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Dr Ashok Rajgopal

COVID: FACING THE UNSEEN





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EMPOWER YOUR PROSTATE



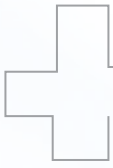
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Navigating Current Health Challenges

Dear Readers,

As we have stepped into a new year, it's a moment of both reflection and forward-looking anticipation. Over the past seven decades, the field of medicine has witnessed remarkable transformations, with Indian doctors and experts standing at the forefront of global advancements. At Double Helical, our commitment to societal betterment is unwavering, manifested through our mission to raise awareness and make voluntary contributions in education, health, human rights, and social services.

In the cover story, we delve into the unfolding narrative of the new variant of Covid-19, exploring its global surge and the strategies that lie ahead. The JN.1 sub-variant of SARS-CoV-2, making its mark since its detection in Luxembourg in August 2023, has woven its path through 41 countries, including India. With Covid-19 cases on the rise in several states, the need for effective strategies becomes more pressing, encompassing public health, nutrition, and the cultivation of healthier lifestyles.

India, having adeptly navigated the challenges of the Covid-19 pandemic, now faces the emergence of the JN.1 sub-variant. With 75 per cent of the population fully vaccinated and 35 per cent having received a booster, the nation stands fortified against the evolving threat. Our vaccination efforts have not only safeguarded our population but have also positioned India as a global contributor, supporting over 50 countries with protocols, equipment, medicines, and vaccines.

In a Special Feature, we shine a spotlight on Dr Ashok Rajgopal, a luminary in the realm of orthopedic surgery. Revered as the 'Bone Man of India,' Dr Rajgopal's exceptional record includes the completion of an unprecedented 30 total knee replacement surgeries within a span of 12 hours. His contributions to advancing knee surgery techniques and fostering academic excellence make him a formidable figure in the medical field.

Turning our gaze towards a critical health concern, our special story, "Decoding Barrenness," delves into the escalating trend of infertility. In India, an estimated 15 to 20 million couples grapple with infertility, constituting 25 per cent of the global infertility cases. The World Health Organization (WHO) underscores that one in every four

couples in developing countries faces infertility challenges. This pervasive issue demands urgent attention, particularly given that a substantial portion of infertility cases is preventable.

Recent strides in assisted reproductive technologies (ART) have opened new avenues for successful infertility treatment. Intra-cytoplasmic sperm injection, oocyte donation, and embryo cryopreservation are among the cutting-edge technologies enhancing diagnostic precision and tailoring interventions. These advancements within male infertility programs hold the promise of more successful fertility outcomes for couples facing male factor infertility.

Our another story, dedicated to prostate health, emphasises dietary fortification as an important shield against potential risks such as cancer. Nutrients such as lycopene and selenium play a crucial role in promoting prostate well-being. Complementing this, advanced medical interventions, spanning screening and treatment options, surgical procedures, and radiation therapies, collectively form a holistic defence against prostate ailments.

Our magazine also spotlights the critical issue of declining male health, with an insightful piece by Prof (Dr) Rajeev Sood. This story sheds light on the challenges faced by men in the modern world, touching upon genetic vulnerabilities, societal expectations, mental health stigmas, and developmental defects. The Men's Health Society of India's initiatives are highlighted, emphasising the importance of tailored health programmes for men.

This issue is a rich tapestry of intriguing and thought-provoking stories, and we invite you to immerse yourself in its pages.

Thanks and regards

Amresh K Tiwary,
Editor-in-Chief



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Fostering Collaboration on AIDS

On World AIDS Day, the World Health Organization (WHO) recently urged member states, partners, and communities in the South-East Asia Region and globally to continue fostering collaboration to address the challenges of ending AIDS by 2030 and empowering communities to lead in shaping the response forward.

Globally, an estimated 39 million people are living with HIV. In 2022, approximately 1.3 million people acquired HIV, and around 630,000 people died from AIDS-related causes. In the South-East Asia Region, an estimated 3.9 million people are living with HIV, accounting for around 10% of the global burden. In 2022, an estimated 110,000 people became newly infected with HIV, and 85,000 people in the region died due to AIDS-related causes, representing over 13% of the global burden of AIDS-related death.

Over the past decade, the South-East Asia Region has made substantial progress, with a remarkable decline in both HIV and HIV-related deaths. The number of new HIV infections has halved from 200,000 in 2010 to 110,000 in 2022, and similarly, HIV-related deaths reduced to one-third from 230,000 in 2010 to 85,000 in 2022. In 2022, 65% of people living with HIV were receiving lifesaving antiretroviral therapy (ART), compared to only 17% in 2010. In 2019, Maldives and Sri Lanka were validated to have eliminated mother-to-child transmission of HIV and congenital syphilis, a feat Thailand achieved in 2016—the first country in Asia to do so.

By the end of 2022, 81% of people in the region living with HIV knew their status, 65% were on ART and 61% were



virally suppressed. Despite this progress, the region needs to accelerate efforts to ensure more people are reached and have access to services, aiming for 95% of People Living with HIV (PLHIV) to be aware of their HIV status, 90% on ART, and 86% with a suppressed viral load by 2025.

Continued challenges exist in ensuring outreach to the most vulnerable populations. Across the region, almost 95% of new HIV infections are among individuals at risk, including sex workers, people who inject drugs, men who have sex with men, transgender people, and their partners. In 2022, approximately a quarter of new HIV infections in the region were among young people, with several countries reporting nearly half of all new HIV infections among the youth.

To accelerate the end of AIDS, communities of individuals at risk of, living with, and affected by HIV must be more engaged in shaping effective strategies and interventions. Empowered communities are crucial in the implementation of the Integrated Regional Action Plan for viral hepatitis,

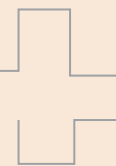
HIV, and sexually transmitted infections for 2022-2026.

The WHO is calling for action in several key areas. First, policymakers and program managers should welcome initiatives and ensure meaningful engagement of key populations, community organisations, and people, including youth and women living with HIV, in advocacy, service delivery, policy development, community-level monitoring, and evaluation to address barriers to quality services.

Second, communities, including the young population, should be proactively reached out to by policymakers. Young people must step up into leadership roles in designing, planning, budgeting, and implementing HIV prevention and care programs.

Third, countries should continue to reform laws, regulations, and practices that enable stigma, discrimination, and exclusion. The human rights of key populations and affected groups must be respected, protected, and fulfilled.

In this era of Universal Health Coverage by 2030, countries must invest in decentralised and integrated primary healthcare services for HIV, viral hepatitis, STIs, and other communicable and non-communicable diseases to deliver people-centred services and ultimately attain multi-disease control and elimination goals. Together, all must accelerate efforts to achieve the targets of the Sustainable Development Goals (SDGs) 2030. On World AIDS Day, the WHO reiterates its commitment to achieving a region and world in which AIDS is no longer a public health threat, leaving no individual, community, or population behind.



REVOLUTIONISING **CANCER** THERAPIES

The possibility of using immune competent T cells for curing various human ailments has intrigued scientists and physicians for a long time. From developing universal Chimeric antigen receptor (CAR) T-cell therapy that make treatments more efficient to using Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) technology for precise gene editing, these breakthroughs promise to elevate the effectiveness of cancer therapies.

By Dr GAURAV KHARYA

In 1989, Israeli immunologist Dr Zelig Eshhar reported the “Expression of immunoglobulin-T-cell receptor chimeric molecules as functional receptors with antibody-type specificity.” Subsequently, in 1991, Eshhar reported “Targeting of T lymphocytes to Neu/HER2-expressing cells using chimeric single chain Fv receptors.”

However, these initial reports faced challenges as the structure lacked components to effectively activate and proliferate T cells in response to stimuli.

EVOLUTION OF CAR T-CELL THERAPY

As our understanding of T cell functioning improved, it became clear that essential components needed to be added to enhance the functional potency of CAR T-cell therapy. This led to the development of the 1st generation CAR-T, with an antigen-binding domain

connected by a hinge to a transmembrane domain (CD8/CD28), further connected to an intracellular signalling domain (CD3).

While the 1st generation CAR-T significantly improved functionality, the desired anti-tumour effects were not



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fully observed, possibly due to poor downstream signalling or amplification.

To address these issues, a costimulatory domain, either CD28 or CD4-1BB, was added, resulting in the 2nd generation CAR-T.

ROLE OF VIRAL VECTORS IN CART

An integral part of CART is the viral vector used to deliver the Chimeric Antigen Receptor (CAR) into T cells. Retroviral and lentiviral vectors, retaining viral integrating potential but lacking proliferation potential, have stood the test of time.

Using the 2nd generation CART construct and viral vectors, two products, YESCARTA by GILEAD for DLBCL and KYMRIAH by NOVARTIS for B cell ALL, have received FDA approval for clinical use.

ONGOING DEVELOPMENTS

A 3rd generation CART, incorporating both costimulatory domains, is currently being tested. Beyond these advancements, scientists are exploring various combinations of CART components to achieve optimal effects.

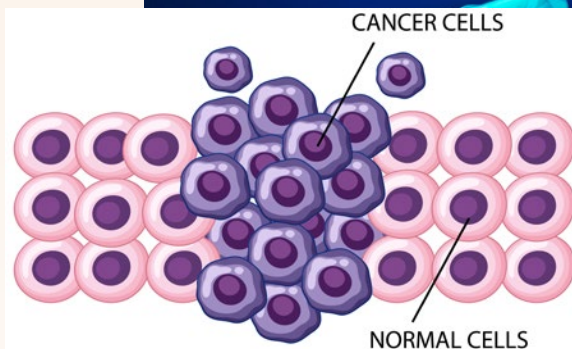
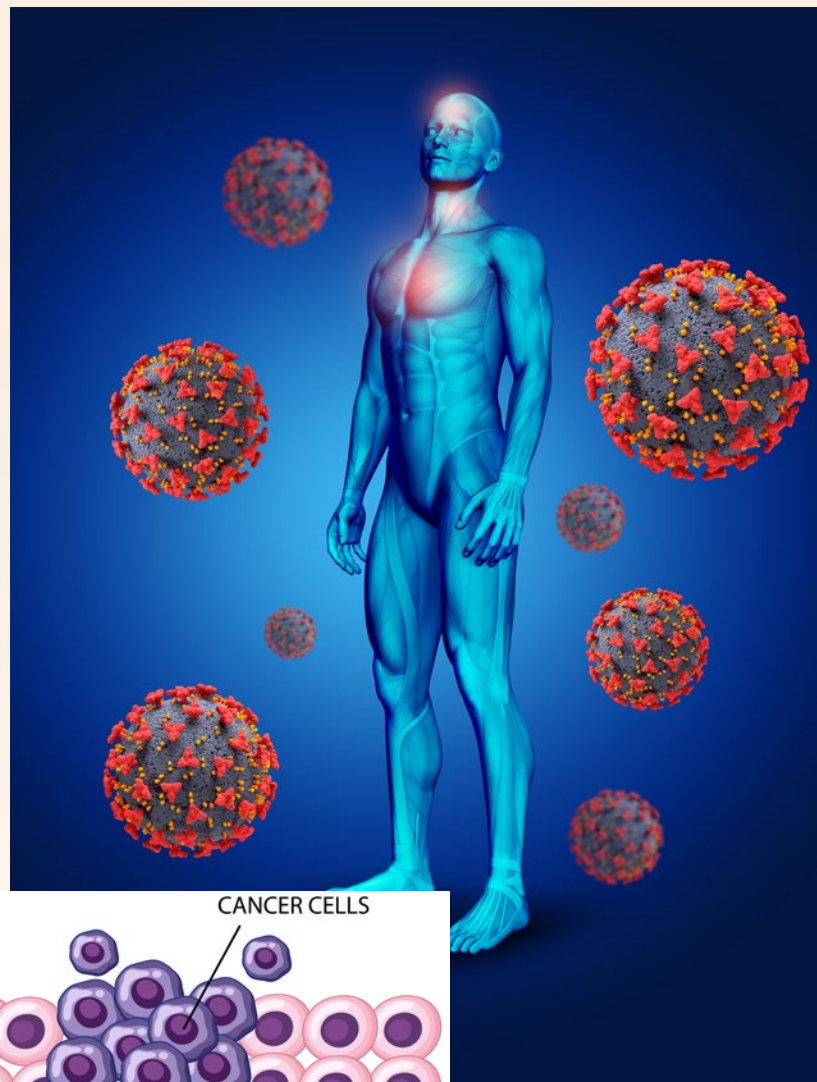
Globally, CAR T cell therapy has witnessed significant growth, with China leading in registered trials, followed by the USA and European countries. However, the use of viral vectors and patient-specific treatments comes at a considerable cost.

The average cost of available CAR T cell therapy ranges from 400,000 to 700,000 USD, posing challenges for countries like India and others with limited resources.

SPECIALISED NATURE AND LIMITED PURSUIT IN INDIA

Given the specialized nature of this field, requiring a blend of clinician-researchers and laboratory scientists, only a few groups in India are actively pursuing this concept.

Immunoact, a start-up from Society for Innovation & Entrepreneurship - SINE, IIT Bombay, began developing a second-generation mono-specific CAR in 2014, focusing on indigenous innovation. They initiated phase I Clinical Trials (CT) at Tata Memorial Hospital (TMH) Mumbai/Advanced Centre for Treatment, Research and Education in Cancer (ACTREC) in June 2021 and are now advancing to phase II CT, reporting positive safety results for their

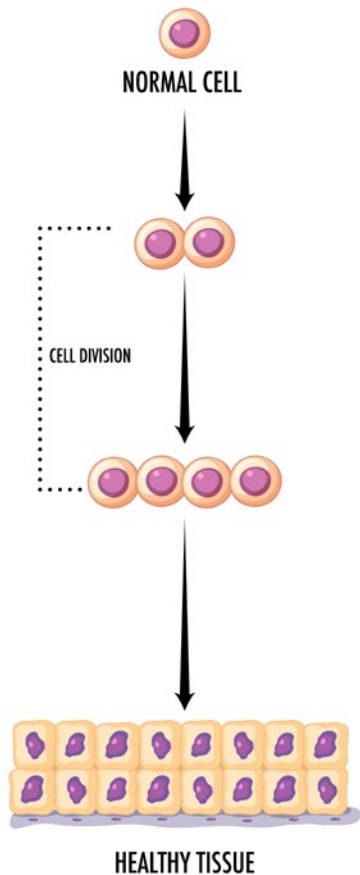


CAR. Simultaneously, Immuneel Therapeutics Pvt Ltd started phase II CT in June 2022, presenting initial findings at ASH 2022. The 2nd Gen mono-specific construct, previously used in Spain, is now under a tech-transfer agreement for phase II CT at Narayana Hrudayalaya Bangalore. Christian Medical College (CMC) Vellore uses a second-generation mono-specific CAR from Miltenyi Biotech for academic purposes, previously used in phase I CT at CMC Vellore. Both Immuneel and CMC Vellore face challenges due to the non-indigenous nature of their CAR constructs, which may impact affordability post-initial clinical trials.

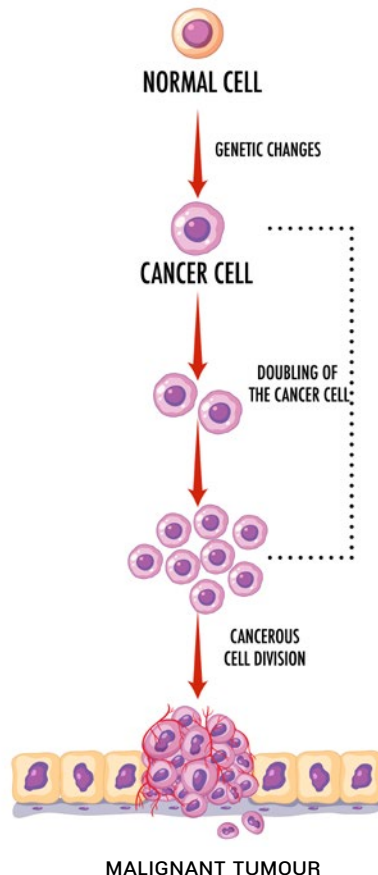
Cellogen Therapeutics Pvt Ltd, a Delhi-based Cell & Gene Therapy start-up, is working on bi-specific 3rd generation CAR constructs to address challenges of antigen loss and limited in-vivo persistence. After completing

NORMAL CELL AND CANCER CELL DEVELOPMENT

NORMAL CELL DEVELOPMENT



ABNORMAL CELL GROWTH



in-vitro and in-vivo validations, Cellogen Therapeutics plans to initiate phase I CT by mid-2023. Challenges to be addressed include poor amplification, poor persistence, antigen escape, and affordability, with a primary focus on making the therapy effective and economically accessible. Overcoming these challenges hinges on indigenous development and innovative

Despite the emphasis on cost-effectiveness, it's crucial not to compromise on the quality of emerging therapies.

THE QUEST FOR A UNIVERSAL SOLUTION

Looking ahead to the future of CAR therapies, current developments relying on viral vectors and patient-specific approaches incur substantial costs. A potential solution is the vision of a ready-to-use UNIVERSAL CAR, where Chimeric Antigen Receptor T cells are manufactured using third-party T cells

The average cost of available CAR T cell therapy ranges from 400,000 to 700,000 USD, posing challenges for countries like India and others with limited resources.

modified to lack TCR and MHC. This approach addresses both Graft-versus-Host Disease (GvHD) and CAR rejection, significantly reducing costs and enabling off-the-shelf use.

PRECISION GENE EDITING WITH CRISPR

Another interesting approach involves using Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) technology for CART manufacturing. CRISPR, a potent gene-editing tool, has been studied for targeting and repairing defective gene sequences linked to monogenic disorders. CRISPR offers the dual advantage of independence from viral vectors, decreasing production costs, and eliminating the risk of insertional mutagenesis. Precision in knocking down the TCR locus and introducing the CAR construct into the T cell is a key advantage of CRISPR.

Expanding the Horizon Beyond B Cell Malignancies While current Chimeric Antigen Receptor (CAR)-T cell therapy use is mainly limited to B cell malignancies, ongoing research is actively addressing challenges to develop effective CAR therapies for solid tumours. This transformative potential indicates a promising future for advancing CAR therapies beyond their current applications.

(The author is the Clinical Lead at the Centre for Bone Marrow Transplant & Cellular Therapy and a Senior Consultant in Paediatric Haematology Oncology & Immunology at Indraprastha Apollo Hospital, New Delhi.)



THE MAESTRO OF MOVEMENT

Embarking on a journey that transcends the realms of traditional orthopaedic surgery, Dr Ashok Rajgopal emerges as a virtuoso in the field, composing a symphony of surgical innovation and compassionate care. From redefining knee replacement techniques to pioneering robotic surgery and establishing a foundation dedicated to societal well-being, his legacy extends far beyond records – it is a testament to a life dedicated to the “Joy of Walking” and transforming lives on a global scale....

BY AMRESH K TIWARY





NT



Dr Ashok Rajgopal





SPECIAL FEATURE - KNEE-REPLACEMENT



In the realm of orthopaedic surgery, the name of Dr Ashok Rajgopal resonates as a luminary, a maestro who has not only revolutionised knee surgery but has left an indelible mark on the global stage. With an exceptional record of completing an unprecedented 30 total knee replacement surgeries within the remarkably short span of 12 hours, he has rightfully earned the distinguished moniker “Bone of India.”

Dr Rajgopal, currently serving as a prominent knee replacement surgeon at Medanta Medicity Hospital in Gurgaon, is a force to be reckoned with in the field. His surgical prowess is exemplified by an impressive portfolio that spans over 25,000 arthroscopic procedures and more than 35,000 total knee arthroplastic

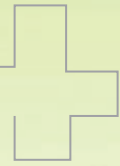
surgeries. Beyond being a skilled surgeon, he plays a significant role in esteemed bodies committed to advancing knee surgery techniques, making the orthopaedic surgery unit under his guidance a beacon of academic excellence and innovation.

What sets Dr Rajgopal apart is not just his surgical skills but also his commitment to incorporating cutting-edge technologies and materials. Trabecular Metal implants, known as TM, have become a hallmark of his surgeries. These advanced, cementless implants boast a remarkable strength-to-weight ratio and mechanical properties that closely mimic natural bone. The result is a surgical approach that ensures both durability and resilience under the physiological loading experienced by the knee joint.

A SURGICAL GENIUS

Pioneering advancements in knee replacement surgery, Dr Rajgopal is a trailblazer in virtual total knee replacement. By leveraging patient-specific instruments and meticulous planning derived from MRI scans, he ensures optimal alignment, a critical factor in the longevity and proper functioning of the knee joint. This groundbreaking approach eliminates the need for multiple instruments and trials, showcasing a commitment to precision without compromising flexibility during surgery.

With a career spanning nearly four decades, Dr Rajgopal is a graduate of the Armed Forces Medical College, Pune. His academic journey continued with a Masters in Surgery from the All India Institute of Medical Sciences and further studies in MCh from Liverpool, UK. However, what truly distinguishes him is his decision to



return to India in 1985, at a time when many professionals sought opportunities abroad. Since then, he has been in independent practice, leaving an indelible mark on the field of Orthopaedics.

GLOBAL RECOGNITION AND INNOVATIONS

Internationally renowned, Dr Rajgopal’s influence extends far beyond the borders of India. His name is synonymous with knee surgery, and his contributions to the field are diverse. He played an important role in designing the Persona Knee System as the only Indian member of the Persona

Developer team at the Zimmer Institute. His commitment to innovation is further evident in his role as the designer of instruments used in minimally invasive surgery, which are now employed by surgeons globally.

Dr Rajgopal’s impact is not confined to the operating room. He has mentored over 100 orthopaedic surgeons worldwide, sharing his knowledge and expertise. His interest in academics is reflected in numerous authored papers, book chapters, and editorial responsibilities for international orthopaedic journals. His book on knee surgery, published by Jaypee, serves as a reference

guide for budding orthopaedic surgeons.

ROBOTIC PRECISION IN KNEE SURGERY

Dr Rajgopal embraced robotic technology for knee surgery. Contrary to misconceptions, robotic knee surgery isn’t performed by a machine but rather with the surgeon’s guidance. The robotic arm assists in achieving unparalleled digital precision and alignment of the implant, contributing to better stability of the replaced knee. This technological advancement has proven to enhance outcomes, allowing patients to stand and walk within hours of the surgery, facilitating rapid rehabilitation.

Dr Rajgopal further added to his list of firsts by being the first to perform a Unicompartmental knee replacement (partial knee replacement) procedure in India. His commitment to precision surgery led him to introduce Patient-Specific Instrumentation in Total Knee Arthroplasty, another milestone that revolutionised the field by tailoring surgical plans to the unique anatomy of each patient.

FOUNDATION FOR CHANGE

In 2015, Dr. Rajgopal embarked on a personal journey to contribute to societal change by establishing the Rajgopal Foundation - Dedicated to the Joy of Walking. This philanthropic endeavour draws inspiration from the

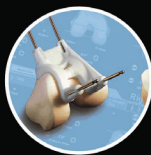
TECHNOLOGIES USED FOR KNEE REPLACEMENT IN INDIA



PRE-PAN TECHNOLOGY



MINIMALLY INVASIVE KNEE SURGERY



PATIENT-SPECIFIC INSTRUMENTATION (PSI)



BICRUCIATE SUBSTITUTING (BCS) KNEE REPLACEMENT SURGERY



HIGH FLEX KNEE REPLACEMENT



GENDER SPECIFIC KNEE REPLACEMENT (FEMALES) – ZIMMER IMPLANT



ATTUNE ROTATING PLATFORM KNEE REPLACEMENT



ORTHALIGN



Dr Rajgopal’s commitment to excellence in orthopaedic surgery has significantly contributed to placing India on the global platform, especially in the realm of knee replacement surgery. Patients from diverse corners of the world, particularly Africa and the Middle East, choose to travel to India for the expertise of Dr Rajgopal, turning the country into a sought-after destination for joint replacement surgeries.



teachings of his father Mr PR Rajgopal, a man who firmly believed in charitable work, assisting those in a weaker position and emphasising individual responsibility to empower the underprivileged.

The Rajgopal Foundation’s impact extends far beyond surgical procedures. It supports the higher education of young girls nationwide, conducts health awareness camps, and advocates for prevention and management of sports injuries. Sports personalities like P. Gopichand, Karnam Malleswari, and M. Kunjarani all benefited from his expertise – and he never charged them a penny. In fact, one episode the famous badminton player P. Gopichand always likes to quote is when, after his knee surgery, his father asked Dr Rajgopal for a bill for his professional services. Dr Rajgopal responded by saying, “The All England Title,” and true to his word, the famous badminton player obliged!

Young children whose promising sports careers are threatened due to

an injury sustained on the field and are unable to get themselves treated find their way to Dr. Rajgopal’s clinic where they are treated free of cost. Not only that, he follows their recovery and rehabilitation program, ensuring that they return to the sports field fitter than before.

Dr Rajgopal’s commitment to narrowing economic inequalities in healthcare is particularly evident, as patients from around the world, especially Africa and the Middle East, seek treatment in India to be operated upon by him.

A LIVING LEGACY OF COMPASSION AND EXCELLENCE

Dr Ashok Rajgopal’s legacy is not just in numbers. It’s a testament to a life dedicated to excellence in orthopaedic surgery, education, and societal well-being. His commitment to the “Joy of Walking” goes beyond physical mobility; it embodies

dignity, empowerment, and a commitment to change lives for the better.

One particular feat etched in the annals of medical history is Dr Rajgopal’s entry into the Limca Book of World Records. In 2011, he performed an extraordinary 28 knee replacement surgeries in just 12 hours, showcasing not only his surgical dexterity but also his unwavering commitment to serving a multitude of patients in need.

FROM BILATERAL TO MINIMALLY INVASIVE

Dr Rajgopal’s trailblazing spirit is evident in being the first orthopaedic surgeon to perform a bilateral total knee replacement surgery in the country, replacing both knees in a single-stage procedure under one anaesthesia back in 1985. This was a groundbreaking stride that underlined his commitment to



advancing surgical techniques for the benefit of patients.

His pioneering spirit did not stop there. Dr Rajgopal was the first to perform a minimally invasive knee replacement procedure in the country. This approach, characterised by

of each patient.

GENDER-SPECIFIC KNEE IMPLANTS

Always at the forefront of innovation, Dr Rajgopal was the first orthopaedic surgeon in India to use


LITERATURE

Beyond his surgical achievements, Dr. Rajgopal’s impact extends globally through his role as an educator. He has trained more than 100 orthopaedic surgeons from around the world, imparting not just surgical skills but also the ethos of compassionate patient care. His academic contributions include authored papers, book chapters, and editorial roles in international orthopaedic journals. His book on knee surgery, published by Jaypee, serves as a valuable reference for aspiring orthopaedic surgeons worldwide.

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“THE JOY OF WALKING” – A TAGLINE WITH A PROFOUND MESSAGE

At the heart of the Rajgopal Foundation is the tagline “The Joy of Walking.” It transcends the physical act of walking and encapsulates the profound message of walking with dignity and the head held high in every sphere of life. The foundation, under Dr Rajgopal’s guidance, seeks to empower individuals not just through medical interventions but by fostering education, awareness, and holistic well-being.

Dr Rajgopal’s impact is not measured solely in records and accolades but in the countless lives touched, the surgeons trained, and the enduring legacy of compassionate care and innovation in orthopaedic surgery. 



Internationally renowned, Dr Rajgopal’s influence extends far beyond the borders of India. His name is synonymous with knee surgery, and his contributions to the field are diverse. He played an important role in designing the Persona Knee System as the only Indian member of the Persona Developer team at the Zimmer Institute. He is also famous for playing mouth organ

smaller incisions and reduced trauma to surrounding tissues, marked a significant advancement in enhancing patient outcomes, minimising pain, and expediting recovery.

Dr Rajgopal further added to his list of firsts by being the first to perform a Unicompartmental knee replacement (partial knee replacement) procedure in India. His commitment to precision surgery led him to introduce Patient-Specific Instrumentation in Total Knee Arthroplasty, another milestone that revolutionised the field by tailoring surgical plans to the unique anatomy

gender-specific knee implants in 2007, recognising the importance of customisation for better outcomes.

In 2017, Dr Rajgopal reached another milestone by performing the first robotic knee replacement surgery in India. Dr Rajgopal’s early adoption and mastery of robotic total knee arthroplasty showcase his commitment to embracing and advancing technology for the benefit of patients.

TRAINING SURGEONS WORLDWIDE AND CONTRIBUTING TO ACADEMIC



IMA's Health Summit on violence against doctors

Indian Medical Association (IMA) recently organised National Health Summit In New Delhi to discuss the rising trend of violence against doctors. Several prominent speakers like Dr K K Talwar, Former Chairman, Medical Council of India, Dr Randeep Guleria, Former Director, AIIMS, Delhi, Dr Sharad Kumar Agarwal, National Past President, IMA Dr Alex Thomas, Patron, AHPI, Dr Girdhar Gyani, Director General, AHPI, Dr Preetha Reddy, Vice Chairperson, Apollo Hospitals, Dr R V Asokan, National President, IMA, Dr Shivkumar Utture, President, Maharashtra Medical Council, Dr Sanjeev Singh, Medical Director, Amrita Institute of Medical Sciences, Delhi and many more from medical fraternity participated in the deliberations..


The participants of the Health Summit on violence representing stakeholders from healthcare institutions, government as well as law enforcement agencies, civil society organisations, and the general public condemned the violence targeting those who provide essential healthcare services. Recognising that violence against healthcare personnel violates their human rights and undermines the well-being of our nation, they called for collective action involving all sections of



the society.

According to Dr. Vinay Aggarwal, National President Past, IMA, healthcare institutions pledge to implement comprehensive safety protocols, training programs, and reporting mechanisms to protect healthcare personnel. Simultaneously they will foster a culture of respect and empathy for patients. "We propose to ameliorate the risk of violence by contributing to an environment conducive to vigilance and safety. The implementation of a system to screen patients and visitors is in order. Adequate medical, psychological and legal support will be provided to victims of violence. Appropriate reporting systems will be

established to enable health care personnel to report anonymously and without reprisal. Aggregated data would be used to analyse the effectiveness of preventative strategies.

We demand of the Government to enact and enforce legislation that holds perpetrators accountable for violence against healthcare personnel. We will collaborate with healthcare institutions and civil society organisations to create a legal framework that safeguards healthcare personnel and deters violence. Governments should allocate appropriate and sustainable funds in order to effectively tackle violence in the health sector," he emphasised. 



APPROACHING THE END GAME

From encouraging declines in prevalence to spikes linked to tattoo exposure and intravenous drug use, the challenges in combating the HIV pandemic by 2030 necessitate a comprehensive strategy, recognising not only medical aspects but also socio-cultural factors that shape its course.

By **DR AMITAV BANERJEE.....**





A review of HIV/AIDS trends is quite encouraging. According to estimates by the National AIDS Control Organisation (NACO) and the ICMR-National Institute of Medical Statistics, there has been a steady decline in the estimated HIV prevalence in the age group of 15-49 years since the peak of the pandemic in 2000. The prevalence was 0.55% in 2000, which fell to 0.32% in 2010 and 0.21% in 2021. However, there are geographical variations.

The North-Eastern states of the country continue to bear a higher burden of HIV, with 2.70% in Mizoram, 1.36% in Nagaland, and 1.05% in Manipur. Following closely in prevalence are the Southern states: 0.67% in Andhra Pradesh, 0.47%



in Telangana, and 0.46% in Karnataka. The number of people living with HIV (PLHIV) is presently around 24 lakhs. Maharashtra is at the topmost position in the list of states with a significant HIV burden, followed by Andhra Pradesh, and Karnataka. Is this due to better survival rates or higher rates of detection? Perhaps both.

MANY BLIND TURNS AND ROADBLOCKS PERSIST AS WE SPEED TOWARDS THE AIDS END GAME...

India's commendable role in combating the HIV pandemic is evident through its efforts to make antiretroviral therapy (ART) accessible and affordable to over 95% of PLWHIV. ART, which significantly reduces viral load within a few months, has been a game-changer, interrupting transmission and making HIV a chronic, manageable condition. Regular surveillance and monitoring have further contributed to transforming HIV into a condition that can be effectively managed, enabling PLWHIV to lead normal lifespan.

However, the final stretch towards achieving global goals of zero new infections, zero deaths, and zero discrimination against PLWHIV by 2030 faces numerous blind turns and roadblocks. Straightforward mathematical models alone may not provide an accurate compass to navigate these challenges.

The obstacles include diminishing funds for HIV control, complacency, and interruptions in elimination efforts due to the Covid-19 pandemic.

The epidemiology of HIV is inherently complex, with many critical determinants often overlooked.

Understanding the epidemiology of HIV is as intricate as that of any sexually transmitted diseases. Both HIV and STDs are prevalent among individuals with high-risk behaviours, leading to significant heterogeneity in population-level risks. Moreover,



In addressing the challenges ahead, it is crucial to acknowledge the multifaceted nature of the HIV pandemic, taking into account not only medical aspects but also the socio-cultural factors that influence its trajectory. A comprehensive and nuanced approach will be essential in surmounting the remaining obstacles on the path to achieving the ambitious global goals for HIV by 2030.

societal taboos and stigma associated with sexual behaviour make accurately capturing this major determinant elusive. Consequently, mathematical models for HIV and STDs may deviate from reality.

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In addition to being a sexually transmitted infection, the HIV virus can also spread through the use of unsterilised needles and unsafe blood transfusions. Intravenous drug abuse, particularly in the North East and potentially in other parts of the country, is identified as a significant risk factor for HIV transmission. Similarly, Hepatitis C virus is primarily transmitted through contaminated needles and sharps, often associated with intravenous drug abuse. The stigma surrounding drug abuse and the legal implications of both drug use and trade pose challenges in accurately estimating the true prevalence of these risk factors, often leading to them being ignored or overlooked.

CAN THESE INFECTIONS SPREAD THROUGH THE TRENDING PRACTICES OF TATTOOING AND BODY ART?

While there are some concerns on theoretical grounds that tattoo and body art, which are becoming fashionable, can transmit infections like HIV and Hepatitis C & B, the risk by this mode is negligible if adequate sterile precautions are observed. However, the risk increases if the previous customer had these viral infections with a high viral load.

The transmission risk through body

In the North East, which has long been a reservoir for both Hepatitis C and HIV, recent instability in Manipur may have contributed to an increase in intravenous drug use. According to the Assam State AIDS Control Society, the region has recorded a threefold rise in HIV-positive cases in the last three years, with an increasing trend in IDUs spreading the virus.

tattooing becomes more significant if piercings are done outside of regular parlours under unhygienic conditions. This includes mass tattoos performed by amateur artists, tattoos done in prisons, and piercings done by friends. A study from Ethiopia has demonstrated that improperly sterilised sharp instruments can transmit HIV and other blood-borne infections like Hepatitis C and HIV. This finding is relevant in the context of India, where there is a lack of regulation for body art and piercing studios, unlike in Europe and the USA, where agencies such as the Food and Drug Administration regulate these practices. As of now, there is no similar provision in India.

CONCERNS ON RECENT SPIKES OF HIV INFECTION IN SOME PARTS OF THE COUNTRY, SOME ASSOCIATED WITH TATTOO EXPOSURE OTHER WITH INCREASING IDUS.

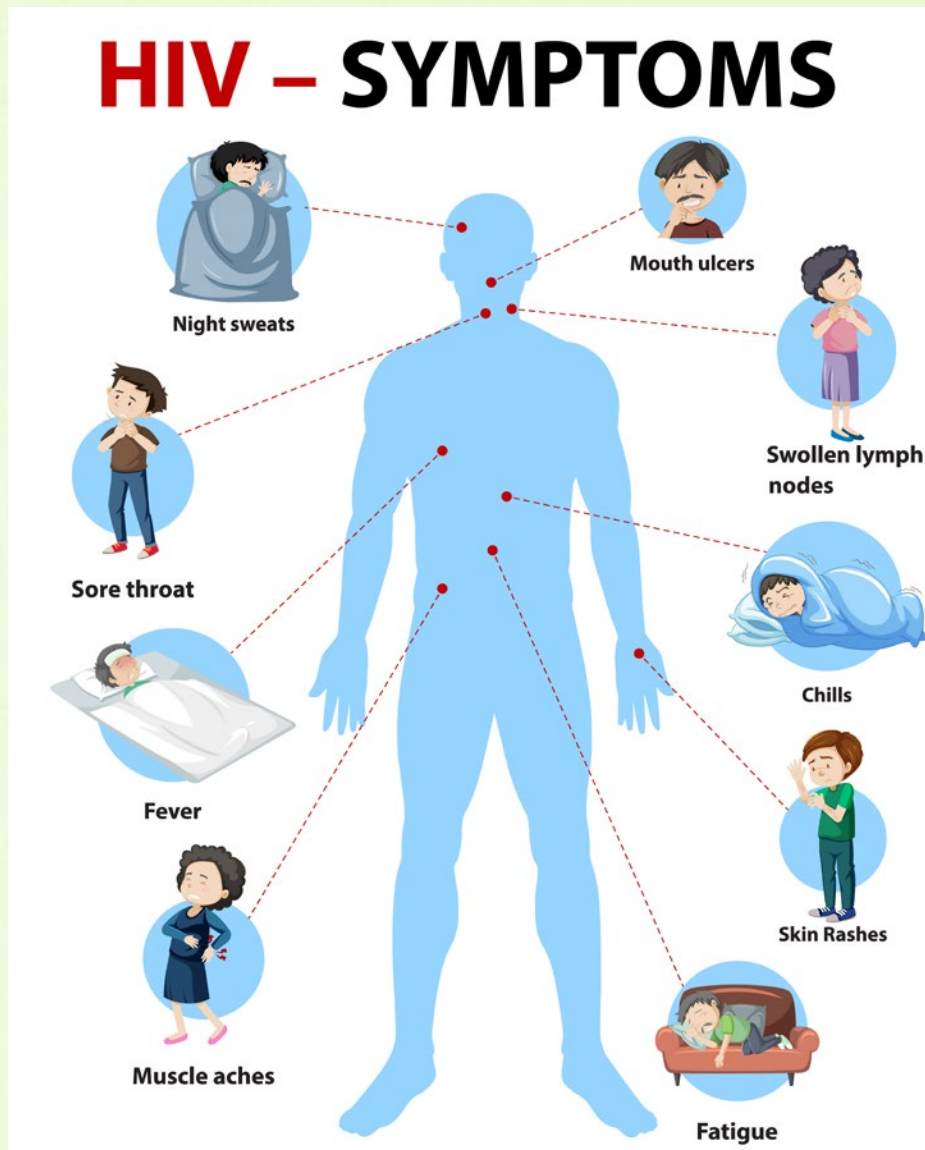
There have been reports that recently some states are witnessing a spike in HIV infections. In Haryana, a recent report highlights that the state has witnessed a surge in HIV infections, reporting over 100 cases in the past two years. The majority of infections were associated with high-

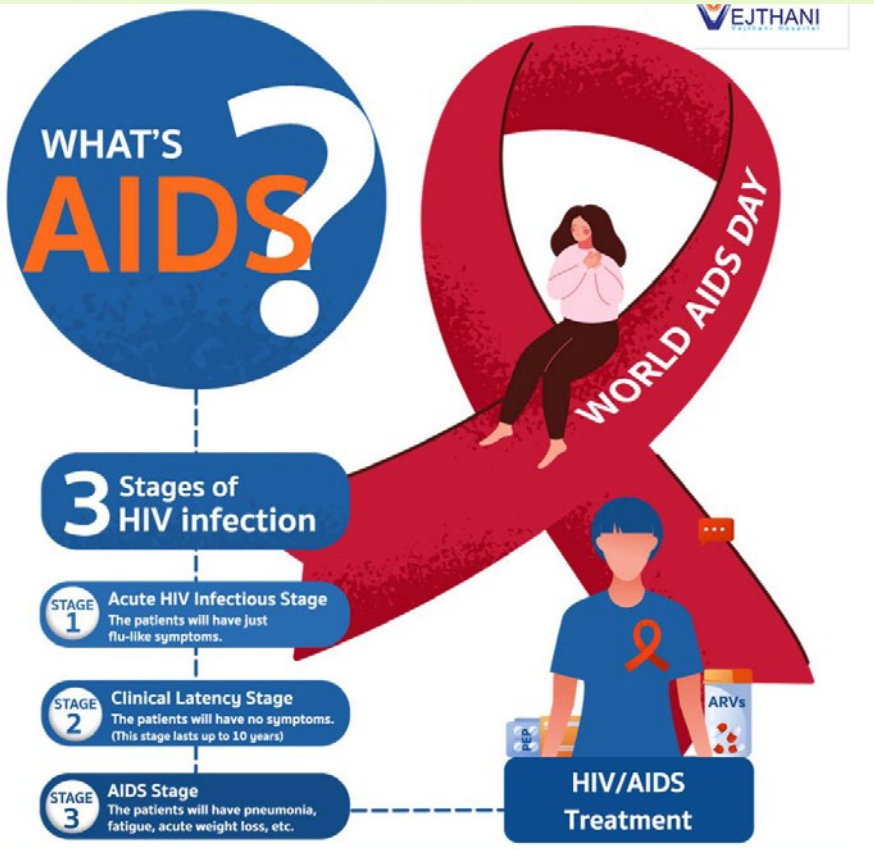
risk sexual behaviour followed by tattoo exposure. The demographic most affected includes individuals aged 22 to 43 years, with 56% males, 40% females (including children), and 4% transgender individuals. The districts most impacted were Gurugram, Hissar, Palwal, Pataudi, and Rohtak, which have experienced rapid urbanisation due to the establishment of industrial estates.

Haryana also faces a high transmission of Hepatitis C, primarily through the sharing of needles among intravenous drug users (IDUs). This

underscores the need for in-depth research into these behaviours, especially among the youth. The increasing trend of Hepatitis C in any region should prompt further investigation into IDU practices.

In the North East, which has long been a reservoir for both Hepatitis C and HIV, recent instability in Manipur may have contributed to an increase in intravenous drug use. According to the Assam State AIDS Control Society, the region has recorded a threefold rise in HIV-positive cases in the last three years, with an increasing trend





The availability of effective anti-HIV drugs can influence psychosocial dynamics, potentially leading to increased risk-taking behaviours. Studies have shown that widespread access to ART has coincided with resurgence in high-risk behaviours. In this context, there is a need for greater efforts to promote safe behaviour, as success in curative medicine should not lead to the neglect of preventive medicine

in IDUs spreading the virus. The number of HIV-positive cases detected rose from 1,288 in 2020-21 to 4,108 by 2022-23.

Informal discussions with experts involving youth in schools and colleges suggest an increasing trend in experimentation with sex, drugs, and body tattoos across the country. There is a need for a qualitative understanding of these taboo topics by harnessing the expertise of social scientists.

A survey conducted a couple of years ago revealed that eight states, both in

the north and the south, have a higher prevalence of intravenous drug users (IDUs) than Manipur and Nagaland. This challenges the prior perception that intravenous drug abuse was primarily an issue in the North East. It serves as a wakeup call to address the broader scope of the problem.

Coping with the current situation requires understanding the psychosocial dynamics contributing to the spike in HIV transmission becomes crucial. Therefore, a social science approach is essential alongside the use

of ART in our toolkit. The availability of effective anti-HIV drugs can influence psychosocial dynamics, potentially leading to increased risk-taking behaviours. Studies have shown that widespread access to ART has coincided with resurgence in high-risk behaviours. In this context, there is a need for greater efforts to promote safe behaviour, as success in curative medicine should not lead to the neglect of preventive medicine.

Addressing the psychosocial aspects of the current situation involves not only medical interventions but also comprehensive strategies that consider the societal, cultural, and psychological factors influencing behaviour. Collaboration between health professionals, social scientists, and community leaders is crucial to develop effective preventive measures and promote a holistic approach to tackling the complex challenges associated with the spike in HIV transmission.

An empathetic approach is recommended instead of being judgmental and implementing harsh measures which cannot be sustained.

How to approach drug addicts?

When it comes to approaching drug addicts, it's crucial to recognise that HIV, drugs, and sex are often surrounded by taboo, stigma, and discrimination. Individuals in such predicaments may hesitate to seek counsel and may go untreated due to fear of judgment. Overcoming addiction is a challenging journey that requires time and effort. Drawing from experiences as a military epidemiologist, especially working with recovered IDUs in Northeast India, it becomes evident that well-intentioned measures by administrators can sometimes exacerbate the situation.

For instance, in the past, when it was recognised that the HIV pandemic was driven mainly by IDUs in some

regions of Northeast India, attempts were made to curb the use of intravenous drugs by making needles inaccessible to the general population. However, this approach lacked an understanding of the intense cravings and withdrawal symptoms experienced by addicts. Faced with these challenges, individuals resorted to begging, borrowing, or even stealing to satisfy their cravings, leading to an increase in the use of shared needles and, consequently, driving HIV transmission.

It's fortunate that many countries now implement the needle exchange program advocated by the United Nations Office on Drugs and Crime (UNODC), allowing IDUs to exchange their used needles with clean, sterilised ones. Providing empathetic and non-judgmental counselling about this program is crucial, as many IDUs may not be aware of it and could continue using shared needles. Moreover, there may be individuals who are closet addicts due to stigma, making approaches through snowball tracing necessary.

When it comes to delivering sex education, particularly in schools and colleges, it requires innovative and skilful methods. In many Indian families, talking about sexual matters is still considered taboo, and it's important to destigmatise sex while conveying the hazards of unsafe and promiscuous sexual relations.

An example of a novel and impactful approach to sex education was demonstrated by Dr Ishwar Gilada, who initiated India's first AIDS clinic. During a workshop on HIV/AIDS at the Governor's residence in Lucknow in 1997, Dr Gilada used innovative methods to engage participants. He displayed pictures of various positions of sexual union from the Indian classic, Kamasutra. While some may have been scandalised at first, the presentation included a prominent caption with the message, "Many

positions with one, instead of one position with many!" This creative method effectively conveyed a crucial message and left a lasting impact. Even after two and a half decades, the memory remains vivid.

Innovative approaches like this not only break the ice surrounding discussions on sexual matters but also make the educational content more memorable and engaging. Such methods can contribute to creating a more open and informed environment for discussions around sexual health and relationships.

How to deal with "marginalised" and "stigmatised" groups?

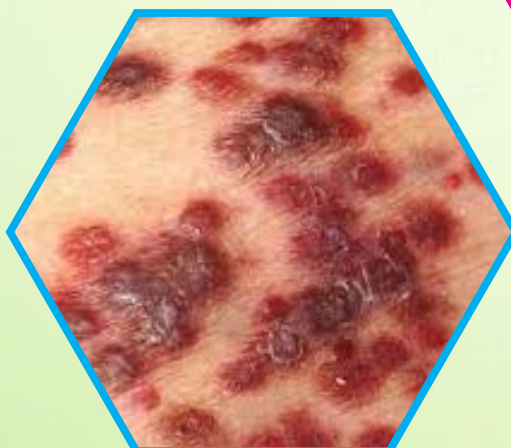
Any new infection creates panic fuelled by media. Anyone having the infection or even suspected to have the infection is stigmatised and shamed. It happened with HIV/AIDS and more recently, it happened with Covid-19. The stigma and marginalisation can extend to particular groups. This can drive the pandemic underground as such people shy away from the mainstream acting as unattended reservoirs of infection. In the early days of the AIDS pandemic, men having sex with men (MSM) or gay people faced such a predicament.

Roger Detels, Distinguished Research Professor of Epidemiology, at the UCLA Fielding School of Public Health and the Editor of the classic Oxford Textbook of Public Health, among his many research works studied the natural history of AIDS.

He began in research in HIV/AIDS in 1981 studying the natural history of the disease in young gay men, the largest study of its kind in the world.

When he began his study, in the early eighties, the stigma and hostility towards the gay population identified as the cause of the curse was at its peak. Naturally the gay community turned a cold shoulder towards researchers.

During his visit to India in 2002, at a workshop for researchers at AIIMS, New Delhi, I heard him narrate how he overcame this barrier. Besides, interacting with members of the gay community for data collection, which came much later, he looked after them in sickness by arranging treatment, socialised and mixed with them, greeting them on their birthdays and other occasions,





Symptoms of Acute HIV




During a workshop on HIV/AIDS at the Governor’s residence in Lucknow in 1997, Dr Ishwar Gilada displayed pictures of various positions of sexual union from the Indian classic, Kamasutra. While some may have been scandalised at first, the presentation included a prominent caption with the message, “Many positions with one, instead of one position with many!” This creative method effectively conveyed a crucial message about safe practices and left a lasting impact.

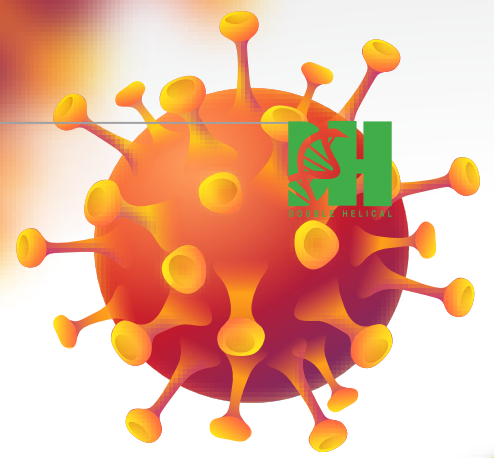
shared with their good moments, and comforted them in grief. He cared for them as human beings and not only as study “subjects.” These real world skills one has to acquire with compassion and caring. Roger Detels succeeded where others had reached a dead end due to the wall of discrimination which he was able to pull down.

Key Takeaways

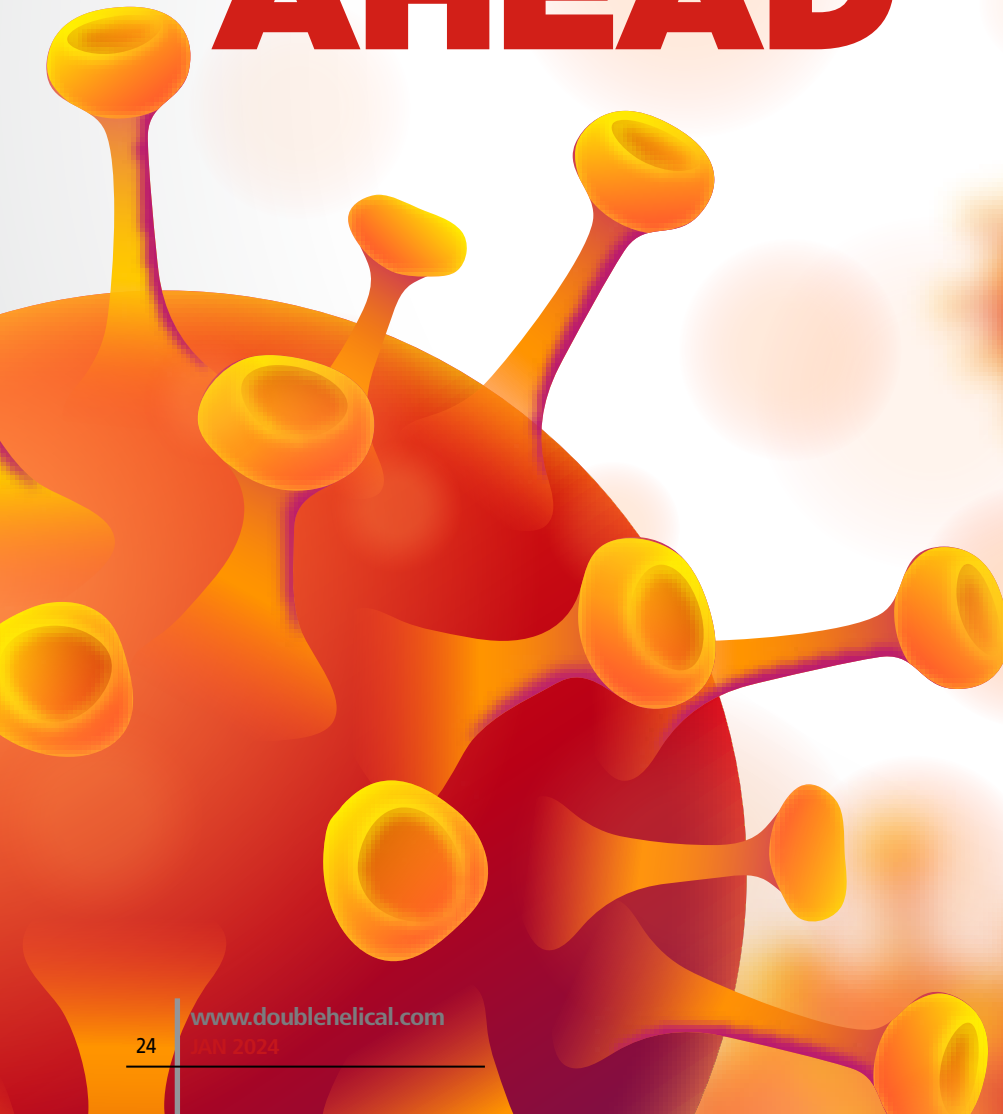
In chess, the “hardest thing is to win is a won game,” as stated by an artist of the game, Emanuel Lasker, a mathematician, philosopher and World Chess Champion for 27 years. Similarly, as we are nearing the end game of winning the war against AIDS, the struggle is going to be tougher. We may have the winning piece, the ART, but like in chess the other pieces and their combination with each other keep changing constantly and matter equally, if not more.

We need to explore all the social factors that may be contributing to the rising trend—social pathology, in particular—and involve social scientists to identify social therapies and empathies aimed at removing stigma and discrimination, crucial factors for pushing the epidemic underground. 

(The author is a Professor of Community Medicine and Clinical Epidemiologist at Dr. DY Patil Vidyapeeth, Pune)



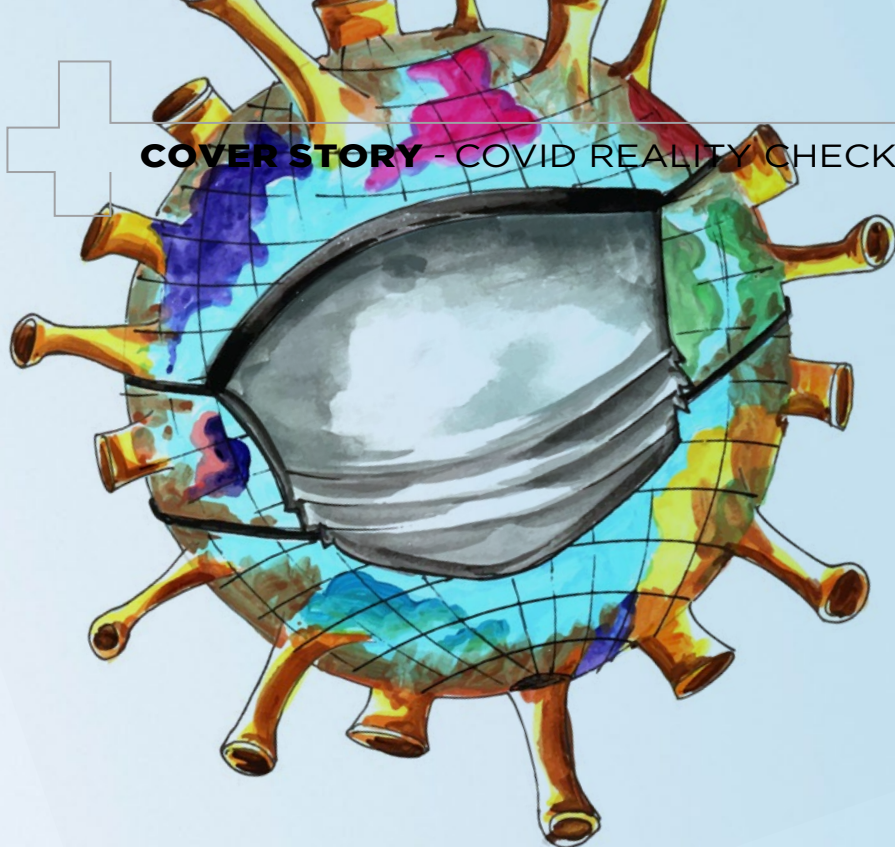
GLOBAL SURGE **AND** STRATEGIES AHEAD





A new sub-variant of SARS-CoV-2, named JN.1, has stormed onto the global stage, detected first in Luxembourg in August 2023. It is now weaving its path through 41 countries, including India. With Covid-19 cases surging in Karnataka, Kerala, Tamil Nadu, Telangana, Maharashtra, and Goa, effective strategies are essential to enhance public health, combat malnutrition, and foster healthier lifestyles. Given the inadequate efficacy of perpetual testing, the focus should be on evolving a comprehensive strategy to fortify communities and prepare for potential future pandemics..

By **DR AMITAV BANERJEE.....**



A new sub-variant of the SARS-CoV-2 is making global headlines. First detected in Luxembourg in August 2023, the sub-variant JN.1 is now circulating in 41 countries, including the USA, China, Singapore, and India.

The associated surge in Covid-19 cases is causing concern. As of December 26, 2023, a one-day increase of 628 new Covid-19 cases has pushed the total caseload to 4,054, raising alarm. During this period, a few deaths were reported in a couple of states. Of the new cases, 63 were attributed to the JN.1 sub-variant. The southern states and regions are reporting the new strain, including Karnataka (8), Kerala (6), Tamil Nadu (4), and Telangana (2). Additionally, Maharashtra (9) and Goa (34) are also affected.

The subvariant JN.1 belongs to the lineage of the Omicron variant of the Covid-19 virus, a descendant of the variant BA.2.86. It was detected on August 25, 2023. It differs from BA.2.86 due to an additional L455S mutation in the spike protein.



HOW VIRULENT IS JN.1?

Due to its rapid spread, the WHO has classified it as a variant of interest (VOI), distinguishing it from its predecessor, BA.2.86. The VOI classification indicates that it should not be a significant concern for the general public due to its mildness. Even if individuals become infected, recovery is rapid, with almost negligible risk of hospitalisation or death.

Nevertheless, isolated Covid-19 deaths have been reported in some states, such as Kerala and Karnataka. It remains uncertain whether these deaths are attributed to the new variant, earlier circulating variants, or influenza and other respiratory

viruses, as these are common during the winter.

Even if they are linked to the JN.1 strain, we lack information on underlying co-morbidities. Throughout the entire pandemic, the challenge has been the ambiguity surrounding whether people are dying of Covid-19 or 'with Covid-19' due to underlying morbidities. Humans naturally carry thousands of organisms from womb to tomb in their skin, throat, and gut. Any organisms acquired from a deceased person, even if not contributing to death, can be falsely attributed to it.

WHAT ARE MUTANTS? DO THEY HAVE POTENTIAL TO GIVE RISE TO MORE LETHAL STRAINS?

Mutations are changes in the genetic material of a virus, such as SARS-CoV-2, which is responsible for COVID-19. Mutations can lead to the development of variants or mutants of the virus. All coronaviruses, including those responsible for the common cold, undergo frequent mutations. The key characteristic of mutants is their ability to have genetic differences from the original or parent virus.

While mutations are common, it doesn't necessarily mean that the resulting strains will be more lethal. In fact, many mutants are milder and can act as a kind of natural vaccine. The common cold is an example where people can get infected with different strains, and immunity tends to wane over time, making individuals susceptible to new infections.

It's essential to note that the constant mutation of the common cold viruses poses challenges in developing long-term effective vaccines. However, mutants are generally not more lethal than the parent virus. They may be milder, and the evolutionary process tends to favour strains that are less severe.

The emergence of the Omicron



variant in the context of COVID-19 is an example. Omicron was milder than the original Wuhan strain, following the principle of natural selection. Strains causing severe disease or death face challenges in survival because symptomatic cases isolate themselves, and those who succumb to the disease do not spread the virus further. Mild strains, however, can spread rapidly, causing large numbers of asymptomatic cases that contribute to the wider dissemination of the benign mutant. In this way, milder strains can act as a form of nature's vaccine, conferring immunity more rapidly than vaccines can be developed.

If we consider these dynamics, the JN.1 strain, a sublineage of the Omicron variant and colloquially referred to as the “grand-daughter” of Omicron, given the intervening BA.2.86 variant, is destined to be milder and proportionally faster in its spread than the aging grandfather Omicron.

By the time scientists identify a new strain through genomic surveillance, these milder strains have often already spread widely among the population and across many countries. Chasing mutants is akin to pursuing a cricket ball after it has crossed the boundary line!

We should approach present and subsequent mutants as we do with the common cold, taking them in our stride. Let scientists conduct genomic surveillance as an academic exercise, taking care not to generate unnecessary media hype that could lead to panic among the population, potentially resulting in a stampede for scarce hospital resources.

What should be the current strategy?

Some states are gearing up, with calls for increased testing, contact tracing, and isolation. In certain states, mandates for elders to wear masks have been issued. While well-



We cannot continue to develop a short-acting vaccine for every infection. That would be tackling the problem of pandemics piecemeal at huge costs. On the other hand, if the general health of our population is good, and our public health hospitals and health centres are easily accessible to people without any corporate influence, we can take future pandemics in our stride.

intentioned, these measures may be misdirected and carry the potential for collateral harm without commensurate benefits. At this stage of the pandemic, adopting a calm and detached perspective is essential. It is crucial to deliberate the purpose of each contemplated action. Simple common sense can often achieve more than approaches that may focus on only one aspect of the puzzle, as



seen by scientists.

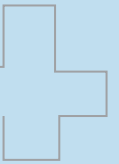
Let us first consider the utility of testing, contact tracing, and isolation. This strategy amounts to chasing the impossible, as illustrated by the following ancient tale from Nordic mythology.

In this tale, Thor, the god of thunder and lightning, faced the King of the giants, who challenged Thor to empty a drinking horn. Despite Thor's efforts to drink from the horn, it never seemed to empty. Unknown to Thor, the goblet was connected by a conduit to a nearby ocean, and he was inadvertently attempting to drain the

Our country is like a great ocean of people. Many have already encountered previous strains of the virus, providing stronger immunity than vaccine-induced immunity, as vaccines often fail to induce mucosal immunity in the respiratory passages, which natural infection can confer. Given our high population density, the infection with newer and milder strains logically must have spread extensively, rendering immunity to large segments of the population.

entire ocean. His efforts were in vain, as he could only see the tip of the task he was given.

This ancient story offers valuable lessons for our Covid-19 strategy today. By chasing and contact tracing the virus, what are we truly aiming to achieve? Can we realistically eradicate coronaviruses from the face of the earth? Pursuing such a goal is



akin to Thor’s unwitting attempt to empty the ocean.

Our country is like a great ocean of people. Many have already encountered previous strains of the virus, providing stronger immunity than vaccine-induced immunity, as vaccines often fail to induce mucosal immunity in the respiratory passages, which natural infection can confer. Given our high population density, the infection with newer and milder strains logically must have spread extensively, rendering immunity to large segments of the population. It’s prudent to step back and let nature work quietly and unobtrusively. This approach is known as “masterly inactivity”.

The more we test in vain, the higher the case count will be since post-COVID, we have “asymptomatic” cases based on a positive RT-PCR test that has outlived its emergency use authorization (there is no emergency now). This will only generate panic and chaos without any purpose.

The mantle of “The Don” of viruses has been thrust upon the SARS-CoV-2. “Don ko pakarna mushkil hi nahi namumkeen hai” (catching up with the Don is not only difficult but also impossible) is a phrase from a

popular movie. And like most Dons, the virus rules more by fear and panic. Let us conquer these and stop the futile chase and stop the panic.

What should the states and the country do?

The way forward would be to improve the general health of the population. We have a high prevalence of child malnutrition due to which more than 2000 children die daily due to respiratory and other preventable diseases as a consequence of the vicious cycle of “malnutrition-infection-malnutrition.” Our rapidly expanding middle class is increasingly becoming overweight due to a sedentary lifestyle and unhealthy food as a result of affluence. The recent pandemic established that obesity and associated comorbidities make people more vulnerable to succumb to viral infections like SARS-CoV-2.


We have two windows of opportunity to make our people safe from future pandemics of infectious diseases that kill the vulnerable. Firstly, we should take care of child malnutrition which will make our young survive infections. Secondly, we should promote a healthy lifestyle among our

increasingly affluent population. This will require effort and political will as market forces are penetrating the suburbs and rural areas to sell ultra-processed fast foods and sugary drinks.

And most importantly, we should beef up our public health infrastructure and government hospitals and health centres which are in a state of neglect. The corporate model of health care and insurance schemes only promote tertiary care in large cities, while our country needs better primary and secondary health care at the periphery.

We are surrounded by thousands of mutating pathogens and viruses. We cannot keep chasing them in vain and continue to develop a short-acting vaccine for every infection. That would be tackling the problem of pandemics piecemeal at huge costs. On the other hand, if the general health of our population is good, and our public health hospitals and health centres are easily accessible to people without any corporate influence, we can take future pandemics in our stride. Anything short of this, there will be frequent “chaos and anarchy” due to a medical stampede, as happened during the second wave of the pandemic.

AS Sun Tzu succinctly says, “The Art of War teaches us to rely not on the likelihood of the enemy’s not coming, but on our own readiness to receive him; not on the chance of his not attacking, but rather on the fact that we have made our position unassailable.”

(The Author is a renowned epidemiologist, a professor at D Y Patil Medical College, Pune. Having served as an epidemiologist in the armed forces for over two decades, he recently ranked in Stanford University’s list of the world’s top 2% scientists. He has penned the book, Covid-19 Pandemic: A Third Eye.) 



FACING THE UNSEEN

India's successful management of the COVID-19 pandemic highlights achievements in vaccination drives and low infection rates of emerging variants. But there is need to plug the gaps in the nation's pandemic strategies, which require a recalibration in preparedness efforts to address ongoing concerns and potential future threats. We must embrace targeted strategies, and a holistic healthcare approach that takes care of the challenges and the crucial steps needed to build resilience in the face of uncertainties..

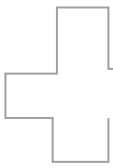
By DR ISHWAR GILADA.....





COVID REALITY CHECK - **COVER STORY**





India has managed the Covid-19 pandemic much better than many powerful countries. It boasts one of the most successful vaccination drives against Covid-19, with 75% of the population fully vaccinated and 35% having received a booster (third dose). The third wave, orchestrated by the Omicron variant, primarily with the BA.2 sub-variant, infected the majority of the population with minimal morbidity and mortality. In fact, BA.2 acted as a saviour for India, protecting against infections with BA.4, BA.5, and descendants like BA.2.86 (Pirola) and EG5 (ERIS).

We are now better prepared than ever before. India supports more than 50 countries in Africa and elsewhere with preparedness protocols, equipment, medicines, and vaccines. This contribution is unmatched globally in terms of assistance.

Every news report on Covid-19 seems to follow a ritualistic script: “We need not panic, but we should be cautious.” Unfortunately, this statement itself creates undue panic among people and adds confusion. What kind of caution do we expect from the common people?

Encouraging people to follow Covid Appropriate Behavior (CAB) seems futile, as no one adheres to or is inclined to do so. Fortunately, no travel restrictions were imposed even during the New Year and Christmas.

Although identified in August 2023 in Luxembourg and currently present in more than 40 countries, the coronavirus has neither caused significant morbidity nor remarkable mortality. Deaths are only observed in individuals with co-morbidities globally.

Initially thought to be more infectious, when India’s first JN.1 case was detected in Kerala, it has not proven to be so. We have only a few cases spread across 11 states in



Dr Ishwar Gilada





India in three weeks, and it is not driving overall numbers upwards. As of January 2, 2024, a total of 511 JN.1 #COVID19 cases have been detected in India.

However, the total active cases have decreased by 125 on the same day, indicating that JN.1 is less infectious than other existing variants. What the Indian SARS-CoV-2 Genomics Consortium (INSACOG) and respective authorities should do is provide the denominator to determine the

JN.1 symptoms pose a diagnostic dilemma with Influenza A (H1N1 and H3N2) and Respiratory Syncytial Virus (RSV), the latter two being more common. Ideally, the national program should focus on Influenza-Like Illnesses (ILI) rather than only being Covid-centric

percentage of JN.1. JN.1 numbers are high in five states: Karnataka with 199 cases, Kerala with 148 cases, Goa with 47 cases, Gujarat with 36 cases, and Maharashtra with cases of the JN.1 sub-variant. Other states with JN.1 detection include Rajasthan, Tamil Nadu, Telangana, Delhi, Odisha, and Haryana in that order.

There is neither clustering of infections with JN.1 nor is it yet a dominant strain of Coronavirus in India. The most dominant strain remains to be the XBB.1.16 sub-variant of Omicron. Though initially contemplated, JN.1 to be more infectious, when India's first JN.1 case was detected in Kerala, in





reality, it has not been found to be so. We barely have a countable few cases spread over 11 states in India in three weeks, and it is not driving overall numbers upwards. Until January 2nd, 2024, a total of 511 JN.1 #COVID19 cases have been detected in India.

However, total active cases have gone down by 125 on the same day, which means JN.1 is less infectious than other existing variants. What the Indian SARS-CoV-2 Genomics Consortium (INSACOG) and respective authorities should do is provide the denominator to calculate the JN.1 percentage. JN.1 numbers are high in five states - Karnataka has 199 cases, Kerala has 148 cases, Goa has 47 cases, Gujarat has 36 cases, and Maharashtra has cases of the JN.1 sub-variant. Other states with JN.1 detection include Rajasthan, Tamil Nadu, Telangana, Delhi, Odisha, and Haryana in that order.

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Though initially contemplated, JN.1 to be more immune-invasive, in reality, nothing of that sort has happened or been established. So such fears are unfounded.

The presence of JN.1 has not increased demand for oxygen, hospital beds, ICU beds, or ventilators. It has caused a single death: a 48-year-old man from Dausa in Rajasthan on December 27th, and he had multiple comorbidities, including tuberculosis and silicosis with respiratory failure.

Symptoms in JN.1-affected patients are mild, no different than those in Omicron BA.2 or its other sub-variants. In fact, JN.1 symptoms pose a diagnostic dilemma with Influenza A (H1N1 and H3N2) and Respiratory

Syncytial Virus (RSV), the latter two being more common. Ideally, the national program should focus on Influenza-Like Illnesses (ILI) rather than only being Covid-centric.

No fresh vaccination/Covid booster required or advised anywhere globally. Nor the vaccine for Omicron variant is easily available and stocks are miniscule.

No mask-mandate required. However masking can be requested for senior citizens and those with severe co-morbidities as well as those with such people at home and going in crowded places. Anyways, mask is helpful in preventing not only Covid-19 infection but also other viral and bacterial infections. Mask is also useful in preventing ill-effects of pollutants and allergens that are prevalent due to winter and altered Air Quality Index (AQI). Additionally, masking is advised for healthcare workers and those people who visit healthcare facilities, as they may encounter Covid-infected people there.

There is neither any need for any travel restrictions nor any curbs on social gatherings, meetings, conferences and religious gatherings. In fact, if imposed they can become counter-productive.

There is also no need for high-volume Covid testing. Only targeted testing (of suspected cases) is all that is required. And current marginal escalation in Covid cases in India is a result of increased testing.

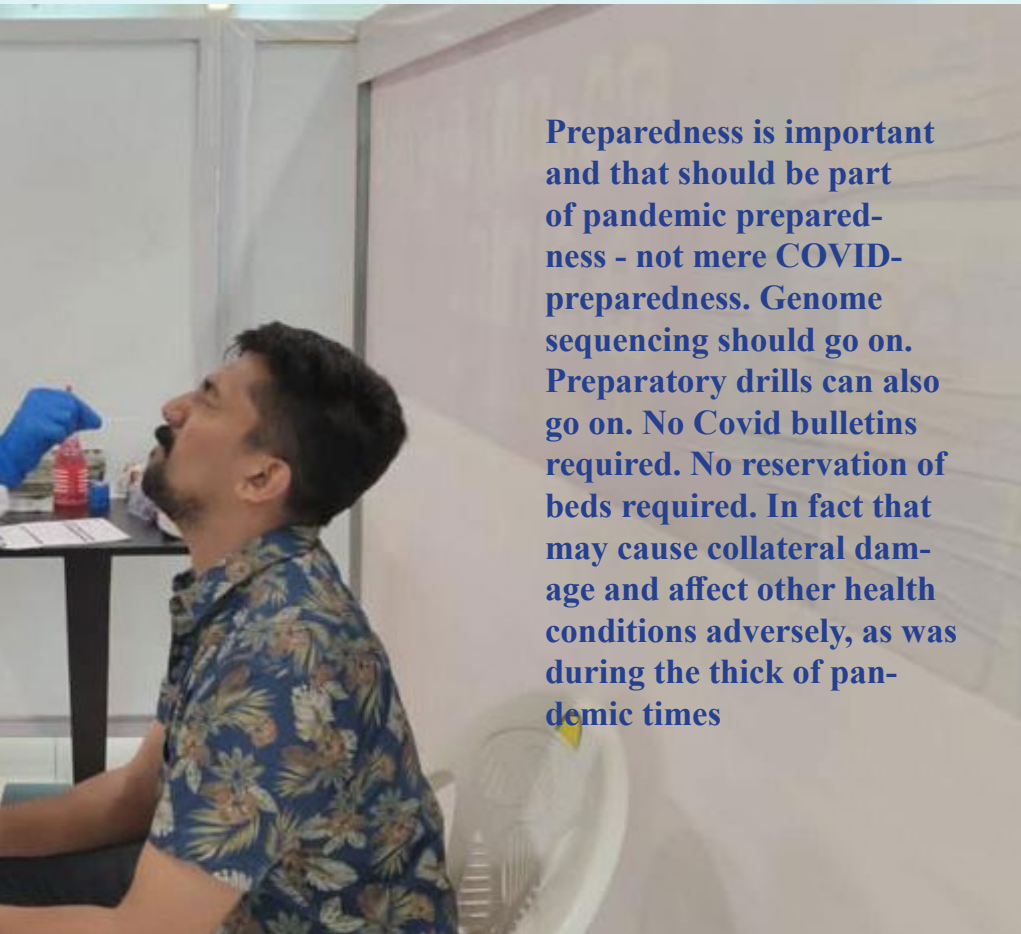
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(The author is a Consultant in HIV/STDs at Unison Medicare & Research Centre, Secretary General of the Peoples Health Organisation-India (PHO), and the Organised Medicine Academic Guild)



DECODING BARRENNESS





A staggering 30 million couples in India face the silent struggle of conception. However, a ray of hope shines through advancements in assisted reproductive technologies, offering respite to those on the arduous journey to parenthood. It's imperative for couples to confront infertility as a shared challenge, breaking free from gender stereotypes...

BY ABHIGYAN/ABHINAV

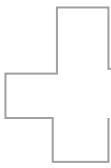
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India seems to be grappling with the ever-increasing problem of infertility.

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Infertility in Couples

By Dr Sowjanya Aggarwal

Infertility is characterized by the difficulty in conceiving or achieving pregnancy despite engaging in regular unprotected sexual intercourse for one consecutive year. The duration it takes for a couple to conceive can vary, ranging from days to months. Traditionally, infertility was often perceived as exclusively a 'female problem,' subjecting women to social ridicule.

Surprisingly, around 40 per cent of fertility issues in couples can be attributed to male subfertility. In addressing this, Intracytoplasmic Sperm Injection (ICSI) has emerged as a breakthrough treatment, becoming the preferred method in assisted reproduction for predominantly male-factor infertility.

Experts emphasize that assistance can be provided to both men and women based on the underlying cause of infertility. Infertility management entails comprehensive investigations to arrive at a logical diagnosis and subsequent targeted treatment. The outdated notion of solely blaming women for infertility has become obsolete. Research findings have unveiled that male factors contribute significantly to infertility.

Presently, research indicates that one in every five men within the age group of 18 to 25 experiences abnormal sperm count, a primary contributor to infertility. This awareness underscores the importance of considering both male and female factors in the diagnosis and treatment of infertility, fostering a more holistic and effective approach to assisted reproduction.

The widespread issue of infertility prompts the question of its underlying reasons. Irregular and low sperm count, compromised sperm delivery

and motility (the ability to move efficiently through the female reproductive system for fertilisation), stand out as prominent causes of male infertility. Medical factors like obesity and lifestyle disorders, including diet imbalance, smoking, alcoholism, sedentary living, and mental stress, contribute to poor sperm count.

In women, conditions such as Polycystic Ovary Disease (PCOD), characterised by hormonal imbalances and lack of ovulation, along with a demanding lifestyle and job stress, can lead to conception problems. Primary Ovarian Insufficiency (POI), causing ovulation problems, occurs when ovaries cease normal function before the age of 40. Changing lifestyle patterns, demanding work schedules, and stressful environments also contribute to fertility issues.

Despite the challenges, there are preventive measures that individuals can adopt. General measures like maintaining a healthy weight, avoiding cigarettes and alcohol, managing stress, and having a nutritious diet are vital. However, specific factors impacting fertility are often overlooked.

High testicular temperature is increasingly recognized as a cause of male infertility. Prolonged use of mobile phones, associated with intense and prolonged radiation, can harm sperm production. Men are advised to wear loose underwear, avoid resting laptops on laps, and take breaks during prolonged sitting. Certain sports may pose risks to testicular health, and injuries should be promptly treated to prevent long-term consequences on

fertility.

Declining libido among urban couples emerges as a significant cause, driven by hectic schedules, poor work-life balance, constant tension, and increased travel time. Stress, unhealthy eating habits, and medical conditions like diabetes contribute to poor sperm and egg quality. To address these issues, habits such as smoking, tobacco consumption, frequent drinking, unhealthy eating, and lack of exercise should be promptly addressed. Adopting these preventive measures is crucial in fostering reproductive health in both men and women.

It might come as a surprise that household products such as furniture polish, all-purpose cleaners, bug sprays, bathroom cleaners, and room deodorizers may contain chemicals that could reduce conception rates by up to 33 per cent. Opting for organic, non-toxic alternatives is a safer choice.

Additionally, prioritizing good sleep is crucial, as 80 per cent of ovulation occurs between midnight and 4 am. Interrupted sleep patterns can weaken immunity, disrupt reproductive hormone levels, and hinder ovulation.





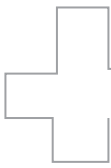
(donor) to assist a couple or a single individual (intended parents) in becoming parents.

According to current Indian guidelines on Assisted Reproductive Technology (ART) established by the Indian Council of Medical Research (ICMR), all donors, with the exception of surrogates, must remain anonymous to the commissioning couples. The guidelines further stipulate that the provision of various gametes and surrogates is not conducted by the IVF centre itself but by separate entities known as ART Banks. These banks are also responsible for handling all legal issues associated with third-party reproduction. Once the necessary requirements are met, the medical fitness of the donor or surrogate is assessed, and after completing the required formalities, the couple, along with their donor or surrogate, is enrolled in the third-party program.

Recurrent Pregnancy Loss (RPL) Programme

Experiencing repeated pregnancy losses can be emotionally devastating for both the patient and the treating doctor. RPL is defined as a situation where a woman has lost three or more pregnancies. Chronic infections such as genital tuberculosis may contribute to RPL. Additionally, impaired blood circulation within the pelvis, particularly the uterus, has been identified as a major cause of recurrent failures, whether during implantation or later stages of pregnancy.

In addressing RPL, a comprehensive approach is often required to identify the specific causes and factors contributing to repeated pregnancy losses. The understanding that impaired blood circulation can be a significant factor highlights the importance of thorough investigation and targeted interventions to improve the chances of a successful pregnancy for individuals facing recurrent pregnancy loss.



HOPE FOR INFERTILE COUPLES

Doctors conduct tests to identify the causes of Recurrent Pregnancy Loss (RPL) and tailor treatment accordingly. If a genetic cause is identified, the patient and her husband are informed about the defect, and counselling is provided regarding future implications. Endocrine causes, such as Polycystic Ovary Syndrome (PCOS), may contribute to RPL and can be addressed with insulin-lowering medication. It is important to note that extensive testing is not typically recommended after a single pregnancy loss, as this may have occurred by chance, and there is no need for undue concern.

MALE INFERTILITY PROGRAMME

Throughout history, the responsibility for procreation has often been attributed to women. Research and advancements in medication and technology for infertility primarily focused on female-related issues. While these innovations improved success rates in female infertility, the male counterpart received less attention, partly because infertility was traditionally within the realm of gynaecologists. Moreover, in developing countries like India, there


was reluctance among males to accept themselves as the potential cause of infertility in a couple.

However, the last century witnessed rapid advances in the management of male infertility, encompassing diagnostics and treatment. The WHO provided guidelines for proper semen examination, forming the basis for treatment recommendations. This shift marked a significant change, acknowledging and addressing male infertility issues, which had previously been overlooked. The denial among males about their potential role in infertility started to diminish, allowing for more comprehensive care and support for couples facing fertility challenges.

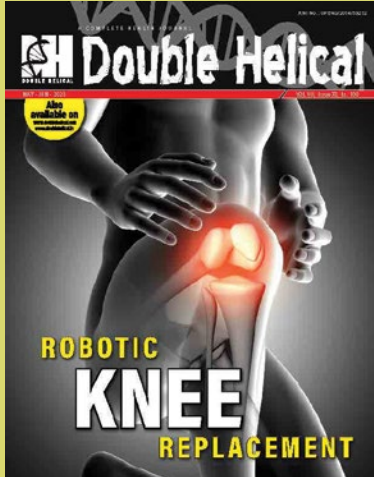
Contemporary male infertility programs go beyond standard testing procedures, such as semen analysis, to include specialized tests assessing the fertilizing potential and quality of sperm. One such test is the DNA fragmentation test, which evaluates the integrity of sperm DNA.

For patients diagnosed as azoospermic (no sperm in the ejaculate) on initial testing, testicular fine needle aspiration is typically

performed. If this procedure also fails to yield sperm, doctors may proceed to a testicular biopsy. In the biopsy, the sample is examined for the presence of sperm. If sperm are identified, they can be frozen or cryopreserved until the wife is prepared for Intracytoplasmic Sperm Injection (ICSI) during In Vitro Fertilisation (IVF). For men with mild male factor infertility, Intrauterine Insemination (IUI) may be offered. However, for those with weak sperm, more advanced techniques like IVF or ICSI may be recommended. IMSI (Intracytoplasmic Morphologically Selected Sperm Injection) is a specialized sperm selection method used within ICSI. This technique involves using a microscope to view highly magnified and detailed images of sperm, allowing the embryologist to select the best sperm for injection into an egg.

These advancements in testing and treatment modalities within male infertility programs contribute to more precise diagnostics and tailored interventions, enhancing the chances of successful fertility outcomes for couples facing male factor infertility. 

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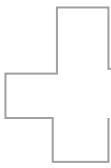
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Experts emphasize that assistance can be provided to both men and women based on the underlying cause of infertility. Infertility management entails comprehensive investigations to arrive at a logical diagnosis and subsequent targeted treatment. The outdated notion of solely blaming women for infertility has become obsolete. Research findings have unveiled that male factors contribute significantly to infertility.

Presently, research indicates that one in every five men within the age group of 18 to 25 experiences abnormal sperm count, a primary contributor to infertility. This awareness underscores the importance of considering both male and female factors in the diagnosis and treatment of infertility, fostering a more holistic and effective approach to assisted reproduction.

The widespread issue of infertility prompts the question of its underlying reasons. Irregular and low sperm count, compromised sperm delivery

and motility (the ability to move efficiently through the female reproductive system for fertilisation), stand out as prominent causes of male infertility. Medical factors like obesity and lifestyle disorders, including diet imbalance, smoking, alcoholism, sedentary living, and mental stress, contribute to poor sperm count.

In women, conditions such as Polycystic Ovary Disease (PCOD), characterised by hormonal imbalances and lack of ovulation, along with a demanding lifestyle and job stress, can lead to conception problems. Primary Ovarian Insufficiency (POI), causing ovulation problems, occurs when ovaries cease normal function before the age of 40. Changing lifestyle patterns, demanding work schedules, and stressful environments also contribute to fertility issues.

Despite the challenges, there are preventive measures that individuals can adopt. General measures like maintaining a healthy weight, avoiding cigarettes and alcohol, managing stress, and having a nutritious diet are vital. However, specific factors impacting fertility are often overlooked.

High testicular temperature is increasingly recognized as a cause of male infertility. Prolonged use of mobile phones, associated with intense and prolonged radiation, can harm sperm production. Men are advised to wear loose underwear, avoid resting laptops on laps, and take breaks during prolonged sitting. Certain sports may pose risks to testicular health, and injuries should be promptly treated to prevent long-term consequences on

fertility.

Declining libido among urban couples emerges as a significant cause, driven by hectic schedules, poor work-life balance, constant tension, and increased travel time. Stress, unhealthy eating habits, and medical conditions like diabetes contribute to poor sperm and egg quality. To address these issues, habits such as smoking, tobacco consumption, frequent drinking, unhealthy eating, and lack of exercise should be promptly addressed. Adopting these preventive measures is crucial in fostering reproductive health in both men and women.

It might come as a surprise that household products such as furniture polish, all-purpose cleaners, bug sprays, bathroom cleaners, and room deodorizers may contain chemicals that could reduce conception rates by up to 33 per cent. Opting for organic, non-toxic alternatives is a safer choice.

Additionally, prioritizing good sleep is crucial, as 80 per cent of ovulation occurs between midnight and 4 am. Interrupted sleep patterns can weaken immunity, disrupt reproductive hormone levels, and hinder ovulation.





(donor) to assist a couple or a single individual (intended parents) in becoming parents.

According to current Indian guidelines on Assisted Reproductive Technology (ART) established by the Indian Council of Medical Research (ICMR), all donors, with the exception of surrogates, must remain anonymous to the commissioning couples. The guidelines further stipulate that the provision of various gametes and surrogates is not conducted by the IVF centre itself but by separate entities known as ART Banks. These banks are also responsible for handling all legal issues associated with third-party reproduction. Once the necessary requirements are met, the medical fitness of the donor or surrogate is assessed, and after completing the required formalities, the couple, along with their donor or surrogate, is enrolled in the third-party program.

Recurrent Pregnancy Loss (RPL) Programme

Experiencing repeated pregnancy losses can be emotionally devastating for both the patient and the treating doctor. RPL is defined as a situation where a woman has lost three or more pregnancies. Chronic infections such as genital tuberculosis may contribute to RPL. Additionally, impaired blood circulation within the pelvis, particularly the uterus, has been identified as a major cause of recurrent failures, whether during implantation or later stages of pregnancy.

In addressing RPL, a comprehensive approach is often required to identify the specific causes and factors contributing to repeated pregnancy losses. The understanding that impaired blood circulation can be a significant factor highlights the importance of thorough investigation and targeted interventions to improve the chances of a successful pregnancy for individuals facing recurrent pregnancy loss.



HOPE FOR INFERTILE COUPLES

Doctors conduct tests to identify the causes of Recurrent Pregnancy Loss (RPL) and tailor treatment accordingly. If a genetic cause is identified, the patient and her husband are informed about the defect, and counselling is provided regarding future implications. Endocrine causes, such as Polycystic Ovary Syndrome (PCOS), may contribute to RPL and can be addressed with insulin-lowering medication. It is important to note that extensive testing is not typically recommended after a single pregnancy loss, as this may have occurred by chance, and there is no need for undue concern.

MALE INFERTILITY PROGRAMME

Throughout history, the responsibility for procreation has often been attributed to women. Research and advancements in medication and technology for infertility primarily focused on female-related issues. While these innovations improved success rates in female infertility, the male counterpart received less attention, partly because infertility was traditionally within the realm of gynaecologists. Moreover, in developing countries like India, there


was reluctance among males to accept themselves as the potential cause of infertility in a couple.

However, the last century witnessed rapid advances in the management of male infertility, encompassing diagnostics and treatment. The WHO provided guidelines for proper semen examination, forming the basis for treatment recommendations. This shift marked a significant change, acknowledging and addressing male infertility issues, which had previously been overlooked. The denial among males about their potential role in infertility started to diminish, allowing for more comprehensive care and support for couples facing fertility challenges.

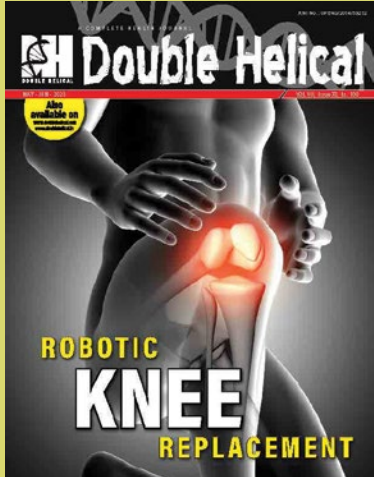
Contemporary male infertility programs go beyond standard testing procedures, such as semen analysis, to include specialized tests assessing the fertilizing potential and quality of sperm. One such test is the DNA fragmentation test, which evaluates the integrity of sperm DNA.

For patients diagnosed as azoospermic (no sperm in the ejaculate) on initial testing, testicular fine needle aspiration is typically

performed. If this procedure also fails to yield sperm, doctors may proceed to a testicular biopsy. In the biopsy, the sample is examined for the presence of sperm. If sperm are identified, they can be frozen or cryopreserved until the wife is prepared for Intracytoplasmic Sperm Injection (ICSI) during In Vitro Fertilisation (IVF). For men with mild male factor infertility, Intrauterine Insemination (IUI) may be offered. However, for those with weak sperm, more advanced techniques like IVF or ICSI may be recommended. IMSI (Intracytoplasmic Morphologically Selected Sperm Injection) is a specialized sperm selection method used within ICSI. This technique involves using a microscope to view highly magnified and detailed images of sperm, allowing the embryologist to select the best sperm for injection into an egg.

These advancements in testing and treatment modalities within male infertility programs contribute to more precise diagnostics and tailored interventions, enhancing the chances of successful fertility outcomes for couples facing male factor infertility. 

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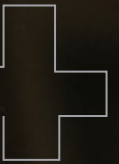
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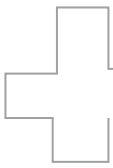


ELEVATING MATERNAL HEALTH

With a focus on enhancing nursing education and leadership, the nation is strategically investing in nurses and midwives. This comprehensive initiative, aligned with global standards, not only addresses healthcare gaps but also promises a dignified and respectful experience for women and newborns...

BY DR SUNEELA GARG/DR ARVIND GARG





The World Health Organization (WHO) designated 2020 as the Year of the Nurse and Midwife, kickstarting the Nursing Now campaign—a three-year global initiative (2018–2020) in collaboration with the International Council of Nurses and the International Confederation of Midwives. These concerted efforts sought to unite the nursing profession, advocating for increased global investment in nursing and midwifery. This collective endeavour strategically addressed challenges related to universal health coverage, global disparities in professional practice, and recruitment and retention.

In celebration of the Year of the Nurse and the Midwife, the Nightingale Challenge emerged as a transformative force, placing early career nurses and midwives at the forefront. This global call urged employers worldwide to invest in nursing leadership development, positioning these professionals as key contributors to tackling issues such as universal health coverage, gender equality, and economic growth. This strategic move not only recognised their pivotal role but also positioned them as central figures in confronting 21st-century health challenges.

SPOTLIGHT ON THE GLOBAL HEALTH WORKFORCE

The WHO's 2020 Year of the Nurse and the Midwife campaign aimed to shine a spotlight on the world's 22 million nurses and two million midwives—comprising half of the global health workforce. This dedicated year served as a platform to showcase the indispensable contribution of nurses and midwives to healthcare, with the overarching goal of elevating their profile and status worldwide.

Recognising the critical role of Nursing and Midwifery professionals





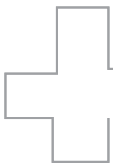
in achieving the Sustainable Development Goals (SDGs), the global health agenda hinges on concerted efforts to maximize their contributions within inter-professional health teams. As critical pillars of the SDGs, nurses and midwives play an integral role in realising global health objectives.

Midwifery Leadership in the 21st Century

The current healthcare policy sets a clear agenda for midwifery leadership, emphasising a transformative approach necessary to meet the demands of the 21st century. In this era defined by information and knowledge, the nursing and medical professions are witnessing an increased integration of information technology to enhance day-to-day

operations, ultimately aiming to elevate the quality of patient care.

The future quality of the nursing profession relies on the calibre of individuals currently being socialised into professional nursing roles. Reflecting on India's strategic decision three decades ago to incentivize women to give birth at health facilities, the country witnessed a remarkable 77 percent decline in maternal mortality rates from 1990 to 2015. The Janani Suraksha Yojana initiative successfully drew millions of women to healthcare institutions, ensuring safe deliveries with skilled healthcare providers. However, the surge in facility births strained the health system over time, leading to a decline in the quality of care, a rise in the medicalisation of pregnancy, and a plateau in progress.



Revitalising Maternal and Neonatal Healthcare in India

In a bid to further reduce India's maternal mortality ratio from 113 to 70 per 100,000 live births and neonatal mortality from 32 to at least as low as 12 per 1,000 live births, the Indian government is turning to midwifery as a key component of its healthcare strategy.

Globally, midwifery stands acknowledged as one of the most effective and economically sound investments in healthcare. Educating midwives to international standards not only leads to immediate clinical benefits but also brings broader economic advantages. In the context of India, the decision to designate midwifery as an advanced practice specialty for nurses aligns with the pursuit of comprehensive maternal and neonatal care.

Challenging Misconceptions

Despite being integral to sexual and reproductive health services throughout the childbirth continuum, the perception of midwives as mere birthing assistants persists. In truth, midwives contribute significantly to various aspects of women's health, ensuring a woman-centred approach that spans from pre-pregnancy to the postnatal period. High-quality midwifery services yield outcomes such as reduced interventions during labour, improved psychosocial well-being, and increased birth spacing.

Countries like the United Kingdom, Sweden, Norway, and France have embraced midwifery-led care, resulting in lower maternal and newborn mortality rates compared to India. The strategic deployment of midwives allows obstetricians to focus on high-risk cases, easing the burden on medical colleges and addressing human resources challenges. The Indian government's comprehensive approach, including legal reviews,



education enhancement, and the establishment of midwifery-led care services, aims to address existing healthcare gaps.

Introducing Nurse Practitioners in Midwifery (NPMs) as a specialised workforce aligns with global standards in midwifery-led services. This distinct role, separate from general nursing responsibilities, ensures skill retention and attracts nurses dedicated to woman-centred maternity care. Collaborating closely with existing healthcare providers, NPMs are envisioned to offer routine maternity care, contributing to a vision of high-quality, dignified, and respectful care for women and newborns.

Key Takeaways

Across the globe, healthcare

expenditure is increasing, along with the numbers of older patients with multiple comorbidities, while the numbers of health workers are decreasing significantly, and many nursing and midwifery vacancies remain unfilled.

The International Year of the Nurse and Midwife in 2020 marked the beginning of a transformative decade for India's nursing and midwifery workforce. The ongoing commitment to advancing nursing education and professional roles reflects a promising start, paving the way to enhance the health and well-being of mothers and their babies across the nation. 

(The authors are Chair, PAC, NIHF/Director, Child Care Clinic & Head, Apollo Hospitals, Noida)



EMPOWER YOUR PROSTATE

In the realm of prostate health, dietary fortification emerges as an important shield against potential risks like cancer. Nutrients such as lycopene and selenium play a crucial role in promoting prostate well-being. Complementing this, advanced medical interventions, spanning screening and treatment options, surgical procedures, and radiation therapies, collectively form a holistic defence against prostate ailments....

BY DR S P YADAV





CANCER - PROSTATE

If you are experiencing symptoms like difficulty urinating, a weakened stream of urine, blood in the urine or semen, bone pain, unintended weight loss, or erectile dysfunction, it's crucial to consult with your doctor, as these could be signs of prostate cancer.

Basically, prostate cancer begins when cells in the prostate gland start to grow out of control. The prostate is a gland found only in males. It makes some of the fluid that is part of semen. The prostate is below the bladder (the hollow organ where urine is stored) and in front of the rectum (the last part of the intestines).

Basic factors that can increase the risk of prostate cancer include older age (most common after age 50). It is reported that black people have a greater risk of prostate cancer than do people of other races. In black people, prostate cancer is also more likely to be aggressive or advanced. If a blood relative, such as a parent, sibling, or child, has been diagnosed with prostate cancer, the risk may be increased. People who are obese may have a higher risk of prostate cancer compared with people considered to have a healthy weight, though studies have had mixed results.

UNDERSTANDING THE PROSTATE'S ANATOMY

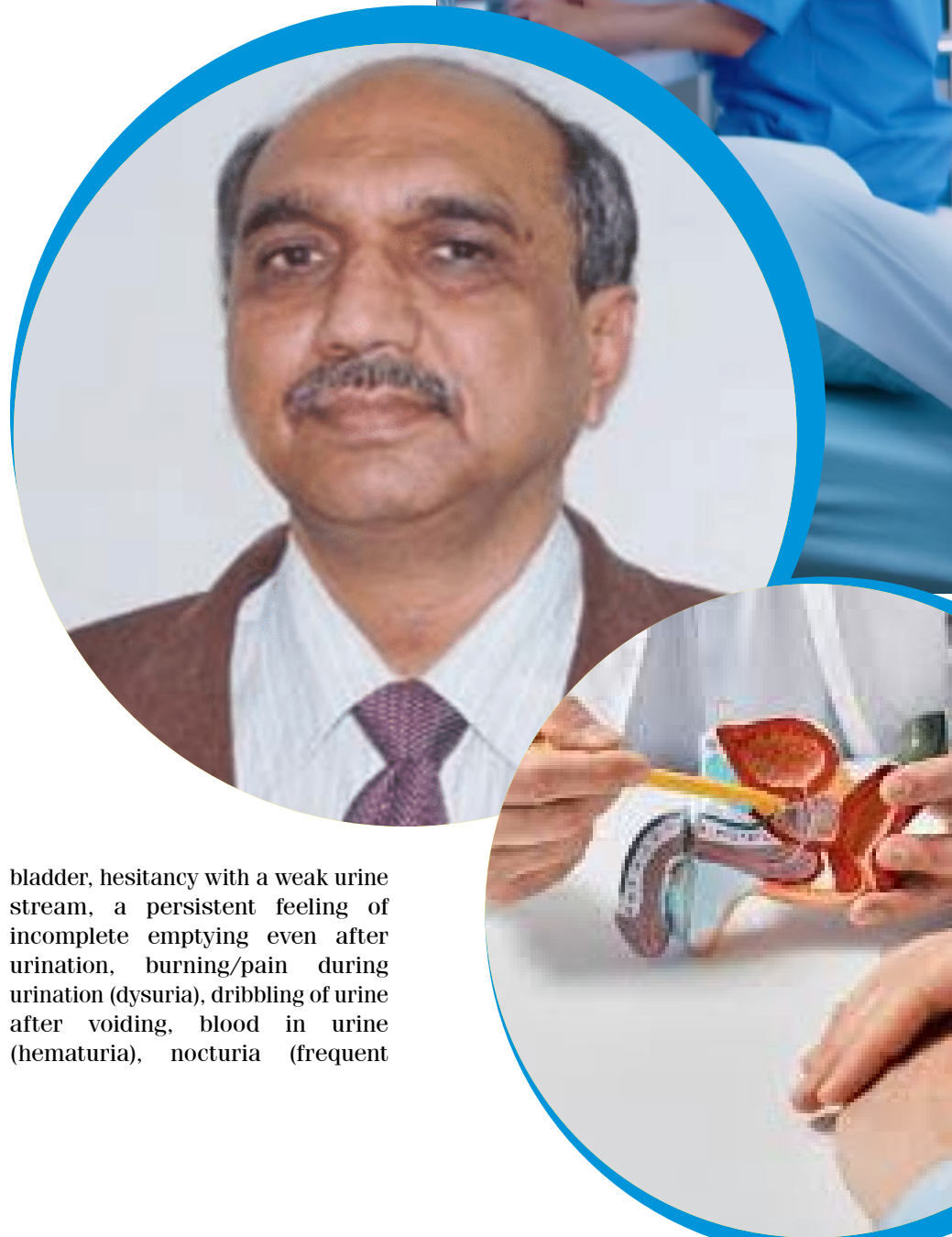
The prostate, located in front of the rectum and at the base of the bladder surrounding the urethra (the urinary outlet), is normally about the size of a walnut, weighing around 20 grams in a typical adult. It naturally enlarges with age, a condition known as Benign Prostatic Hyperplasia (BPH) or Lower Urinary Tract Symptoms (LUTS). However, if it grows too large, it can cause problems. This non-cancerous enlargement is common in males over 50.

Prostate cancer, distinct from BPH, is often seen in men after 60 years of

age. It is the second most common cancer in men (after lung cancer) and the second major cause of death for elderly men. 1 in 5 men get diagnosed with prostate cancer during their lifetime.

DETECTING PROSTATE CANCER

Early stages of prostate cancer often show no symptoms, leaving many men unaware of their condition. Indications of prostatic issues include increased frequency of urination, urgent and unavoidable urges to urinate, straining to empty the



bladder, hesitancy with a weak urine stream, a persistent feeling of incomplete emptying even after urination, burning/pain during urination (dysuria), dribbling of urine after voiding, blood in urine (hematuria), nocturia (frequent



Surgical treatments for prostate cancer include various techniques like nerve-sparing, laparoscopic, robotically-assisted procedures, and classic retropubic and perineal prostatectomy.

urination at night), and/or uncontrolled outflow of urine.

The early symptoms of BPH and prostate cancer mirror each other, as they are not specific to cancer but arise due to blockage from cancerous growth in prostate cancer patients and the enlargement of prostate tissue in BPH cases.

Advanced prostate cancer may manifest as dull, deep pain or stiffness in the pelvis, lower back, ribs, or upper



thighs; pain in the bones of these areas; weight loss, loss of appetite, fatigue, nausea, or vomiting; swelling in the lower extremities; and weakness or paralysis in the lower limbs, often accompanied by constipation. Diagnosis of prostate cancer may be based on symptoms, physical examination, prostate-specific antigen (PSA) levels, or biopsy. Treatment typically involves surgery, various forms of radiation therapy, proton therapy, or cryosurgery. Hormonal therapy and chemotherapy are generally reserved for advanced cases.

DIETARY MEASURES AND TREATMENT INSIGHTS

For prostate cancer prevention, dietary changes are often recommended to maintain good

prostate health. Lycopene, found in foods like tomatoes, tomato products, and watermelons, along with selenium from nuts, seafood, meat, fish, wheat bran, oats, and brown rice, can significantly reduce the risk of prostate cancer. Vegetables such as broccoli, cabbage, and cauliflower contain isothiocyanates, protective phytochemicals, and antioxidants. Fish and vegetable oils rich in omega-3 fats are also effective, while vitamin E, sourced from vegetable oils, nuts and seeds, whole grains, etc, is known to reduce prostate inflammation.

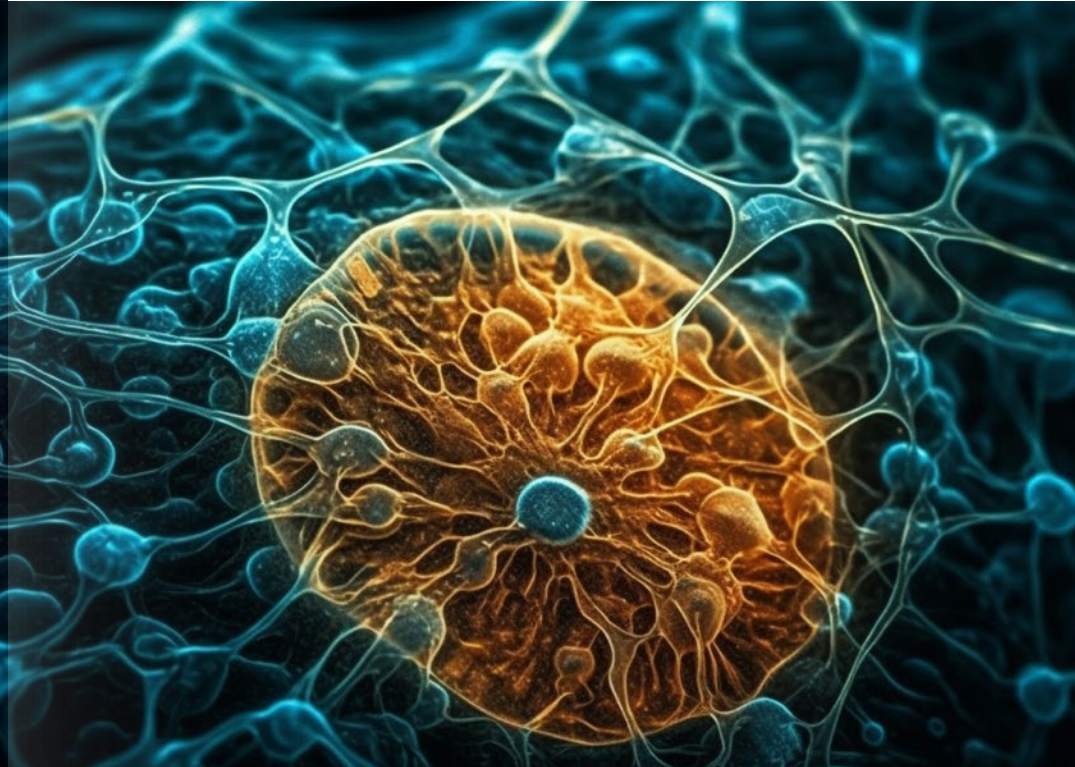
A study involving nearly 50,000 men found that lycopene significantly reduces the risk of prostate cancer. Selenium offers great protection, and soy products, containing isoflavones, can help prevent prostate enlargement

and may slow tumour growth by lowering dihydrotestosterone (DHT), a male hormone stimulating prostate tissue overgrowth.

However, red meat, high in saturated animal fats, has been linked to an increased incidence of prostate problems. Excessive weight is also associated with prostate troubles. Individuals with an enlarged prostate are advised to drink plenty of water and non-alcoholic fluids to flush the bladder, while reducing caffeine and beer intake as they can irritate the urinary tract. Screening decisions are recommended based on discussions with healthcare providers about uncertainties, risks, and potential benefits. The American Cancer Society (ACS) suggests screening from age 50 for men at average risk with a 10-year life expectancy. For



Multiple forms of radiation therapy, including conventional, 3-D conformal, intensity-modulated, temporary and permanent brachytherapy, proton-beam, and stereotactically guided radiation, are also available for prostate cancer.



African Americans and men with a first-degree relative diagnosed with prostate cancer before age 65, screening may start at age 40 or 45. For men with several first-degree relatives diagnosed with prostate cancer at an early age, screening may commence at 40.

Standard treatments for clinically localised prostate cancer include radical prostatectomy, radiation therapy, active surveillance, and androgen deprivation therapy (ADT). Management of metastatic prostate cancer typically involves relief of specific symptoms and attempts to slow further progression.

Locally advanced prostate cancer often involves radiation therapy along with androgen ablation, with radical prostatectomy considered in some cases. A combination of external

radiation, brachytherapy, and hormone therapy is also utilised.

Metastatic prostate cancer is rarely curable, focusing on palliation of symptoms and attempts to slow disease progression.

Treatment comparisons are complicated by stage-migration and lead-time bias associated with PSA-based screening, increased detection of small, clinically localised cancers, and the expanding range of treatment options.


Surgical treatments for prostate cancer include various techniques like nerve-sparing, laparoscopic, robotically-assisted procedures, and classic retropubic and perineal prostatectomy.

Multiple forms of radiation therapy, including conventional, 3-D conformal, intensity-modulated, temporary and permanent brachytherapy, proton-beam, and stereotactically guided radiation, are also available for prostate cancer.

Hormone therapy, also known as

androgen deprivation therapy (ADT), may involve surgical or medical castration, with agents like LHRH analogues or antagonists, antiandrogens, and other androgen suppressants used for medical castration.

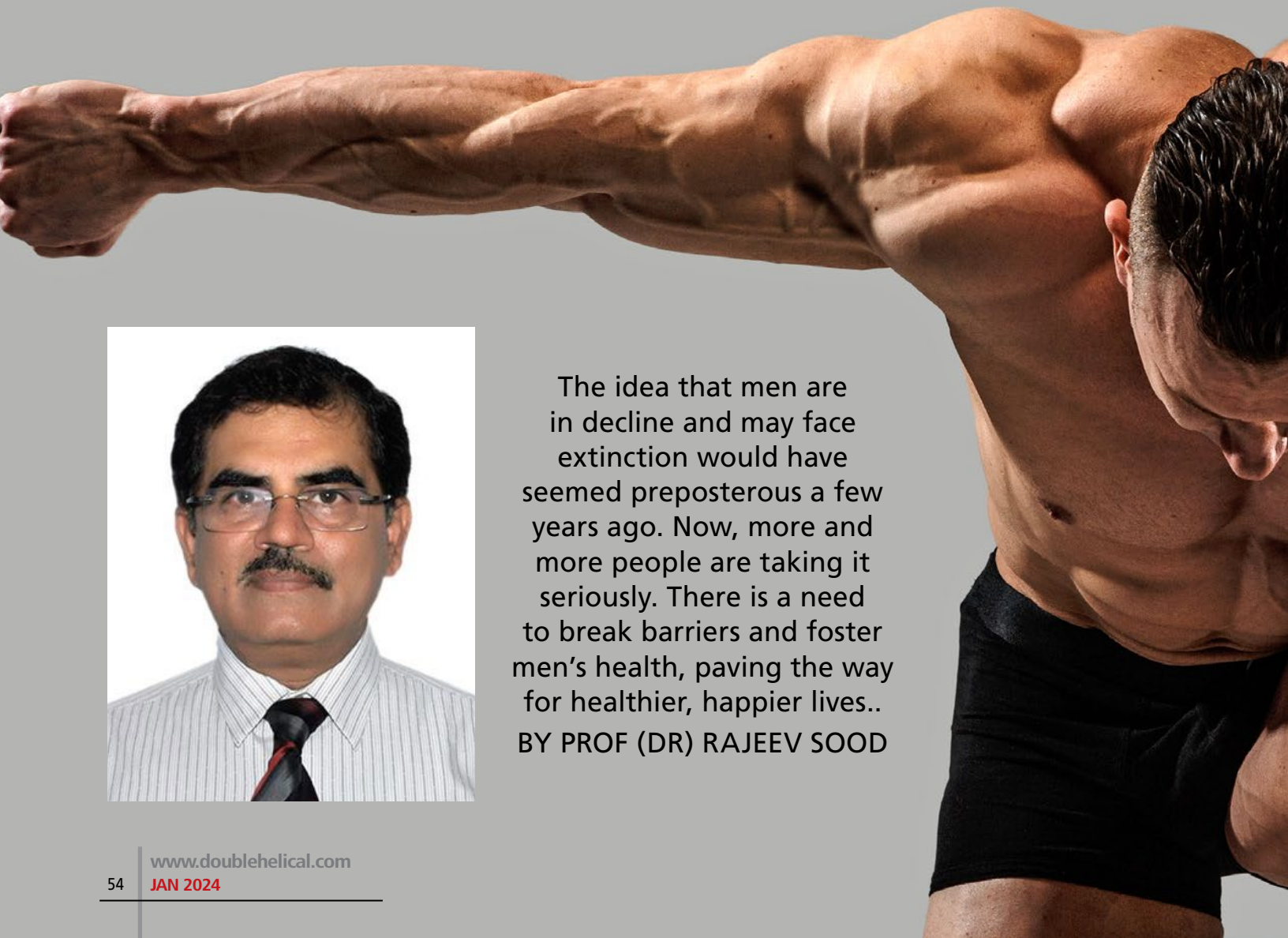
KEY TAKEAWAYS

In obese people, the cancer is more likely to be more aggressive and more likely to return after initial treatment. With a 10 per cent chance of the disease being hereditary, it's crucial for individuals with a family history of prostate cancer to undergo regular prostate screening. Prostate cancer treatment depends on the cancer stage and other factors. While some cases can be cured, others may allow individuals to live with cancer for years without spreading or causing serious problems. 

(The author is senior urologist and CMD, Pushpanjali Hospital, Gurgaon)



THE BUR MASCU



The idea that men are in decline and may face extinction would have seemed preposterous a few years ago. Now, more and more people are taking it seriously. There is a need to break barriers and foster men's health, paving the way for healthier, happier lives..
BY PROF (DR) RAJEEV SOOD



BURDEN OF MORTALITY



Men are going extinct, and scientists have now placed them on the “endangered species” list. The SRY gene, at least 130 million years old (possibly up to 300 million years old), has reduced its size by one-third, losing about 97% of its genes. The Y chromosome might, in another 100 million years, disappear completely, with future male characteristics potentially becoming a special attribute found in women.

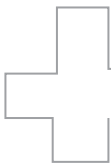
At the core of this phenomenon is the male Y chromosome, genetically and biologically brittle from the start. Males bear the burden of natural genetic deficits, while women’s “spare” X chromosomes enable their bodies to

compensate for damage in ways that men’s cells cannot. Additionally, mutations are three to six times more likely in a Y chromosome than an X chromosome, and some Y chromosome variants may increase the susceptibility of men to heart disease.

PHYSIOLOGICAL DIFFERENCES

Physiologically, a newborn girl is stronger and equivalent to a 4-6 week newborn boy. Hormones released differ between males and females, resulting in distinct effects and hormone responses to the environment during development and in adulthood. This may contribute to the fact that women outlive men by more than a decade in some countries.

Cross-regulation of steroid hormone and nutrient-sensing signalling pathways emerges



as a promising avenue for understanding the biological basis of the gender gap. Examining how these pathways interact sheds light on the complex factors contributing to the physiological differences between men and women.

AGING AND SEXUAL SELECTION

Ageing responds to natural selection on traits arising as a consequence of sexuality. Genders exhibit distinct responses to dietary restriction and altered activity of nutrient-sensing pathways, with females showing a greater plasticity for life extension.

Even with a boost at conception, male foetuses face challenges, being less likely to survive to birth compared to females. The death differential is estimated to be 111-160 males per hundred females, and miscarriages predominantly involve males. Men have shorter life expectancies and higher mortality rates than women.

Research findings indicate that women live several years longer than men, with men using health services less frequently, visiting doctors later in the course of conditions, and experiencing poorer health outcomes. Men are four times more likely to die by suicide and homicide and twice as likely to die accidentally compared to women.

SOCIAL AND PSYCHOLOGICAL FACTORS IMPACTING MEN'S HEALTH

Beyond the pressures of modern lifestyles, women play a significant role in reducing men's lifespan. Males face societal expectations from a young age, contributing to stress, suicide, and engagement in high-risk behaviours. Social taboos and embarrassment often hinder open discussions about health-related issues among men.

The cumulative impact of societal



pressures, mental health challenges, and developmental defects could lead to a severe reduction in the male population. Males may face a decline in significant societal roles and potentially become psychologically extinct, if not physically so.

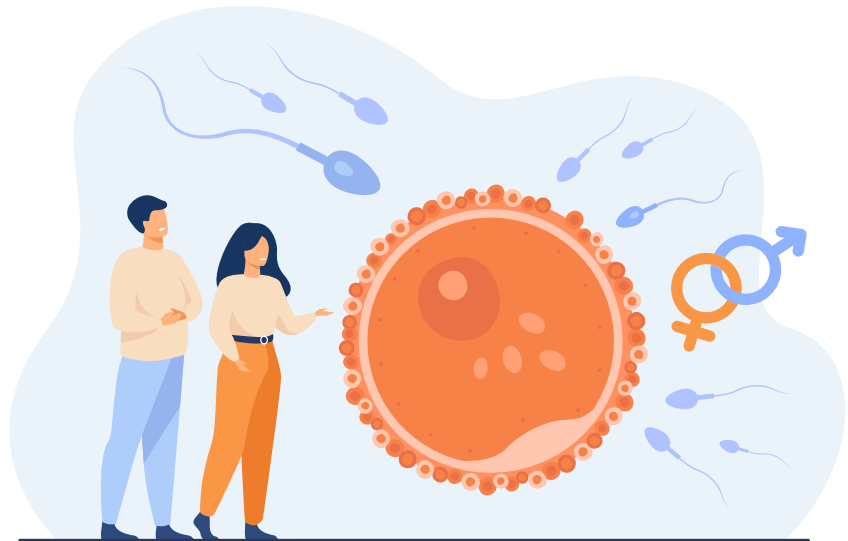
DEVELOPMENTAL DEFECTS AND HEALTH CHALLENGES IN MALES

Males are more prone to various developmental defects, including reading delays, deafness, autism, Attention Deficit Hyperactivity Disorder (ADHD), blindness, seizure disorders, hyperactivity, clumsiness, stammering, and Tourette's syndrome (TS) - a condition of the nervous system causing people to have "tics" or sudden twitches, movements, or sounds that people do repeatedly -

and Asperger's syndrome (a developmental disorder characterized by difficulty in relating to others socially along with a tendency for repetitive and rigid behaviour and thinking patterns). These challenges contribute to a complex landscape of health disparities between genders.

Men face a 14.9 percent risk of dying from cancer before the age of 75, compared to a lower risk of 9.1 percent for women. This means that 143.1 out of every 100,000 men die from cancer each year, while the number is 87.2 for women. Notably, 410,000 men in developed countries succumb to lung cancer annually, surpassing the 188,000 women affected.

DECLINING MALE FERTILITY AND



HEALTH CHALLENGES

Males are finding it increasingly difficult to father children, and there is a troubling decline in male health. Recent trends show fewer boys born compared to three decades ago, with more cases of undescended testes and penile abnormalities. Testicular cancer rates among young men have risen since the early 1990s, occurring at younger ages.

Historically, discussions around men's health have often focused on male sexual health, transitioning from the optimistic invulnerability of their 20s to growing awareness of aging around 40. Unhealthy behavioural patterns in their sixth decade lead to obesity, diabetes, hypertension, and erectile dysfunction (ED).

By their sixth decade, the

cumulative impact of unhealthy behaviours manifests in various health issues. Common concerns include obesity, diabetes, hypertension, and ED. Another decade later, cardiovascular and cerebrovascular diseases, along with cancer, collectively reduce men's average life expectancy by approximately 5 years compared to women.

UROLOGICAL SYMPTOMS AS HEALTH INDICATORS

During their life journey, men often ignore health check-ups until faced with urological symptoms such as urinary frequency, urgency, flow problems, or anxieties about ED. ED may serve as a marker for silent vascular diseases and indicate the presence of hypogonadism (decreased functional activity of the testes), insulin resistance, and metabolic syndrome (a cluster of conditions increasing the risk of heart disease, stroke, and type 2 diabetes), potentially preventing further vascular and endothelial deterioration.

Endothelial dysfunction, initially manifested by ED, serves as an early-warning sign for the development of atherosclerosis, cardiovascular, and

cerebral diseases. ED and heart disease are interconnected, with age-dependent risks for Coronary Heart Disease (CHD). Considering cardiovascular (CV) health is crucial in men with ED, as interventions can benefit both conditions. Erectile function acts as a predictor of cardiovascular morbidity and mortality, representing an early symptom of endothelial dysfunction and atherosclerosis. Early identification of ED in patients provides an opportunity for risk-adjusted treatment, reducing cardiovascular events.

An evaluation for ED often reveals not only underlying prostate disease but also diabetes and/or hypertension, along with dyslipidaemia (imbalances in lipids such as cholesterol, low-density lipoprotein cholesterol (LDL-C), triglycerides, and high-density lipoprotein (HDL)).

GENDER DIFFERENCES IN SOCIAL INTERACTION AND HEALTH SEEKING

Women tend to have more social interactions on average than men, with social connections linked to longer life. Men, historically perceived as "risk-takers," may find it challenging to share deeper



concerns, both with friends and healthcare professionals. Men's tendency to engage in more dangerous jobs and delay seeking medical attention could be linked to their risk-taking behaviour. Men have a higher calorie burn rate, leading to a faster depletion of stem cells. Frequent injuries or surgeries resulting from a high-risk sport or lifestyle further accelerate the utilisation of a man's reserves. Larger individuals within a species tend to have shorter lives, and higher iron content may contribute to cellular aging.

GENDER-SPECIFIC RESOURCE ALLOCATION AND LONGEVITY

Men seem to invest more resources in getting bigger and stronger early in life, whereas women are geared for endurance. Women, typically shorter and smaller, may exhibit a longer life expectancy. The differences in resource allocation and life strategies between genders contribute to variations in health and longevity.

The prevailing societal notion that

men lose their utility after the age of 50 or 60 sharply contrasts with the continued and vital role of women as grandmothers. Their active involvement in the upbringing and protection of the young challenges stereotypical perceptions.

DEPRESSION AND CARDIOVASCULAR RISKS IN MEN

Men experiencing depression face distinct pathways leading to heightened mortality, particularly through suicide, when compared to women. These gender-specific challenges highlight the need for targeted mental health interventions.

Men naturally exhibit lower levels of protective HDL cholesterol, and a substantial percentage of sudden cardiac events, ranging from 70 to 89 percent, occur within the male population. Furthermore, men are three times more likely to succumb to coronary artery disease compared to their female counterparts, underscoring the importance of gender-sensitive cardiovascular care.


Financial stress emerges as a

significant factor amplifying the risks associated with incident Cardiovascular Disease (CVD) and all-cause mortality, particularly among men. This risk is further pronounced in men residing in single households, emphasising the need for holistic approaches to cardiovascular health that consider socioeconomic factors.

MEN'S HEALTH INITIATIVES

Founded in 2010, the Men's Health Society of India (MHSI) stands as a dedicated entity exclusively focused on men's health. Having conducted over 15 conferences with international collaborations, MHSI actively addresses various dimensions of men's health. This includes the 'Integrated Men's Health (IMH) National Program' and 'Male GUD Program,' contributing substantively to national health agendas.

MHSI's overarching vision encompasses the identification of current issues in men's health, promotion of research activities, integration of healthcare professionals, fostering awareness, and the formulation of comprehensive guidelines. These initiatives, including genito-urinary disease programs, serve as critical components of a holistic and targeted approach to men's health.

There is a need for directing attention towards groups with the most adverse health outcomes, including economically disadvantaged men, gay and bisexual men, homeless individuals, migrants, or offenders. Acknowledging that most men aspire to enjoy good health and well-being, the emphasis should be on leveraging the positive facets of masculinity within health promotion efforts.. 

(The author, a distinguished Senior Urologist, currently serves as the Vice Chancellor at Baba Farid University of Health Sciences, Faridkot, Punjab).



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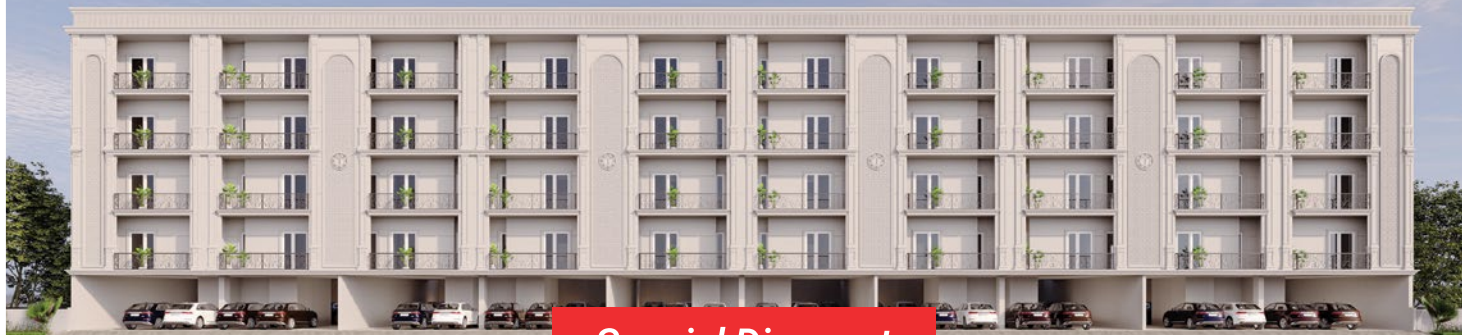
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