressed in early-stage breast cancer using RNA sequencing. We found In total 26 circular RNAs (13 up-regulated and 13 down-regulated) were found to be differentially regulated in both find_circ and DCC based analysis. Three DEcircRNAs were validated by qRTPCR in a set of tumour, matched normal and apparent normal samples. The results confirm that hsa_circ_0006743 and hsa_circ_0002496 are up-regulated in early-stage breast cancer. The assessment of potential circular RNA-microRNA interaction revealed multiple binding sites for microRNA, suggesting the sponging activity of circular RNA. Also, complete sequence of DEcircRNAs hsa_circ_0023990, hsa_circ_0016601, hsa_circ_0001946 and hsa_circ_0000117 were confirmed to carry binding sites for the four microRNAs, hsa-miR-548b-3p, hsa-miR-1246, hsa-miR-1299 and hsa-miR-502-5p, respectively. In addition, we have also explored the function of circular RNAs harbouring sequences with the potential to yield mature microRNA. Five circular RNAs, namely hsa_circ_0002346, hsa_circ_0001064, hsa_circ_0002496, hsa_circ_0000639 and hsa_circ_0001073, were predicted to yield three microRNA each. Hsa_circ_0007766 was predicted to give rise to miR-370, commonly up-regulated microRNA in breast cancer (Figure 1). Overall, we have identified aberrantly expressed circular RNAs in early-stage breast cancer, which may be used as stable diagnostic and prognostic biomarkers based on further evaluation. Breast cancer-associated novel circRNAs were reported in this study and can be explored for diagnostic and prognostic potential.

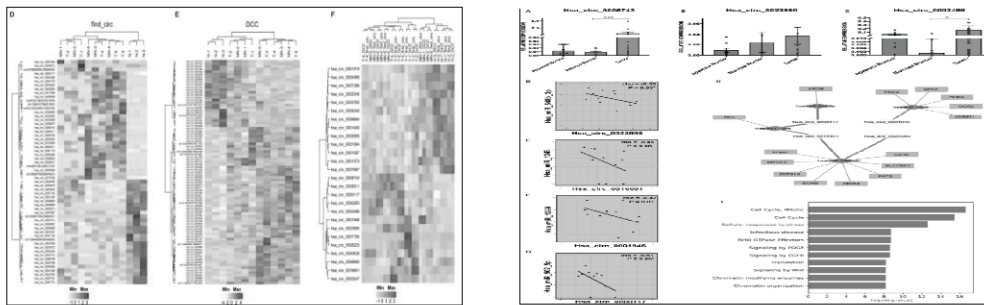


Figure 1

4. Prognostic Implications of microRNA-155, -133a, -21 and -205 in Breast Cancer Patients' Plasma

MicroRNAs are small 19-25 nucleotides non-coding RNA molecules involved in various biological processes such as cell proliferation, cell differentiation, and apoptosis. Aberrant expression of miRNAs results in altered expression of their target genes, thereby contributing to the development of tumors. In recent years, microRNAs have been detected in extracellular body fluids such as plasma, serum, saliva and urine. Circulating microRNAs are reported to aid in cellular communication and modulate several important cellular processes in the recipient cells. Circulating microRNAs (miRNAs) are increasingly being recognized as powerful non-invasive biomarkers for cancer. To date, several miRNAs, including miR-200b, miR-203, miR-21, miR-375, miR-10b and miR-210, are associated with breast cancer diagnosis/prognosis. We examined the expression levels of miRNAs miR-155, miR-21, miR-133a and miR-205 in the presentation and follow-up plasma samples of breast cancer patients. The miR-21 expression was found to be increased in breast cancer patients compared to control (Figure 2). Other miRNAs showed no difference in expression between patients and controls. The levels of these miRNAs were correlated with patient clinical characteristics to understand their role in monitoring disease progression and therapy response. ROC curve analysis was performed to evaluate the value of the four miRNAs as diagnostic biomarkers for breast cancer. The AUC for miR-21 was 0.6419 (95% CI: 0.5180 - 0.7658) with sensitivity, specificity and cut-off value of 53.97%, 80% and -2.667, respectively. The combined expression of all four miRNAs can be used as indicators of survival. Comparison of miR-155 levels between the different modes of treatment showed higher mean levels of miR-155 in patients without hormone therapy as compared to patients undergoing AET or TR treatment. Furthermore, the variation across different studies necessitates understanding of the extent and cause of heterogeneity influencing the miRNA expression. Hence, a meta-analysis was performed to determine the extent of difference in circulating miRNA levels in breast cancer patients, which would further support the establishment of these miRNAs as breast cancer biomarkers. MiR-21 showed significant asymmetry in the funnel plot and Egger's test ($p=0.00011$) indicating publication bias. Trim & fill procedure reduced the effect sizes of all miRNAs, with miR-155 and miR-21 being the most affected. Substantial heterogeneity ($>80\%$) was detected among the studies selected for meta-analysis for all four miRNAs. Hence, we investigated the presence of outliers and the effect of their removal on the overall effect size. Removal of the outliers did not markedly affect the overall effect size of miR-133a, but considerably reduced the overall effect size of miR-155, miR-21 and miR-205. Validation of these results in a larger number of samples may confirm the role of these miRNAs as non-invasive biomarkers for breast cancer.

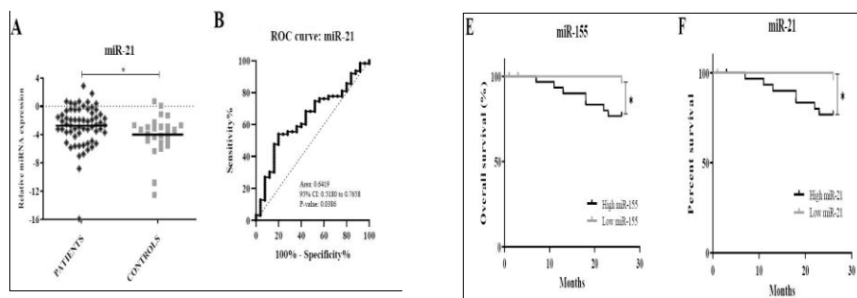


Figure 2

5. Functional analysis of miR-362-5p and miR-454-3p in breast cancer cell lines

Breast cancer is caused by the uncontrolled growth of cells in the ducts or lobules of the mammary gland. The extensive heterogeneity within and among breast tumors result in different patterns of disease prognosis, recurrence and treatment response. Hence, it is crucial to understand the molecular mechanisms driving breast tumorigenesis, which will enable identification of new and effective therapeutic targets. Deregulation of miRNA expression can cause the expression of its target genes to be altered, which is one of the complex mechanisms underlying transformation of a normal cell into a cancerous cell. MicroRNAs (miRNAs) may function as oncogenes or tumor suppressors and have been implicated in cancer growth, progression, and metastasis. Our previous results from small-RNA sequencing revealed upregulation of miR-362-5p and miR-454-3p in tumor tissues compared to adjacent normal tissues (Paired normal). The tissue samples used in the analysis were of early-stage tumors (Stage I – IIA) showing potential role of miR-362 and miR-454 in the tumorigenesis mechanism. In addition, the difference in expression among molecular subtypes suggests the varied mechanistic role of the miRNAs in different breast cancer cell-types. Limited experimental evidence is available supporting the significance of miR-362-5p and miR-454-3p in tumor development and progression. Hence, the function of miR-362-5p and miR-454-3p were evaluated *in-vitro* using different cell lines MDAMB231 and MCF7. The expression of miR-362-5p and miR-454-3p were altered in MCF7 and MDAMB231 using mimics and inhibitors. The effect on cell viability, cell cycle progression and migration was assessed using Alamar blue assay, flow cytometry and wound healing assay. Further, the expressions of potential target genes were measured using real-time PCR. Our results indicated that an increased expression of miR-362-5p promoted cell growth and survival in MCF7, but decreased cell migration (Figure 3). In contrast, miR-362-5p overexpression reduced cancer cell growth, survival and migration in MDAMB231. Overexpression of miR-454-3p was oncogenic in both cell lines but suppressed migration in the aggressive cell line MDAMB231. Two microRNAs, miR-362-5p and miR-454-3p, were evaluated for functional activity in breast cancer cell lines and they showed increased proliferative signals and tumorigenic properties.

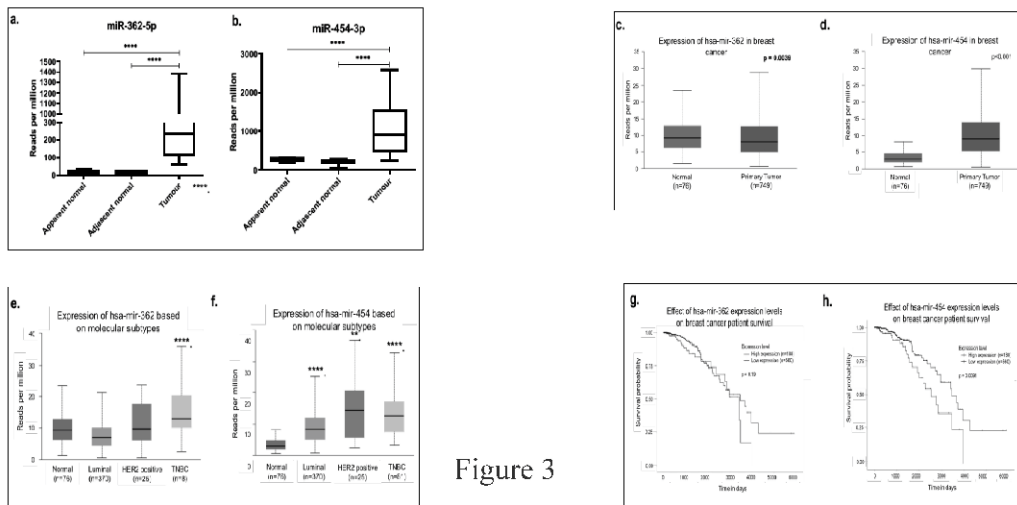


Figure 3

6. Identification of tumor suppressor kinases inactivation by pathogenic genetic variants and analysis of consequential dysregulated signalling in Gastric Cancer.

Summary : The Tumor Suppressor (TS) kinases (n = ~42) inactivation by Loss of Function (LOF) mutation are also considered as drivers of cancer. LOF mutations can occur as result of truncation mutations, or mutations in the conserved structural residues of the kinase protein (20 hotspots) leading to inactivation. Gastric Cancer (GC) are known to harbor high mutation load however few specific driver mutations are known. By focusing on LOF mutations in TS kinase genes we seek an alternate mechanism to uncover potential drivers of tumorigenesis.

Summary of Progress : In the present work 57 gastric tumor samples along with 57 paired normal and 8 apparent normal samples were collected. The samples were confirmed for tumor cell content in tumor samples and absence of tumor cells in paired and apparent normal samples following histopathological assessment. DNA isolation and targeted sequencing using NGS is under progress. In the present work we have developed an analysis workflow combining PPI's and gene expression of kinase genes to study potential signaling modules which can be activated in response to downregulation or inactivation of TS kinases. Here we show that HIPK2 (Homeodomain-interacting protein kinase 2) is commonly downregulated in gastric cancer and functions as a Tumor Suppressor kinase in Gastric Cancer. We have shown that overexpression of HIPK2 can suppress Akt signaling, anti-apoptotic markers, induce reversal of EMT in gastric cancer cells. HIPK2 expression in gastric cancer cells suppresses cell proliferation and colony formation. Further we show that HIPK2 protein levels can be increased by using proteasome inhibitor and gene expression can be increased using HDAC inhibitor in GC cells. The present work has uncovered a novel signaling module comprising of kinases HIPK2, NLK and MAPK11 and transcription factor MYB. We hypothesize that HIPK2 could function as tumorsuppressor by suppressing signaling form NLK and MAPK11 to MYB known oncogenes, probably by phosphorylating MYB or as a repressor inhibiting their transcription.

7. "Studies on improving the efficacy of dendritic cell vaccines by targeting Indoleamine 2,3 dioxygenases 1 and 2"

- The aim of the project is to improve the efficacy of dendritic cell vaccines which are used as immunostimulatory agents in treatment of several cancers.
- Immune checkpoints are regulators of the immune system. These pathways are crucial for preventing the immune system from attacking cells indiscriminately.
- Some cancers can protect themselves from attack by stimulating immune checkpoint targets. Drugs or drug candidates that inhibit/block the inhibitory checkpoint molecules

are sometimes known as checkpoint inhibitors; this idea is often referred to as immune checkpoint blockade, or simply checkpoint blockade.

- Indoleamine 2, 3 dioxygenases (IDO1 and 2) are considered immune checkpoints whose expression and activity is increased within immature dendritic cells, triple negative breast cancer cells as well as other cells in the tumor microenvironment.
- They belong to the family of enzymes that catabolize the first and rate limiting step of tryptophan metabolism along the L-kynurenine pathway.
- IDO1 expression is associated with the death of lymphocyte and NK cell populations, facilitating the infiltration of regulatory T cells as well myeloid derived suppressors.
- Hence targeting IDO1 and 2 may help improve the functional efficacy of dendritic cells which are potent immunotherapeutic adjuvants used for cell based immunotherapy.

8. Identification of aberrant DNA Methylation and Expression of Long non-coding RNAs

Assessing its Functional and Clinical Significance in Monoclonal gammopathy of unknown significance (MGUS), Smoldering multiple myeloma (SMM) and Multiple Myeloma (MM)
 Funding Agency: Core Research Grant Science and Engineering Research Board (SERB), Department of Science and Technology, Government of India Collaborating Institute: Christian Medical College, Vellore 100 bone marrow and peripheral blood samples have been collected and processed so far.

9. Detection of M-proteins in Acetonitrile Precipitates of Serum by MALDI-TOF Mass Spectrometry

We have analyzed 360 samples so far. The biomarker for the detection of plasma cell disorders has high analytical sensitivity. The marker is reliable at diagnosis and at follow-up for assessment of disease response status.

10. Efficacy of Pioglitazone in Patients with Recurrent/ Refractory Inoperable High-Grade Osteosarcoma After Failure of First-Line Chemotherapy: A Pilot Study (Single-centre study) [CTRI REF/2021/09/047326]

5 patients have been enrolled in the pilot study so far. 2 patients have been enrolled from Cancer Institute (WIA).

11. Efficacy of Pioglitazone in combination with Neoadjuvant Chemotherapy in Patients with Extremity Skeletal High-Grade Osteosarcoma Treated with Curative Intent: An Open-label, Multi-centre, Randomized Phase II Clinical Trial

2 patients have been enrolled from Cancer Institute (WIA). Collaborating centres: JIPMER, Puducherry; Malabar Cancer Centre, Thalassery; Amala Cancer Centre, Thrissur

12. Centre For Advance Research - Development of Dendritic Cell Vaccine for The Treatment of Recurrent/Metastatic Reproductive Cancers (A Multi Institutional CAR) .

The approval for a randomized, three arm trial was given by DCGI by his letter dated 04 March 2020. The three arms of the trial were as follows:

Arm 1 – Metronomic chemotherapy + saline ID [placebo]

Arm 2 – Metronomic chemotherapy + Dendritic cells primed with patient's own tumour lysate.

Arm 3 - Metronomic chemotherapy + Dendritic cells primed with recombinant SPAG9 protein.

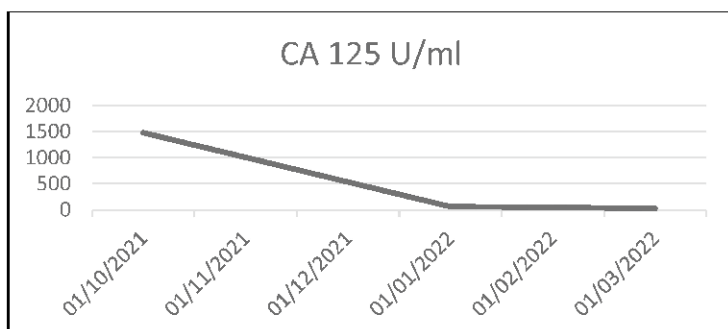
However, within 2 weeks of receipt of the letter, lockdown was announced, and the entire program came to a standstill. After securing the clinical trial insurance and registering the trial in

CTRI portal for the dendritic cell vaccine trial, recruitment began with screening in the month of February. The first patient was screened and found to be eligible for the study and recruitment was done on 23.2.21 after obtaining an audio-visual informed consent. A total of 8 patients were screened and four were recruited for the trial.

Of the four patients, 3 had progression based on imaging, clinical and/or CA 125 levels, at 22 week re-evaluation.

The 4th patient at the time of recruitment into the trial had pelvic, liver, splenic and peritoneal deposits present, and CA 125 was 1482 U/ml. She completed her week 22 assessment on 30th March and had an excellent partial response, with CA 125 normalizing. The CA 125 levels are provided below.

TIME POINT	DATE	CA 125 U/ml
AT RECRUITMENT INTO TRIAL	13-10-2021	1482
5TH DOSE DCV	10-01-2022	65.3
AFTER 1ST DOSE OF CARBO	16-02-2022	48.3
WEEK 22 RE-EVALUATION	30-03-2022	27.6



One major impediment for the recruitment of patients for the trial was the requirement of biopsy for preparing tissue lysate for priming the dendritic cells in Arm 2. Most of the patients had already undergone multiple surgeries and chemotherapies and were unwilling to have a biopsy done. We therefore after discussion with the clinical team decided to drop Arm 2 and submitted for DCGI Approval. We received the DCGI approval for our trial modification in Feb 2022. Our Institute Ethical Committee has also approved the amended protocol in March 2022. One patient has been recruited in the amended trial.

13. Breast cancer Risk Factors

In an attempt, to gain insight of the various risk factors influencing the etiology of BC in Indian population, a case-control study was conducted with 200 females diagnosed with primary BC and 200 age, gender matched healthy controls. Conditional logistic regression analysis was employed to examine the association of multiple variables with incidence of BC. In multivariate risk factor analysis, irregular menstrual cycle, menopause, history of benign breast disease, sleep duration >8h, high intake of fat, frequent dairy milk consumption and high calorie diet at night emerged as independent risk factors of BC.

14. Breast Cancer Early Diagnostic Markers

Development of a reliable plasma biomarker panel might serve as a non-invasive and cost-effective means for population-based screening of the disease. Transcriptomic profiling of breast tumour, paired normal and apparently normal tissues, followed by validation of the shortlisted genes using TaqMan® Low density arrays and Quantitative real-time PCR was performed in South Asian women. 15 candidate protein markers and 3 candidate epigenetic markers were validated first in primary breast tumours and then in plasma samples of cases [N=202 invasive, 16 DCIS] and controls [N= 203 healthy, 37 benign] using antibody array and methylation specific PCR. Diagnostic efficiency of single and combined markers was assessed. Combination of 6 protein markers (Adipsin, Leptin, Syndecan-1, Basic fibroblast growth factor, Interleukin 17B and Dickopff-3) resulted in 65% sensitivity and 80% specificity in detecting breast cancer. Multivariate diagnostic analysis of Sclerostin domain-containing protein 1 (SOSTDC1), Dishevelled binding antagonist of beta catenin-2 (DACT2), WNT inhibitory factor 1 (WIF1) showed 100% sensitivity and up to 91% specificity in discriminating BC from benign and controls. Hence, combination of SOSTDC1, DACT2 and WIF1 was effective in differentiating breast cancer [non-invasive and invasive] from benign diseases of the breast and healthy individuals and could help as a complementary diagnostic tool for breast cancer (Fig 1)

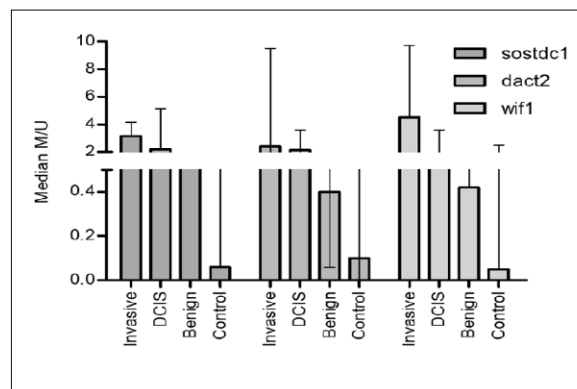


Fig 1: The median relative intensity of methylated markers in circulating cell free DNA of cases and controls.

15. Breast Cancer Follow up markers

Identification of a biomarker panel that is effective in detecting the recurrence or progression of breast cancer (BC) at local or distant sites before it is clinically detectable, might prove useful in the management of BC and improve the clinical outcome. To conduct the present study, two independent sets of breast cancer samples were collected. The first set comprised of patients who were diagnosed with early breast cancer [N=49]. These patients will first undergo surgery followed by adjuvant chemotherapy with/without radiation. The second set comprised of patients who were diagnosed with locally advanced or advanced breast cancer [N=48]. The patients will undergo neoadjuvant therapy, followed by surgery and adjuvant therapy. Samples were collected prior to treatment, post-surgery, post chemotherapy and during annual follow ups. The patients were monitored for disease progression or relapse during, and post-treatment and sample was collected at that time point as well. The pre-designed custom made antibody array comprising of 15 proteins was used for analysis of samples. In the adjuvant arm, the levels of SDC1, IL17B and sFRP3 showed a striking increase in the post treatment and year I follow up samples of patients who had disease recurrence compared to the patients who did not have recurrence (Fig 2). In the neoadjuvant arm, FGF1, FGF2, SDC1, IL17B and IP10 showed a consistent upsurge in post-surgery and follow up plasma of recurrent BC patients while their levels either declined or

plateaued post-treatment in non-recurrent BC (Fig 3). These results indicate the potential of these protein markers to antedate disease recurrence prior to clinical detection.

To assess the potential of the previously selected genes as follow up markers, the differential methylation intensity was assessed in cell free DNA of previously recruited BC patients in adjuvant and neoadjuvant cohorts. The methylation intensity did not significantly differ in the pre- and post-treatment samples of patients with recurrent BC in both the cohorts. However, the methylation intensity of the genes was significantly upregulated in the presentation samples (at diagnosis) of patients in both adjuvant and neoadjuvant cohorts with recurrent or progressive BC compared to those who did not exhibit recurrence. This sheds light into the prognostic ability of the methylation markers.

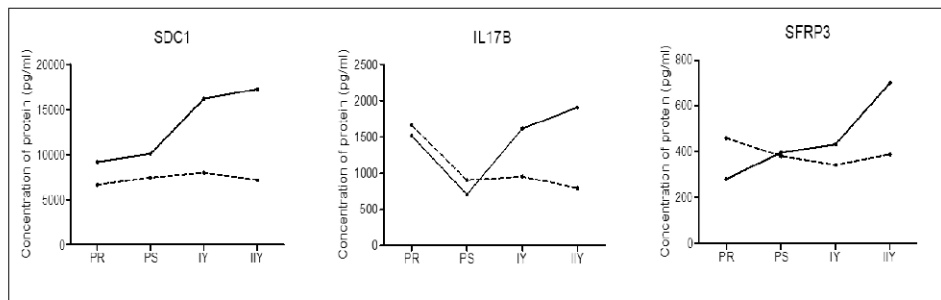


Fig 2: Profile of the proteins which showed an increasing trend in patients who had recurrence post adjuvant therapy. The median concentration is plotted. PR-presentation, PS-post surgery, IY and IY- First and second year follow up

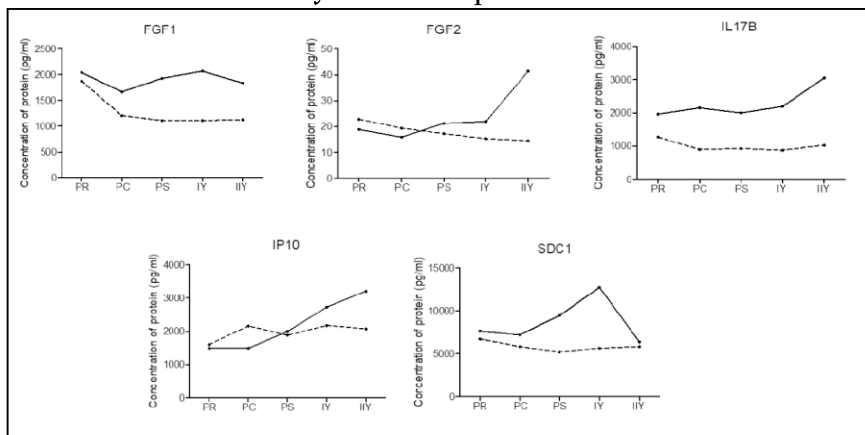


Fig 3: Profile of the proteins which showed an increasing trend in patients who had recurrence in neo-adjuvant therapy cohort. The median concentration is plotted.

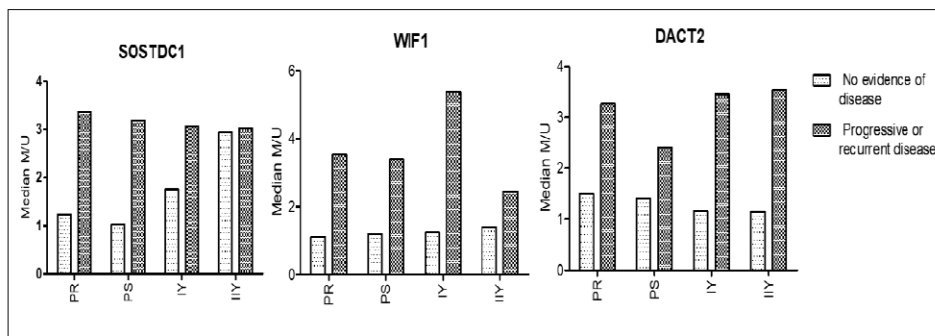


Fig 4: The median methylation intensity of gene markers in circulating cell free DNA of breast cancer patients in adjuvant arm

16. ID-PPP-OTN: Infrastructure and Development of Technologies for Pre-clinical evaluation, Product establishment and Platform integration for Onco-theranostic applications

ID-PPP-OTN focuses on the utilitarian translation of engineered antibodies for therapeutic and diagnostic applications in the domains of clinical and molecular oncology, with the following specific goals: (a) production of clinically relevant onco-antibodies using recombinant DNA technology and cell-free synthesis; (b) utilization of the antibodies produced in the consortium for furthering the therapeutic leads already established by the consortium partners into preclinical validation and subsequent product development; (c) integration of platforms for highly sensitive and specific detection of onco-biomarkers using point-of-care detection tools; (d) demonstration of multi-disciplinary and inter-sectoral approach for technically bridging the existing gaps in translational onco-therapeutic/diagnostic domains; and, (e) provision of high end state-of-the-art infrastructure and technologically validated platforms for the use of both consortium partners as well as wider scientific community in the field of onco-theranostics.

IIT Madras is a premier technology institute in the country, bringing in the expertise from three distinct departments, namely Biotechnology, Applied Mechanics and Electrical Engineering. Cancer Institute [WIA] (CI) is a comprehensive Regional Cancer Centre, with a large number of cancer patients being treated every day. Some of the cancers wherein the outlook has been poor and no major affordable newer therapies have happened include Ewing's sarcoma (ES) and epithelial ovarian cancer (EOC). ES is an aggressive bone cancer primarily affecting adolescents. Over 40% of the patients are advanced at presentation and their outlook is poor. The use of antibody-based therapy has escalated since 2000, particularly with the immune checkpoint inhibitors (ICI). Unfortunately, the current cost of the immune checkpoint-based therapy is prohibitive, leading to financial toxicity [cost upwards of INR 75 lakhs]. There is, therefore an urgent need to develop newer antibodies which will have patent space in the ICI arena. EOCs are a silent killer since most women present in stage IIIC with ~25% five-year survival. Thus, there is clearly an urgent need for early diagnosis. The currently available markers are not useful for diagnosis and the newer marker(s) have not entered the clinical domain. CI has identified a 5-protein plasma biomarker panel for early diagnosis, with a sensitivity and specificity around 90%.

The translation of these assays to lateral flow and biosensor platforms using in-house synthesized antibodies will help simplify the detection, also making it cost-effective. A couple of Industry partners for translation of onco-therapeutic and onco-diagnostic leads, and a couple of Ecosystem partners (IITM Bioincubator & HTIC) will on-board ID-PPP-OTN, fastening and facilitating the product development. The entire project framework manifests a coordinated multi-disciplinary and translational inter-sectoral action in a high priority area.

Proposed Projects

Role of alternately nuclear localizing Mitochondrial Ribosomal Small Subunit (MRPS) Genes MRPS9 and MRPS23 in DNA Damage response and implications for tumorigenic phenotype in Breast cancer.

Ribosomal proteins having ribosome-independent functions have been indicated for cytosolic ribosomal proteins, for Mitochondrial Ribosomal proteins they are poorly understood. In our previous study we assessed protein-protein interactions of Mitochondrial Ribosomal Small Subunit (MRPS) proteins using affinity pulldown combined with liquid chromatography mass spectrometry. We identified that MRPS9 and MRPS23 interact with proteins localized to nucleus in addition to mitochondrial proteins. Recent data suggests that some MRPS proteins also alternately localize to the nucleus, among which we propose to study functions of MRPS9 and MRPS23. The rationale for choosing MRPS9 and MRPS23 is based on their protein-protein interactions (PPIs) recorded in databases which reveal interactions with nuclear proteins involved in DNA damage response. Nuclear functions of MRPS proteins can help in distinguishing organelle specific functions.

Academics

PhD in Molecular Oncology program offered. Recognised by the University of Madras and The Tamilnadu Dr. M.G.R. Medical University

Academics

- Dr. T. Rajkumar, presentation - Year in Review in breast cancer Virtual conference in January & Biomarkers for early diagnosis of breast cancer in Indian Association for Cancer research in March.
- Dr. Sabitha, lecture at “National conference on Current Advances in Life Sciences”- SRM University on “Computational approach for biomarkers in cancer screening” in March.
- Dr Samson, talk on “Epigenomic imbalance & Cancer” a genomics event organized by premas life sciences in February.
- Dr Nikita Mehra, presentation at the 18th International Myeloma Workshop (IMW)- Vienna, Austria: Detection of M-protein in Acetonitrile Precipitates of Serum by MALDI-TOF Mass Spectrometry: A Novel Methodology in September & at Sarcoma and Melanoma Update 2021- New Delhi: Drug Repurposing and Collaborative Studies in Osteosarcoma: The Need of the Hour in India in November.
- Dr T Rajkumar, NCI-AIIMS Seminar lecture titled “Molecular Oncology – Bench to Bedside” in November.
- Dr Nikita Mehra received “International Myeloma Society (IMS) Young Investigator Award for Exemplary Abstract” in September.
- Dr T Rajkumar was awarded the “Prof. A. Rathinasabapathi Endowment Oration and Gold Medal” in December.

Government Committee Meetings

Dr. T. Rajkumar was a Member of the following Committees:

- DST SERB Centre(s) for Antibody Engineering – Advisory Committee
- IRHPA-3D-Bio-printing- Task Force-monitoring committee
- DST Program Advisory Committee for NCD
- DBT-BIRAC-Covid19 Diagnostics Project Monitoring and Mentoring Committee
- Member, ICMR Gene Therapy Advisory and Evaluation Committee [GTAEC]
- DBT Special STAG Medical Biotechnology Committee Meeting for AIIMS – NCI proposal
- DBT Technical Evaluation Committee for Cancer, other Chronic Diseases, Metabolic Diseases & Autoimmune Disorders and Neuroscience.
- DBT Scientific and Technical Appraisal and Advisory Group (STAG) on Medical Biotechnology for North Eastern Region
- DBT BIRAC ATGC Screening Committee
- Special STAG Medical Biotechnology - DBT DAE NCG Proposal
- ICMR Task Force on Gene Therapy
- Technical Monitoring and Advisory Committee [TMAC] meeting to review Genome India and Microbiome projects
- Expert Group Committee for the Phase I of Immunoprofiling (IP) consortium for COVID-19
- Research Advisory Board of The Tamilnadu Dr. M.G.R. Medical University
- SAC of Centre for Stem Cell Research, Vellore
- SAC, SyMeC, Kolkata
- MoU has been signed between Cancer Institute (WIA) and Indian Institute of Technology Madras (IITM) on 29.07.2021 to jointly develop a point-of-care device for early diagnosis of ovarian cancer, and then transferring this technology to a suitable Industrial partner to manufacture and market the kit to the general public.
- HCL foundation helped upgrade the computational facility of the Department. The facility in the department was inaugurated on March 7th 2022 by Dr Chethana, head-Health HCL foundation.

**புகையிலை
எந்த வடிவத்தில்
பயன்படுத்தினாலும்
உயிர்கொல்லியே!**

DANGER

SIGNS OF CANCER

- A sore or ulcer that does not heal
- Unusual bleeding or discharge from any body opening
- Thickening or lump in breast or elsewhere in the body
- Change in bowel habits
- Obvious change in wart or mole
- Persistent cough or hoarseness of voice
- Unaccounted weight loss or anaemia
- Persistent fever

**THE ABOVE SIGNS DO NOT MEAN CANCER.
THEY INDICATE THAT ONE NEEDS SPECIALIZED CONSULTATION.**

Avoid

- ✗ Tobacco
- ✗ Passive smoking
- ✗ Alcohol
- ✗ Junk & deep fried food
- ✗ Re-using oil
- ✗ Outdoor Air Pollution
- ✗ Do not have sex with multiple partner



Follow

- ✓ A balanced diet
- ✓ Eat plenty of fibre,
Green vegetables & fresh fruit
- ✓ Keep your private parts clean
- ✓ Regular exercise
- ✓ Be physically active



**BE WISE!
YOU CAN MAKE A DIFFERENCE IN THE CRUSADE AGAINST CANCER!**

EVOLUTION OF CANCER REGISTRIES AT THE CANCER INSTITUTE (WIA), CHENNAI



EPIDEMIOLOGY, BIO-STATISTICS & CANCER REGISTRY (EBCR)

Dr.Swaminathan R, Associate Director, Professor & Head of the Department

Dr.Swaminathan R, M.Sc., Ph.D (Statistics)

Associate Director

Dr.Rama R, M.Sc., Ph.D

Assoc. Prof & Senior Bio-Statistician

Staff Strength: 136

Other Staff : Senior Computer Programmer, PRO & Section In-Charge, Senior Assistant, Senior OP Assistant, Medical Record Technician, Senior Assistant, OP Assistant, Assistant, Social Investigator, Data Entry Operator, Medical Record Officer, Computer Operator, Steno Typist, Section In-Charge (T&DQ), Data Manager (HBCR Project), Senior Medical Record Technician, Section In-Charge, Statistical Assistant, Senior Investigator - FO/DQ, Technical Assistant, Senior Social Investigator, Early Career Fellow, Social Worker, Health Worker, Scientific Assistant, IEC Coordinator, Biostatistician, Ward Secretary, Medical Record Officer, Staff Nurse, Data Manager, Assistant Professor

Epidemiology, Biostatistics and Cancer Registry (EBCR)

The EBCR comprises several sections encompassing (i) patient services - OPD counters, medical record with lifetime follow up, documentation and digitization, (ii) Hospital Cancer Registry (HCR) - established in 1954 handling routine hospital statistics for the administration, high-resolution data capture for research studies, (iii) Population-Based Cancer Registry (PBCR) - for statewide surveillance statistics on incidence pattern and trends, (iv) Biostatistics – handling all data analytics for faculty/students and (v) Epidemiology – randomization for clinical trials, design and conduct of descriptive/analytical epidemiological studies including molecular and (vi) training/teaching programs in all of the above for personnel at local, national and international levels.

Hospital Statistics

Statistics	No. of cases
Total registered	1,53,844
New registration	13,191
Follow up/Review	1,40,653
Inpatient admission	10,140
New Admission	4,110
Readmission	6,030
New cancer patients	9,916

Regionwise distribution of newly registered patients	No. of cases	%
Chennai city and suburbs	3,179	24.1
Rest of Tamil Nadu	8,316	63.0
Andhra Pradesh & Telangana	1,062	8.1
Assam	75	0.6
Karnataka	54	0.4
Kerala	38	0.3
Puducherry	133	1.0
Other States	305	2.3
Outside India	29	0.2
Total	13,191	100.0

Ongoing projects/studies

1. HCR – partly funded by National Cancer Registry Program (NCRP), Indian Council of Medical Research (ICMR) - Principal Investigator: Dr. R.Swaminathan.

The analysis of HBCR data of the calendar year 2021 revealed the following: The total cancer cases registered were 10,267 with a female preponderance (5,391, 52.5%) in the ratio of 1:1.11 Childhood cancers (0-19 years of age) comprised 3.5% while the majority were in the age group of 35-64 years (67.5%). Most common cancers among men were mouth (550, 11.3%), stomach (462, 9.5%), lung (362, 7.4%) and among female were breast (1,588, 29.5%), cervix (743, 13.8%), ovary (354, 6.6%).

2. High-resolution data studies on cancer outcomes

a. ICMR project on “Patterns of Care and Survival (POCS) Studies of Cancers of the Cervix, Breast and Head/Neck”- Principal Investigator: Dr.R.Swaminathan.

High-resolution data abstraction for survival study is carried out. Data from case-record on 1,250 patients indexed for treatment during in 2020, 1,070 have been completed: 500 of cancer breast, 194 of cervix and 376 of head/neck cancers.

b. ICMR project on “Patterns of Care and Survival (POCS) Studies on Cancers in Childhood, lymphoid and hematopoietic malignancies, other gynaecological malignancies in Chennai”- Principal Investigator: Dr.R.Swaminathan.

Data on 171 patients of all lymphomas, 246 of all leukemias, 214 of other gynaecological cancers and 217 of all childhood cancers, treated during 2020 are being abstracted from the case-records.

c. HBCCR project – Developing an electronic database on 22 cancers treated 1985 onwards. Study Group: Dr.R.Swaminathan, Dr.R.Rama, Ms.P.Shanthi, Mrs.M.S.Kalyani on behalf of other registry staff

Data on 97,722 patients treated between 1985 and 2020 have been computerized and available for research studies on cancer outcomes like overall and disease free survival and risk of second cancers. Monographs on different cancers depicting these aspects are under development in the department.

3. Population-based cancer registry studies

a. Madras Metropolitan Tumour Registry (MMTR) – partly funded by NCRP of ICMR – Principal Investigator: Dr. R.Swaminathan.

Cancer surveillance statistics in Chennai city from year 1982 has been periodically made available in ICMR and IARC scientific publications. Data for the period 2013-2017 has been submitted to IARC for publication in its flagship scientific series Cancer incidence in five continents, Volume XII. A total of 8,657 notifications of cancers diagnosed in 2020 have been registered from about 167 sources till date. Data processing for duplication and other checks are in progress. The total incident cancers in year 2018 were 7,767 with a crude incidence rate (CIR) of 159.1 per 100,000 (Male: 149.8; Female: 168.2). Common cancers among men were lung (CIR:13.6), mouth (13.1) and Prostate (10.6); among women, the order was breast (55.3), cervix (12.2) and ovary (10.6). The estimated new cancer burden is 7,914 in year 2021.

b. International Agency for Research on Cancer (IARC) project on “Dindigul Ambilikkai Cancer Registry (DACR)”- Principal Investigator: Dr.R.Swaminathan

Cancer surveillance statistics in Dindigul district from year 2003 has been periodically made available in IARC scientific publications. Data for the period 2013-2017 has been submitted to

IARC for publication in its flagship scientific series *Cancer incidence in five continents, Volume VII*. A total of 1,608 notifications on cancers diagnosed in 2020 were registered till date. Data 'processing for duplication and other checks are in progress. The total new cancers in 2018 were 2,142 with a crude incidence rate (CIR) of 91.1 per 100,000 population (Male: 81.1; Female: 100.9). Common cancers among men were lung (CIR: 6.8), stomach (6.3) and mouth (4.9); among women, the order was breast (22.0), cervix (18.2) and ovary (6.1). The estimated new cancer burden in 2021 was 2,383.

c. Cancer Institute (WIA) project in collaboration with Department of Health and Family Welfare, Government of Tamil Nadu – Tamil Nadu Cancer Registry Project (TNCRP) Principal Investigator: Dr.R.Swaminathan

TNCRP is an ambitious project of the institute for statewide surveillance for generating cancer incidence statistics of entire Tamil Nadu from year 2012. The TNCRP report 2021 is a comprehensive account giving cancer incidence pattern by year, age-group, sex, district and site. The total incident cancers in Tamil Nadu in 2017 were 69,517 with a crude incidence rate of 87.9 per 100,000 population (Male: 79.2; Female: 96.6). The common cancers among men were stomach (7.0), lung (6.6) and mouth (6.6); among women, the order was breast (25.5), cervix (18.7) and ovary (5.2). The estimated new cancers in 2021 were 81,814. An online reporting system for TNCRP has commenced from year 2021 and is continuing.

d. BNY Mellon Technology India (P) Ltd funded project, Cancer survival in Tamil Nadu – Principal Investigator: Dr. R. Swaminathan

The project commenced after a delay of a year owing to Covid-19 restrictions in field operations. Ten districts have been chosen for this population-based cancer survival study with the total new cancer cases registered in 2016 in bracket: Ariyalur (512), Coimbatore (3,099), Dindigul (1,354), Erode (1,972), Kanchipuram (4,188), Kanyakumari (1,878), Krishnagiri (902), Madurai(2,499), Perambalur(452) and Viluppuram(2,088). Linkage of the readily available death data from vital statistics division has been completed. The vital status (alive/dead) data on the rest of the patients as on December 31, 2021 has been planned in three stages. Stage 1 comprises repeated scrutiny of case-records in source hospitals for additional data on patient identity for follow up by telephone inquiries.

4. DBT India Alliance and Wellcome Trust project – HPV and Oral cancer. PI-Dr. N.V. Vani; Supervisor: Dr. R. Swaminathan; Mentor: Dr. T.S. Ganesan

This molecular epidemiological study was funded to the tune of 1.8 crores for five years during 2019-2024. There are two components: (i) A longitudinal study on the dynamics of oral HPV infection in healthy individuals in Viluppuram district – Commencement was delayed due to Covid restrictions. A total of 3,088 samples have been collected after enumerating the eligible subjects through a household survey. The prevalence of HPV DNA positivity was 7.8%. At 6-12 months follow up of eligible subjects, the persistence was 13% and incidence was 7.6% (ii) Survival outcome of oral cancer patients by HPV status – clinical samples were collected from 157 patients along with data abstraction. HPV DNA positivity ranged between 48-75% by two different methods. These patients are being followed up after treatment to evaluate their outcome. Molecular analyses of the samples in the research lab along with subject recruitment in the field work are continuing.

Training imparted

Observer training on basic statistical/epidemiological principles and methods was imparted as part of continuing department program to 9 post graduate and 4 graduate students of statistics/Data science/Technology from Chennai as per their internship/academic plan.

Academics

Dr. R. Swaminathan

- Speaker on Tamil Nadu Cancer Registry Project (TNCRP) at the International Childhood Cancer Day online symposium by the Academy of Paediatrics, Uttar Pradesh, in February.
- Faculty for the webinar/CME on Cervical Cancer Elimination by 2030 – The WHO Goal and also delivered a lecture on “Cancer surveillance through cancer registries in Tamil Nadu” organized by the Meenakshi Medical College Hospital and Research Institute, Kanchipuram in February.
- Moderator “Together we can close the care gap” on the occasion of the World Cancer Day at the Cancer Institute (W.I.A), Chennai, in February.
- Chair-person Annual Scientific Conference of the International Association of Cancer Registries 2021 for the plenary session on Cancer Registries, Research and Health Policy in October.

Dr. P. Sampath

- TMH BIRAC- CTN Biostatistician training module “Design of Retrospective studies (Cohort studies)” Presented by Dr. Rajesh Dixit, Director, Centre for Cancer Epidemiology, ACTREC) in March.
- Presented a e-poster titled “Impact of Covid-19 restrictions on Cancer Registry Operations in Tamil Nadu State in India” in October at Annual Scientific Conference of the International Association of Cancer Registries 2021.



மார்பக புற்று நோய்

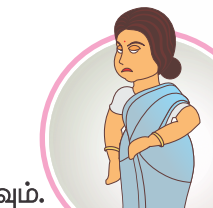
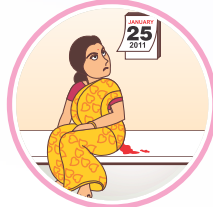
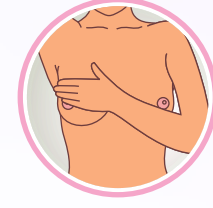
(BREAST CANCER)

நீங்கள் 30 வயதிற்கு மேற்பட்டவரா ?

மார்பக புற்றுநோய் ஆரம்ப நிலையில் கண்டுபிடிக்கப்பட்டால் முழுவதுமாக குணப்படுத்த முடியும் என்று தெரியுமா? மார்பை இழக்க அவசியமேயில்லை, ஆனால் நோய் முற்றினால் உயிரிழக்க நேரிடலாம்.

மார்பக புற்று நோயில் இருந்து உங்களை எப்படி பாதுகாப்பது?

- தாய் பால் கொடுப்பதன் மூலம் மார்பு புற்றுநோயைத் தடுக்கலாம்.
- மாதந்தோறும் மார்பக சுய பரிசோதனை செய்து கொள்ள வேண்டும்.
- மருத்துவரிடம் வருடாந்திர மார்பக பரிசோதனை செய்ய வேண்டும்.
- இரத்த சம்பந்தமான உறவினருக்கு மார்பகப் புற்றுநோய் இருந்தால் தொடர் மருத்துவ பரிசோதனை அவசியம்.
- குடும்பத்தில் பலருக்கு புற்றுநோய் இருந்தால் அந்தக் குடும்பத்தில் உள்ளவர்கள் எச்சரிக்கையுடன் மருத்துவரின் ஆலோசனையைப் பெற வேண்டும்.
- மாதவிடாயில் பிரச்சினைகள் ஏற்பட்டால் உடனே பரிசோதனை செய்து கொள்ள வேண்டியது அவசியம்.
- மருத்துவர் ஆலோசனை இல்லாமல் மாதவிடாய் மாற்றத்தை உண்டுபண்ணும் மாத்திரைகள் மற்றும் கருத்தடை மாத்திரைகளைத் தவிர்க்கவும்.
- கொழுப்புச் சத்துள்ள உணவைத் தவிர்க்கவும்.
- உடற்பயிற்சி செய்வதும் உடல் எடையை ஆரோக்கியமாக வைத்திருப்பதும் மிக அவசியம்.



உங்களின் பயம் புற்றுநோயைப் பற்றியதாக இருக்க வேண்டாம். உங்களுடைய பயம் தாமதிப்பதைப் பற்றியே இருக்க வேண்டும்.

பரிசோதனை செஞ்சிக்கோங்க! பயமில்லாம வாழ்ந்திடுங்க!

PREVENTIVE ONCOLOGY



Chennai



Gummidipoondi



Cancer Institute (WIA)



Cancer Institute (WIA)



Pudukkottai



Cancer Institute (WIA)



Thiruvannamalai



Thiruvannamalai

PREVENTIVE ONCOLOGY
Dr.J.S.Malliga, Head of the Department

Faculty	
Dr.J.S.Malliga, MD(O&G)	Associate Professor & Head
Dr.V.Dhanuraja, MD	Professor
Dr.D.Premila Grace, BSMS, MA	Medical Officer
Dr.M.Vanitha, BDS	Dental Surgeon – Villupuram Project
Dr.S.Vidhya, BDS	Dental Surgeon – Gummidipoondi Project
Dr.A.Srimathi, MBBS	Medical Officer – Pudukottai Project
Dr.S.Arumuga Kumaran, BDS	Dental Surgeon – Pudukottai Project
Dr.R.Lavanya Devi, BDS	Dental Surgeon – Thiruvannamalai Project

Staff Strength: 75

Other Staff: Biostatistician, Social Investigator, Programme Manager, Project Co-ordinator, Staff Nurse, Radiographer, Lab Technician, Social Worker, Health Worker, DEO, Driver & Security.

Chennai, Manali, Villupuram, Mammobile, Gummidipoondi, Pudukottai & Thiruvannamalai Projects

- District Cancer Screening Program, Chennai (2008 onwards)
- Villupuram Cancer Screening Project, Villupuram (September 2014 onwards)
- Gummidipoondi Cancer Screening Project, Gummidipoondi (April 2016 onwards)
- Pudukottai Cancer Screening Project, Pudukottai (March 2018 onwards)
- Tiruvannamalai Cancer Screening Project, Tiruvannamalai (November 2018 onwards)
- Mammobile Project (December 2016 onwards)

Cancer Awareness Programs (Chennai & Manali)	
Total Awareness Programs	27
Total Members attended	3,398
Screening Programs	
Total number of persons screened	3,305
Total number of women screened	3,215
Total number of men screened	90
Total number of Tobacco users	625
Clinical Outcome	
Oral cancers	Nil
Breast Cancer	02 (01-cT2(M)N1M0, 01 – Stage UK)
Cervical Cancers	
Pre-cancers (CIN 2+)	14
Invasive Cancer	01 (Stage 1b)

Cancer Awareness Programs (Villupuram)	
Total Awareness Programs	230
Total Members attended	5,884
Screening Programs	
Total number of persons screened	5,695
Total number of women screened	5,349

Total number of men screened	346
Total number of Tobacco users	1,391
Clinical Outcome	
Oral cancers	Nil
Breast Cancer	01 (cT4bN1M0)
Cervical Cancers	
Pre-cancers (CIN 2+)	21
Invasive Cancer	01 (3b)

Cancer Awareness Programs (Gummidipoondi)	
Total Awareness Programs	24
Total Members attended	993
Screening Programs	
Total number of persons screened	3,825
Total number of women screened	3,649
Total number of men screened	176
Clinical Outcome	
Oral cancers	Nil
Breast Cancer	01 (cT4bN2M1)
Cervical Cancers	
Pre-cancers (CIN 2+)	03
Invasive Cancer	01

Cancer Awareness Programs (Pudukottai)	
Total Awareness Programs	7
Total Members attended	488
Screening Programs	
Total number of persons screened	3,422
Total number of women screened	3,261
Total number of men screened	161
Total number of Tobacco users	222
Clinical Outcome	
Oral cancers	01 (cT4aN1M0)
Breast Cancer	01 (01 – Stage UK)
Cervical Cancers	
Pre-cancers (CIN 2+)	07
Invasive Cancer	Nil

Cancer Awareness Programs (Thiruvannamalai)	
Total Awareness Programs	41
Total Members attended	2,294
Screening Programs	
Total number of persons screened	3,978
Total number of women screened	3,703
Total number of men screened	275
Total number of Tobacco users	545
Clinical Outcome	
Oral cancers	01 (cT3N0)
Breast Cancer	01 (cT3N1M0)

Cervical Cancers	
Pre-cancers (CIN 2+)	20
Completed treatment at CI	07
Under evaluation	10
Invasive Cancer	03 (01-2b,01-2A2,01-Stage)

Mammobile Project (Villupuram)	
Total Mammogram taken	1,259

Ongoing Research

1. Systematic and Automated Visual Evaluation of Cervix (Save – Cervix). Principle Investigator – Dr.J.S. Malliga [Sep 2021 Onwards]
2. Evaluating The Effectiveness Of Vaginal Self Sampling Against Provider Sampling In A HPV DNA Based Cervix Screening Program. Principle Investigator – Dr.J.S. Malliga [Dec 2021 Onwards]

Proposed Projects

Population-based cancer screening project in Sivaganga, Ramnad district targeting a total population of 13.4 and 13.5 L respectively, for screening breast, cervix, and oral cancers.

Academics

Dr.Malliga J.S attended 17th World Congress of IFCPC 2020 as faculty on Primary HPV Screening for Cervical Cancer in July. “AOGIN-India 2021” chaired the session Modern HPV Diagnostic tools in December. “Fogsi-Gynec-Oncology” TN Prevent the Preventable, HPV Vaccines in February.

Lecture

Dr.Malliga J.S Breast cancer awareness program, National Institute of Siddha in October.
 World Cancer Day- Cancer Awareness program, Vanavani School, IIT campus in February.
 International Women’s Day – Women Cancer Awareness program at NIOT, Malayalee Association & Arupadaiveedu College of Technology in March.

Inauguration of Ponnamaravathi Cancer Screening Program

Cancer education and screening program in Ponnamaravathi taluk was inaugurated and commenced by honourable minister of law, courts, prisons, and prevention of corruption of Tamilnadu Mr. S.Ragupathy on 24 October 2021.

PREVENTIVE ONCOLOGY (RESEARCH DIVISION)

Dr. R. Vijayalakshmi, Head of the Department

Faculty

Dr R Vijayalakshmi, M.Sc., Ph.D., (Molecular Oncology)

Professor and Head

Dr Sridevi Duggirala M.Sc., Ph.D., (Microbiology)

Assistant Professor

Other Staff : Technologist, Scientific Assistant, Senior Laboratory Technician, Laboratory Technician, Full time / Part time PhD Scholars & Project Interns

Diagnostics

- NABL ACCREDITATION FOR MEDICAL TESTING - Surveillance Audit for NABL testing was conducted as in person Audit by NABL assessors in May 2022. The laboratory is accredited with satisfactory surveillance.
- CMV Testing - Samples tested for the 2021-2022 period was 609, of which, 55 (9%) patients had tested positive among the BMT patients.
- COVID Testing - Samples tested for 2021-2022 was 19,077 of which 1346 (7%) were tested positive for Sars Cov2.
- HPV Testing - 3047 women were offered screening by HPV testing, of which 182 women were found to be positive for high risk HPV. The laboratory is now recognized as a centralized facility for HPV DNA testing receiving samples all over the nation. The testing is offered at an affordable cost. We have completed 15,800 samples testing on the Cobas fully automated platform so far since 2019.
- Lung Cancer Diagnostics - Lung Cancer Diagnostics with EGFR mutation testing in exon 18,19,20 and 21 and detection of ALK /RET/ROS/MET fusions by qPCR was commenced in October 2021. Till date, 137 patients diagnosed with lung cancer have been offered the test.
- Leukemia Diagnostics - Leukemia molecular diagnostic testing commenced in Feb 2022. We have tested 28 patients so far of which 17 were AML and 11 were ALL.

Molecular Prevention

Ongoing Program

Community Screening Project for Cervical Cancer using Molecular HPV testing with partial genotyping Funding : CSR 1.5 crores Source : Chennai Petroleum Corporation, Manali, Chennai Progress : Cervical cancer, according to the WHO guidelines, can be eradicated by 2030 by the implementation of a global strategy involving the vaccination of young girls against HPV and conducting screening for the same. Given the current scenario, screening is the only strategy that can be implemented into action pertaining to the early detection and prevention of cervical cancer. Cobas 4800, a multiplex assay based on qPCR technology, identifies HPV 16 and HPV 18 along with the concurrent detection of 12 pooled other high-risk HPV infections. This technology was used to screen 6485 women from the South Indian community. Upon testing, high-risk HPV was found in 380 (5.9%) women. A total of 83 women (1.3%) were found to be infected with HPV 16, 20 women (0.35%) with HPV 18 and 243 women (3.7%) with the 12 pooled high-risk HPV and multiple mixed infections were found in 34 women (0.5%). It was observed that there was an increased prevalence of high-risk HPV in 46-50 years, followed by a plateau with increasing age. We found that 22/34 (64.7%) of the multiple mixed high-risk HPV infections were in the age group 46-50 years. The results show HPV 16 and HPV 18 infections, when differentiated, can be valuable in a population screening. Women in the age group of 45-53 years showed a higher prevalence of multiple mixed infections, for which further evaluations are

required. The current study is the first of its kind from India, using a completely automated assay like the Cobas 4800 HPV test in a community screening program.

Academic Research - Ongoing Projects

1. **Development of novel Nano-silymarin gel for therapeutic efficacy in Oral Submucous Fibrosis** (ICMR Grant Id 2021-1438 ; Rs 33,41,130) (No.5/4/2-4/Oral Health/2021-NCD-II)

Progress So far: Preparation of silymarin-loaded poly(lactic-co-glycolic acid) Nanoparticles is completed. The synthesized nanoparticle has been characterized using the (i) UV-Visible spectrophotometry (SHIMADZU MODEL UV1800) for the confirmation of synthesis of NPs, (ii) Particle Size Analyzer (PSA) to estimate the average geometric parameters, (iii) Scanning Electron Microscope (SEM) (JEOL 3010) analysis to study the structure and average size of hydrogel particles, (iv) X-ray Diffraction analysis (XRD) (XRD 6000, Shimadzu) to evaluate the average size, nature and quality of synthesized microparticles, (v) Fourier Transform Infra-Red Spectroscopy (FTIR) (Perkin –Elmer) for the recognition of functional groups involved in the synthesis, and (vi) Transmission Electron Microscope (TEM) (TECHNAI10) for a elevated magnification range to confirm the lattice structure of the particles. With currently there are no effective therapeutic modalities available, topical mucoadhesive nano based silymarin gel could prove as a cost effective, patient friendly, viable treatment modality with least possible side effects, which can be made available to different socioeconomic strata of our country. Development of novel potent oral topical mucoadhesive gels using antifibrotic, anticancer, antioxidant compound silymarin will serve as an effective treatment modality to reduce the symptoms, thereby improving their quality of life. The therapeutic efficacy of silymarin can also be evaluated as multicentric trials across India, thereby reducing the oral cancer burden in India in the near future.

2. **Genetic and Proteomic expression profiling in Clinical stages of Oral Submucous Fibrosis patients (Ad-Hoc ICMR 2021-14385 Grant - Rs 23,75,000)** Research Scholar- Dr Divyambika Srinivas MDS.

A comparative proteomic study of pooled tissue samples was taken from patients with OSMF, OSMF with histologically proven OSCC and was compared to pooled normal samples. The image analysis platform yielded more than 50 protein pairs, 23 of which were upregulated in tumour samples when compared to nearby normal protein samples. The top 23 differentially expressed proteins were chosen for mass spectrometry from the list of differentially expressed proteins. The top 23 differentially upregulated proteins are listed in which three secretory proteins, namely carbonic anhydrase 1 (CA 1), 14-3-3 epsilon (14-3-3ε) and heat shock protein 70 (HSP 70), were taken up further in the current study for validation with immunohistochemistry. The current study showed CA 1, 14-3-3ε and HSP 70 to be potentially useful markers in identifying OSMF patients who are at the risk of malignant transformation and require immediate intervention. Risk stratification of OPMD requires diagnostic tools with increased specificity and sensitivity, which will enable early detection of oral cancer. The current study has shown that the discovery of protein biomarkers based on proteomic analysis can help in the assessment of disease prognosis and also aid in the development of targeted therapy, as described in existing literature.

OSMF is precancerous, chronic debilitating disease characterized progressive fibrosis manifesting with oral mucosal stiffness, trismus, burning sensation with loss of gustatory sensation. OSMF has the highest rates of malignant transformation among precancer, thus posing a major threat to public health. Differentially expressed genes were derived in OSMF using the Affymetrix microarrays and proteomic profiles have been derived using 2D gel electrophoresis

and differentially expressed proteins identified by mass spectrometry. The EMT related genes derived out of microarrays have been validated in independent series of OSMF and Cancer samples along with absolute normal by qPCR and proteins identified by mass spectrometry have been validated by immunohistochemistry. A new patient derived cell line has been derived for OSMF and is being characterized for experimentation with anti-fibrotic compounds.

Completed Projects

Re-purposing of Anti-hypertensive Drugs (Beta blockers) and NSAIDS in Oral Squamous Cell Carcinoma: Newer applications to be explored in Preclinical studies.

Research Scholar : Dr Vidyarani Shyamsundar MDS., (Part Time) Funding : DST-TARE 15 Lakhs

Patents

1. Dr R Vijayalakshmi, Patent Granted - Patent No. 202141028755 A process of preparation of silymarin based oral topical mucoadhesive gel for oral mucosal diseases and product thereof". Date of publication : 9.7.2021
2. Patent Filed: "A system for detecting nucleic acids using a paper based substrate and a method thereof" with Dept of Chemistry IIT Madras.

Presentations

- Dr. Vijayalakshmi "My experiences in Oral Cancer Research" at DHR sponsored Workshop conducted by Sri Ramachandra Medical College & speaker at International Conference sponsored by AICTE at Sree Sastha Institute of Engineering and Technology in May.
- Best Research Paper with Cash Award at International Conference conducted by Foundation of Head and Neck Oncology (FHNO-2021) for presentation titled "Vimentin identified as a salivary biomarker for risk assessment in oral pre-cancers in February.
- Dr. Vijayalakshmi "CI Experience on HPV DNA testing for cervical cancer screening using the Cobas HPV DNA testing fully automated platform" in the International meet conducted by International Federation Cervical Pathology and Colposcopy.
- Dr. Vijayalakshmi - framing the guidelines for Cervical Cancer Screening by doing HPV DNA testing at the IFCPC meeting as a Consensus policy for India with other world experts.
- Soundharya Ravindran, "Cell Culture Assays and Techniques" at industrial training session conducted by the University of Madras in January.
- Aravindalochan, "Basics of Cancer Biology" at Kongu Engineering College, Erode.
- Soundharya Ravindran - Underwent Training in NGS technology at the National Level Workshop conducted at C-CAMP, Bangalore in November & completed 3 day workshop on "SPSS and AMOS" organized by A2Z EduLearningHub during August.



PSYCHO-ONCOLOGY & RESOURCE CENTER FOR TOBACCO CONTROL (RCTC)

Dr. V. Surendran, Head of the Department

Faculty

Dr. V. Surendran, M.A., M.Phil., Ph.D

Dr. C. Sundaramoorthy, M.Sc., Ph.D

Ms. S. Revathy, M.Sc., M.Phil

Professor and Head

Assistant Professor

Assistant Professor

Other Staff: Psychologist, Psycho-oncologist, Data Entry Operator, Senior Project Assistant, Field Investigator, Project Assistant & Coordinator.

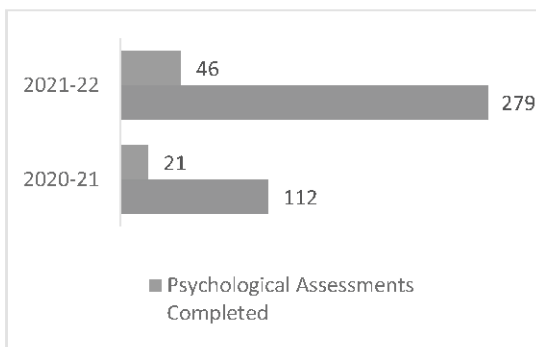
M.Phil course: Passed out 3, registered 3

Total number of Ph.D scholars 6

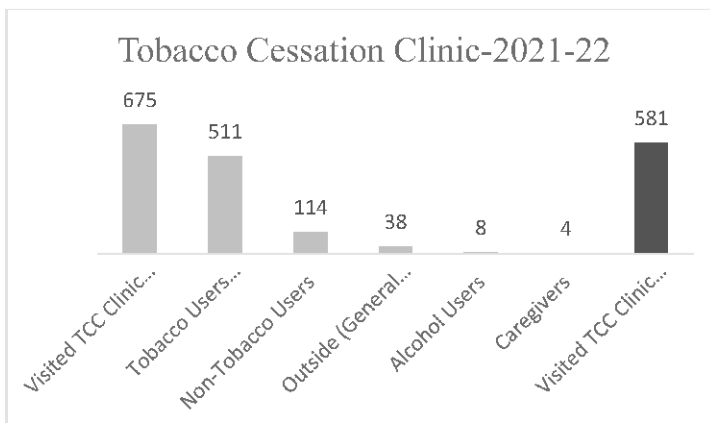
Clinical Services : Psychosocial Care (In-Patients)

Patients are assessed for their distress level and other psychosocial concerns by the Psycho-oncologists on a daily basis. Also, patients are being referred by the treating physicians (from MOG, SOG, ROG, PPC and Paediatric Ward) for psycho-oncological consultation. Reasons for referral included management of distress, depression, anxiety and adjustment problems that interfere with cancer and its treatment, tobacco cessation, psychological fitness for BMT, amputation, colostomy and other surgical procedures and psychological assessments. Based on the severity and issues, the patients were given brief or intensive intervention to overcome and cope with the psychosocial issues.

Psychosocial care for out-patients



Tobacco Cessation Clinic (TCC), Chennai and Madurai



Completed projects 2020 2021

Title	Description
Understanding Psychosocial Issues and concerns of pediatric cancer patients and their caregivers during COVID 19 pandemic:	Assessment of possible psychosocial issues experienced by pediatric cancer patients and their caregivers during the COVID-19 pandemic was done with the help of an interview schedule both in-person and through telephone.
Psychosocial issues and concerns of cancer patients due to COVID 19 pandemic lockdown	The COVID 19 pandemic lockdown has posed numerous unique challenges for cancer patients, families and healthcare workers. The study aimed to determine the psychosocial issues and concerns faced by cancer patients during COVID 19 pandemic lockdown
Mobile APP for tobacco cessation	In order to provide tobacco cessation to users in the community, an application was developed. This application, in addition to assessing the basic demographics will also perform readiness to quit and fragestrom assessments.

Ongoing projects

Title	Description	Target Population
Neurocognitive functioning of patients with Primary Brain Tumor – A prospective cohort study	Neurocognitive changes in patients with brain tumor happens as a result of the tumor itself or the treatment. While the treatment advancements has decreased the mortality burden, there is a significant impact on cognitive functioning. This study aims to prospectively assess the neurocognitive functioning and find the association between the MRI finding and neurocognitive functioning among patients diagnosed with primary brain tumors and being posted for brain surgery,	Primary brain tumor patients
Alternative livelihood for bidi workers in Tirunelveli	Providing skill-based training for bidi rollers to shift their employment from bidi rolling to other alternative livelihood. Conducting skill-based training programs including wig making, coir-based hand crafts training, tailoring for the bidi rollers enrolled in the alternative livelihood training program, based on their willingness to shift	Bidi workers

Psycho-oncology TeleECHO Educational Program -II	Case discussion, didactic presentations and knowledge sharing among psychooncology professionals to train professionals remotely and provide best care for cancer patients across the country.	Psychologists, nurses, doctors and research scholars
Community Based Tobacco Cessation Program in Selected Districts of Tamil Nadu- A Prospective Study	This study aims to assess the efficacy of a community based tobacco cessation intervention for tobacco users in rural set up in Tamil Nadu. The secondary objectives are to study the feasibility, barriers, and acceptance for conducting tobacco cessation, and to screen the identified tobacco users for symptoms oral cancers and help them to quit tobacco usage.	Person with Precancerous symptoms and tobacco users
Cancer control through primary and secondary intervention and cancer rehabilitation program	Early diagnosis of cancers that are curable if detected early, can be promoted in India by educating the public and training health care professionals. This project includes tobacco cessation, awareness, education, legislation, community participation, oral screening for tobacco users and rehabilitation programs for cancer patients.	Tobacco users, students, men & women and cancer patients
Care Seeking and Care Delivery for Cancer: Experience of Survivors, Care givers and providers in India.	The Department is doing a project in liaison with the National Institute of Health (NIH), United States to understand experiences of seeking care and providing care for cancer in order to improve services for patients as they live with cancer.	Cancer Survivors, Care givers

Future projects

Title	Description	Target Population
Facilitators and barriers in switching to alternative livelihood among beedi rolling women in Tirunelveli district- A qualitative study	Among those women who have been trained in alternative livelihood, this study will attempt to identify the factors enabling and preventing from shifting to alternative livelihood.	Beeedi rolling women
Awareness and preference for external breast prosthesis and the associated experiences of breast cancer patients with mastectomy	As a means of rehabilitation, the department is providing free external breast prosthesis to breast cancer patients. This study aims to assess the awareness and preference levels towards using this prosthesis to enable improved services for breast cancer patients.	Breast cancer patients with mastectomy
Cancer Prevention- Mobile Application	The department is currently working on developing a mobile based application in regional languages to provide hands on information on cancer prevention, dispelling myths and misconception.	Public

Establishing psychological lab	The psychology lab will be used for teaching, assessment and research activities. The purpose of lab is to assist scholars in learning the assessment skills and to assess the patients' neuropsychological functioning and issues. The project has been initiated and ground work has been completed.	Research scholars and patients
Operational Research Training Program in Psycho-Oncology and Community	To impart practical skill for undertaking operational research by providing training on process from concept development to publication. The course is composed of four practical modules of three days each and conducted over a period of 6 months.	Healthcare professionals and Scholars

Academics

- Psycho-oncology TELECHO Educational Program II in collaboration with the ECHO India. This program comprises of 12 sessions on selected areas by trained experts from various institutions and hospitals, followed by case discussions. This is a 6-month long project which was initiated in March, 2022. Certificate Course on Tobacco control and Cessation Methodology for dentists, psychologist, physiotherapist and health care professionals from September to November, 2021. Totally 40 professionals participated and successfully completed the course.
- Mr. Divyaraj Prabhakar, Completed a certificate course on qualitative research in Health by Tata Institute of social sciences during the month of August & Completed a certificate course on 'Bio Statistics and Clinical research methodology' by Tata Medical Centre, Kolkata in September.
- Ms. Vidhya, Completed an online certificate course on 'Basics in Psychosocial Palliative Course' by Tata Memorial hospital between January – March.
- Ms. Deepika, Completed an online certified course on 'Counseling and Psychotherapy' by Global Association of Professional Psychologist in August.
- Dr Surendran, talk on 'Tobacco cessation: How far we have come and the way ahead' in the 12th Annual Conference of Indian Society for Study of Lung Cancer organized by JIPMER, Puducherry in November.
- talk on 'Psychological aspects of children with malignancies' in the Fertiprotect 2021, 8th Annual conference of Fertility Preservation Society of India in November.
- talk on 'Challenges of fertility preservation in children and adolescent population' in the CME on Life Beyond Cancer organized by AIIMS in February.
- Delivered the prestigious MPS Endowment Lecturers in University of Madras on the topic Unlocking the Psychology of Cancer in March.

Participation in conference - virtual

- Dr Surendran, Ca-PRI 2021 - Cancer and Primary Care: innovation and resilience in the era of COVID-19 organized by the University of Edinburgh in June & in the Too Young To Be Worried?- Inaugural ACAMH India virtual conference in October.
- Ms Deepika, 13th Asia Pacific Conference on Tobacco or Health (APACT), held in September.
- Ms. Devi, 23rd Annual Lynn Sage Breast Cancer Symposium from Sep 30th to Oct 2nd 2021 organised by North Western Medicine, USA.

CME/Workshops:

- A sensitization workshop on E-Discussion on ‘Tobacco Free Tamil Nadu: Assisting Tobacco Quitters’ in May. Nearly 200 participated and benefited from the program, Tobacco control in educational institutions for 85 school teachers at Madurai in November, A sensitization program on tobacco use and Covid-19 for 126 parents at Madurai in December, ill effects of tobacco use and prevention measures of Covid-19 for 30 Community based organisations at Madurai in January, ill-effects of tobacco use for 32 shop keepers at Madurai in January, tobacco control for enforcement officials in Madurai in February.
- A webinar on ‘Tobacco awareness Covid-19 Prevention’. A total of 100 members participated and benefited from the program, tobacco control awareness. A total of 105 members participated and benefited.

Other Activities

- Prosthesis and padded bra for breast cancer patients with mastectomy
A total 152 external breast prosthesis have been distributed to patients and survivors of breast cancer who have undergone mastectomy. This is an ongoing project of the Department of Psycho-oncology at Cancer Institute.
- Provide wigs for cancer patients with alopecia
A total of 18 wigs have been distributed to cancer patients with alopecia, to improve their body image and social well-being. This is an ongoing project at Cancer Institute.
- Community Based Tobacco Cessation Program
Around 54 tobacco users from 16 communities who have been identified earlier through oral cancer screening camps were offered with tobacco cessation counseling at their doorstep. This involved counseling tobacco users on the ill-effects of tobacco, strategies to quit, assertive skills to abstain from tobacco and the importance of regular oral screening to detect cancers. All those who have been counseled are on regular follow-up under tobacco cessation clinic at Cancer Institute (WIA).
- Alternative Livelihood for beedi workers
The Department of Psycho-oncology and RCTC initiated second batch of tailoring training for women beedi rollers, who were willing to shift to alternate livelihood. Thirty women have been enrolled into this 60 days tailoring program and they are currently undergoing training. This program is being conducted at the Central Government Hospital for Beedi workers.
- Oral Cancer screening-follow up
Through the oral cancer screening camps conducted in the year 2017-18, a total of 1289 tobacco users were identified and screened. Of 1289 tobacco users, the post assessment/follow up was done for 288 tobacco users. Door-to-door and telephonic follow-up were done for those who were unavailable during the visit. One tobacco user was diagnosed with cancer during the follow-up.
- Psycho-oncology TeleECHO Educational Program
The Psycho-oncology Tele ECHO Educational Program by the Department of Psycho-oncology, Cancer Institute (WIA) has been initiated in association with the ECHO India. This was a 6-month course commenced in January 2021 and completed in June 2021. The course comprised of 12 sessions and 42 professionals including Psycho-oncologists, nurses and doctors from across the country registered for this program. The course covered topics such as Distress screening and management, Psychosocial aspects of head & neck cancers and Psychosocial issues and management of breast & gynaecologic cancers, respectively. A total of six sessions were conducted during the course of three months and the program was successfully completed on 18th June 2021.

- Cancer Institute (WIA) and Tamil Nadu Women Development Corporation organized a webinar on 22nd May 2021 through Google meet. More than 100 participants comprising of Community Organizers & Community Resource Persons (Self-help group women) attended and benefitted from the program.
- Department of psycho-oncology and RCTC, Cancer Institute (WIA) and HCL Foundation jointly organized a webinar on ‘Awareness on Covid-19 Vaccination’ on 17th July, 2021 through Google meet platform. Around 55 HCL employees & volunteers participated and benefited from the program.
- Health care kiosk In view of International Women’s Day on 7th March 2022, six health care kiosks supported by HCL Foundation were inaugurated in the post-operative ward. These services enable the patients to engage in virtual interaction with their caregiver’s thereby fostering sense of safety and support when they are in isolation post-surgery.
- Childhood Cancer Awareness Month program conducted at Pediatric ward for the mothers of the pediatric patients, September, 2021
- Awareness on breast and cervix cancer for women program for the residents in Kumaran nagar community in April, 2021.
- Tobacco cessation counseling through hotline - A total of 345 tobacco users were identified and screened in Gandhi Nagar, Sholinganallur in the year 2018-2021. Of those, 13 were followed up to assess their quit status. On follow-up, 5 tobacco users reported to have quit and 6 reduced their usage. Those tobacco users who had either reduced or were still using tobacco, were provided with motivational counseling and self-help tips over telephone.
- Webinar on Tobacco Control Awareness program for children in Gandhi Nagar in June, 2021. The meeting was held via virtual platform and 105 children participated in the program.
- Shopkeeper intervention - A total of 19 shopkeepers who had been identified earlier, were re-oriented about the COTPA sections and signage boards were also displayed at the shops, with the consent of the shopkeeper during the month of September 2021.
- Youth engagement in tobacco prevention and control program - Grey Sim Learnings Foundation under HCL Foundation jointly organized a program on youth engagement in tobacco prevention and control in December, 2021 in Perungudi with 22 students.
- Capacity building workshop for shopkeepers on ‘Ill effects of tobacco and COTPA’ at Madurai in February, 32 participated. Sensitization building workshop for enforcement officials on ‘COTPA and ill effects of Tobacco’ at Madurai, in March, 30 officials from Health department participated.

Outreach activities

- In order to identify tobacco users from the communities and to detect oral cancers early, the department has conducted numerous oral cancer screening camps in the communities.
- Tobacco cessation in communities. Over 668 tobacco users have been identified from 15 communities and around 330 have been followed up over phone during this period to monitor their usage, quit behavior, provide cessation interventions. Similarly, 752 tobacco users were identified from Gandhi Nagar and 475 were followed up. Of those, 51 tobacco users reported to have quit, 24 reduced their usage and 125 reported no changes.
- Intervention for school students Around 400 school students in Chennai were assessed for their baseline knowledge and 2108 students from Chennai, Gandhi Nagar-Sholinganallur and Madurai were educated on the ill-effects of tobacco, unhealthy lifestyle and COTPA sections. IEC materials were distributed to students and teachers. In addition, the students using tobacco were identified from the group and they were advised to come to Tobacco Cessation Clinic at Cancer Institute (WIA), Adyar for further counseling and cessation

- Awareness for school teachers. The department conducted awareness program on tobacco control for school teachers in Gandhi Nagar-Sholingnallur and Madurai. A total of 125 teachers participated in the meetings which comprised of sessions on ill-effects of tobacco use, unhealthy lifestyle and COTPA sections. IEC materials were distributed to the teachers at the end of the session. In addition, the teachers and their family using tobacco were identified from the group and they were advised to come to Tobacco Cessation Clinic at Cancer Institute (WIA) for further counseling and cessation.
- Assessment for Self Help Group women. Around 390 SHG women from 30 communities have been assessed for their knowledge, attitude and practice of undergoing breast and cervical screening and lifestyle modifications, following the intervention provided.
- Awareness for tobacco selling shopkeepers. In order to curtail tobacco sale and usage in the communities, the department has been working closely with tobacco-selling shopkeepers, by educating them on ill-effects of tobacco and on the COTPA sections pertaining to the sales of tobacco. They are also offered the warning boards that are to be displayed in their respective shops. Seventeen shops in Madurai were benefited through the intervention and 6 new shops were identified near educational institutions.

RADIO DIAGNOSIS AND IMAGING SCIENCES

Dr.M.Karthigaiselvi, Incharge

Radiologists (Full Time)	Radiologists (Part Time)
Dr.Nesam Manivannan Dr.R.Thanaraj Dr.J.Prashanth Dr.L.Priyadharshini Dr.L.Sneha Dr.M.Aishwarya Dr.P.Prathiba Rajalakshmi	Dr.S.Pushparajan Dr.Sathish Ramamurthy

Other Staff: Technologists, Technicians, ECG Technician, Echo Technician, Staff Nurse & Data Entry Operator

Students enrolled for B.Sc

I Year – 6, II Year – 4 & III Year - 4

Statistics:

Dr.V.Shanta Campus	
Total number of X-Ray cases	2,682
Dr.S.Krishnamurthi Campus	
Total number of Digital X-Ray case	23,242
Total number of C-ARM and special procedures	230 & 227
Total number of Mammography cases	4,189
Total number of Ultrasonography cases (USG + FNAC + Biopsy)	19,121
Total number of CT cases (CT cases + biopsy)	8,713
Total number of MRI cases	2,323
Total number of Echocardiogram/ECG cases	16,564

MEDICAL PHYSICS

Dr. N. Vivekanandan, Head of the Department & RSO

Faculty

Dr. N. Vivekanandan, Ph.D

Professor and Head & RSO

Other Staff : Medical Physicists

Intern students passed out	Intern students joined
1. Ms.S.Niveditha	1. Mr.Arumugam
2. Mr.B.Elamparithi	2. Mr.Rahul
3. Ms.C.Priyavarshini	3. Ms.Catherine Dezouza
4. Mr.E.Thirumurugan	4. Ms.Sharon Swetha

Statistics

- Conventional Radiotherapy Planning : 580
- Conformal Radiotherapy Planning : 1014
- IMRT Planning : 180
- Rapid Arc Planning : 30
- HDR Brachytherapy Planning : 300

Completed Projects

- QA tracker, using python software is being modeled for cancer institute needs, which will help to track and analyze Quality Assurance tests of all teletherapy equipment.
- A 3D printed Insert compatible with QUASAR phantom is successfully fabricated and being tested for gahchromic film based 4D dosimetry for possible routine clinical use.

Ongoing Projects

- 3D gamma analysis using Varian and Eleka systems for the same patients. A comparative analysis.Portal dosimetry using perfraction analysys software in Eleka Linear accelerator.
- Dosimetric study of Coformal Vs IMRT (SIB) in cheek cancer patients. Risk analysis in HDR brachytherapy based on AAPM TG 100.

Academics:

Teaching MSc Medical Physics, M.Sc. Radiotherapy Technology, BSc Radiotherapy Technology, Nuclear Medicine and Radiology.

NUCLEAR MEDICINE

Dr. R. Krishnakumar, Head of the Department

Faculty

Dr. R. Krishna Kumar, M.D, DMRT, DRM, Ph.D	Professor & HOD
Dr.N.Vivekanandan, M.Sc(Med Phy), RSO(III), Ph.D	Medical Physicist cum RSO

Other Staff: Medical Physicist, Scientific Assistant, Technologists & Technician

B.Sc (Nuclear Medicine Technology)

Students passed out		3
Students registered	I Year	5
	II Year	3
	III Year	3
PhD registered		1

Nuclear medicine uses radioactive compounds called radiopharmaceuticals or radiotracers that interrogate physiologic or pathologic processes at a molecular level and provide diagnosis and therapy for a variety of diseases. Nuclear medicine studies are clinically used to assess most organ systems with almost 100 different types of studies or therapies. Many more radiotracers play a crucial role in research. When used as an imaging agent to evaluate organ function, metabolism, or membrane receptor characteristics, the amount of radiotracer administered is in the pico molar or nanomolar range, which avoids disturbing the process under evaluation while still yielding data that are quantifiable and comparable to normative standards. As functional deficits arise before morphological changes in many diseases, nuclear medicine studies can detect disease in early stages when curative or more effective palliative treatment choices may be an option. Therapeutic nuclear medicine is developing rapidly as an alternative choice of treatment in oncology. Therapeutic radionuclides have now gained attention for tumor targeting therapy using multiple routes and mechanisms to target radionuclides in the tumor site. The non-invasiveness of the procedure and relatively low toxicity in comparison to conventional chemotherapy and external beam radiotherapy make radionuclide therapy an attractive and realistic alternative in the management of malignant diseases. The contribution of therapeutic radionuclides to tumor treatment will significantly increase in the future.

Statistics			
Bone Scan	1,614	Therapy	
Renal Scan	534	Lu177 Dotatae therapy	9
Liver Scan – Haemangioma	08	I-131 Therapy	24
Sentinel Node	88	MIBG Therapy	3
Tc99m pertechnetate thyroid scan	02	Low dose Therapy	62
Tc99m Hynic Toc scan	04	Lu177 PSMA therapy	3
I-131 uptake and scan	220		
I-131 WBI scan	202		
I-131 MIBG scan	04		
Post therapy scan	200		

Academics

S.Manisha, lecture on “Nuclear Medicine Physics” – CME conducted by Tagore Institute of Allied Health Science in April.

Mr.G.K.Rangarajan, RSO – HDT (High Dose Therapy) by AERB, Mumbai

Dr.R.Krishnakumar

- External expert for the scientific committee meeting in the department of Nuclear Medicine DNB Pgs at Apollo Hospitals, Chennai-6 in March.
- Chairperson in SNMICON (virtual) conference 2021, Hyderabad
- Subject expert in “Prevalence of cardiopulmonary vascular defects among post-COVID-19 patients using Q-SPECT/CT hybrid imaging and correlation with biomarkers for prognostication – a longitudinal study (POCOS) organized by National Institute of Research in tuberculosis in November.

Ongoing Projects

1. Ph.D. Thesis Topic : Quality control, physical and clinical studies of Radionuclide Imaging and Therapy of Nuclear Medicine, G.K.Rangarajan, Scientific Assistant, Department of Nuclear Medicine, Sub Topic: Prognostic value of Radionuclide Imaging with specific Reference To Limb tumors.

2. Current project approved by SAC and Institute ethics committee
Multicentric phase-III double blind Randomized control trial, evaluating three monthly zolendronate role in differentiated thyroid cancer patients with bone metastases for decreasing symptomatic skeletal related events.

Future Projects

1. Randomized controlled trial of I-131 Tositumomab (Bexxar) radio-immunotherapy versus rituximab immunotherapy with relapsed or refractory low grade, follicular or transformed B-cell Non-Hodgkin’s Lymphoma.

Background - Non-Hodgkin’s Lymphoma (NHL) is a heterogeneous group of cancers affecting the lymphatic system – divided into two prognostic groups.

1. Indolent or low grade lymphoma with a long median survival. Majority of lymphoma fall into this group. They are incurable at advanced stages with a median survival of 8 – 10 years.
2. Aggressive or high grade lymphoma these have a short natural history and a 50-60% cure rate.

The Technology

I-131 Tositumomab (Bexxar) is Iodine labeled monoclonal antibody for the treatment of patient with CD 20 positive follicular low grade NHL, including relapsed, refractory or transformed low grade NHL. The monoclonal antibody targets and binds to CD 20 on the surface of the B cells. Once bound antibody inhibits tumor cells directly and / or recruits the immune system to attack the targeted cells. Simultaneously the radio isotope delivers radiation directly to the B cells. I-131 tositumomab has been in clinical trials as an adjunct to chemotherapy and for the treatment of patients who relapse after an initial response. Administration of I-131 tositumomab requires dosing based on the patient body mass, tumor size and metabolism of the drug. It is delivered intravenously and usually given in 2 separate doses on the same day or 2 doses one week apart. After the second dose the patient needs to stay in hospital for a few days because they may be a radiation risk for other people.

The results of clinical trials show that for follicular NHL, treatment with radiolabelled antibodies would require re-treatment at 14 months for most of the patients. Using conventional chemotherapy however would require re-treatment at 5 months. In addition 20% of patients treated with a single dose of I-131 Bexxar were tumour free at 3 years compared to none in the group of patients having repeated chemotherapy. There are literature reports of response rates of 57% (complete response 32%) with I-131 Tositumomab for chemotherapy refractory, low grade and transformed low grade NHL. The median duration of complete response has been reported as 20 months.

Financial Implication

At present, I-131 Tositumomab labeling procedure is being analyzed by Board of Radiation in Isotope Technology (Radiopharmaceuticals). BRIT is planning to conduct a multi-centre clinical trial in India. Therefore for 10-15 NHL patients a year we can conduct an approved clinical trial using Bexxar. The budgetary provision would be worked out in a few months in co-ordination with BRIT, Mumbai.

ONCOPATHOLOGY

Dr. Shirley, Head of the Department

Dr. S. Shirley	MD, DNB, MNAMS, PHD	Professor & Head
Dr. K. Murhekar	MD	Additional Professor
Dr. B.K. Karthik Bommanna	MD, DM.(Hematopath)	Associate Professor
Dr. A. Jhansi Rani, Dr. Sithara Venkateshwar, Dr. P.U. Swathy		Assistant Professor
Dr. Sneha Suresh, Dr. Banasri Devi, Dr. M. Charanya, Dr. Nivedita Suresh		Pathologist

Other Staff:

Scientist C, Scientific Assistants, Technologist, Research Assistants, Technicians, Typist, Oncopathology Fellowship Student.

DEPARTMENTAL STATISTICS	Cases
Histopathology	24946
Biopsies	6479
Outside reviews	7501
Minors	839
Majors	1803
Histochemistry	3384
Immunohistochemistry	3453
Fluorescence in situ hybridization	335
Frozen Section	703
Tumour Bank	449
Cytopathology	10698
haematopathology	9470
Clinical pathology	483882
24 hours laboratory	38708
Cytogenetics	375
Electron microscopy	16

ONGOING PROJECTS

- DHR-ICMR Advance Molecular Oncology Diagnostic Services (DIAMOnDS).
- Comparison of estrogen, progesterone and HER2 receptor expression profile of primary and metastatic breast cancer.

Academics

Presentation by Dr. Karthik Bommanan:

- “Measurable Residual Disease assessment, T Cell Antigen Stability and Survival among Immunophenotypic Sub-Categories of Precursor T-Lineage Acute Lymphoblastic Leukemia Patients in April 2021 at International Conference & 62nd Annual Meeting, hosted by the Korean Society of Hematology (KSH).
- “Blast size specific flowcytometric ploidy assessment using FxCycle™ Violet dye and its correlation with conventional cytogenetic ploidy in pediatric precursor B-lineage acute lymphoblastic leukemia patients” & “Demonstrating the significance of tandem brake in flow cytometric immunophenotyping” in October 2021 at 13th annual conference and workshop conducted by The Cytometry Society of India, organized by PGIMER, Chandigarh.
- “Challenging case scenario in myeloma MRD assessment” in April 2021 at Challenging case presentation in flow cytometry at Indian Myeloma Congress, organized by SGPGL, Lucknow.
- “Relevance of flow cytometric immunophenotypic subcategorization and end of induction measurable residual disease assessment in pediatric and adult precursor t-lineage acute lymphoblastic leukemia patients” & “Blast size index: a flow cytometry derived novel parameter to determine aneuploidy in pediatric precursor acute lymphoblastic leukemia patients” in October, 2021 at 53rd congress of the international society of pediatric oncology.
- Leture - Dr. S. Shirley - “What’s New in Ovarian Tumours In 2021?” in September at Balaji Medical College. “Update on molecular pathology and role of liquid biopsy in lung cancer” in February Chettinad Academy of Research and Education, Kelambakkam. “Precision Oncology: Role of the Pathologist” in March at Kilpauk Medical College.
- Dr. P.U.Swathy, presentation - “Subcutaneous Panniculitis like T cell lymphoma with secondary Hemophagocytic syndrome – A rare case report” in July, 2021 at AAPUD 2021.

CLINICAL BIOCHEMISTRY

Dr. R. Arivazhagan, Head of the Department

Dr. R. Arivazhagan

Associate Professor & Head

Other staff : Scientific Assistants, Sr. Technician & Technician

Tests	Number
Blood Glucose	21,526
RFT	1,09,485
Electrolytes	1,95,330
LFT	1,70,751
Coag. Profiles	24,886
Tum. Markers	24,378
Other Investigations	70,443
Total	6,16,799

Academics

- Internship training for 1st year M.Sc. students from out side institutions regularly. This year due to lockdown and pandemic, there is no internship program but for our technicians 15 in house training classes were conducted.
- Dr.R.Arivazhagan, Ph.D. Viva Examiner for a candidate at Vel’s University (VISTAS) in March - Bio Chemistry Department.
- One New fully automated routine chemistry analyzer (BA 200) was purchased on 23-3-2022 and installed in our clinical Bio Chemistry dept. (Dr. S.K. Campus).
- The following new test parameters were introduced along with routine tests:-
D-DIMER, PROCALCITONIN, LIPASE, ADENOCINE DEAMINASE.

CLINICAL MICROBIOLOGY

Mrs. Varalakshmi, Head of the Department, Associate Director

Staff Member	
Dr.R.Manjula, MD	Consultant Microbiologist
Mrs.Varalakshmi, M.Sc	Head & Infection Control Officer
Other Staff: 8, Scientific Assistants, Jr Scientific Assistant, Technologist & Technicians	

The microbiology department provides comprehensive bacteriological, fungal, virological, and serological diagnostic service helping in treatment of patients with infection. A wide range of samples like blood, body fluids, urine, pus, respiratory secretions, pre op swabs, catheter tips, tissues, stool etc are received for culture, around 38,934 clinical samples and around 13,112 surveillance samples per year. The department has BacT alert automated systems – 120 cells for blood culture specific for adults & pediatric patients there by help in reducing the turnaround time and results being available after a shortened incubation period of four hours instead of the conventional 24 hrs. & another BacT alert automated systems – 60 cells for Mycobacterial culture. Department has a Vitek 2 Compact system for identification and susceptibility testing of bacteria and fungus. Aerobic, Anaerobic, Fungal and Mycobacterial culture of various clinical samples are performed routinely.

The department has been helping in active surveillance of infections at high-risk areas – CLABSI, UTI, SSI & VAP, helps monitoring antibiotic resistance, preventing spread of infections, involved in surveillance of OT’s, ICU’s, BMT Unit, various wards, CSSD, Blood Bank, health care personnel and biomedical waste management for better infection control & conducts continued education for nursing and paramedical staff.

Infection control is a major responsibility of the department, periodic training is given to ICN’s on all aspects of infection control, regular review of infections and antibiotic policy to limit the spread of infections & resistance is being done.

Following the Institute policy of providing a safe hospital environment for our patients, we ensure adherence of strict infection control practice at all levels of the hospital. Relevant cultures are sent at the first suspicion of infection to identify focus and antibiotic initiation is done after sending cultures. Compliance with antibiotic policy is reviewed periodically & all efforts are made to reduce overall antibiotic use.

As part of the NABH journey, we have initiated many quality control activities like Quality Assurance Programme, Quality Objective, Quality Indicator / KPI's. at the department.

Department has initiated stringent Covid Control Measures during the pandemic since Mar 2020 & is ongoing. In view of the COVID -19 pandemic, measures were taken to handle the suspected and confirmed COVID cases, who might present to the Institute. COVID-19 infection is spread through respiratory droplets, direct contact & air borne, all staff in patient care areas including the housekeeping services are at risk of infection while handling infected patients, hence the following guidelines for prevention & control of COVID-19 were strictly adhered.

An infection control team - COVID 19 ICT was specially formed for control & prevention of COVID infection. The team monitors I/C practices throughout the hospital to ensure staff / patient compliance to guidelines.

SPECIMEN RECEIVED FROM APRIL 2021 – MARCH 2022	No. of specimens
Total	52,046

SUMMARY OF INFECTION RATES APRIL 2021 TO MARCH 2022

Month	CLABSI	SSI	CAUTI	VAP
April	1.07	3.17	2.64	0
May	0.99	3.37	2.22	0
June	0	3.19	1.73	0
July	0.97	1.27	1.3	0
August	0.88	2.19	0	35.71
September	0.43	2.65	0	0
October	0.38	1.72	2.48	0
November	0.76	1.80	2.48	0
December	0.88	3.35	2.02	20.83
January	0	0.97	1.35	0
February	1.81	1.64	0	17.54
March	0.33	1.91	0	0
Infection Rate Benchmark as per National Health Care Safety 2013	1.2	5%	3.1	1.43
ICU Benchmark as per Inter Noso inf consortium	5.36	2.3%	4.1	4.2

*The above infection rates are discussed in HICC meetings & CAPA taken accordingly.

Antibiotic Susceptibility Profile from April 2021 – March 2022

BLOOD

Organism	I	ME	PT	CS	CL	AK	TGC
Pseudomonas	100	100	100	100	100	100	-
Staph aureus	80	80	80	80	-	80	100
Klebsiella	52	52	45	45	100	48	100
Escherichia coli	73	73	67	67	100	73	100

WOUND SWAB

Organism	I	ME	PT	CS	CL	AK	TGC
Staph aureus	97	97	97	97	-	97	100
Pseudomonas	96	96	96	96	100	96	-
Escherichia coli	80	80	79	79	100	80	100
Klebsiella	91	91	80	80	100	97	100

RESPIRATORY SAMPLES

Organism	I	ME	PT	CS	CL	AK	TGC
Pseudomonas	98	98	98	98	100	98	-
Klebsiella	86	86	86	86	100	86	100
Escherichia coli	91	91	89	89	100	91	100

URINE

Organism	I	ME	PT	CS	CL	AK	TGC
Escherichia coli	90	90	89	89	100	90	100
Enterococci	60	60	60	60	-	-	60
Pseudomonas	96	96	96	96	100	96	-
Klebsiella	76	76	74	74	100	76	100

I – Imipenem; ME – Meropenem; PT – Piperacillin/Tazobactam : CS – Cefoperazone / sulbactam CL – Colistin AK – Amikacin, TGC - Tigecycline

Take home Message : 2021-22 Antibiotic Susceptibility

Staphylococcus aureus

- Incidence of MRSA is around 33% (SSI).
- Linezolid, Vancomycin, Teicoplanin shows 100 % Susceptibility for MRSA.
- Clindamycin shows 95% Susceptibility for MSSA, while 20 % for MRSA.
- Amikacin shows 10% Susceptibility for MRSA.

Enterococcus (MDR): Mostly isolated from Stool.

- Linezolid shows 100 % Susceptibility.
- Vancomycin, Teicoplanin shows 90 % Susceptibility.
- Vancomycin, Teicoplanin resistance (VRE) seen Mostly with Enterococcus faecium.

Escherichia coli / Klebsiella

- Colistin & Tigecycline shows 100 % Susceptibility (No resistant strain in 2021 -2022).
- Susceptibility to Imipenem – 76%, Meropenem is around 75 %.
- Ecoli/ Klebsiella reported from Stool is 100 % MDR.
- Susceptibility to 1st, 2nd & 3rd generation Cephalosporin is around 15% only.
- Piperacillin/Tazobactam shows 62% while Cefoperazone/sulbactam shows 61% & Amikacin shows 73% Susceptibility.
- ESBL Positivity is around 42 to 45%.
- Carbapenamase production is around 30% - 35%.

Various surveillance activities done at microbiology

- ❖ Theatre surveillance both at weekends and in between.
- ❖ Special ward & General Ward rooms' surveillance after fogging.
- ❖ Random Surveillance of Theatres & Wards.
- ❖ ICU Surveillance (Before & After fogging)
- ❖ CSSD surveillance.
- ❖ Blood bank – Blood Bags, Platelets, SDP, RDP etc.
- ❖ Kitchen food handlers stool culture, Nail culture.
- ❖ Kitchen food analysis.
- ❖ Water analysis of various Sump & Overhead tank at Dr.SKC & Dr SC, RO Water, CSSD Sterilizer water and Potable Drinking water (Can water).
- ❖ OT Staffs Nasal screening for MRSA.
- ❖ Doctors & Nurses hand cultures.
- ❖ New chemical & Disinfectant Capacity testing etc.

Academics

CME/Workshop:

Mrs Varalakshmi attended

- Emerging trends in MDR infections CME conducted by SRM, Department of Microbiology in July 2021.
- Certificate Course on Antimicrobial Stewardship Program by CAHO.
- Challenges In Managing Hospitals During COVID -19 Pandemic.
- Hand Hygiene - Role In Prevention Of Spread Of COVID-19 Virus Infection.
- WHO Webinar - Operational Preparedness & Planning Of Hospitals In India Towards COVID-19.
- HIC – Advanced Certificate Course, CAHO in May 2021.
- COVID-19 Outbreak and Quality Care in Hospitals.

Continuous Quality Improvement Activities as per NABH requirements

1. Internal Quality assurance
2. External quality assurance
3. Quality objectives:
 - ❖ To improve the Turnaround time of Gram stain smears from 3- 4 hrs. to 2 hrs. during Night duty hours
 - ❖ Percentage of Variance in EQAS
 - ❖ To reduce the deviations in Turnaround time of Blood cultures from ICU / BMT
4. Quality assurance program
5. Service standards
6. Key performance indicators
 1. No of reporting errors per 1000 investigations
 2. No of re-dos
 3. % of adherence to safety precautions by staff working in diagnostics
 4. Incidence of Needle stick injuries
 5. No of blood body fluid exposures
 6. % of Discrepancies in Cross culture of a sample by a 2nd technician
 7. Samples delayed in transport from ward to Laboratory > = 45 min
 8. % of Deviations in critical alert information
7. Training on Key result area.

PHYSIOTHERAPY

Mr. Srinivasan Vijay, Chief Physiotherapist & Head of the Department

Mr. Srinivasan Vijay, (Ph.D), MPT(ortho), PGDSM, PGDTC, CLT	HOD
Dr. M.S. Satish, Ph.D, MPT (Neuro), MSc (Psy), D.Ac	Chief Physiotherapist

Other Staff: Senior & Junior Physiotherapist

Statistics:			
In Patients	4,969	Internship students & Clinical postings	58
Out Patients	5,818		
Total	10,787		

Academics

- Mr. Srinivasan Vijay, resource person for work shop on Lymphedema management in “Innovations in oncology 2021” Hybrid Conference organised by Sarvodaya Hospital and research centre, Faridabad in December.
- Dr. M.S.Satish, talk on “Physiotherapy’s perspective on head and neck cancer rehabilitation” at the “Second International physiotherapy conference 2021” organized by VITAS deemed to be university and AIMST (Malaysia) held virtually in December.
- Mr. Srinivasan Vijay, “Exercise Intervention for Tobacco Cessation” for 42 Health care professionals comprising of Dentist and psychologist organised by Department of Psycho oncology & Resource centre for Tobacco Control, Cancer Institute (WIA), Adyar, Chennai in October. “Role of Physiotherapy in oncology for Physiotherapist” at “SPEEDS – School of Physiotherapy Enhancing E-Learning & Development skills” organised by AVMC College of Physiotherapy, Pondicherry in February. “Physical exercises and Survivorship” organised by Indian Cancer Society, Delhi on account of International Childhood cancer day in March.
- Dr. M. S. Satish, “Scope of research in cancer rehabilitation” at IAPWC (Mangalore) in January.
- Ms. Anitha, “Cancer treatment toxicity on physiological systems and the benefits of exercise” at AVMC College of Physiotherapy, Pondicherry in November.
- Mr. Navin, “Lymphedema Management” at AVMC College of Physiotherapy, Pondicherry in December.

Completed projects

- The Impact of Kinesiotherapy on cancer related fatigue in oral cavity cancer patients.
- Effectiveness of Sequential Pneumatic Compression therapy and Physiotherapeutic Rehabilitation on breast cancer Related Lymphedema.

Ongoing projects

- Prevalence of Lymphedema and the Effectiveness of Complete Decongestive Therapy (CDT) in comparison with Pneumatic Compression Therapy in Managing Upper Limb Lymphedema among Breast Cancer Survivors.
- Factors determining shoulder dysfunction and Effectiveness of prehabilitation on physical and psychological problems in breast cancer patients with modified radical mastectomy.



**வாழ்கை
வாழ்வதற்கே
புற்றுநோய்க்குப்
பிறகும்
வாழ்க்கை உண்டு**





of humanity with wisdom
1954-2022

Cancer Institute (WIA)

Cancer Institute (WIA)





**புற்றுநோய்
ஒரு சாபமல்ல
குணப்படுத்தக்கூடிய நோய்**



**புற்றுநோய் ஒரு
தொற்றுநோய் அல்ல
Cancer is not contagious**



LIBRARY

Mr. M. Ravichandran, M.A., M.L.I.S., D.C.A.

Librarian

Mr. P. Ponmudi, B.A., M.L.I.S., D.C.A.

Assistant Librarian

Total number of stack volume			
Books	8,557		
E-Books	104		
Periodicals		Catalogue	
Current	68 (61+7)	Books	21
Complimentary	3	Annual Reports	1,353
Bound	6,104	Reprint files	65
Cassettes			
Video	65	Compact	138
Audio	77	Floppy	4
DVD	45		

Technical Services - Book Stack is classified and catalogued according to the Dewey Decimal Classification and Computerized respectively.

QUALITY CONTROL DEPARTMENT

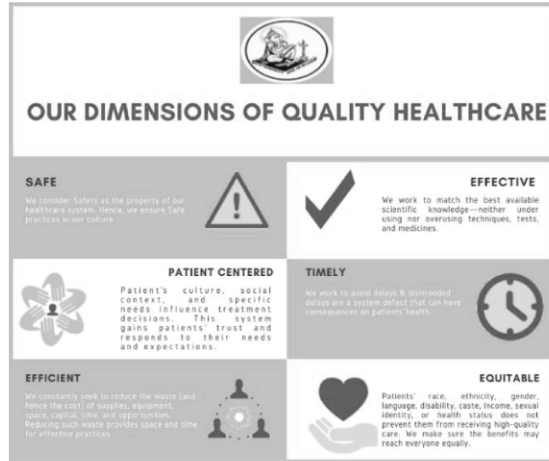
Dr. Selvaluxmy Chairman

- Mrs. Varalakshmi
 - Dr. Vasanth Christopher
 - Dr. Chandrakumar
 - Dr. Nikita
 - Mrs. Jayapradha
 - Mr. Vignesh
 - Ms. Sujatha
 - Ms. Vinodhini
- NABH Coordinator
 - Quality Control Officer
 - Quality Control Officer
 - Quality Control Officer
 - Quality Manager
 - Assistant Quality Coordinator
 - Coordinator - Patient Safety & Quality
 - Coordinator - Patient Safety & Quality

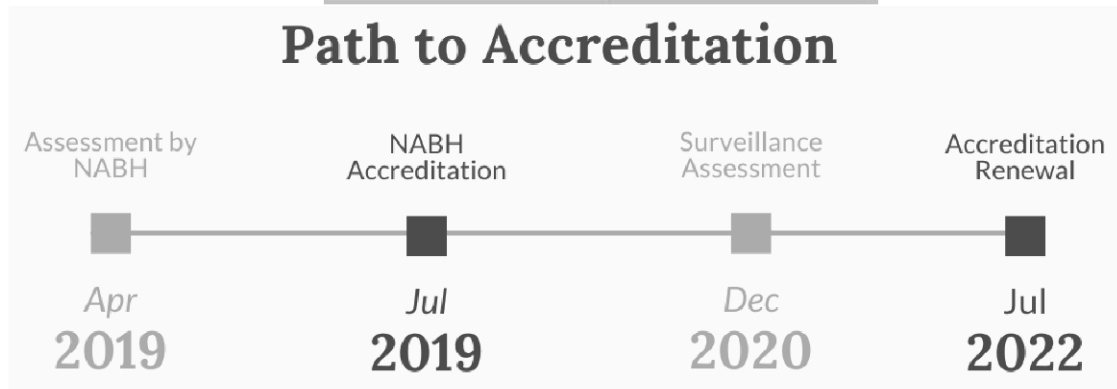
Cancer Institute (WIA) is committed to provide a health care quality that matches the definition, viz. safe, effective, efficient, equitable, timely and patient centered that in turn satisfies the standards set forth by National Accreditation Board for Hospitals and healthcare providers.

The Institution aspires to be a Centre of Excellence in Oncology providing quality treatment and service with state of the art facilities, teamwork of reputed health care specialists and dedicated staff. The Quality department of the Institute, supports by implementing the various hospital quality measures and NABH standards, so that the entire function is in a desirable state. This in turn shall improve patient experience and patient satisfaction. A structured quality improvement and continuous monitoring programme at Cancer Institute (WIA) which is developed and implemented, is communicated and coordinated amongst all the staff of the organization through

appropriate training mechanism like induction, in service etc & the programme is reviewed at pre-defined intervals to find opportunities for improvement.



Path to Accreditation



Activities implemented

Standardisation of the consent forms

This Initiative was taken up by the Quality department to present a similar look of the Consent Forms across the Institute and also at the same time adhere to the NABH requirements with regard to Consent Forms. A Similar header with the Patient and Bed details has been provided across all the consents. The Certificate of Consent as per the WHO guidelines has also been implemented in all the consents.

Patient Reported Experience Measures (PREM)

In order to monitor the Patient Experience, a digitally formatted PREM Questionnaire on the various services provided was developed. This provides direct information about what patients and attenders think about the services offered. Examining patients' feedback gives direct insight into what is working well and what needs further improvement in the way care is delivered.

Patient Reported Outcome Measures (PROM)

PROM capture has been initiated across the institute. This survey is captured to the same set of patients before the initiation of the treatment and also on completion of the treatment. This shall provide an insight into the health analysis which shall improve the Doctor-Patient communication which in turn shall improve the Patient Satisfaction. This measures the patient perception of their functional well-being.

Spread of Culture of Safety

Features for a culture of safety are sharing information, reporting occurrences of incidents, learning from safety incident analysis, blame-free culture and encouragement of collaboration across disciplines and departments. The key components of patient safety culture are informed culture, reporting culture, learning culture, just culture and flexible culture.

A Questionnaire was created to survey the culture of safety in the Institute. This is to ensure the adoption of behavior that promote patient safety.

Internal Audits

Audits are steps to enhance Patient Safety. Internal Audits in various areas are conducted to ensure compliance within the departments. Hospital Wide Audits are also part of the Internal Audits. The findings and corrective and preventive measures are documented. The Corrections are implemented. These audits pave way to stay in compliance to the standards.

Internal Audits are being conducted every year which includes:

1. Hospital wide audit – Wards, Operating rooms, ICU, BMT, Diagnostics
2. Care of Patients
3. Medication Management
4. Prescription audit
5. Nursing practice audit
6. Infection Control practices
7. Facility Management & Safety
8. Laboratory Quality Assurance
9. Medical record audit
10. Support Services–CSSD, Kitchen, Waste management, House keeping

Prescription Audit

The Institute undergoes an audit of medication orders/prescription to check for safe and rational prescription of medications. The findings from these audits are disseminated for the GAP Closure and further implementation.

Medical Record Review

A review on Medical Records is implemented to ensure the compliances to documentation in the records. This has been implemented as an electronic process for the ease of use and for the ease of data analysis. The findings with non-compliances, like other audits are to be closed and needs to be brought into practice.

Quality Rounds

Quality rounds are conducted by the quality department with the participation of the CQI Committee members. Further on, Quality Rounds continued every week under the Director's supervision and along with the CQI Committee members to various areas including the Dr. Shanta Campus, Stores, General Wards, Patel Block, Diamond Jubilee Building, Kitchen, Manifold Room and Gas plant. Under the direct supervision, various findings were pointed out for changes. Mock Emergency Codes were announced to check the responses of the team for the respective codes.

Analysis of Key Indicators

Quality indicators are the means to judge the performance of parameters selected. All the mandated indicators by NABH are monitored by various departments and are summarized by the Quality department.

Metrics for Quality Improvement:

S. No:	Services	Patient Care Indicators
1	Nursing	Time for initial assessment of In Door patient
2		Medication error Rate
3		Percentage of In patients developing adverse drug reaction
4		Percentage of medication charts with error prone abbreviations
5		Standardized Mortality Ratio for ICU
6		Return to the emergency department within 72 hours with similar presenting complaints
7		Patient fall rate
8		Incidence of hospital associated pressure ulcer after admission
9		Nurse- Patient ratio for ICU
10		Percentage of near misses
11		Incidence of needle stick injuries
12		Compliance rate to medication prescription in capitals
13		Appropriate handovers during shift change
14		Time taken for discharge
15		Percentage of Re Intubation Rate (Additional KPI)
16	Operation Theatre	Percentage of unplanned return to OT
17		Percentage of re-scheduling of surgeries
18		Percentage of surgeries – safety to prevent adverse event like wrong site, wrong patient, wrong surgery etc
19		Cases who received appropriate prophylactic antibiotic within the specified timeframe
20	Infection Control	Catheter Associated Urinary tract infection
21		Ventilator Associated Pneumonia
22		Central Line Associated Blood Stream Infection
23		Surgical Site Infection

24		Hand hygiene Compliance
25	Diagnostic Services	Number of Reporting Errors
26		Adherence to safety precautions by Staff
27	Blood Bank	Percentage of transfusion reactions
28		Turnaround time for issues of blood and blood components
29	Medical Records	Medical records having incomplete and / or improper consent
30		Percentage of Missing Records (Additional KPI)
31		Average Length of Stay (Additional KPI)
32	Pharmacy	Stock out rate of emergency medications
33		Percentage of drugs & Consumables procured by local purchase (Additional KPI)
34		Percentage of variation from the procurement process (Additional KPI)
35	Patient Safety & Care	Waiting time for OP consultation
36		Waiting time for diagnostics
37		Number of sentinel events reported and analyzed (Additional KPI)
38		Outpatient Satisfaction Index (Additional KPI)
39		Inpatient Satisfaction Index (Additional KPI)
40		Incidence of Patient Identification Error (Additional KPI)
41	Code Blue / Code Red / Disaster Management Drill	Number of variations observed in mock drills

Others Additional KPI :

Percentage of drugs and consumables not in the formulary procured by local purchase
Percentage of variations from the procurement process
Average Length of Stay
Out Patient satisfaction index
In Patient satisfaction index
Number of sentinel events reported, collected and analyzed with in the defined time frame
Percentage of missing records
Incidence of patient identification errors
Reintubation Rate

Other additional clinical KPI monitored:

- Radiation Oncology
 - Work Load - Patient Staff Ratio
 - % of Patients treated with newer technologies

- Medical oncology
 - Day Care - Average Waiting Time (min)
 - Average No of Days to start Systemic Therapy
- Surgical oncology
 - Duration time between patient induction time with handing over time
 - Duration time between handing over time with incision time

Discharge Proves & Time Capture

Discharge Process, has a set of formalities to be abided by. At the Similar front, at the Institute reducing the time taken for discharge has always been a challenge. In order to ascertain the delay in the process, Quality department had initiated a monitoring system in the wards by capturing the time taken in the various processes of discharge. This shall enable to trace the delay over the process. On improvement of the same, the entire process of the Patient discharge can be a much quicker one.

Committee Review

The Institute has several committees functioning on a periodicity to address various topics. The review of these committees are addressed to the Director every quarter. The Committees

- Continuous Quality Improvement Core Committee
- Cardio Pulmonary Resuscitation Committee
- Internal Complaints Committee
- Safety & Risk Management Committee
- Hospital Infection Control Committee
- Laboratory Safety Committee
- Pharmaco therapeutics Committee
- Blood Transfusion Committee
- Credential and Privilege Committee
- Purchase Condemnation Committee
- Facility Inspection Rounds Committee
- Hospital Infection Control Committee
- Patient safety Committee

Training

Quality Improvement includes People improvement which in turn will lead to process improvement. Training is an integral part of People Improvement. Training has the potential to help gain an edge, build competency, boost efficiency and Improvement, enabling consistent knowledge sharing. Trainings by the Quality department is a continuous process to enhance the knowledge of the staff involved in the Quality Improvement processes.

Training Attended, Mrs Varalakshmi:

- Certificate Course on “How to close NC after ANB Hassessment” – CAHO.
- Atteded Master Class Series – on NABH Readiness in Sept, Oct, Dec 2021 – CAHO.
- Master Class Series – Responsibility of Management – Mar 2022.
- Completed quality training by Association of Healthcare Providers – AHPI.
- 1 day workshop on patient safety conducted by NABH in Oct 2021.
- 1 day workshop on Quality Tools & Techniques by CAHO.
- International Webinar PREM & PROM.

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