RNI No.: UPENG/2014/59232

A COMPLETE HEALTH JOURNAL

Double Helical

DOUBLE HELICAL

June-July 2025

VOL X, Issue- IV, Rs. 200

COVID VACCINES

SHOTS IN THE DARK

1st

IGBC PLATINUM-RATED GREEN HOME in Delhi NCR

Step into regal living at Gulshan Dynasty, Sector 144, Noida, the epitome of luxury and NCR's most sustainable and efficient building, redefining residential excellence.

GULSHAN
DYNASTY

MAKE THE RISE, MAKE THE CALL

Schedule your exclusive preview: +91 8010 444 888 | www.gulshandynasty.com

DOUBLE HELICAL

A COMPLETE HEALTH MAGAZINE

Volume X Issue IV
June-July, 2025

Double Helical is owned, printed and published monthly. It is printed at Polykam offset, Naraina Industrial Area Phase 1, New Delhi-110028, and published from G-1, Antriksh Green, Kaushambi, Ghaziabad-201 012.
Tel: 0120-4165606 / 9953604965.

Contact us :
contact@doublehelical.com
doublehelicaldesign@gmail.com,
editorial@doublehelical.com
Website: www.doublehelical.com,
www.doublehelical.in

Contents

Facebook: https://www.facebook.com/Double-Helical-1783106448421622/?modal=admin_todo_tour

Twitter: @HelicalDouble

Youtube: https://www.youtube.com/channel/UCmbMtYUwuppYzDHd_OrcMfg/featured?view_as=subscriber

Navigating the COVID-19 Vaccine Debate

Dear Readers,

Double Helical, a comprehensive national health magazine, proudly serves as a platform to celebrate the innovations, individuals, products, and services that are revolutionising India's healthcare landscape, steering it toward a future of affordable, high-quality, and inclusive healthcare accessible to all.

The cover story package of our June-July 2025 issue tackles one of the most polarising topics in recent medical history: the after-effects of COVID-19 vaccines. This edition features two divergent perspectives that encapsulate the ongoing national discourse. On one side, Dr Amitav Banerjee raises urgent and thought-provoking concerns, pointing to potential links between vaccines and neurological disorders, sudden deaths, and critiquing the rushed rollout in India as well as the methodological flaws in supporting studies. On the other hand, Dr K Madan Gopal presents a reassuring counter-narrative, defending the safety and life-saving efficacy of these vaccines.

Dr Banerjee's article brings to the forefront troubling gaps and oversights in India's vaccine policies that warrant serious attention and further exploration. He highlights alarming reports from the National Institute of Mental Health and Neurosciences (NIMHANS) that suggest a correlation between COVID-19 vaccines and an uptick in nervous system disorders, a finding that demands immediate and thorough investigation to ascertain causality and mitigate risks. A particularly contentious issue is the use of Covishield, which was paused in Europe for individuals under 50 due to identified clotting risks, yet was widely administered in India to a demographic where 85 percent of the population falls below that age threshold, potentially magnifying the incidence of rare adverse events such as thrombosis with thrombocytopenia syndrome (TTS).

Dr Banerjee critiques the Indian Council of Medical Research's (ICMR) case-control study, pointing out considerable design flaws such as overmatching of controls, which may have skewed results and obscured genuine vaccine-related risks, a methodological concern that undermines the study's credibility. He advocates for independent, long-term, and unbiased research to address these shortcomings, drawing attention to international data from the United States, Australia, and the United Kingdom, where spikes in excess deaths following vaccination campaigns have been noted, raising questions about whether these trends are attributable to lockdown effects, vaccine side effects, or a combination of factors. This perspective underscores a cautious and evidence-driven approach to vaccine policy.

In contrast, Dr K Madan Gopal's counter-narrative offers a compelling defence of the COVID-19 vaccines, grounded in a wealth of Indian studies that affirm their overwhelming benefits and safety profile. He cites large-scale research demonstrating no statistically significant link between vaccines and sudden deaths, a finding reinforced by data showing that vaccinated groups experienced lower mortality rates compared to their unvaccinated counterparts, providing strong evidence of the vaccines' protective effect against severe COVID-19 outcomes.

Dr Gopal acknowledges rare adverse events such as myocarditis and TTS, but contextualises their incidence as exceptionally low—ranging from 1 to 7 cases per 100,000 doses—and emphasises that these conditions are manageable and treatable with prompt medical intervention, contrasting sharply with the far greater risks posed by unmitigated COVID-19 infection, which includes a higher likelihood of clots, heart attacks, and long-term organ damage. He highlights India's robust Adverse Events Following Immunisation (AEFI) mechanism, a transparent system designed to monitor, investigate, and address vaccine reactions swiftly, as a testament to the country's commitment to safety. He advocates for clear, empathetic communication strategies to dispel myths and rebuild trust, reminding readers that perfection cannot be the enemy of good—vaccines, like all medical interventions, carry inherent risks, but their net benefit in preventing a deadly pandemic remains undeniable and should guide public health policy.

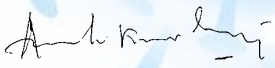
Our mission with this issue is to reconcile these viewpoints, shedding light on the intricate layers of the vaccine debate, and emphasising the indispensable role of transparent, rigorous scientific investigation to restore and sustain public trust in healthcare systems shaken by the pandemic's legacy.

For India, this lesson is particularly poignant—public trust in healthcare systems, severely tested during the pandemic, hinges on the pillars of transparent science, empathetic dialogue with communities, and systemic accountability from policymakers and medical institutions.

This issue is brimming with many more fascinating, insightful, and thought-provoking stories that delve into the heart of India's healthcare transformation. We invite you to explore these narratives and join us in shaping a healthier future. Happy reading!

Happy reading!

Thanks and regards



Amresh K Tiwary,
Editor-in-Chief

3 BEDROOM PREMIUM APARTMENTS. **(1461 SQFT)**

Price Starting

28.99 LAKH* onwards

3 BEDROOM PREMIUM APARTMENTS. **(1574 SQFT)**

Price Starting

29.99 LAKH* onwards

LOAN AVAILABLE UP TO 90%

Kids Play Area - 24x7 CCTV - Security - Gated Society - Swimming Pool - 30/40/60 feet Rd, Ample Parking
BIG Green Parks - Gymnasium - Cafeteria - Mini Theater - Water Harvesting -Indoor Games etc.

www.thdindia.com

For Bookings And More Information *Please Contact* **+91 6367-400-500**

Sadhvi Rithambara Inaugurates New Blocks of Pushpanjali Hospital, East Delhi

Renowned spiritual leader Sadhvi Rithambara recently inaugurated the administrative block, OPD, and dialysis unit of Pushpanjali Hospital (Pushpanjali Medical Centre) located in East Delhi. On the occasion, she congratulated the doctors and patients on the augmentation of world-class facilities at the hospital, which is now equipped with the latest medical technology.

According to her, Pushpanjali is not just a hospital, but a holistic health centre offering treatment at very affordable prices. "As I observed, Pushpanjali Medical Centre


Pushpanjali


Pushpanjali

is a well-equipped multi-specialty hospital that caters to all specialties and super-specialties. This is a comprehensive secondary care facility with excellent round-the-clock support from emergency services, critical care, laboratory, ambulance, and pharmacy services," she said.

She also spoke passionately about the 'Save Girl Child' campaign and emphasised the importance of ensuring a secure future for newborns, especially girls. Strongly advocating women's empowerment, she blessed Dr Vinay Aggarwal, CMD of Pushpanjali Hospital, for his compassionate efforts in the healthcare sector.

Sadhvi Rithambara also recalled the glorious moment of the inauguration of Pushpanjali Crosslay Hospital, now known as Max Super Speciality Hospital, Vaishali, Delhi/NCR.

A renowned spiritual orator, public speaker, and nationalist ideologue, Sadhvi Rithambara is the founder-chairperson of Durga Vahini, the women's wing of the Vishva Hindu Parishad (VHP), established in 1991. She gained national prominence with the VHP in the late 1980s through the Jan Jagran Abhiyan, and in the 1990s during the Ram Janmabhoomi movement for the construction of the Ayodhya temple. In January 2025, she was conferred with India's third-highest civilian award, the Padma Bhushan.

Dr Vinay Aggarwal stated that Pushpanjali Hospital is committed to delivering world-class healthcare with compassion—a commitment evident in the hospital's globally comparable medical infrastructure and the compassionate service of every consultant and staff member. With unwavering dedication, the hospital is now enhancing its capabilities by introducing state-of-the-art medical equipment for IVF, trauma care, joint replacement, cardiac treatment, and implants.

South Asia Steps Up Shots

South Asia has recorded its highest-ever child immunisation rates in 2024, according to new data released today by World Health Organization (WHO) and United Nations Children's Fund (UNICEF). The milestone marks a bounce-back from pandemic-era setbacks and reflects coordinated efforts across governments, communities, and frontline workers.

"This is a proud moment for South Asia. More children are protected today than ever before, thanks to tireless frontline health workers, strong government leadership, donors' and partners' support and the unwavering trust of families," said Sanjay Wijesekera, UNICEF Regional Director for South Asia. "But we cannot forget the millions of children who are under-vaccinated or unvaccinated. Now is the time to push further, especially into the most rural areas, to give every child his or her right to healthcare in the earliest years of life."

In 2024, 92 per cent of the infants in the region received their third dose of the Diphtheria, Tetanus, and Pertussis (DTP) vaccine, a key measure of vaccination efforts. This marks a two percentage point increase since 2023. During the same period, the proportion of children receiving their first dose of DTP increased from 93 per cent to 95 per cent. These figures show a strong bounce back, surpassing pre-COVID levels – reflecting the efforts of the South Asian governments to prioritise children's health.

Additionally, there was a 27 per cent reduction in the number of children who did not receive a single dose of the vaccine, also known as zero-dose children, decreasing from 2.5 million to 1.8 million in a year.

Progress has been notably strong in India and Nepal. India reduced its number of zero-dose children by 43 per cent (from 1.6 million in 2023 to 0.9 million in 2024), and Nepal achieved a 52 per cent reduction (from 23,000 in 2023 to 11,000 in 2024). Pakistan also achieved its highest-ever DTP3 coverage at 87 per cent. However, Afghanistan still faces challenges, having the lowest coverages in the region and saw a 1 percentage point drop in coverage over the past year.

South Asia made the strongest strides in combating measles. In 2024, 93 per cent of infants received the first dose and 88 per cent received the second dose, up from 90 and 87 per cent, respectively. The number of measles cases dropped 39 per cent, from over 90,000 in 2023 to about 55,000 in 2024. However, vaccine coverage remains below the 95 per cent threshold required to prevent outbreaks.

"It is heartening to see WHO South-East Asia Region reach the highest ever immunisation rates, surpassing the pre-pandemic up-trend. We must build on this momentum and step up efforts to reach every child with these lifesaving vaccines. Together we can, and we must," said Dr Thaksaphon Thamarangsi, Director Programme Management, WHO South-East Asia Region.

Vaccination coverage for adolescent girls in South Asia against human papillomavirus (HPV), a major cause of cervical cancer, increased from 2 per cent in 2023 to 9 per cent in 2024. Bangladesh saw notable success, vaccinating over 7.1 million girls since starting its HPV programme in 2023. Similarly, Bhutan, Maldives, and Sri Lanka increased their HPV vaccination rates by three percentage points (from 91 per cent to 94 per cent), 15 percentage points (from 60 per cent to 75 per cent), and 17 percentage points (from 31 per cent to 48 per cent) respectively in 2024. Nepal launched its national HPV vaccination campaign in February 2025 and has vaccinated over 1.4 million girls so far. India and Pakistan are expected to launch their HPV vaccination programmes later this year.

Behind these strides are years of work and collaboration, including:

•Governments' leadership in prioritising immunisation, supported by strong policies and investments.

• The efforts of frontline health workers, including community health workers, most of whom are women, in reaching the most underserved families and boosting vaccine confidence.

•Increased community support and trust in vaccines.

• Long-standing support from donors, local partners and manufacturers to ensure vaccines are available and accessible everywhere.

• Use of digital tools, innovations, and improved data collection and monitoring to identify children who have missed their vaccinations.

•Targeted campaigns that have ensured children, adolescents, and mothers receive lifesaving vaccines on time.

While the region made leaps in immunising children in 2024, more than 2.9 million children remain un- and under-vaccinated and therefore unprotected.

With this in mind, UNICEF and WHO urge governments in South Asia to:

• Sustain political commitment and increase domestic financing for immunisation

• Expand HPV vaccination coverage

•Increase efforts to reach zero-dose and under-vaccinated children

• Invest in frontline health workers, including community health workers and community members who influence vaccine uptake behaviours

• Bridge the gaps in measles coverage

• Reinforce surveillance systems for vaccine-preventable diseases

The strides made in immunisation across South Asia demonstrate that collaborative effort can lead to remarkable achievements for children. Governments must now sustain this momentum to ensure every child has a healthy start in life.

The member countries of WHO South-East Asia Region are enhancing multi-source surveillance to improve public health intelligence and evidence for decision-making during complex health emergencies that are marked by uncertainties and compounded by multiple vulnerabilities.

"Through our experience of responding to the pandemics and emergencies we have learnt that decision making to manage health emergencies should be informed by a synthesis of multiple sources of information. This approach requires strengthening of surveillance systems and capacities, and of collaboration among diverse stakeholders from multiple sectors," said Saima Wazed, Regional Director, at the three-day regional meeting 'Advancing multisource collaborative surveillance in WHO South-East Asia Region', held recently.

Emphasising that strong laboratory systems are the backbone of effective surveillance, Wazed called for enhancing investment in sustainable diagnostic capacities.

"The future of health security in our region depends on sustainable investments in surveillance and laboratory capacities, timely data-sharing, and cross-sectoral partnerships," the Regional Director said.

Officials from member countries heading surveillance for epidemic and pandemic-prone diseases, public health laboratories, national public health operations centre, surveillance in other sectors such as animal health, environment, and meteorology, and those responsible for communicating events under International Health Regulations, and experts and partners, participated in the meeting.

They discussed priority actions to enhance collaboration among in-country surveillance stakeholders across sectors, and improve international information sharing and cross-border collaboration in the context of amended International Health Regulations (IHR) (2005).

Decision making during pandemics; epidemics; climate change driven health emergencies like vector-borne and waterborne diseases; other threats from human-animal-ecosystem interface—zoonosis, food-borne diseases, antimicrobial resistance, and health threats caused by disasters and humanitarian crisis—require multi-sectoral solutions.

To help countries roll out multi-source surveillance on the ground, WHO Regional Office for South-East Asia developed a regional manual "Informing Public Health Decision-Making with Multisource Collaborative Surveillance: A Step-by-Step Approach." Using the manual, Indonesia and Nepal have initiated implementation of multisource collaborative surveillance (MSCS). More countries in the Region are planning roll-out of MSCS. In line with the approaches of MSCS, India has proposed creation of a South-East Asia Network of transboundary collaborative surveillance, which is expected to be discussed with member countries later this year.

The MSCS approach is critical as gathering and synthesising information from different sources are not always easy. The systems and data are owned by different surveillance stakeholders within and beyond the health sector, and mechanisms and procedures are not always in place to timely and effectively share and synthesise data and information from various sources.

The participants discussed opportunities to adopt innovation and enablers to strengthen early warning surveillance systems and public health intelligence, including the roles of genomic surveillance and wastewater surveillance as a part of multi-source collaborative surveillance. They discussed priority actions for the development of national action plans to guide the governance, implementation, and sustainability of genomic surveillance systems as a multisectoral approach.

"We must continue to embrace innovation and deepen regional collaboration," the Regional Director said reiterating WHO's commitment and her vision to promote regional and multi-sectoral collaboration, including among One Health stakeholders, and of using innovation to improve public health in the WHO South-East Asia Region.

MILLIONS AT STAKE

South Asia faces a looming health crisis as experts warn that 18 million more women and girls could suffer from anaemia by 2030, adding to the current 259 million affected.

BY DH NEWS BUREAU

The South Asian Association for Regional Cooperation (SAARC), United Nations International Children's Emergency Fund (UNICEF) and World Health Organization (WHO) urge governments to take urgent and unified action in South Asia, the region with the highest burden of anaemia among girls and women globally.

Anaemia remains one of South Asia's most persistent health and equity challenges, affecting nearly half of all adolescent girls and women in the region. Now, experts warn that without concerted action, 18 million more girls and women could become anaemic by 2030, adding to the current burden of 259 million.

In response, for the first time, governments from seven South Asian countries have come together to take collective action against anaemia. From 9-11 July, the SAARC, the Government of

Sri Lanka, UNICEF, WHO, and other partners hosted 'the Nourishing South Asia | Reducing Anaemia in Adolescent Girls and Women' regional conference in Colombo, Sri Lanka. The event brought together over 100 policymakers, researchers, health experts, and development leaders to shape a shared regional framework and country action plans to address this widespread yet overlooked health crisis. The conference also launched a new South Asia Anaemia Academic Alliance, aimed at rallying scientific leadership and closing research gaps to drive long-term solutions.

"Anaemia remains a public health concern in Sri Lanka, affecting 18.5 per cent of women of reproductive age and 14.6 per cent of children under five. We are stepping up our nutrition programme, particularly in districts with high rates of anaemia, focusing on women and children. The government is committed to expanding these efforts nationwide through collaborative actions across multiple sectors. We are eager to strengthen our partnership with UNICEF, WHO, and other UN agencies. Organising this conference highlights our position as a regional leader in tackling anaemia," said Dr Harini Amarasuriya, Prime Minister of Sri Lanka.

Anaemia occurs when the body lacks sufficient healthy red blood cells to carry oxygen, resulting in people feeling weak, tired, and more susceptible to illness. For girls and women, anaemia can make it more challenging to stay in school, work, or care for

their families, particularly due to heavy periods. Lastly, anaemia during pregnancy poses a risk to both mother and baby.

However, anaemia isn't just a health problem. It's a warning sign of deeper issues, such as poor nutrition, infections, and inequality. The poorest, particularly women and children, are most affected, exacerbating the existing crisis of poor health, malnutrition, lost opportunities, and gender inequality.

"In South Asia, our young people and mothers stand at the heart of our demographic and development goals. Ensuring that they are healthy, nourished, and empowered is not just a moral imperative, it is a strategic investment in the future of our societies," said His Excellency, Md. Golam Sarwar, Secretary General of SAARC.

Although many countries have national policies in place to tackle anaemia, their health systems still face significant challenges that hinder progress. These include inadequate healthcare infrastructure to deliver services, difficulties for healthcare workers in reaching isolated communities, and limited programme scopes that fail to meet the needs of all women and girls, particularly those in the poorest and most marginalised areas. Furthermore, there is a lack of comprehensive data collection to inform effective interventions.

"This is a clarion call for action. When half of all adolescent girls and women in South Asia are anaemic, it's not only a health issue, but also a signal that systems are failing them. We know what to do and we know how to do it. Now is the time for governments to take the lead and scale up solutions," said Sanjay Wijesekera, Regional Director of UNICEF South Asia.

Anaemia doesn't just affect women and girls. It is a major cause of low

India and Pakistan are also seeing promising local results where empowered health workers and data-driven programmes are in place. Bangladesh is linking adolescent nutrition to schools and social services through new integrated platforms.

birth weight, with South Asia accounting for 40 per cent of the global cases of babies born with low birth weight. Anaemia hampers children's ability to get enough oxygen, affecting their growth and development. This can lead to fatigue, delayed learning, and increased susceptibility to illness.

"Anaemia is both preventable and treatable. We know the causes: poor nutrition, iron deficiency, infections, chronic diseases, and pregnancy-related complications. A more nuanced and evidence-driven approach is needed. Tackling anaemia is not just about health; it is foundational to the well-being of our

women and girls. It is as much an economic and social investment as a health investment," said Saima Wazed, Regional Director of WHO South-East Asia.

The overall number of anaemia cases has remained largely unchanged for the last two decades. However, progress is possible, as Nepal is demonstrating. By investing in frontline workers who can travel to remote communities, prioritising an equity approach, integrating programmes such as health and nutrition, and implementing a multi-sectoral nutrition plan, Nepal has consistently achieved significant results over the past decade.

The prevalence of anaemia in women of reproductive age in Nepal has declined equitably by 7 per cent

(41 per cent in 2016 to 34 per cent in 2022), with a similar impact even in women belonging to the poorest households. WHO projections forecast that by 2030, anaemic women in Nepal will decline to 27 per cent. The projections estimate that the drop will be the most significant in Nepal's Karnali province (11 per cent), and the anaemia prevalence will be lowest among women from the poorest households (19 per cent).

NORMAL

ANAEMIA

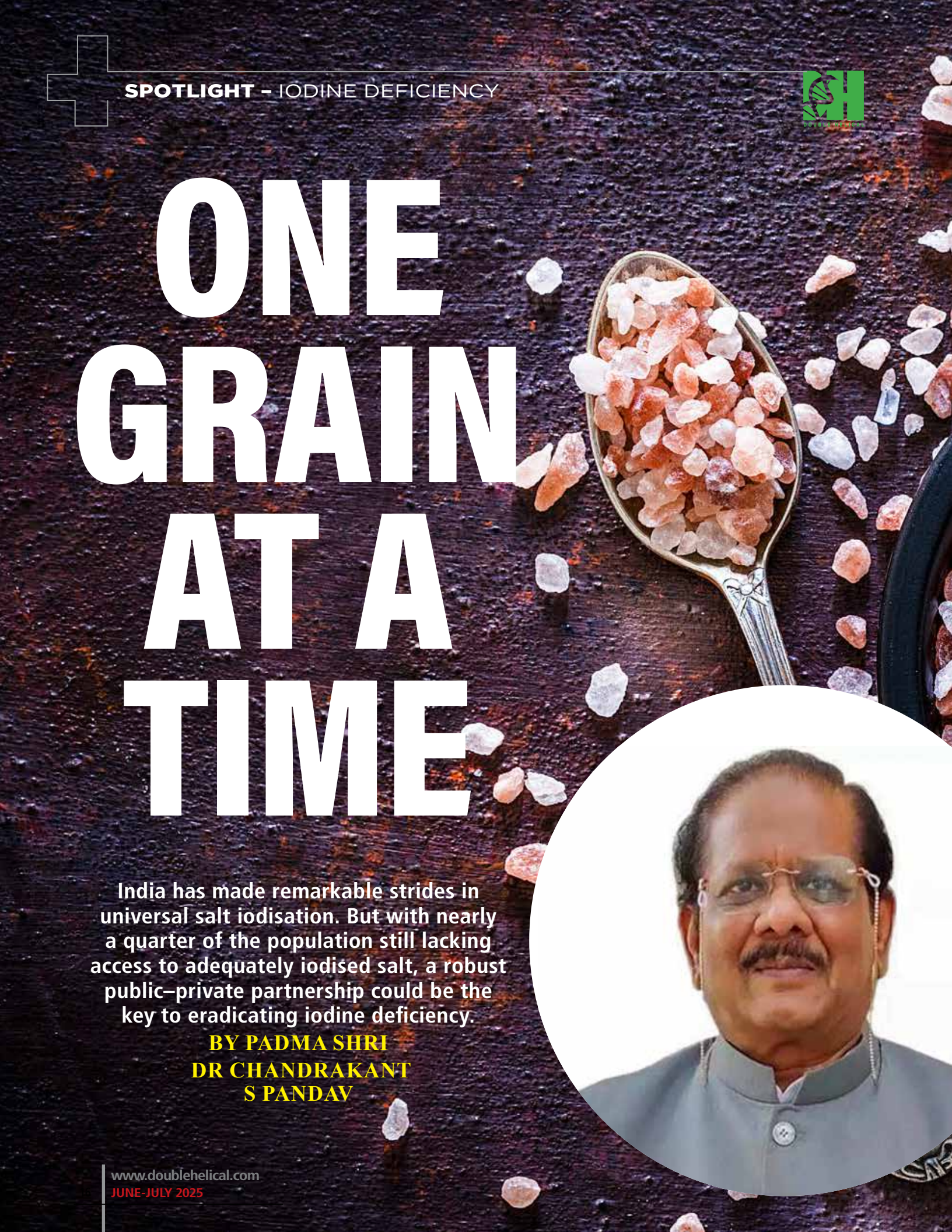
India and Pakistan are also seeing promising local results where empowered health workers and data-driven programmes are in place. Bangladesh is linking adolescent nutrition to schools and social services through new integrated platforms. In Sri Lanka, progress is also commendable, with a prevalence rate of 17 per cent among women under 25 years of age as of 2022.

"The prevalence of anaemia in women of reproductive age in Nepal has declined equitably by 7 per cent (41 per cent in 2016 to 34 per cent in 2022), with a similar impact even in women belonging to the poorest households. WHO projections forecast that by 2030, anaemic women in Nepal will decline to 27 per cent.

Anaemia is not just a health crisis. It is a marker of inequality. It stifles potential, productivity, and entire economies, costing the South Asia region $32.5 billion each year. Yet, the return on investment is undeniable: every $1 invested in maternal anaemia interventions yields an economic return of $9.50.

Ending anaemia takes leadership, but also teamwork. Governments must lead, but communities, health workers, schools, and families all have a role to play. With robust health systems, trained health workers, more innovative use of data, and more inclusive and coordinated action across sectors, girls and women can better fulfil their potential and contribute to stronger communities and more prosperous nations..

ONE GRAIN AT A TIME



India has made remarkable strides in universal salt iodisation. But with nearly a quarter of the population still lacking access to adequately iodised salt, a robust public–private partnership could be the key to eradicating iodine deficiency.

BY PADMA SHRI DR CHANDRAKANT S PANDAV

According to the World Health Organization (WHO), iodine deficiency during foetal life and early childhood remains the single most significant, yet entirely preventable, cause of mental retardation across the globe. Even mild iodine deficiency is enough to impair a child's ability to reach their full intellectual and physical potential.

The sustainable elimination of Iodine Deficiency Disorders (IDD) is directly linked to economic growth. Research shows that the Intelligence Quotient (IQ) scores of children living in iodine-deficient environments are, on average, 13.5 IQ points lower than those living in iodine-sufficient environments. A one-point increase in a nation's average IQ correlates with a 0.11 per cent increase in Gross Domestic Product (GDP). Therefore, a 13.5-point increase in average IQ could potentially result in a 1.49 per cent rise in GDP — a substantial gain in economic productivity and national prosperity.

Iodine deficiency is fundamentally a disease of the soil. When the soil lacks iodine, the food grown on it is similarly deficient, leading to widespread nutritional gaps. IDDs have been found to be linked to at least 10 of the 17 Sustainable Development Goals (SDGs), including good health and well-being, quality education, and poverty reduction.

Salt, due to its universal consumption and stability, serves as an ideal vehicle for fortification. It is consumed by people across all demographics — rich and poor, male and female, rural and urban, young and old, in all seasons. The average Indian consumes around 12 grams of salt daily, making it an effective medium to deliver iodine.

"India's salt iodisation programme, a rare success story of public–private synergy in health, now reaches over 92 per cent of the population — yet millions of people still lack adequate iodine in their diet.

Under the Universal Salt Iodisation (USI) programme, salt is fortified with iodine to combat iodine deficiency disorders. Since the introduction of USI in India, the country has witnessed remarkable success in its iodisation efforts. According to the India Iodine Survey (2018–2019), iodised salt now reaches 92.4 per cent of the population. USI is regarded as one of the most successful public health interventions globally, playing a crucial role in reducing IDD prevalence worldwide.

THE PUBLIC–PRIVATE PARTNERSHIP (PPP) MODEL

Public–Private Partnership (PPP) refers to a collaborative arrangement between the government and the private sector aimed at

serving the public good. While the public sector contributes regulatory oversight, infrastructure, and social responsibility, the private sector offers innovation, efficiency, and expertise in delivery and operations. The full potential of the public sector cannot be realised in isolation — it must be complemented by the agility and know-how of private enterprise.

Private sector engagement introduces new opportunities, scalable solutions, and improved quality control, while also helping build accountability into public service delivery. Therefore, a synergistic relationship between the two sectors is vital — especially in health and nutrition programmes like USI.

India has witnessed very few successful PPPs in the health and nutrition domain, but the USI programme stands out as one of the largest and most impactful examples of such collaboration.

(Adapted from the book by A. Venkat Raman and J.W. Bjorkman: Public Private Partnership in Health Care in India: Lessons for Developing Countries, Routledge, London, 2009.)

It is widely recognised that daily consumption of iodised salt is the most cost-effective and efficient strategy to ensure adequate iodine intake across large populations. Salt, being a market commodity, is produced, packaged, and distributed by private players and

Iodine Man of India

Retired as Professor and Head of the Department of Centre for Community Medicine at the All India Institute of Medical Sciences (AIIMS), New Delhi, Dr Chandrakant Sambhaji Pandav is popularly known as the "Iodine Man of India" for his path-breaking contribution to public health and nutrition.

Dr Pandav is currently a Member of the National Council on India Nutrition Challenges under the POSHAN Abhiyan, chaired by the Vice-Chairperson of NITI Aayog. He completed his MBBS and MD in Community Medicine from AIIMS, New Delhi, and is also an alumnus of the Department of Human Nutrition at the London School of Hygiene and Tropical Medicine, United Kingdom.

As the "Iodine Man of India," he has been a relentless crusader in the global fight to eliminate Iodine Deficiency Disorders (IDD) — described by the WHO as the single most important preventable cause of mental disability worldwide. His pioneering research, sustained advocacy, and technical expertise have played a crucial role in the success of India's National Iodine Deficiency Disorders Control Programme and in establishing mandatory Universal Salt Iodisation (USI), not only across India but in several countries worldwide.

Thanks to efforts spearheaded by Dr Pandav and his collaborators, iodised salt coverage in India surged from under 5 per cent in the 1980s to 93 per cent by 2018–2019. This single intervention is estimated to have saved 4 billion IQ points among Indian children since 1985 — an immense cognitive and economic gain for the country.

Dr Pandav's pioneering contributions include the development of the concept of "Extra-Himalayan Fortification of Endemic Goitre", which extended the scope of IDD prevention beyond traditional high-risk regions. He has also conducted comprehensive economic evaluations of the IDD control programme, providing definitive evidence of the cost-effectiveness and cost-benefit of iodisation interventions implemented at scale.

Dr Pandav is a founding member of the Iodine Global Network, recognised by the World Health Assembly as an International Non-Governmental Organisation (INGO). Since 1985, he has served as the Regional Coordinator for South Asia, contributing to global IDD control strategies.

He has served as a consultant to the WHO and UNICEF on iodine deficiency since 1983, working in over 60 countries across South Asia, the Western Pacific, the Middle East, and Africa. His work is widely acknowledged in the fields of IDD, micronutrient deficiencies, health systems research, health economics, policy formulation, programme evaluation, public–private partnerships, and human rights in health.

A prolific scholar, Dr Pandav has

co-edited 14 books on health sciences and authored more than 600 research papers published in esteemed national and international journals.

Among his notable publications are "Elimination of Iodine Deficiency Disorders: Yes, It's a Worthwhile Investment" and "SOS for a Billion," which underscore both the urgency and feasibility of eliminating IDDs from public health systems worldwide.

Dr Pandav has received numerous prestigious national and international awards for his pioneering work. These include:

- The Dr M K Seshadri Prize and Gold Medal awarded by the Indian Council of Medical Research (ICMR) in 2000 for his outstanding contributions to the field of Community Medicine.
- Fellowship at the National Academy of Medical Sciences, New Delhi (2001).
- Fellowship of the Royal Institute of Public Health and Hygiene and the Society of Public Health, London.
- The Mother Teresa Memorial Award (2016) for his exemplary work in advancing USI.

In 2017, Dr Pandav was honoured with the WHO Public Health Champion Award for his long-standing, impactful contribution to public health, particularly in developing policy frameworks, strategies, and interventions that led to significant health improvements with equity.

In recognition of his exceptional and distinguished service in the field of medicine, Dr Pandav was conferred the prestigious Padma Shri Award in 2021, one of India's highest civilian honours.

(As Conversation with Abhigyan K Tiwary)

sold in every corner of the country — from tribal hamlets to metropolitan supermarkets.

Over 95 per cent of salt production in India is handled by the private sector. In this context, the goal of sustainably eliminating IDD can only be achieved if the public and private sectors work in close coordination to ensure the availability, affordability, and quality of iodised salt.

The public sector bears the responsibility of safeguarding population health and nutrition, while the private sector possesses the technical knowledge and logistical infrastructure for salt production and distribution. Together, they form the two pillars upon which the success of India's salt iodisation efforts rests.

As a result of this collaboration, India has achieved commendable progress towards the sustainable elimination of IDD. National surveys such as the National Family Health Survey (NFHS), the Comprehensive National Nutrition Survey (CNNS, 2016–18), and the India Iodine Survey (2018–19) affirm that cooperation from the salt industry has been a key driver of success.

Efforts to engage small- and medium-scale salt producers, with a focus on strengthening quality assurance protocols, have played a critical role in improving household coverage with adequately iodised salt.

THE WAY FORWARD

Despite the commendable progress, India is yet to reach the target of over 90 per cent coverage with adequately iodised salt — a crucial threshold for the sustainable elimination of IDDs.

As per data from the India Iodine Survey (2018–19), conducted jointly by AIIMS, Nutrition International, Indian Coalition for Control of Iodine Deficiency Disorders (ICCIDD), and Kantar (a leading global data, insights, and consulting company), only 76.3 per cent of the population consumes adequately iodised salt, while 92.4 per cent consume salt with some level of iodine.

With India's estimated population at 1.39 billion (2021), 92.4 per cent coverage translates to roughly 1.28 billion individuals — equivalent to the combined population of 193

Iodine deficiency lowers national IQ levels and drags down GDP. Closing the remaining gap could not only boost health outcomes but also add a full percentage point to India's economic growth.

countries in the world!

Nevertheless, 23.7 per cent of the population still consumes either inadequately iodised salt (16.1 per cent) or non-iodised salt (7.6 per cent). This sizeable population remains at risk and needs urgent attention.

To close this gap and reach the 'last mile', the PPP model must be further strengthened and expanded. Greater investment in communication, quality monitoring, rural market access, and community engagement will be necessary to ensure universal coverage.

In conclusion, the harmonious partnership between public policy and private enterprise is the backbone of the USI programme's success. The road ahead demands renewed commitment and innovation to ensure that no Indian child is denied the opportunity to grow, learn, and thrive — simply because of a preventable micronutrient deficiency.

(The author is President, Association for Indian Coalition for Control of Iodine Deficiency Disorders, an NGO based in New Delhi.)

SHOTS IN

THE DARK

As India moves past the pandemic, troubling questions about its rushed vaccine rollout remain unanswered. New research from NIMHANS links COVID vaccines to neurological disorders, raising urgent concerns. A critical appraisal is now essential to understand where policies faltered, how science was overshadowed by panic, and ultimately, who bears the cost.

BY DR AMITAV BANERJEE

One of the most contentious issues in the public space is concerns around the adverse effects of the Covid-19 vaccines, which were rolled out hastily on a mass scale during the pandemic. These apprehensions may have been allayed to a certain extent by an Indian Council of Medical Research (ICMR) study giving a clean chit to the vaccines, though some critics have expressed concerns about the flaws in the hastily conducted study. Public panic was stoked recently when the Chief Minister of Karnataka linked sudden deaths to the Covid-19 vaccines. People rushed to hospitals for cardiac checks. While experts, who were asked to investigate, hastily tried to douse the fire by citing quickly assembled data—including the far-from-perfect ICMR study—recent reports from the National Institute of Mental Health and Neurological Disorders (NIMHANS), Bengaluru, have linked a number of nervous system disorders to the Covid vaccines. The NIMHANS has recommended detailed studies. The jury is still out on the safety of the Covid-19 vaccines.

WAS MASS VACCINATION IN OUR COUNTRY, GIVEN OUR YOUNG LOW-RISK POPULATION, JUSTIFIED?

At this stage, many would consider this question at best of academic interest or at worst a criticism of policy. However, as mentioned at the outset, we should introspect and identify our errors to learn from them so as not to repeat them in future pandemics.

Given the low lethality of the virus in the healthy and young—around 0.0003 per cent up to the age of 19 years and around 0.03 to 0.07 per cent up to the age of 69 years (around 95 per cent of our population is below 70 years)—we may concede that panic prevailed over science in rolling out mass vaccination in unholy haste. Making matters more complex, the Indian population for the most part received Covishield (AstraZeneca), which was paused in several European countries for those below 50 years of age due to concerns about clotting disorders, albeit rare. Around 85 per cent of our population is below 50 years. Consequently, even if adverse events are rare, the absolute numbers of those who suffer vaccine injuries can be considerable. Covishield was certainly not the appropriate and safe vaccine for our

> **Recent reports from NIMHANS, Bengaluru have linked a number of nervous system disorders to the covid vaccines. The NIMHANS has recommended detailed studies. The jury is still out on the safety of the Covid-19 vaccines.**

young population, if at all mass vaccination was indicated.

Large-scale, hurriedly rolled-out vaccination in our population was also infructuous and unsafe, given the fact that in June 2021, serosurveys conducted by the ICMR showed that 68 per cent of Indians had antibodies. Around this time, less than 5 per cent of our population had taken two doses, and less than 20 per cent had taken one. In some heavily congested cities like Ahmedabad and Delhi, the seropositivity rates were close to 80 per cent. Studies by this time had established that the immunity conferred by natural infection is 13 to 26 times more robust than vaccine-induced immunity.

WERE EARLY RED FLAGS IGNORED?

In a column titled "Covid-19: What Explains the Sudden Deaths?" in The National Herald, dated 23 December 2022, an experienced epidemiologist, along with a professor from IIT Bombay and a data scientist, after studying patterns from India and all parts of the globe, raised concerns on reports of otherwise healthy young people collapsing and dying and recommended proper follow-up studies of the vaccinated and the unvaccinated to identify adverse effects of the vaccines, if any. This should have been possible given our digital Cowin portal, which captured the vaccination details of over 100 crore Indians.

These two researchers brought to attention a spike in cases of sudden heart attacks, cardiac arrests and other cardiac complications among all age groups in the country, with seemingly fit people dying of heart issues while walking on the street, on the dance floor and even while just sitting at a desk. Keeping a detached view, and not jumping to conclusions, they conceded that the sudden and unfortunate deaths in previously

Covishield was certainly not the appropriate and safe vaccine for our young population, if at all mass vaccination was indicated. Around 85 per cent of our population is below 50 years.

healthy people, including teenagers, may be purely coincidental. But it was emphasised in the column that such incidents demand attention and a precautionary reflex—to err on the side of caution.

To substantiate their claims for robust studies to establish the safety of the vaccines, the column in the National Herald narrated quick and dirty evidence from social community platforms like LocalCircles, which did an impromptu survey bringing out that 51 per cent of people knew someone who had sudden death from strokes, heart attacks, etc. in the recent past: out of these, 62 per cent were double vaccinated, 11 per cent had received a single dose, and 8 per cent were unvaccinated.

Science demands a detached view and scientists should not jump to conclusions. One of the requirements for this is discerning any unusual patterns at the population level. This did indicate some cause for concern as brought out in the column with supporting data from around the world. The increase in sudden deaths had been reported since early 2021; there was a six-fold increase in heart attacks reported from Mumbai. The pattern of excess deaths is not however restricted to India, but is global.

The case of Australia is even starker, as the country followed a zero-Covid policy for a long time, with strict lockdowns as well as coercion and mandates for Covid-19 vaccines. By the start of 2022, it had vaccinated the majority of its population and even booster doses were made available.

The baseline average deaths in the first eight months of the year were just 110,483 while the total deaths in the first eight months of 2022 were 129,513. This represents a 17.2 per cent increase in deaths in Australia, above the baseline.

Edward Dowd in his book, Cause Unknown—The Epidemic of Sudden Deaths in 2021 and 2022, reports an 84 per cent rise in sudden deaths in the age group 25–44 years in USA, coinciding with mass vaccine mandates which was corroborated by a study of insurance claims.

There are two possible causes for the high excess mortality world-wide. First, these could be the prolonged effects of harsh lockdowns. After all, lockdowns have directly increased diabetes, obesity, starvation, poverty, joblessness, vitamin-D deficiency, propensity for cancer, etc. A second cause could be the excessive use of Covid-19 vaccines, even among the already Covid-recovered, and even among the not-at-risk population, without adequate safety data.

The authors of the column in the National Herald had concluded that the time correlation of heart illnesses with the Covid-19 jab rollout is unmistakable in the worldwide data. While correlation does not mean causation, it certainly is a red flag which must be probed objectively, they concluded.

HOW ROBUST IS THE ICMR STUDY GIVING A CLEAN CHIT TO THE VACCINES?

The highest level of evidence in evidence-based medicine is the Randomised Controlled Trials (RCTs). We presume that RCTs may have been initiated in the interim while the vaccines were thrown open to the masses under Emergency Use Authorisation (EUA). After five years, the public deserves access to the results of these RCTs.

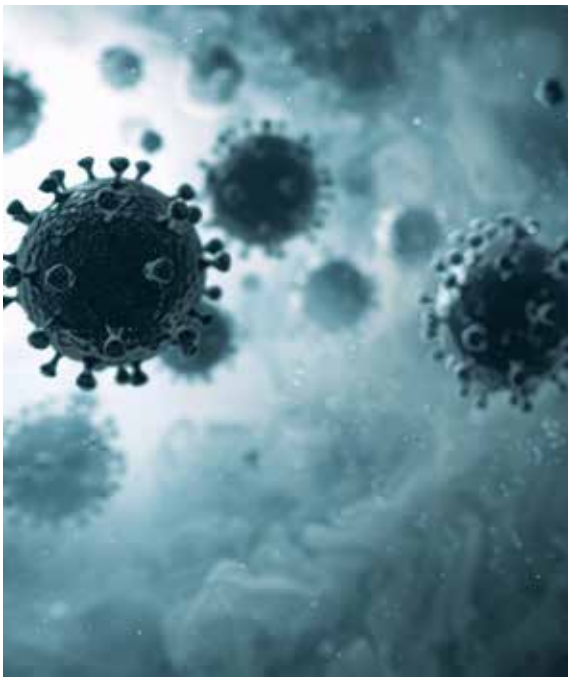
The second level of evidence is the cohort studies, i.e. following forward groups of people and comparing the outcomes in the different groups. For studying the impact of the vaccines, a group of vaccinated and a group of unvaccinated should have been followed forward in time to ascertain the different outcomes in each group. This monitoring should have been in place from the moment the vaccines were rolled out. Even at this belated stage, this data can be retrieved from our digital Cowin portal.

Instead of resorting to robust studies at the upper echelon of evidence-based medicine, the ICMR for some strange reasons did a hasty case control study which is low down in the hierarchy of evidence-based medicine.

The study background of the ICMR study is misleading. It starts with the sentence, "...anecdotal reports of sudden unexplained deaths..." If the researchers of the ICMR study had cared to study the national and global data thoroughly they should have discerned the patterns of these sudden deaths and their relation with population level vaccine rollouts, and would have not termed it "anecdotal."

The jumbo type study with over 47 tertiary care hospitals and almost 100 plus authors, with a weak study design and methods, was doomed to fail to reach any conclusion regarding the safety of the vaccines. The quality of the study leaves much to be desired. As expected, the study failed to find any association between the vaccine and sudden deaths, and for good measure even concluded that the vaccines prevented such events!

"The ICMR study failed to find any association between the vaccine and sudden deaths, and for good measure even concluded that the vaccines prevented such events!



They compared 729 cases of sudden deaths with 2916 controls. The weakest link in the study is the choice of controls which were from the same neighbourhood as the cases. This overmatching in the exposure variable, vaccine in this study, ensured that there were almost equal proportion of vaccinated among the cases and the controls. In a case control study this overmatching would efface the association of the vaccine with the sudden deaths, even if it is present. Once this association is suppressed by this design selected by omission or commission, other factors such as family history, recreational drugs, binge drinking, vigorous physical activity and other well-known risk factors will show strong association and mislead the reader.

To illustrate with another example on how a choice of faulty controls in a case control study can mask an association and even show that something harmful can be protective. Suppose if in a case control study to find the association of alcohol and cirrhosis of the liver, we take cases as patients with cirrhosis and take controls patients admitted in the orthopaedic ward after road traffic accidents. If we take history of consumption of alcohol from the cases and controls we may find that alcohol protects one from getting liver cirrhosis since it is more likely that people who drink are more prone to road traffic accidents! Here the suspected agent under study, i.e. alcohol was overmatched in both the cases and controls, like the exposure agent under study in the ICMR investigation, the vaccine was overmatched both in the cases and controls being from the same neighbourhood. And regarding the finding of the ICMR study showing vaccine to be protective from sudden deaths can be attributed to the fact that firstly, many sick people avoid taking the vaccine, and secondly, some may have not taken the second dose after experiencing adverse effects from the first dose which explains why only taking two doses was protective in the ICMR study.

Edward Dowd in his book, Cause Unknown... reports 84 per cent rise in sudden deaths in the age group 25-44 years in USA coinciding with mass vaccine mandates.

The failure to find any association and on the other hand finding vaccine protective from sudden deaths can be due to faulty study design mainly inappropriate choice of controls.

Besides this basic fundamental flaw in the study design, there are other errors such as figures in the tables do not match at places and so on.

The ICMR study was published in the October 2023 issue of the Indian Journal of Medical Research. The glaring flaws in the ICMR study was communicated to the journal by way of two correspondences by independent observers which were published in the November-December 2023, and January 2024 issues of the journal. Though the authors of the ICMR study have responded to the queries regarding the flaws in the study, the reader can examine them and come to their own conclusions as to the rigor of the ICMR study which gave a clean chit to the vaccines. It is also a matter of surprise that researchers from an august body like the ICMR did not have access to the vaccination data which have been captured on digital platform as stated by them in their response to the queries of the critics.

THE WAY FORWARD

Public trust will be lost by sloppy studies such as the one carried out by ICMR and that too after much delay. Given the experimental and emergency use authorisation of the vaccines, there should have been continuous monitoring forward of the vaccinated along with comparative monitoring of events in the unvaccinated. In a large country like India, even if 3-5 per cent had remained unvaccinated there would have been crores of unvaccinated controls for comparison. The recent findings by NIMHANS Bengaluru of possible association between the vaccine and neurological disorders make the cause for proper long term follow up studies stronger. And preferably these studies should be conducted by parties with no conflicts of interest.

It would also be relevant to remember that the manufacturer had withdrawn AstraZeneca (Covishield in India) because of concerns of clotting disorders when facing lawsuits in the UK court. Desperately trying to declare the vaccine safe by ill-designed studies, in light of this is dereliction of responsibility.

Sadly, whether it is tragic air accidents due to mechanical fault in airliners or tragic deaths of young person due to hastily rolled out vaccines, commercial interests and strong lobbies seem to prevail by victim blaming on basis of shoddy investigations, instead of thorough unbiased studies. At stake are human lives in both situations.

(A renowned epidemiologist, the author is Professor Emeritus at Dr DY Patil Medical College, Pune, and ranked among Stanford's top 2% global scientists (2023–24). Founder of Universal Health Organization (uho.org.in), he wrote Covid-19 Pandemic: A Third Eye.)


VACCINE

FACTS OVER FEARS

Evidence-based insights on vaccine safety, addressing public fears.

BY DR K. MADAN GOPAL

In recent months, many people in India have grown worried after watching news reports and viral videos showing young people suddenly collapsing and dying—during weddings, in gyms, or while playing sports. These tragic incidents, although rare, have caused fear and suspicion. People are asking: Could these deaths be linked to the COVID-19 vaccine?

This fear has grown stronger after media reports mentioned AstraZeneca's admission in a UK court that its COVID-19 vaccine, Covishield (used widely in India), may, in very rare cases, cause a condition called Thrombosis with Thrombocytopenia Syndrome (TTS). Even though the risk is extremely rare, this information has raised doubts and panic. Some families have filed court cases, asking for compensation and a thorough review of all COVID vaccines. On social media, people are sharing personal stories, half-truths, and false claims that amplify public fear.

This article explains what we know from science, what health experts in India have discovered, and how we can better understand vaccine safety. The goal is to build public confidence with accurate, clear, and accessible information.

WHAT TO EXPECT AFTER THE SHOT?

It is common for people to experience some symptoms after receiving the COVID-19 vaccine. This does not indicate the vaccine is harmful; rather, it shows the body is building protection.

People may feel mild pain, swelling, or redness at the injection site. Some also experience tiredness, headache, fever, chills, or muscle pain. Others report nausea or an upset stomach. These symptoms are typically temporary and usually disappear within 1–3 days. These effects are generally mild and resolve within 1–3 days. Some people may not feel anything at all. This does not mean the vaccine has not worked. Everyone's body reacts differently, but the protection still develops.

> **Many of the sudden deaths being reported may be due to the lingering after-effects of COVID-19 infection, not the vaccine. The vaccine reduces your risk of contracting the virus, becoming seriously ill, or dying**

For young children, effects may include fussiness, sleepiness, or loss of appetite. Again, these are temporary and indicate the immune system is doing its job.

It is also crucial to know that no COVID-19 vaccine contains a live virus. The vaccine cannot give you COVID. Also, it does not affect or alter your DNA in any way.

HOW RARE ARE SERIOUS VACCINE REACTIONS?

Some people worry about infrequent but serious reactions. Let's examine these clearly.

1. MYOCARDITIS AND

> **Sudden cardiac deaths can result from a wide range of factors, including genetics, lifestyle, pre-existing conditions, and post-COVID complications.**

PERICARDITIS: These are uncommon inflammations of the heart muscle or its lining. They have been observed more in young men, usually within a week after the second dose of mRNA vaccines (like Pfizer). But even in those cases, most people recovered quickly with standard treatment.

2. THROMBOSIS WITH THROMBOCYTOPENIA SYNDROME (TTS): This is a highly rare condition involving blood clots with low platelets. It was linked to the Covishield vaccine in extremely rare cases—only 1 to 7 per 100,000 doses. It typically appeared within 3–30 days after the first dose. AstraZeneca has acknowledged this risk, and the vaccine has now been withdrawn from the market. But the company clearly stated this was due to declining demand, not a safety emergency.

3. **ANAPHYLAXIS (SEVERE ALLERGIC REACTION):** This is very rare and can occur with any vaccine, not just COVID-19 ones. It affects around five people in every 1 million doses. Health workers are trained to treat this immediately.

4. FAINTING (SYNCOPE): Some people faint due to anxiety or pain during injections. Clinics are well-prepared to handle this.

What is critical to remember is that serious side effects usually appear within six weeks of vaccination. If many months have passed with no symptoms, the likelihood of a vaccine causing later health issues is negligible.

COVID-19 INFECTION IS MORE DANGEROUS

Studies have shown that the virus itself is far more dangerous than the vaccine. COVID-19 infection can lead to serious complications like blood clots in the lungs and veins, heart attacks, inflammation, kidney failure, diabetes, and persistent fatigue or damage to organs. Many of the sudden deaths being reported may be due to these lingering after-effects of COVID-19 infection, not the vaccine. The vaccine reduces your risk of contracting the virus, becoming seriously ill, or dying. Thus, the vaccine is a protective measure.

WHAT DID INDIAN STUDIES FIND?

To address public doubts, Indian health institutions have rigorously studied these concerns.

ICMR's National Institute of Epidemiology (NIE) Study: Between May and August 2023, researchers from ICMR studied 700 sudden deaths in apparently healthy people aged 18–45. These deaths occurred between October 2021 and March 2023. The study covered 47 hospitals across 19 states.

Key finding: There was no link between the COVID-19 vaccine and sudden deaths. The vaccinated group had fewer unexplained deaths than the unvaccinated group. This suggests the vaccine may lower the risk.

AIIMS Study: AIIMS, New Delhi, is also conducting a study to understand sudden unexplained deaths in youth. Preliminary results support ICMR's findings. Heart attacks remain the leading cause, and no significant change has been seen compared to previous years.

ICMR Report: Vaccine Scare Laid to Rest

The matter of sudden unexplained deaths has been investigated by several agencies in the country. These studies have established that there is no direct link between COVID-19 vaccination and sudden deaths in India.

Studies by the Indian Council of Medical Research (ICMR) and the National Centre for Disease Control (NCDC) affirm that COVID-19 vaccines in India are safe and effective, with extremely rare instances of serious side effects. Sudden cardiac deaths can result from a wide range of factors, including genetics, lifestyle, pre-existing conditions, and post-COVID complications.

The ICMR and NCDC have collaborated to investigate the causes behind sudden unexplained deaths, particularly among young adults aged 18–45 years. Two complementary studies were conducted using different approaches—one based on historical data and another involving real-time investigation.

The first study, led by ICMR's National Institute of Epidemiology (NIE), was titled "Factors Associated with Unexplained Sudden Deaths Among Adults Aged 18–45 Years in India – A Multicentric Matched Case–Control Study." Conducted from May to August 2023 across 47 tertiary care hospitals in 19 states and Union Territories, it examined apparently healthy individuals who died suddenly between October 2021 and March 2023. The findings conclusively showed that COVID-19 vaccination does not increase the risk of sudden death in young adults.

The second study, "Establishing the Cause of Sudden Unexplained Deaths in the Young," is ongoing at AIIMS, New Delhi, in collaboration with ICMR. This prospective study aims to identify common causes of sudden deaths in young adults. Preliminary data indicate that heart attacks (myocardial infarction) remain the leading cause, with no significant change in patterns compared to previous years. Genetic mutations have been identified as a possible contributing factor in most cases. Final results will be released upon completion.

Together, these studies provide a comprehensive understanding of sudden unexplained deaths in India's young adults. They confirm that COVID-19 vaccination does not elevate the risk, while underlying health conditions, genetic factors, and lifestyle choices play significant roles.

Scientific experts emphasise that claims linking COVID-19 vaccines to sudden deaths are false, misleading, and lack scientific consensus. Such unverified assertions risk eroding public trust in vaccines, which have saved millions of lives during the pandemic. Unfounded reports may fuel vaccine hesitancy, harming public health efforts.

The Ministry of Health and Family Welfare, Government of India, asserts that this research is evidence-based and essential for safeguarding citizens' well-being.

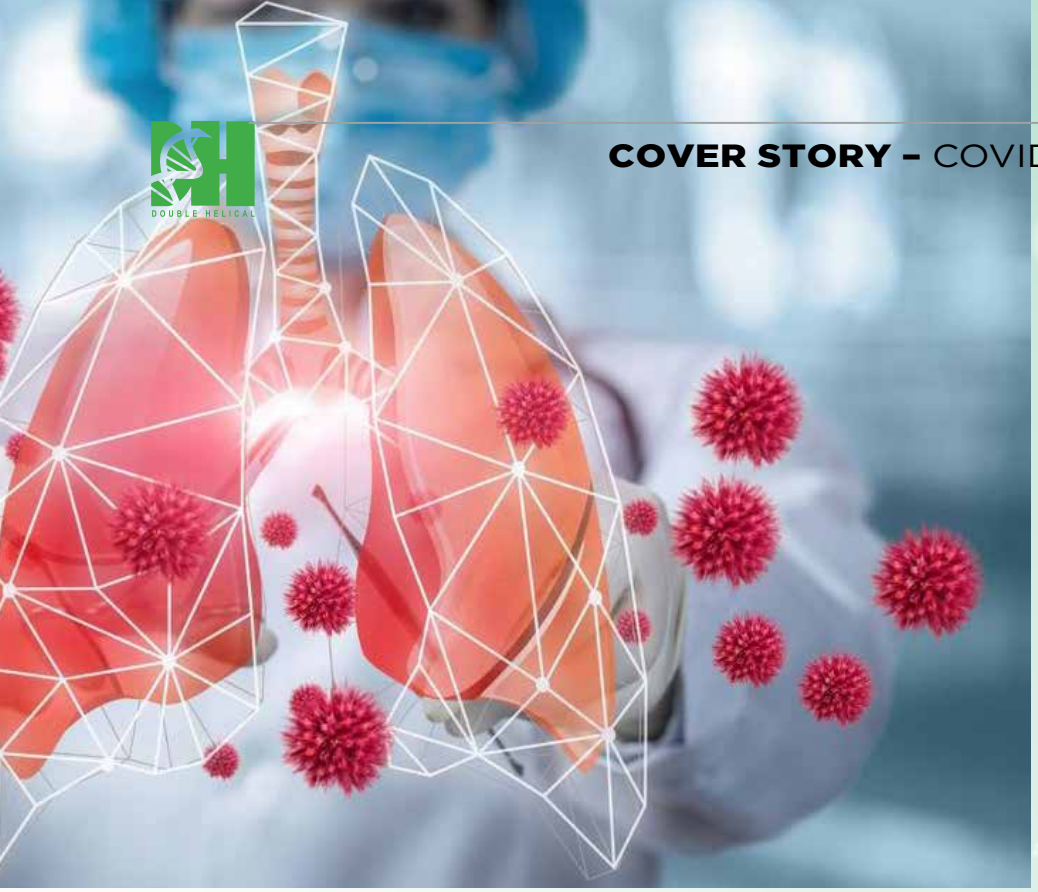
WHAT ARE THE REAL CAUSES?

The Indian studies identified genuine risk factors such as smoking, alcohol use—especially excessive binge drinking, strenuous physical activity just before death, high blood pressure, diabetes, cholesterol issues, family history of sudden death, prior COVID-19 infection, and underlying genetic mutations. All these factors are far more significant to monitor than worrying about a vaccine taken months ago.

WHAT ABOUT COVISHIELD AND THE LEGAL CASE?

The Covishield vaccine was administered in large numbers in India. Recently, AstraZeneca admitted in a UK court that the vaccine can, in rare instances, cause TTS. This led to extensive media coverage and some panic in India.

It is vital to understand that the risk of TTS is exceptionally rare. The Covishield vaccine was withdrawn due to reduced demand, not due to any pressing safety issue. Indian health experts have maintained that there is no cause for alarm.



Families of some who died are seeking compensation and requesting a comprehensive review. These demands are natural, but they do not alter the scientific findings so far, which show no connection between vaccines and these deaths.

INDIA'S SAFETY MONITORING SYSTEM

India has a robust system to monitor vaccine safety, called the AEFI (Adverse Events Following Immunisation). Under India's AEFI system, all districts report serious vaccine reactions. Medical teams investigate each event, and expert committees assess whether the vaccine caused the issue or if it was a coincidence. The findings are reviewed and made publicly available by the Ministry of Health. This system has been in place for many years and helps ensure that any potential danger is detected early. It also builds trust because the process is transparent and evidence-based.

FIGHTING MYTHS, BUILDING TRUST

Unfortunately, India is also one of the top countries where fake news about COVID-19 spreads widely. Many people in rural areas feared that the vaccine could cause death, paralysis, or infertility.

Combating misinformation requires the involvement of trusted messengers like doctors, nurses, ASHAs, and teachers. Communication must be in local languages and directly address common myths. Community meetings and open Q&A sessions can help build trust more effectively than just issuing press statements. However, these false beliefs were often spread through word of mouth, WhatsApp messages, and even local leaders. In many villages, fear prevailed over facts.

This kind of respectful, grassroots work is more effective than merely issuing a press release or posting on social media.

WHY VACCINES STILL MATTER

COVID-19 vaccines have saved millions of lives globally. In India, over 220 crore doses have been administered. About 97 percent of eligible people have received at least one dose.

The benefits of vaccines are undeniable—they prevent serious illness and hospitalisation, reduce the risk of long-term health complications from COVID-19, and protect not just individuals but entire communities. Yes, no medical product is entirely risk-free. But the risk of not getting vaccinated is considerably higher than the minimal risk from the vaccine.

TAKEAWAYS

Vaccines have helped India manage COVID-19 effectively. Most side effects are mild and transient. Serious side effects are exceedingly rare and typically occur shortly after the shot. India has well-established systems to detect and study such events.

Studies by ICMR and AIIMS confirm that sudden deaths in young people are not linked to COVID vaccines. The true causes lie in lifestyle, genetic predispositions, and prior infections.

Nevertheless, public doubts persist. To overcome them, we must combine science with trust, data with empathy, and facts with clear, compassionate communication. It is not enough to say "vaccines are safe"—we must also acknowledge fears, explain gently, and keep the conversation open.

If you or your family members have concerns about vaccine safety, speak to a qualified healthcare provider or visit official government websites like MoHFW and ICMR for verified information.

Together, we can protect health, combat fear, and rebuild trust—dose by dose, fact by fact.

(The author is a Senior Health Sector Expert, was Senior Consultant at NITI Aayog, and currently works as Advisor at National Health Systems Resource Centre, Government of India.)

THE NEED FOR INTEGRATIVE THINKING IN MEDICINE

BY DR. ARUN KUMAR AGARWAL

As medical science is advancing rapidly, the need for integrative thinking is being increasingly felt among healthcare practitioners. This approach merges the precision of allopathic medicine—rooted in evidence-based, disease-targeted treatments—with the holistic wisdom of traditional systems like Ayurveda, alongside other alternative therapies such as Siddha, Unani, Homeopathy, and Naturopathy. As a Medical Advisor at Apollo Hospitals Group, I have witnessed the growing demand for personalised, whole-person care, rooted in the strengths of conventional medicine and the rich legacies of India's diverse healing traditions. Let's examine why integrative thinking is vital, drawing from clinical evidence, global initiatives, and the broader context of holistic healthcare, to craft a future where medicine nurtures body, mind, and spirit.

THE FOUNDATIONS OF ALLOPATHIC AND ALTERNATIVE MEDICINE SYSTEMS

Allopathic medicine, derived from the Greek terms "allo" (other or different) and "pathy" (suffering or disease), emerged as a broad system of scientific medicine formalised in the late 18th and early 19th centuries. It excels in diagnosing and

treating acute conditions through surgery, pharmaceuticals, and advanced diagnostics, evolving through contributions from various practitioners over time. The term "allopathy" was coined by Samuel Hahnemann (1755–1843), a German physician, to describe the conventional medical practices of his era, which he critiqued for their symptom-focused approaches like bloodletting and purging.

Pertinently, India's traditional systems offer a tapestry of holistic approaches. Ayurveda, the "science of life" or "science of longevity," traces its origins to 2500–500 BC, with mythological roots linked to Lord Brahma. The Charaka Samhita and Sushruta Samhita, attributed to physician Charaka and surgeon Sushruta, balance the three doshas—Vata, Pitta, and Kapha—using diet, herbs, and lifestyle. A significant portion of India's population actively uses Ayurveda, often alongside allopathy, with its products reaching 77 per cent of households according to recent surveys. In Nepal, traditional medicine, including Ayurveda, plays a notable role due to cultural ties with India.

Siddha, prevalent in South India and Sri Lanka, is based on the five elements (earth, water, fire, air, ether) and uses herbal, mineral, and metallic preparations. Unani, influenced by Greek and Islamic medicine, emphasises the four humours (blood, phlegm, yellow bile, black bile) and employs herbal remedies, diet, and regimental therapy. Homeopathy, developed by Hahnemann, operates on the principle of "like cures like," using highly diluted substances to stimulate self-healing. Naturopathy, a drugless system, focuses on natural therapies like fasting, hydrotherapy, and yoga to enhance the body's innate healing capacity. Together, these systems, documented in ancient texts like the Vedas, address physical, mental, and spiritual well-being.

THE CASE FOR INTEGRATION

Allopathy's strength in acute care is offset by its focus on symptom management and potential side effects, while alternative systems, though rich in tradition, often lack rigorous scientific validation. Integrative thinking harmonises these strengths, offering preventive and personalised care. Globally, the Cleveland Clinic's Center for Functional Medicine reports improved patient outcomes, weight loss, fewer specialist visits, and cost savings through integrative methods. Shared Medical Appointments (SMAs) enhance these benefits, while integrative oncology, incorporating

therapies like Ayurveda and Naturopathy, improves quality of life (QoL) during cancer treatment. This synergy addresses chronic diseases—where allopathy struggles—and leverages the preventive focus of alternative systems.

EVIDENCE FROM CLINICAL TRIALS

Research highlights the potential of these systems. A 2013 trial with 440 knee osteoarthritis patients found that two Ayurvedic herbal formulations matched the efficacy of glucosamine sulphate and celecoxib in reducing pain and improving function. A 2011 pilot— funded by the National Center for Complementary and Integrative Health (NCCIH), located in Bethesda, Maryland, USA, within the campus of the National Institutes of Health (NIH)—with 43 rheumatoid arthritis patients showed that an Ayurvedic 40-herb regimen equalled methotrexate's effectiveness. For type 2 diabetes, a 2011 trial with 89 participants in India suggested a five-herb Ayurvedic formulation may help, though design flaws limit conclusions.

Siddha's use of Siddha Marundhu for arthritis and Unani's Majoon for digestive health show promise in small studies, though larger trials are needed. Homeopathy's effectiveness in treating allergies was supported by a 2012 meta-analysis of 29 studies, showing moderate benefits. Naturopathy's hydrotherapy and fasting protocols reduced blood pressure in a 2015 study of 60 hypertensives. Turmeric, used across Ayurveda and Siddha, aided ulcerative colitis in 2005 and 2006 trials (10 and 89 participants, respectively), while Butea monosperma (Flame of the Forest, a vibrant, flowering tree native to India, known for its striking red-orange blooms) extracts from Ayurveda are being studied for osteoarthritis protection.

Allopathic medicine, derived from the Greek terms "allo" (other or different) and "pathy" (suffering or disease), emerged as a broad system of scientific medicine formalised in the late 18th and early 19th centuries

PHILOSOPHICAL ALIGNMENT: NATURE'S WARNING AND HOLISTIC BALANCE

Alternative systems echo a philosophy akin to Mahatma Gandhi's belief that illness serves as nature's signal, urging us to cleanse the body of accumulated impurities through natural means. This aligns with integrative medicine's focus on detoxification and lifestyle. Ayurveda balances doshas, Siddha aligns elements, Unani harmonises humours, Homeopathy triggers self-healing, and Naturopathy enhances vitality through nature. These systems recognise the seven tissues (Sapta Dhatus in Ayurveda) and waste products (Tri Malas), emphasising personalized care based on individual constitutions.

Allopathy's acute-care focus often overlooks these holistic aspects. Integrative thinking incorporates diet, exercise, yoga, and mental well-being—principles backed by research linking nutrition to chronic disease prevention. As modern diets create nutrient gaps, these systems'

The Legacy of Traditional Medicine and Pathways to Integration

India is renowned for its traditional medicinal systems—Ayurveda, Siddha, Unani, Homeopathy, and Naturopathy—mentioned in ancient Vedas and scriptures. Developed between 2500 and 500 BC, Ayurveda means "science of life," focusing on balanced health and longevity. Siddha aligns elements, Unani harmonises humours, Homeopathy triggers self-healing, and Naturopathy enhances vitality. These systems offer rejuvenation through diet and treat ailments like allergies, requiring patient participation for success. As modern diets widen nutrient gaps, their holistic approaches gain relevance amid shifting lifestyles and rising healthcare costs.

Integrating these systems with allopathy or Western medicine holds transformative potential. Ayurveda's herbal formulations, such as turmeric for inflammation, can complement allopathic pain management, as seen in trials matching celecoxib's efficacy. Siddha's mineral-based therapies could enhance allopathic treatments for arthritis, with pilot studies exploring Siddha Marundhu. Unani's regimental therapy, like massage and cupping, can support post-surgical recovery, aligning with physical therapy protocols. Homeopathy's individualised remedies may reduce allopathic drug dependency for allergies, supported by meta-analyses, while Naturopathy's fasting and hydrotherapy can bolster diabetes management alongside insulin therapy, as piloted at Apollo Hospitals.

This integration requires collaborative frameworks: allopathic practitioners can refer patients to AYUSH specialists for adjunctive care, while traditional healers adopt evidence-based validation. Joint research, like ICMR's studies on Ayurvedic diabetes formulations, and standardised protocols for herbal safety can bridge gaps. Hospitals can establish integrative clinics, blending diagnostics with holistic therapies, and train interdisciplinary teams. Public health campaigns can educate on combined benefits, ensuring a seamless fusion that leverages India's heritage and global medical advancements for comprehensive care.

emphasis on whole-person health gains traction, empowering patients to manage wellness amid rising healthcare costs and lifestyle changes.

EXPANDING THE CONTEXT OF HOLISTIC HEALTHCARE

Holistic healthcare transcends symptom treatment, addressing emotional, social, and environmental factors. Integrative thinking fosters this by integrating mindfulness from Naturopathy, stress-relief techniques from Unani, and community-based healing from Siddha traditions. Yoga, a shared practice, reduces anxiety and improves cardiovascular health, as shown in a 2018 study of 120 participants. Meditation, rooted in Ayurvedic and Unani practices, lowers cortisol levels, enhancing immunity.

Environmental harmony, a cornerstone of these systems, aligns with the One Health approach, linking human, animal, and planetary health. For instance, Unani's herbal gardens and Ayurveda's sustainable plant use mirror ecological stewardship. This is critical as urbanisation and pollution exacerbate chronic conditions, necessitating a broader health paradigm. Integrative care also supports mental health, with Homeopathy's individualised remedies showing promise for depression in a 2017 pilot study of 50 patients.

CHALLENGES AND OPPORTUNITIES

Integrating these systems faces obstacles. Allopathy's evidence-based model contrasts with the anecdotal basis of alternative therapies, requiring robust trials. Variability in preparation quality—e.g., herbal sourcing in Siddha or dilution in Homeopathy—poses consistency challenges. Cultural biases and limited allopathic training in these methods hinder adoption.

Opportunities are vast. India's National Institutes of Health (NIH) and ClinicalTrials.gov provide platforms for research, while Apollo Hospitals pilots programs blending Naturopathy's fasting with allopathic diabetes management, reporting improved adherence. Global models like the Cleveland Clinic inspire multidisciplinary teams. Rising patient demand for affordable, personalised care, coupled with digital health tools tracking holistic outcomes, drives innovation. The One Health framework offers a sustainable model, integrating environmental therapies from all systems.

BUILDING A FUTURE OF INTEGRATIVE MEDICINE

This shift demands a cultural transformation. Medical curricula should include alternative systems, training practitioners in diagnostics and holistic care. Public awareness, using local languages and community leaders, can dispel myths—e.g., Naturopathy's safety or Homeopathy's efficacy. Policy support, like standardised guidelines for herbal products, ensures safety without stifling tradition.

At Apollo, we are exploring Unani's regimental therapy for stress alongside allopathic treatments, with early feedback indicating better QoL. Globally, integrative centres like the Mayo Clinic integrate acupuncture with conventional care, offering a blueprint. Community health programs, blending Siddha's tribal knowledge with modern outreach, can address rural disparities.

TAKEAWAYS

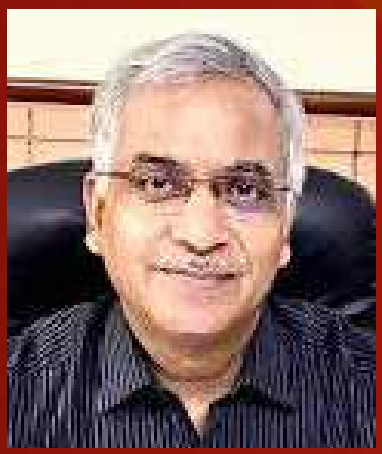
The need for integrative thinking in medicine is a call to unite science and tradition, embracing the whole person. Ayurveda, Siddha, Unani, Homeopathy, and Naturopathy, with their 5,000-year legacy, complement allopathy's modern tools to tackle contemporary health challenges. As healthcare evolves, this approach promises not just longevity but holistic well-being. Patients are encouraged to engage with these systems under professional guidance, embracing a balanced path to health that honours nature, culture, and science.

(The author is Medical Advisor, Innovation and Clinical Research, Apollo Group of Hospitals, New Delhi)

Breaking the Brand Barrier

The NMC has mandated a shift to generic medicines through its Professional Conduct Regulations. Doctors writing prescriptions are now required to prioritise generics over pricey branded drugs, with non-compliance risking a 30-day licence suspension.

BY DR SUNEELA GARG & DR ARVIND GARG



The National Medical Commission has unveiled transformative guidelines through its latest NMC Registered Medical Practitioner (RMP) Professional Conduct Regulations, 2023, signalling a pivotal shift in India's healthcare landscape. These regulations champion rational prescription practices and the widespread adoption of generic medicines, aiming to enhance affordability and access to quality care. A dedicated section titled "Generic Medicine and Prescription Guidelines" serves as the backbone of this initiative, providing a detailed framework and a model prescription template to guide doctors. This section mandates that healthcare providers prioritise generic prescriptions over branded ones, with non-compliance potentially leading to a licence suspension of up to 30 days.

With India's out-of-pocket spending on medications constituting a significant portion of healthcare costs, and generic medicines offering savings of 30 to 80 per cent compared to branded drugs, this policy underscores a bold move toward equitable health services,

The NMC's model prescription template and 30-day suspension penalty enforce a disciplined shift to generics, balancing cost savings with clinical precision.

reflecting the NMC's resolute commitment to elevating healthcare standards, alleviating the financial burden on patients, and empowering doctors to lead a cost-effective healthcare revolution.

UNDERSTANDING GENERIC VS. BRANDED MEDICINES

At the heart of this shift lies the distinction between generic and branded medicines, a debate central to the NMC's guidelines. Generic medicines, defined as drug products comparable to brand or reference-listed drugs in dosage form, strength, route of administration, quality, performance characteristics, and intended use, provide the same therapeutic benefits at a lower cost. Their generic name, also known as the non-proprietary or approved name, is recognised by regulatory authorities, ensuring a standardised identity free from corporate branding.

In contrast, branded medicines are patented formulations marketed under a company's trademark, often commanding premium prices due to research, development, and marketing costs. Branded generic drugs, manufactured after a patent expires and sold under various company names, occupy a middle ground—cheaper than original branded versions but costlier than bulk-manufactured generics, with less regulatory control over their pricing. This cost disparity is critical in India, where high medication expenses drive families into financial hardship, making the preference for generics a game-changer for accessibility.

> **Generic medicines, 30 to 80 per cent cheaper than branded drugs, promise to revolutionise access to quality care, reducing India's hefty out-of-pocket healthcare costs.**

ECONOMIC AND ACCESSIBILITY ADVANTAGES OF GENERICS

The economic rationale for favouring generic medicines is undeniable. India's out-of-pocket expenditure on healthcare, with medications accounting for a major share, places an immense burden on households, particularly in rural and low-income areas. Generic medicines, being 30 to 80 per cent cheaper, offer a lifeline, reducing costs without compromising efficacy, as validated by bioequivalence studies required for their approval. For instance, a generic version of a common antihypertensive drug might cost ₹10 per tablet compared to ₹50 for its branded counterpart, translating to substantial savings over a treatment course.

The NMC's push for generics aligns with global health equity goals, encouraging purchases from Jan Aushadhi Kendras and other generic outlets, which stock these affordable alternatives. This not only improves access for millions but also fosters a healthcare system where quality care is not a privilege but a right,

supported by the guideline's emphasis on stocking generics in hospitals and pharmacies.

CLINICAL CONSIDERATIONS AND PRESCRIPTION PRACTICES

While the economic benefits are clear, clinical considerations also shape the generic versus branded debate. The NMC guidelines direct doctors to prescribe using generic or non-proprietary names, except in cases with a narrow therapeutic index or biosimilars, where branded precision may be necessary. This ensures rational and optimal prescribing, avoiding overprescribing or underprescribing that could lead to drug interactions or ineffective treatment. Fixed-dose combinations, if approved and rational, are permitted judiciously, but the guidelines caution against over-reliance on branded generics, which may lack the cost benefits of true generics.

Doctors are tasked with ensuring prescribed generics are market-available and accessible, educating patients on their equivalence to branded drugs, and leveraging tools like typed, legible prescriptions in full capitals to minimise errors. This clinical rigor, combined with the 30-day suspension penalty for non-compliance, reinforces a disciplined approach, balancing cost savings with patient safety.

CHALLENGES AND OPPORTUNITIES IN ADOPTION

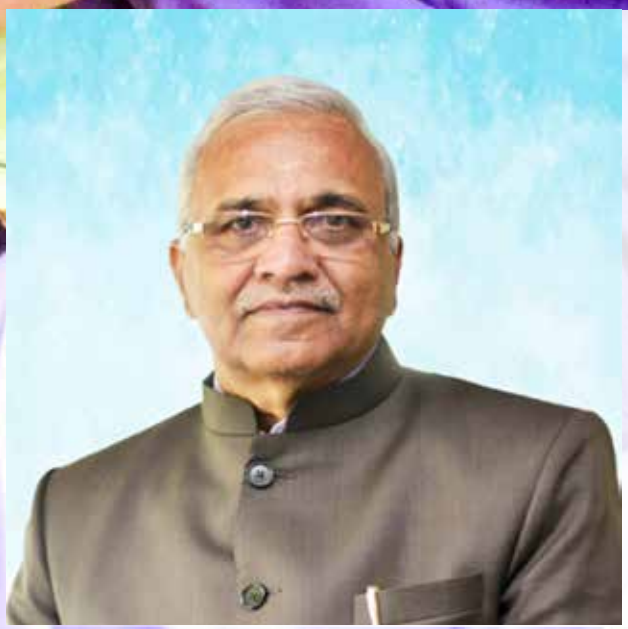
Despite the advantages, transitioning from branded to generic medicines faces challenges. Patient and physician trust in generics can be low due to perceptions of inferior quality, despite regulatory assurances, and the pharmaceutical industry's marketing of branded drugs often sways prescribing habits. Variability in generic manufacturing quality, though monitored, remains a concern, necessitating stringent oversight.

However, opportunities abound: training MBBS and postgraduate students in generic prescribing, as mandated by the NMC, builds a future-ready workforce. Public awareness campaigns can dispel myths, while collaboration with Jan Aushadhi Kendras expands distribution networks. The model prescription template standardises practice, and participation in generic medicine promotion programs can shift industry dynamics, creating a healthcare ecosystem where generics thrive alongside allopathic innovation, ensuring affordability without sacrificing efficacy.

These progressive regulations position India as a pioneer in affordable healthcare, reshaping doctor-patient interactions by encouraging discussions on cost-effective options. The NMC's enforcement of generic prioritisation, backed by a potential 30-day licence suspension, underscores a commitment to patient welfare, promising a future where quality care is accessible to all, irrespective of economic status.

(The authors are Chair, Program Advisory Committee (November 2021–February 2025), National Institute of Health & Family Welfare / Senior Child Specialist, Apollo Hospital, New Delhi)

Promises and Gaps



Despite ambitious goals and significant infrastructure expansion, India's healthcare system continues to face deep-rooted challenges in availability, accessibility, and affordability.

BY DR GIRDHAR GYANI

The National Health Policy 2017, approved by the Union Cabinet in March 2017, explicitly aimed "to attain the highest possible level of health and well-being for all at all ages" through a preventive and promotive healthcare orientation in all developmental policies. The policy set a target year of 2022 for achieving Universal Health Coverage (UHC), which, as we know, amounts to making healthcare available, accessible and affordable, besides meeting quality and safety norms. It is time to introspect and review the progress made in this direction.

Availability of Healthcare Services: India's healthcare infrastructure has expanded considerably, particularly through the National Health Mission (NHM) and its sub-missions—the National Rural Health Mission (NRHM) and the National Urban Health Mission (NUHM). As per recent data, India has over 1.6 lakh sub-centres, 30,000 Primary Health Centres (PHCs), and nearly 6,000 Community Health Centres (CHCs). However, the distribution is uneven, with many facilities understaffed and under-equipped, especially in rural and remote areas.

The private sector plays a dominant role in secondary and tertiary care, accounting for nearly 70 per cent of outpatient and 60 per cent of inpatient care. While this has improved availability in urban areas—mainly in Tier-I and Tier-II cities—there is hardly any presence of tertiary care hospitals in Tier-III towns. An AHPI study carried out in 2022 states that there are around 2 million beds: 1.1 million in the private sector and 0.9 million in the public sector. Further, it was found that nearly 85 per cent of tertiary/quaternary care beds are with the private sector. It also signifies that India has roughly 1.6 beds per 1,000 population, as against the norm of 3 beds per 1,000 population prescribed by WHO for developing countries. This raises serious concern about the availability of hospital beds and infrastructure. We therefore need to fast-track efforts to increase the number of beds by one-and-a-half times. The government may consider increasing capacity at district hospitals as well as CHCs, and opening new hospitals at sub-district levels where appropriate. Simultaneously, the government needs to aggressively incentivise the private sector to open 100-bedded tertiary care hospitals in Tier-III towns. This was emphasised even by Prime Minister Narendra Modi while launching Ayushman Bharat in September 2018 at Vigyan Bhawan.

India has only 1.6 beds per 1,000 people, far below the WHO norm of 3. Tertiary care remains concentrated in cities, while rural and Tier-III towns are left underserved—raising serious concerns about equitable healthcare access.

Accessibility Challenges: Accessibility appears to be an even more serious issue. It is affected by geographic, financial, and social barriers. Rural populations, comprising about 65 per cent of

India's total population, often have to travel long distances to access basic care in general and specialised care in particular. Transportation problems, poor referral linkages, and low health awareness compound these issues. An AHPI study conducted in 2022 reveals stark disparities: Karnataka has 4.2 beds per 1,000 population, while Bihar has only 0.3. Even within relatively better-performing states, there is significant inter-district disparity. We therefore need to assess the availability of healthcare infrastructure (hospital beds, doctors, nurses) in each state and district, and initiate action to achieve at least 3 beds per 1,000 population at the district level. Only then can healthcare truly become accessible.

Affordability of Healthcare: With vast improvements in diagnostic and medical technology, average life expectancy has increased from 35 years in 1947 to over 70 years in 2024. This, however, has also increased the cost of healthcare delivery, largely due to the expense of diagnostic equipment and specialised hospital infrastructure for procedures like cancer treatment and organ transplants. Most people are still not inclined to opt for health insurance and face catastrophic expenses in the event of serious illness.

Government schemes like Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), which aims to provide health coverage to over 50 crore people, have come as a big relief to those below the poverty line. The inclusion of those aged 70+ has further strengthened the scheme. It envisages cashless medical treatment through government and empanelled private hospitals. However, since the majority of tertiary care beds/services lie with the private sector, the scheme's success depends on private hospital participation. Unfortunately, most tertiary/ quaternary care hospitals have shown little interest—mainly for two reasons: first, the reimbursement rates fixed by the government are not based on any scientific study and are significantly below operating costs; second, there are inordinate delays—often months—in making payments

to hospitals.

Earlier, about 70 per cent of the population paid in cash, and only 30 per cent were covered by government schemes. In such a scenario, hospitals could manage low reimbursement rates through cross-subsidies. But now, the situation is reversed: around 70 per cent of the population is covered by government schemes (CGHS, ECHS, ESI, Ayushman Bharat, etc.), and it is financially unsustainable for hospitals to serve such a large proportion of patients at unviable rates. As a result, patients are forced to pay out of pocket, which becomes catastrophic for the underprivileged.

WAY FORWARD

India's healthcare landscape is evolving, with expanding infrastructure and coverage. However, achieving equitable access and availability requires sustained investments in public health, workforce development, incentivising the private sector, and inclusive policy implementation. Based on the above, the following are key actions needed to make healthcare available, accessible, and affordable:

Availability: We need to aim for 3 beds per 1,000 population, up from the current 1.6. While the government can build new hospitals or expand existing ones, with current healthcare investment at just 1.5 per cent of GDP, its capacity is limited. Instead, aggressive incentives to the private sector—such as tax holidays, soft loans, free or subsidised land, cheaper electricity, and single-window clearances for greenfield projects in Tier-III towns—could accelerate progress.

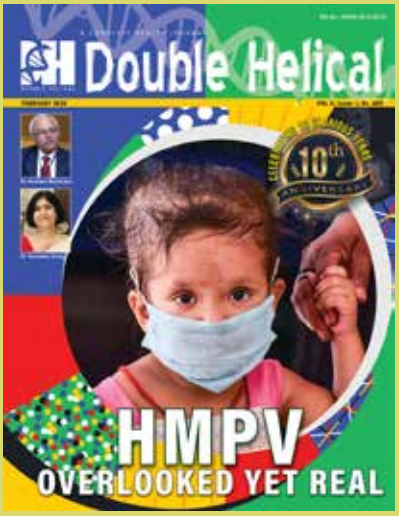
Accessibility: As highlighted earlier, disparities in infrastructure from state to state and district to district are significant. Rural and Tier-III areas are especially underserved in tertiary care. AHPI has mapped bed availability at the state level; this needs to be extended to the district level. Based on this data, incentives must be offered to the private sector to establish tertiary care hospitals in deficit regions.

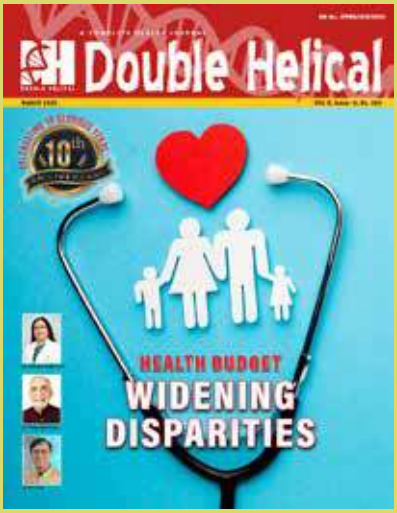
Affordability: While India appears to be moving toward universal UHC on paper, the ground reality differs. For tertiary care, the government must rely on the private sector. This model of public-private partnership can work if reimbursement rates are revised scientifically. CGHS rates, for instance, have not been updated since 2014. As an interim measure, these rates could be revised by adjusting for 10 years of inflation. The same applies to the Ayushman Bharat scheme. Timely payments to hospitals would also help—especially for mid-sized hospitals. This can be achieved if the government reinstates the original clause that imposed 1 per cent interest on payments delayed beyond 30 days. Such a measure would make officials accountable and help hospitals manage cash flow. Additionally, since a large share of healthcare delivery costs stems from imported diagnostic equipment, the government should consider reducing import duties until indigenisation is achieved. Import of high-end refurbished equipment not manufactured in India should also be permitted. This would help small and mid-sized hospitals offer affordable services.

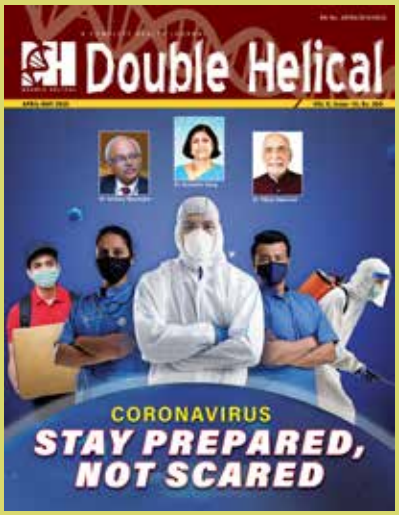
With 70 per cent of India's population now covered under some form of government health scheme, unrevised reimbursement rates and delayed payments threaten the sustainability of private hospital participation.

(The author is Director General, Association of Healthcare Providers, India)

Your Guide to Healthy Living







Subscribe to Double Helical Magazine Now

Subscription Offer

Duration (year)	Issue	Newsstand Price INR	Subscription Price INR	Savings Price INR
1	12	1800	2600	200
2	24	3600	3200	400
3	36	5400	5000	400

Please fill this form in Capital Letters

First Name..... Last Name .....

Designation/Profession..... .....

Mailing Address..... .....

City..... Postal Code.....

State..... Count ry.....

Telephone..... Fax.....

Email..... Website.....

I/We would like to subscribe for 1 ☐ 2 ☐ 3 ☐ Year

I am encloing a cheque/DD No. ..... Drawn on ..... (Specify Bank)

Dated..... .....In favour of Double Helical Pvt. Ltd. payable at

Ghaziabad For Rs .....only

Advertisements & Marketing
Abhinav Kumar
Email: **sales**@doublehelical.com

Double Helical is owned, printed and Published monthly. It is printed at Polykam offset, Naraina Industrial Area Phase 1, New Delhi-110028, and published from G-1, Antriksh Green, Kaushambi, Ghaziabad-201 010. Tel: 0120-4219575, 9953604965.
Contact us:**contact**@doublehelical.com
Email: **editor**@doublehelical.com, **doublehelicaldesign**@gmail.com
Website: www.doublehelical.com, www.doublehelical.in

Light of Life

Retinopathy of Prematurity, a silent threat lurking in the fragile world of premature infants, demands enhanced neonatal care, encompassing thorough screening of infants and the provision of necessary treatment to safeguard their vision..

BY DR MAHIPAL S. SACHDEV

Retinopathy of Prematurity (ROP) stands as a significant retinal disorder that primarily affects premature infants and those born with very low birth weights, presenting a condition that holds the potential to cause blindness if left unaddressed, though it remains eminently preventable with the right interventions. The importance of early and appropriate treatment cannot be overstated, as it offers the possibility of preventing blindness entirely and, even in more advanced cases, can equip children with sufficient vision to navigate their surroundings with confidence, marking a critical focus for health planners and implementers who are increasingly prioritising childhood blindness, with ROP at the forefront of their concerns.

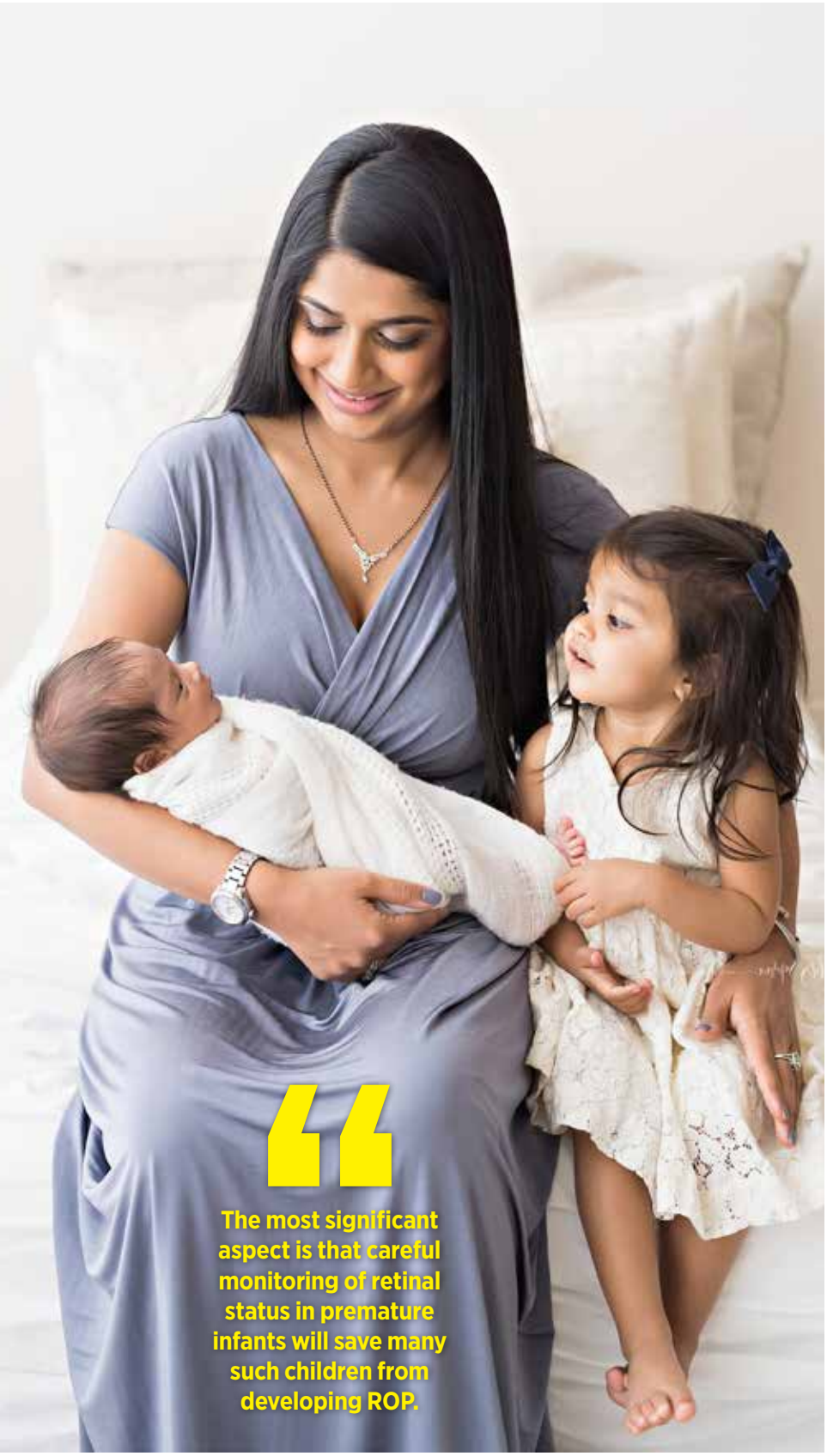
Statistical insights reveal that between 20 and 40 percent of preterm infants are likely to develop ROP, with a troubling 3 to 7 percent facing the risk of blindness, a scenario that becomes more pressing as improvements in

neonatal care lead to higher survival rates among these vulnerable infants, thereby heightening the urgency to tackle this growing issue head-on. This rising prevalence of ROP blindness is poised to present a major challenge for health planners across the nation, underscoring the essential need to boost awareness about ROP and to establish comprehensive screening programs for all infants who might be susceptible to this condition, ensuring no child is left unprotected.

WHY ROP IN PREMATURE BABIES?

The final 12 weeks of a full-term pregnancy, spanning from 28 to 40 weeks of gestation, represent a particularly active and crucial period for the development of the foetal eye, a process that lays the foundation for healthy vision in later life. However, premature infants find themselves at an elevated risk for developing ROP because they are abruptly removed from the nurturing and protective environment of the mother's womb, exposing them to a range of external factors including various medications, elevated levels of oxygen, and significant variations in light and temperature that can disrupt normal development.

The blood supply to the retina initiates its formation as early as 16 weeks of gestation, with the retinal vessels gradually extending across the surface of the retina until the time of birth, establishing a critical network. In the



case of premature infants, this normal growth process is interrupted, causing the development of retinal vessels to stall, after which abnormal new vessels begin to form in response to specific chemical signals released within the immature eye, potentially leading to damaging retinal changes that could result in vision loss if not carefully managed.

MAKE ROP SCREENING MANDATORY

The primary objective of implementing ROP screening is to successfully identify and reach all neonates who can benefit from treatment, a goal that underscores the transformative potential of effective screening programs that target every infant deemed to be at risk, with the most optimal setting for such screenings being within the controlled and specialised environment of a neonatal intensive care unit (NICU). The power of good screening lies in its ability to work miracles by ensuring that no vulnerable infant is overlooked, providing a proactive approach to catching ROP in its earliest stages when intervention can be most effective, thereby offering a lifeline to preserve their sight and future quality of life.

WHO SHOULD BE SCREENED?

The screening process must be directed toward specific groups of infants who exhibit the highest risk factors for developing ROP, including those with a birth weight at or below 1,500 grams, a threshold that signals significant vulnerability due to their prematurity. Additionally, infants born at or before 32 weeks' gestational age are prime candidates for screening, as their early arrival interrupts critical eye development stages, while very sick infants facing high-risk factors such as prolonged mechanical ventilation, the need for blood transfusions, infections, intraventricular haemorrhages, anaemia, and other complicating health conditions also require close monitoring.

The screening schedule must be initiated at 32 weeks' gestational age or four weeks after birth, whichever occurs earlier, marking the point when ROP typically begins to manifest and become clinically observable, followed by a subsequent screening at 35 to 37 weeks' gestational age

to assess progression, with a final screening conducted between 39 and 42 weeks when ROP often starts to regress naturally. These three critical screening sessions form the backbone of an effective strategy to detect and address ROP promptly, ensuring that every at-risk infant receives the attention they need.

NATURAL COURSE OF ROP

In the majority of cases, ROP presents as a transient condition that tends to follow a natural course where spontaneous regression occurs in approximately 85 percent of the affected eyes, offering a hopeful outlook for many infants without the need for invasive intervention. However, the data indicates that around 7 percent of infants with a birth weight of less than 1,251 grams will eventually progress to develop significant ROP, necessitating closer scrutiny and potential treatment. Fortunately, most infants diagnosed with mild ROP that resolves either independently or with the assistance of laser treatment will exhibit no remaining scar tissue, preserving their retinal health and visual potential for the future, which highlights the importance of monitoring even mild cases to ensure optimal outcomes.

TREATMENT OF ROP

The approach to treating ROP is highly dependent on the severity of the condition as it presents in each individual case, requiring a tailored strategy to address the specific needs of the infant. For instances of mild involvement, the recommended course of action is often nothing more than careful observation, allowing the condition to resolve naturally in many cases without additional intervention. When moderate involvement is detected, the treatment escalates to include laser or cryotherapy, specialised techniques designed to eliminate the abnormal vessels before they can lead to the serious complication of retinal detachment, a critical step to safeguard the infant's vision.

In more severe stages, surgical management becomes necessary, with procedures such as scleral buckling performed to address partial retinal detachment and vitreoretinal (V-R) surgery required for cases involving total retinal detachment, offering a chance to restore or preserve vision. For those infants who are left with low vision despite these efforts, a variety of educational adaptations can be implemented, supported by optical aids such as hand magnifiers for close work and distance viewing, closed-circuit television (CCTV) systems to enhance visual access, myopic corrections to address refractive errors, and the provision of high levels of illumination to improve functional vision, all of which contribute to a better quality of life. The most significant aspect of managing ROP lies in the careful and vigilant monitoring of the retinal status in premature infants, a practice that holds the power to save many of these children from the devastating progression to severe ROP, underscoring the value of proactive healthcare measures.

CALL TO ACTION

If you happen to come across anyone who has a premature baby in their care, it is imperative to inform them of the importance of arranging for ROP screening at the earliest possible opportunity, a simple yet potentially life-changing step that can make a profound difference. A timely check-up combined with the necessary treatment has the potential to enable the child to better see and appreciate the beauty of the world around them, offering a future filled with visual experiences that might otherwise be lost, emphasising the critical role that awareness and action play in protecting the vision of our youngest and most vulnerable population.

(The author is Chairman & Medical Director, Centre for Sight Group of Eye Hospitals, New Delhi)

The Science and Art of Long Life

As the pursuit of a longer, healthier life becomes a universal aspiration, India stands at the cusp of a wellness revolution with the rise of holistic medicine. Integration of traditional wisdom with modern science can enhance quality of life, minimise disability, and redefine aging.

BY ABHIGYAN K. TIWARY

It is a fundamental human instinct to desire a life that extends as long as possible, a yearning that goes beyond mere survival to encompass living healthily, feeling well, looking good, remaining productive, and continuing to be of use to others throughout our years, a concept elegantly termed 'Positive Wellness' that holds the promise of being achievable at any stage of life with little to no disability burden or with conditions that are easily manageable through thoughtful care.

Modern medicine, despite its remarkable advancements, currently offers no definitive methods to arrest or reverse the biological processes of aging or the myriad diseases that arise as a consequence of growing older, leaving a gap that the emerging field of anti-aging seeks to fill with a blend of science and art aimed at preventing, minimising, or even reversing the biological effects of aging to enable individuals to lead healthier, happier, and more productive lives for as long as possible.

According to statistics from the World Health Organization (WHO), the average life expectancy at birth in India has shown a steady rise, moving from 57 years in 1990 to 61 years by 2000, and further climbing to 65 years in 2009, a figure that trails the current global average of 68 years while Japan leads with an impressive 83 years, suggesting a trend where each decade brings an additional four years of life, hinting that in the near future, an increasing number of people in this country may live to a hundred years or beyond, a prospect that mandates this extended longevity be underpinned by better health, reduced reliance on medication, and an enhanced quality of life (QOL) to truly

benefit society.

THE DRIVERS OF INCREASED LIFESPAN

The remarkable increase in lifespan can be attributed to a variety of factors that reflect improvements in societal and individual conditions, including greater affluence that supports better living standards, enhanced educational opportunities that foster health awareness, access to healthier nutrition that nourishes the body, improved sanitation and hygiene practices that prevent disease, safer working environments that reduce occupational hazards, the successful prevention and cure of infectious diseases that once plagued humanity, and the availability of superior medical facilities that address acute health needs.

Yet, alongside these gains, it becomes imperative to recognise the limitations inherent in modern medicine, which often falls short in fully addressing the emerging threats to our well-being posed by lifestyle-related disorders, viral infections, and the physical toll of aging, challenges that demand a more holistic approach to sustain the health gains already achieved. By acknowledging these shortcomings, we can significantly enhance the efficacy of healthcare for the elderly by judiciously reducing our dependence on the symptomatic relief provided by conventional medicine. Instead, we need to turn to the time-tested wisdom of officially recognised traditional health systems that offer harmless, drug-free modalities capable of reversing the effects of aging and potentially curing or arresting diseases linked to the aging process. It paves the way for a more balanced and effective healthcare paradigm.

It becomes imperative to recognise the limitations inherent in modern medicine, which often falls short in fully addressing the emerging threats to our well-being posed by lifestyle-related disorders, viral infections, and the physical toll of aging, challenges that demand a more holistic approach to sustain health.

THE PROMISE OF HOLISTIC MEDICINE

An all-inclusive integrative approach known as 'Holistic Medicine' therapy has emerged as a powerful tool, incorporating a range of drug-free modalities that work synergistically to promote well-being, including meaningful lifestyle modifications guided by the principles of yoga such as cultivating a restful mind, fostering positive thoughts, ensuring good sleep, eliminating stress, practicing beneficial breathing techniques, adopting healthy nutrition habits, initiating regular physical exercise routines, undergoing panchakarma for detoxification, exploring all forms of acupuncture therapy, and supporting these efforts with psycho-hypnotherapy for chronic refractory diseases. All these help create a comprehensive strategy to combat the effects of aging.

The traditional Indian and Chinese philosophies of health perceive each human being as a microcosmic reflection of the universal macrocosm, envisioning intricately organised networks of energy, information, and intelligence that dynamically interact with our environment, possessing an infinite capacity for transformation and renewal while continuously replacing old body tissues according to a predetermined cycle, a perspective that encourages us to minimise disease burden, improve overall health, and complement conventional medical care with a conscious awareness of this natural phenomenon. This awareness empowers us to decelerate, arrest, and even reverse to a notable extent the relentless progression of the biological clock, enhancing our health at any age and restoring a state of positive health and total wellness, with the adage "Earlier the Better" serving as a guiding principle for timely intervention.

"By holistic medicine, it is possible to reverse aging"

In an interview with Double Helical, Dr (Prof) Ravinder K. Tuli, Chief Consultant Holistic Medicine and Founder of the Society for Holistic Advancement of Medicine (SOHAM), elaborates on the complementary benefits of Holistic MediCare. He explains how it harmonises our inherent natural life-force to impart health, eliminate sickness, and reverse physical damage due to aging. The interview offers a profound insight into the transformative potential of holistic medicine.

WHAT IS HOLISTIC MEDICINE?

Holistic Medicine represents a wholesome approach to health that treats each individual as an integrated entity of body, mind, and spirit, achieved through a harmonious synergy of the evidence-based 'science' of modern medicine with the highly complementary and reproducible 'art' of drug-free modalities drawn from all officially recognised traditional systems of health. This integrative model, expressed as Holistic Medicine = Modern Medicine + Alternate Medicine (where Modern equates to Allopathy and Alternate encompasses Traditional Indian and Chinese systems plus New Age practices), includes a broad spectrum of therapies such as Conservative Medicine, Life-Style and Stress Management, Ashtanga Yoga, Acupuncture-Reflexology-LASER, Panchakarma-Detoxification, Counselling-Hypnotherapy-PLRT-NLP, Reiki-Pranic Healing-Chakra Balancing, and Regenerative Medicine.

IS IT POSSIBLE TO REVERSE THE PHYSICAL DAMAGE DUE TO AGING?

Yes, by restoring a positive mind-body balance and nurturing the spirit of the individual, a concept universally acknowledged in the saying 'You are as Old as you Think' or that age is a state of mind. It is exemplified by yogis who master the harmony of body, mind, and spirit, living lives of bliss that culminate in a healthy departure rather than the typical experience of death. When the 'science' of evidence-based modern medicine is complemented by the 'art' of time-honoured wisdom from traditional health systems, it provides an easily accessible, predictable, reproducible, sustainable, and highly cost-beneficial approach to health, inspiring people to remain healthy, productive, and youthful throughout their lives. The process of aging begins at birth, yet it is possible to remain ever young by instilling awareness among the growing youth of the long-term benefits of a simple Vedic or Gurukul lifestyle, including mindful eating

habits, within the country's education system, a vision prophetically articulated by Dr Prathap C. Reddy, founder Chairman of the Apollo Group of Hospitals. In 1995, Dr Reddy foresaw Holistic Medicine as the future of the 21st century, leading to the establishment of the world's first such department at Delhi's Indraprastha Hospitals led by me. Figures like Dr Deepak Chopra have popularised this concept globally, though many remain swayed toward allopathy due to prevailing conditioning favouring conventional medicine.

TREHAN
LUXURY FLOORS
Creating Communities Since 1989

NEW Launch

3 BHK ELEGANT LUXURY BUILDER FLOORS

ONE GOOD EARTH
SECTOR-71, GURGAON
BESIDES DLF ALAMEDA / SPR ROAD

Property Post **Delivery Managed by** JLL

Special Discount
For Doctors

YOUR DREAM OPULENT RESIDENCE AWAITS AT
LUXURY LIVING

ANANTRAJ PHASE -3
Bigger and Smarter
3 BHK SMART & ELEGANT
LUXURY BUILDER FLOORS

ANANT RAJ ESTATE
ASHOK ESTATE SECTOR 63A,GOLF COURSE EXT. ROAD, GURGAON

ADANI PHASE -2
Joint Family Home
4 BHK SUPER LUXURY BUILDER FLOORS

adani
SAMSARA SECTOR 63,GOLF COURSE EXT. ROAD, GURGAON

- Well-connected Location
- Rapid Metro Station (Sector 56) - 7 min
- indira gandhi international /T3 - 30 min
- Universities & School 10 Min

For Bookings And More Information *Please Contact* **+91 966-7700-701**

KARISHMA TREHAN DESIGNS

At Karishma Trehan Designs We Offer Full-service Interior Design, Renovation, And High-end Production.
Our Qualified Team Specializes In Luxurious Living Spaces, Blending Creativity Into Modern And Traditional Designs.




WE HOPE TO SIT WITH YOU OVER A CUP OF COFFEE TO DESIGN YOUR HOME WITH MUTUAL VISION.

Call Now 9599185969

KARISHMA TREHAN DESIGNS

641 P, near SubhashChowk, Sector 38
Gurugram, Haryana 122001

Email : info@ktrehandesigns.com | Web: www.ktrehandesigns.com

Follow us on