

6th International Conference of Indian Society of Lifestyle Medicine ISLMCON 2025

1st & 2nd November 2025, Ahmedabad

<https://www.islm.org.in/>

Souvenir

Theme: "Sustainability"



INDIAN SOCIETY OF
LIFESTYLE MEDICINE





ISLMCON 2025

Souvenir

Theme: "Sustainability"

Editor
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ISLMCON 2025

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Dr. Anupama Devadas

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Treasurer

Dr. Vinu Vij



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ISLMCON 2025 Souvenir
<https://www.islm.org.in/>

Theme: "Sustainability"

Messages from across the globe





INDIAN SOCIETY OF
LIFESTYLE MEDICINE

Message from the President

Dr. Lakshmi Sundar

Dear colleagues,

A warm welcome to the sixth international conference on lifestyle medicine - "Healing People, healing the Planet - Lifestyle Medicine for a Sustainable Future".

The theme of the conference is very relatable to many of us who have chosen this path. As we stand at the crossroads of a global health and environmental crisis, the role of Lifestyle Medicine has never been more vital. This field is built on evidence that the choices we make every day - what we eat, how we move, how we rest and how we connect profoundly shape not only human health but also the health of the planet. When individuals embrace healthier lifestyles, we not only see dramatic reductions in chronic diseases but a remarkable improvement in wellbeing and quality of life. AT the same time, plant forward eating with active transport and mindful living reduce ecological footprint, protecting the earth for generations to come.

This conference brings together leaders, clinicians and researchers from across the globe. By integrating science, clinical practice and sustainable living, we are creating a new model of health care - one that not only treats and prevents disease but also fosters a thriving, resilient planet.

I extend my heart felt gratitude to the organising committee, members of the scientific committee and my executive committee members and advisors, faculty and participants who have made this gathering possible. I hope the conversations, collaborations and connections at this conference help us return to our communities as champions of change. Together, let us reimagine health care, nurture sustainability and commit to the powerful vision of healing people and healing the planet

Dr. Lakshmi Sundar

President, ISLM





Message

Dr. Anupama Devadas

It gives me immense pleasure to welcome you all to the 6th International Conference of the Indian Society of Lifestyle Medicine (ISLM). This annual gathering has become a vibrant platform for clinicians, public health experts, policymakers, and advocates of Lifestyle Medicine to come together with a shared vision: to transform health through evidence-based lifestyle interventions.

This year's theme reflects an urgent and holistic perspective. As we confront rising rates of lifestyle-related diseases alongside unprecedented environmental challenges, it is clear that human and planetary health are deeply intertwined. Our choices-what we eat, how we move, how we connect, and how we care for our environment-shape not only individual well-being but also the future of our planet.

Through keynote addresses, interactive workshops, panel discussions, and paper presentations this conference aims to explore innovative, practical, and sustainable strategies for prevention and healing. Together, we will examine how Lifestyle Medicine can serve as a powerful lever for both personal and societal transformation.

I extend my heartfelt gratitude to our distinguished speakers, participants, organizing committee, volunteers, and partners for their invaluable contributions. Your collective efforts and passion make this conference a beacon of hope and action.

Warm regards,

Dr. Anupama Devadas

Secretary, ISLM





Message

Dr. Veenu Sharma

It is with great pleasure that we welcome you to this year's Lifestyle Medicine Conference, which is dedicated to the theme of Sustainability. This focus is both timely and essential, as the global community faces the dual challenges of escalating chronic disease and environmental degradation. Lifestyle Medicine provides an evidence-based framework that addresses both dimensions simultaneously, offering sustainable solutions that advance human health while aligning with planetary well-being.

The foundational pillars of Lifestyle Medicine—nutritionally sound, plant-predominant dietary patterns, regular physical activity, restorative sleep, stress reduction, avoidance of harmful substances, and cultivation of social connection—are intrinsically sustainable practices. They reduce the incidence of noncommunicable diseases while also minimizing the ecological footprint of healthcare delivery. For instance, dietary shifts toward whole-food, plant-forward nutrition not only lower risks of cardiovascular disease and diabetes but also reduce greenhouse gas emissions, conserve finite natural resources, and promote biodiversity. Similarly, active transport and urban designs that encourage physical activity contribute to both individual health and environmental resilience.

Equity is central to this vision. By emphasizing prevention, accessibility, and affordability, Lifestyle Medicine strengthens health systems in a manner that reduces disparities and ensures that health is regarded as a universal right rather than a privilege. In doing so, it bridges the gap between personal well-being and population health while simultaneously advancing environmental goals.

The alignment between sustainable health behaviours and planetary health represents a paradigm in which human flourishing and ecological integrity are mutually reinforcing. As we convene at this conference, we invite participants to critically engage with this vision and to explore strategies that operationalize Lifestyle Medicine as a cornerstone of sustainable health systems.

We look forward to your active engagement in advancing this dialogue and commitment. Dr Veenu Sharma

Warm regards,

Dr. Veenu Sharma

Joint Secretary, ISLM



Message

Dr. Vinu Vij

Dear Delegates and Participants,

It is with great joy and deep respect that I extend greetings on the occasion of ISLMCON 2025. The 6th International Conference on Lifestyle Medicine embodies a vision of health that extends beyond the treatment of disease. It embraces a more comprehensive responsibility: the well-being of people and the well-being of the planet.

The theme of this year's conference reminds us that human health and planetary health are not parallel paths but deeply interconnected journeys. The program presents a wide canvas: from the effects of environmental pollution and chemical exposures to the influence of sleep, urban design, and nutrition on long-term health outcomes. These sessions highlight the scientific advances that anchor Lifestyle Medicine in evidence, while also drawing attention to the broader contexts in which health is created and sustained.

The essence of Lifestyle Medicine lies in its dual capacity: to restore health at the level of the individual and to reduce the pressures that challenge communities and ecosystems. By focusing on prevention and by aligning personal choices with sustainable practices, Lifestyle Medicine creates a bridge between science and daily living. This balance of scientific rigor and practical relevance makes the discipline uniquely significant today.

In this context, the Indian Society of Lifestyle Medicine plays a pivotal role. Through its conferences, training programs, research initiatives, and collaborations, ISLM provides a platform to exchange knowledge, broaden perspectives, and strengthen the collective resolve to reshape healthcare. Its efforts contribute to building awareness, enhancing education, and fostering innovation that resonates with India's healthcare needs while remaining aligned with global priorities.

On this occasion, it is important to acknowledge the tireless efforts of the organizing and scientific committees, the distinguished faculty who contribute their wisdom, and, above all, you - the delegates and participants - whose enthusiasm and engagement ensure that the Lifestyle Medicine movement continues to grow in depth and reach.

This souvenir captures not only the proceedings of ISLMCON 2025 but also the spirit of its theme. In caring for people, we also care for the planet. It is both a record of progress and a reminder of our shared responsibility. May it inspire continued dedication to a model of healthcare that is preventive, restorative, and sustainable. The path ahead is one of continued growth, responsibility, and shared purpose.

With warm regards and best wishes for ISLMCON 2025,

Dr. Vinu Vij

Additional Professor, Physiology, AIIMS Nagpur
Treasurer, ISLM



Message

Dr. Aarti Rathi

Dear Esteemed Delegates and Friends,

It is my proud privilege and great honour to welcome you to Ahmedabad for the 6th International Conference of ISLM. Your presence here adds immense value to this gathering, and I extend my heartfelt gratitude to each of you for making the time and effort to join us. In recent years, our country has witnessed a steep rise in lifestyle-related diseases, posing a major challenge to our health systems and communities. At such a time, it becomes our collective responsibility to guide our patients, families, and society toward prevention and, where possible, reversal of these conditions.

Lifestyle Medicine offers us a powerful, evidence-based approach that not only prevents and reverses chronic diseases but also promotes sustainable practices that benefit our planet. This dual benefit makes our mission profoundly impactful.

We have thoughtfully curated a rich variety of sessions, workshops, and discussions to enrich you with renewed knowledge, practical skills, and fresh perspectives. I hope that you will engage actively, share your insights generously, and take home not just scientific updates, but also inspiration and connections that will strengthen your practice and enrich your personal journey.

On behalf of the organising committee, I once again express my deepest gratitude for your presence. It is your enthusiasm, curiosity, and commitment that give life and meaning to this conference. Together, let us create a transformative experience and move forward with renewed dedication to advancing health, longevity, and sustainability.

With warm regards and best wishes for an enriching conference,

Dr Aarti Rathi

Organising Secretary, ISLMCON





Message

Dr. Shaifali Gupta

It gives me great pleasure to welcome you to the 6th Annual International Conference of the Indian Society of Lifestyle Medicine (ISLMCON 2025). The theme for this year, "Healing People, Healing the Planet: Lifestyle Medicine for a Sustainable Future", carries a profound message-our well-being and the health of our planet are inseparable.

The rising burden of chronic diseases is closely tied to how we live, eat, move, connect, and consume. Equally, the choices we make in these areas shape the environment around us. Ultra-processed food culture, sedentary lifestyle, pollution, and climate change are not isolated issues-they form a web in which personal and planetary health are deeply intertwined. To heal ourselves, we must heal the systems that sustain us; to heal the planet, we must live in ways that honor its balance.

In India, where we face the dual challenge of escalating lifestyle-related illnesses and environmental stressors such as air pollution, water scarcity, and urban over-crowding, the message of Lifestyle Medicine becomes even more urgent. Our cultural roots already hold the wisdom of balance and sustainability-today, science calls us to revive and reapply it.

This conference is an invitation to reflect and act on this shared responsibility. By promoting plant-based nutrition, active living, restorative sleep, mindful stress management, healthy connections, and sustainable choices, Lifestyle Medicine provides a path that simultaneously prevents disease, restores vitality, and reduces ecological harm.

As the Organizing Secretary, I extend my heartfelt gratitude for your interest and dedication to this shared cause. May these days of learning, dialogue, and inspiration remind us that healing is not a solitary journey - it is a shared mission for humanity and our planet.

Warm regards,

Dr. Shaifali Gupta

MBBS, MD (Path)

Dip. IBLM

Organizing secretary,

Indian Society of Lifestyle Medicine (ISLM)





Message

Dr. Rabbanie Tariq

It gives me immense joy and pride to witness the 6th Annual International Lifestyle Medicine Conference organized by the Indian Society of Lifestyle Medicine. Over these years, ISLM has grown into a vibrant community of clinicians, researchers, academicians, and public health practitioners who share the common vision of advancing evidence-based lifestyle medicine in India and beyond.

As we reflect on our journey, it is heartening to see how lifestyle medicine has steadily moved from the periphery to the mainstream of clinical and public health practice. The integration of nutrition, physical activity, sleep, stress management, avoidance of risky substances, and positive social connections is no longer just an option, but a necessity in addressing the growing burden of noncommunicable diseases in our nation.

This conference is not only a platform for scientific exchange, but also a catalyst for collaboration, innovation, and advocacy. It brings together thought leaders from across disciplines and geographies and provides our young professionals with the opportunity to engage, learn, and lead.

As Past President, I remain deeply grateful for the collective commitment of my fellow past and present Executive Committee, our members and partners who continue to carry forward the vision of ISLM with passion and purpose. I am confident that the deliberations of this conference will inspire meaningful action and strengthen the role of lifestyle medicine in shaping healthier individuals, families, and communities.

I wish the 6th Annual International Lifestyle Medicine Conference great success and extend my warm regards to all participants.

With best wishes,

Dr Rabbanie Tariq, MD

Past President , Indian Society of Lifestyle Medicine





Message

Dr. Ravi Mamtani

I warmly congratulate the Indian Society of Lifestyle Medicine (ISLM) on hosting its Annual Conference in Ahmedabad, India. This important nationwide gathering comes at a critical moment when chronic disease concerns are on the rise.

The conference's balanced and engaging title "Healthy people, healing the planet - Lifestyle Medicine for a sustainable future" is sure to attract strong participation and generate impactful discussions.

This isn't just another conference - it's a breath of fresh air for a progressive, healthier future. The conference brings evidence-based lifestyle medicine ideas and solutions to the forefront of modern healthcare. It's a reassuring step toward reimagining what healthcare can and should be - practical, preventative, and patient-centered.

I commend Dr. Lakshmi Sundar, President for her outstanding leadership and vision, and applaud her dedicated team for its commitment. I extend my warmest wishes for a successful and an exciting conference.

With best regards, Ravi

Ravinder Mamtani, MD, FACPM, FACOEM, FACLM, ABOIM

Professor of Population Health Sciences,

Professor of Medicine (Center for Global Health), Weill Cornell Medicine- New York, and

Vice Dean for Population Health and Lifestyle Medicine

Institute for Population Health

Weill Cornell Medicine - Qatar

Cornell University.





INDIAN SOCIETY OF
LIFESTYLE MEDICINE

Message

Dr. Arvind Bhateja

It is indeed a great honour to be associated with the Indian Society Of Lifestyle Medicine and its annual conference. Although they have very kindly asked to be an advisor, I'm not sure how I qualify to be one but one thing is clear- Medicine in general is beginning to study and recognise the vital importance of how we live and its relationship to diseases especially the very widespread diseases of the modern world.

It is now increasingly clear and obvious that while medicine as it is being practiced presently is extremely efficient at extending life span it does not nearly address the more vital metric of health span- for what is a long life if its full of pain and suffering, especially in its final stages. More and more research is now conducted not testing drugs or medicines but testing lifestyle interventions and habits and their effect on delaying or treating a wide variety of metabolic diseases, cancers and most importantly brain aging. A large part of this research is focused on using special MRI techniques such as functional MRI to study the brains of subjects and assess the impact of lifestyle on brain networks. Much, of course, remains to be done but in the years to come I'm sure we will see exciting research in this area.

ISLM will I'm sure be part of this ongoing revolution in medicine and play a key role in shaping the approach and thinking of the medical fraternity and the population as a whole. Wishing the ISLM a long health span and lifespan!

Dr. Arvind Bhateja

MBBS, MD, MCh Neurosurgery

Consultant neurosurgeon and spine surgeon





INDIAN SOCIETY OF
LIFESTYLE MEDICINE

Message

Sheela Krishnaswamy

Nutrition along with the other five pillars of lifestyle medicine elevates the health and wellbeing of an individual. The importance of nutrition in clinical and preventive care is recognised by healthcare professionals as well as the public. There's adequate evidence to show that plant predominant diets score over diets that are heavy on meats and animal products. Whole foods and dietary diversity, which include a wide variety of foods like whole grains, pulses, dals, vegetables, fruits, nuts, seeds, etc., not only build health but also help to prevent or postpone or control several lifestyle related health problems like inflammation, obesity, type 2 diabetes, hypertension, coronary artery disease, cancer, gut dysbiosis and many others.

The theme of ISLMCON 2025 resonates with eating right and eating sustainably for individual health as well as planetary health. Eating nutrient-rich foods that are natural, seasonal and local, supports planetary health by reducing greenhouse emissions, increasing biodiversity, reducing food waste and conserving natural resources. Indian foods and meal plans if applied intelligently can work well and be cost-effective when compared to exotic and expensive imported foods.

As a dietitian-nutritionist with over 4 decades in this profession, I cannot emphasize enough on the vital role that good nutrition plays in building and maintaining health. Nothing can match a well-balanced meal plan that provides all nutrients adequately. Choose your foods wisely and eat mindfully!

Wishing the conference resounding success with productive outcomes!

Sheela Krishnaswamy, RD

Nutrition & Wellness Consultant

Member, Advisory Board, ISLM





INDIAN SOCIETY OF
LIFESTYLE MEDICINE

Message

Dr. Sheela Nambiar

At this annual conference of the Indian Society of Lifestyle Medicine, I celebrate my colleagues at the forefront of ISLM today, shaping the future of health in India.

The theme of the conference is so aligned with what we are facing globally - an imperilled planet and unsustainable health-care system. Lifestyle Medicine at its heart is a simple solution to the problem and as Lifestyle Medicine Physicians and members of ISLM, I'm delighted that we are all coming together to address the problem with insights from across various Lifestyle Medicine societies across the globe and leaders from our own country.

Congratulations and all the very best for the conference and the future of ISLM and Lifestyle Medicine in India.

Dr Sheela Nambiar MD, Obgyn

Lifestyle Medicine Physician

Fitness Consultant.





Message

Dr. Rob Lawson

This ISLM conference is not to be missed!

We are living in a time of pandemics. Despite some remarkable advances in medicine, technology, and global connectivity we are witnessing an unprecedented rise in both communicable and non-communicable diseases, mental health challenges and antimicrobial resistance. Meanwhile, our planet faces climate change, biodiversity loss, and environmental degradation.

The health of people and the health of the planet are not separate issues. They are deeply interconnected. Lifestyle Medicine is uniquely positioned not only to prevent, manage, and even reverse chronic disease, but to do so in a way that nourishes the earth as much as it heals the individual.

When we advocate for a whole food, healthy eating patterns, we're reducing inflammation in the human body-and lowering greenhouse gas emissions and preserving precious resources like water and soil.

When we encourage physical activity, we're strengthening folk physically and mentally-but also cutting pollution, and reconnecting with nature.

When we focus on social connection, sleep, stress management, and purpose-we're not just improving individual well-being; we're fostering resilient communities that care about each other and about the world they share.

Healing people and healing the planet is one mission, with two powerful outcomes.

And so, as Lifestyle Medicine professionals, advocates, and educators, let's move forward with courage, compassion, commitment and collaboration to build a healthier, thriving future for our people and our planet.

I look forward to the privilege of attending the ISLM conference and meeting you all there!

Dr Rob Lawson FRCGP FBSLM Dip IBLM/BSLM

International Director, Cofounder, Chair (2016-2024) BSLM

President European LM Council

Vice President Mediterranean LM Institute

Member Executive Committee World LM Organisation



INDIAN SOCIETY OF
LIFESTYLE MEDICINE

Message

Dr. Wayne Dysinger

I look forward to meeting you personally at the 6th International Lifestyle Medicine Conference sponsored by the Indian Society of Lifestyle Medicine (ISLM) November 1 and 2, 2025 in Ahmedabad. The theme for this conference, "Healing People, Healing the Planet - Lifestyle Medicine for a sustainable future" is pertinent as the Lifestyle Medicine movement continues to grow globally, and as we naturally tie the opportunities for our Lifestyle Medicine message to not only help individual patients, but also to support families, communities, nations and the world in their healing journeys. It's exciting to see ISLM take its rightful place in the leadership of these messages and this movement.

While I'm with you in Ahmedabad, I'm pleased to be able to share with you in a workshop format some specifics around nutrition and its importance in both individual and planetary health. During this session we'll discuss the role of nutrition in Lifestyle Medicine as a whole but also delve into the details of taking a nutrition history, and creating individualized, effective nutrition prescriptions. Lifestyle medicine, and whole food, plant-based nutrition are critical for us as individuals, for our patients, and for our world. I'm excited to meet you and share insights and opportunities!

I've also attached a copy. I'm happy to adjust if you have recommendations.

Again, I look forward to meeting in person soon.

Dr, Wayne Dysinger

MD, MPH

Physician and Founder, Lifestyle Medical

Chief Medical Officer, Healthy





Message

Dr. Deepak Ravindran

Dear Esteemed Colleagues and Participants,

It is both a privilege and a pleasure to be invited to speak at ISLMCON 2025. As we gather under the shared vision of advancing lifestyle medicine in India, I am honoured to contribute to this collective movement that is redefining the future of healthcare—one that is rooted in prevention, compassion, and whole-person healing.

Pain is more than just a symptom—it is a signal, a story, and often, a silent epidemic affecting millions. In India as well, MSK pain and chronic pain in general affects 20% of the Indian population easily making it the biggest challenge for health systems and society. Too often, our responses remain limited to medication or procedural interventions. But science now confirms what many of us in lifestyle medicine have long known: that healing is profoundly influenced by the way we live, eat, move, sleep, and connect.

The theme of this year's conference could not be more timely or relevant. At a time when chronic lifestyle-related conditions are on the rise and traditional approaches are falling short, lifestyle medicine offers a new paradigm. This conference brings together passionate professionals who believe that sustainable health must be built on education, equity, and empowerment. By coming together, we are not just sharing knowledge—we are shaping the foundation for a healthier, more resilient society.

I invite you to fully engage in these conversations and leave inspired to create impact within your communities and beyond. Together, let us move toward a future where we don't just reduce pain—we restore wholeness.

Warm regards,

Prof. Deepak Ravindran

Consultant in Pain & Lifestyle Medicine

Director, Berkshire Pain Clinic

Author, The Pain-Free Mindset

www.deepakravindran.co.uk





INDIAN SOCIETY OF
LIFESTYLE MEDICINE

Message

Stephan Herzog

Dear Lakshmi,

We are excited about the upcoming Lifestyle Medicine Conference and certification exam in Ahmadabad on November 1st and 2nd, 2025, and we are delighted about the way in which you are progressing the cause of Lifestyle Medicine in India. We are proud to wholeheartedly endorse all the good work you and your colleagues at the Indian Society of Lifestyle Medicine are doing. We commend your conference participants for their foresight and commitment in joining this ever-growing global movement of Lifestyle Medicine, which is transforming the medical landscape, and actively addresses the tsunami of non-communicable disease sweeping our world.

We wish you, all your fellow organizers and all the participants an invigorating, inspiring and educational conference.

Be well!

Stephan Herzog

Executive Director

International Board of Lifestyle Medicine

American Board of Lifestyle Medicine





INDIAN SOCIETY OF
LIFESTYLE MEDICINE

Message

Dr. Komal Shah

In today's rapidly changing world, the burden of chronic diseases continues to rise at an alarming pace, affecting individuals across all age groups. As we convene at this important conference, it is crucial to recognize that many of these conditions, including diabetes, cardiovascular diseases, and obesity, are closely linked to our daily choices and behaviours. Lifestyle modification remains one of the most effective ways in both prevention and management.

Among the pillars of a healthy lifestyle, nutrition plays a foundational role. Cultivating healthy food habits, rich in whole grains, seasonal fruits, vegetables, and minimal processed foods, can dramatically alter long-term health trajectories. Equally crucial is the promotion of regular physical activity. Even simple changes like daily walks, cycling, or incorporating active breaks during work can have transformative effects on metabolic and mental well-being.

Beyond isolated actions, we must encourage a holistic approach that integrates balanced nutrition, physical activity, emotional well-being, stress management, and adequate sleep. This integrated framework is not only evidence-based but also sustainable and inclusive.

As healthcare professionals, researchers, and community leaders, we have the responsibility to model, advocate, and implement such changes, both in policy and in practice. Let this conference not only be a space to learn and share, but also a spark that reignites our commitment to building healthier, more resilient communities.

I hope you leave here with fresh ideas, renewed energy, and the belief that every small step we take, individually and together, matters.

Warm regards,

Dr. Komal Shah Ph.D

Associate Professor

Indian Institute of Public Health

Gandhinagar





INDIAN SOCIETY OF
LIFESTYLE MEDICINE

Message

Dr. Murthy Gokula

As a physician passionately devoted to lifestyle and longevity medicine, it is an honor to witness the Indian Society of Lifestyle Medicine's pioneering commitment to redefining healthcare in India. The ISLMCON 2025, with its visionary theme "Healing People, Healing the Planet," stands as a beacon of hope and progress, offering a platform where evidence-based practices, cutting-edge research, and a shared mission converge to catalyze true transformation.

This year's conference agenda reflects an inspiring dedication to foundational pillars—metabolic health, mental well-being, and sustainable environments—which are crucial for the prevention and reversal of chronic diseases. By bringing together expert faculty, thought leaders, and passionate stakeholder communities, ISLM is championing a person-centered, preventive model that empowers individuals and practitioners alike.

I am energized by ISLM's spirit of innovation and collaboration, and their relentless advocacy for a healthcare system that prioritizes wellness, not just illness. Let us continue to foster a sustainable paradigm shift—where every individual can take back control of their health and happiness, integrating the timeless wisdom of India and holistic approaches with the power of modern medicine.

My heartfelt congratulations to the ISLM organizing committee for leading this remarkable movement. May the seeds planted at this conference flourish, nurturing a healthier, happier, and more resilient India for generations to come.

Dr Murthy Gokula

M.D., C.M.D., Dip.ABLM, Dip ABAARM





INDIAN SOCIETY OF
LIFESTYLE MEDICINE

Message

Dr. Saswat Bandyopadhyay

It is a matter of great pride and privilege to welcome distinguished experts, clinicians, researchers, and thought leaders from around the world to the 6th Annual International Conference of Lifestyle Medicine here in the vibrant city of Ahmedabad. As we navigate the evolving challenges of modern health and well-being, this conference stands as a beacon for evidence-based, preventive, and patient-centered approaches that address the root causes of chronic disease. Lifestyle Medicine is no longer a movement-it is a necessity. From nutrition and physical activity to stress management, sleep, and social connection, we are shaping a future where healthcare becomes truly holistic and sustainable.

Ahmedabad, a city of heritage and innovation, offers the perfect backdrop for dialogue, discovery, and collaboration. May this gathering ignite new ideas, foster global partnerships, and reaffirm our shared commitment to healthier lives and communities.

Welcome to a transformative experience in Lifestyle Medicine!

Dr. Saswat Bandyopadhyay

Professor

CEPT University, INDIA





INDIAN SOCIETY OF
LIFESTYLE MEDICINE

Message

Dr. Nisha Chellam

Dear Esteemed Colleagues,

Congratulations on organizing and participating in this vital gathering, which focuses on lifestyle medicine. What sets this conference apart is our shared commitment to looking beyond traditional disease management toward understanding how we coexist with our environment.

As physicians, we stand at a unique intersection where clinical practice meets environmental stewardship. The knowledge we gain about EDCs extends far beyond the examination room; it represents our responsibility to protect not only our patients' health but the future of our species. Every conversation we have about hormone disruption, every study we conduct, and every awareness campaign we support contributes to a larger mission of planetary health.

The science of endocrine disruption reminds us that human health cannot be separated from environmental health. When we advocate for reduced chemical exposure, we're simultaneously protecting the land, air, and sea that sustain all life. With this knowledge, we become guardians of public health and environmental advocates whose voices can influence regulations and policy.

This conference empowers us with evidence-based knowledge that we can translate into meaningful action, whether counseling patients about safer alternatives, supporting research initiatives, or advocating for stronger environmental protections. Together, we're building a movement that recognizes the interconnectedness of human and planetary wellbeing.

Thank you for being so dedicated to this crucial field. Your commitment today shapes tomorrow's healthier world.

With gratitude and respect,

Dr. Nisha Chellam, MD

Internal Medicine/Functional Medicine



From the editor's desk...

Dr. Richa Lal

Dear friends,

This souvenir reflects our joy, gratitude & pride in organizing the 6th Annual International conference of the Indian Society of Lifestyle Medicine. The theme of the Souvenir ie "Sustainability" mirrors the theme of the conference.

The souvenir carries inspirational messages from the stalwarts of lifestyle medicine from across the globe and we are grateful to them for their overwhelming support, encouragement and blessings.

Every article authored by the dynamic members of ISLM beckons one to pause, introspect and act for a safer & healthier planet for our own generation and for our future generations. The case study is worth emulating-it exemplifies how a small mindful endeavor at an individual level expands into a larger mission. The book review leaves one with several points to ponder. "Myths and facts" unravels several myths & explains facts based on evidence.

We hope you will savor browsing through each section of the souvenir.



Richa

M.Ch (Pediatric Surgery), Dip IBLM

Professor & Former Head, Pediatric Surgery, SGPGIMS, Lucknow.

Editor, ISLM newsletter

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About "Indian Society of Lifestyle Medicine" <https://www.islm.org.in/>

Member Interest group: Education & Ethics - A Reflection of 2025

ISLM's MIG for Education and Ethics delivered a vibrant year of learning and community support in 2025.

Monthly webinars and seminars featured leading voices across lifestyle medicine, including: i) "The Paradox of Happiness" with Dr. Bhavani; ii) "The Role of AI in Scientific Writing" with Dr. Harpreet Kaur; iii) "Grand Rounds on Obesity"; iv) "Chronobiology-Does Timing Matter?" with Dr. Satchin Panda

Three **new CME offerings** were launched and warmly received: i) "Role of Fasting in Medicine"; ii) "Diabetes Reversal: Lifestyle Modifications and Recent Pharmacological Advances"; iii) "ISLM Exercise Prescription" (a 10-week course, currently ongoing), which will include an in person contact session during ISLMCON 2025.

Two newsletters were published under the expert guidance of Dr. Richa Lal, sharing timely insights and updates for the community.

The MIG hosted a **live cooking demonstration on whole food, plant-based principles** with Mrs. Shobha, who shared practical, actionable tips for participants.

In line with our commitment to professional development, we **supported members preparing for the IBLM exam by organizing weekly, faculty led lectures**, guiding participants through their case studies, conducting a mock exam, and addressing exam related queries

Member Interest Group: Information, technology, communications, networking & social media (ITCNS)

The vision of ITCNS MIG is to amplify ISLM's digital footprint, & ITCNS team is working towards making ISLM's presence felt across all major social media platforms.

The team has initiated **monthly Instagram Live sessions**, inviting experts to speak on various pillars of Lifestyle Medicine. So far, we've hosted: i) Dr. Sheela Nambiar, who shared insights on staying fit and fabulous through regular exercise; ii) Dr. Anchal Agrawal, an oncologist who discussed cancer prevention through lifestyle changes; iii) Dr. Varsha Shah, a paediatrician and LM physician, who spoke on preventing childhood obesity and raising a healthy generation; iv) Dr. Priyanka Udawat, who led a highly engaging discussion on gut health; v) International experts like Dr. Mitika Kanabar on screen addiction; vi) Dr. Soham Patel on thyroid diseases and their lifestyle-based management; vii) Dr. Vedant Jain, who addressed male health, infertility, and how lifestyle plays a preventive role; viii) Mr Kuntal Joisher who is the first vegan mountaineer and health coach to scale Mt Everest. Our president Dr Lakshmi Sundar had an enlightening session with him; ix) Ms Sheela Krishnaswamy shared her experiences of translating nutrition knowledge from theory to practical.

About “Indian Society of Lifestyle Medicine”

<https://www.islm.org.in/>

During **Lifestyle Medicine Week**, we saw active engagement across age groups. We focused on all six pillars of Lifestyle Medicine-nutrition, physical activity, restorative sleep, avoidance of risky substances, positive social connections, and stress management. As part of our campaign, we **designed informative carousels** with practical tips and SMART goal-setting strategies for each pillar.

The vision of team ITCNS is to see a thriving ISLM presence on LinkedIn, a dynamic YouTube channel, and continued engagement across platforms to spread the message of Lifestyle Medicine more widely and effectively so that more and more people are inspired to adopt a healthy lifestyle

Member Interest Group-Alliance, Advocacy and Membership: The Alliance advocacy and membership MIG has added **75 new members** to the ISLM since 1st January 2025 till date. This MIG conducted 'E-poster Presentation on SLEEP PILLAR as a part of LM week' and three best posters were awarded prizes.

Member Interest Group -Research: The vision of Research MIG is to build stronger scientific evidence for lifestyle medicine in India, The **following research projects** are in the process:

1. *KAP Study on Healthy Lifestyle Practices Among Doctors*

Our cross-sectional study titled "Knowledge, Attitude and Practice Regarding Healthy Lifestyle Practices Among Doctors Practicing in India" has successfully enrolled 71 doctors. The study is now in the statistical evaluation phase, and we look forward to uncovering insights that will guide both practice and policy.

2. *RCT on Time-Restricted Feeding in Medical Professionals*

We have initiated a randomized controlled trial titled "Effects of Time-Restricted Feeding on Physiological Parameters in Medical Professionals with Metabolic Syndrome, Prediabetes, or Prehypertension." After circulating expressions of interest, participant enrollment is now complete, and the trial is underway.

These milestones reflect not just academic progress but also our shared commitment to advancing the science of lifestyle medicine for better health outcomes.

Member Interest Group-Clinical services: The aim of MIG clinical services is to create comprehensive practice models for Lifestyle Medicine applicable to a clinic or hospital setting using a multidisciplinary approach, led by a physician and involving allied healthcare professionals.

The Clinical services MIG is in the process of preparing these guidelines for the Indian context.

Contributed by: Directors of respective MIG's



INDIAN SOCIETY OF
LIFESTYLE MEDICINE

ISLMCON 2025 Souvenir
<https://www.islm.org.in/>

Theme: "Sustainability"

Invited short articles

Myths & facts in Lifestyle Medicine

Case study

Book review



Incorporating lifestyle medicine into clinical practice: Practical perspectives

Dr. Samuel George Hansdak

Clinical case scenario:

Mr. S., a 48-year-old software engineer, visits your clinic with poorly controlled type 2 diabetes (HbA1c 8.9%), hypertension, BMI 31 kg/m², and complaints of fatigue. He takes three medications but admits that he eats most of his meals at his desk, sleeps less than 6 hours a night, and does no regular physical activity. He feels stressed from work deadlines and reports minimal social interaction outside his family.

Despite intensifying pharmacological therapy, his metabolic profile continues to worsen.

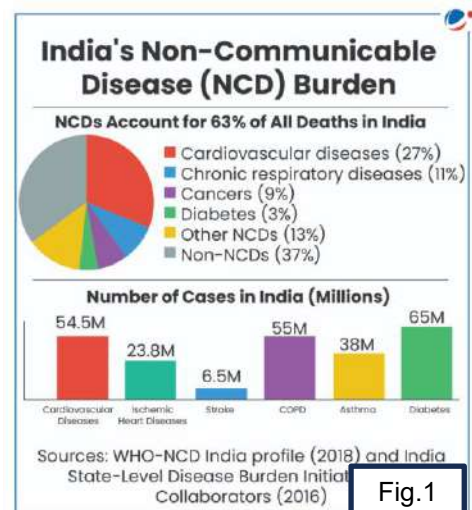
Trigger Questions:

How can the clinician move beyond prescribing another drug and instead address the root behavioral causes of Mr. S.'s illness?

What are the common challenges patients face in making sustainable behavior change?

What essential skills, knowledge, and team support do clinicians need to effectively integrate lifestyle medicine into practice?

India, like much of the world, has undergone a profound **epidemiological transition** in the 21st century. While infectious diseases once dominated the nation's health landscape, **non-communicable diseases (NCDs) have now emerged as the leading cause of death and disability**. By 2016, NCDs were responsible for nearly **63% of all deaths** in India (WHO, 2016) (Fig.1)



Traditional biomedical approaches, while effective in acute care and pharmacological management, have proven insufficient in reversing the tide of lifestyle-driven chronic illness. Against this backdrop, *Lifestyle Medicine (LM)* has emerged as an evidence-based discipline that uses behavioral interventions—nutrition, physical activity, stress management, restorative sleep, social connection, and avoidance of risky substances—as primary modalities for both prevention and treatment.

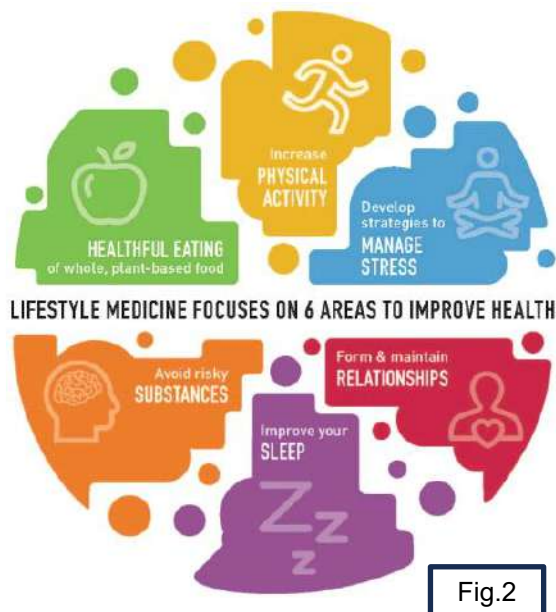
Integrating LM into clinical practice requires more than theoretical knowledge; it demands essential clinical skills, interdisciplinary teamwork, new models of care, and systemic changes in education and health policy. This paper explores the **practical perspectives** of embedding lifestyle medicine into routine practice, highlighting the knowledge base, competencies, team structures, and strategies that clinicians need to cultivate.

The Knowledge Base of Lifestyle Medicine

For clinicians, the first step in adopting LM is to master its evidence-based foundations (Fig.2)

1.Nutrition Science - Understanding the impact of dietary patterns on chronic disease risk. Evidence supports *whole-food, plant-predominant diets* in reducing cardiovascular disease, obesity, and type 2 diabetes (Satiya & Hu, 2018). Clinicians must be familiar with dietary guidelines, cultural dietary patterns, and motivational interviewing strategies to support sustainable change.

2.Physical Activity Physiology - Regular exercise improves metabolic health, reduces inflammation, enhances mental wellbeing, and prevents sarcopenia in aging populations (Booth et al., 2017). Clinicians should know how to prescribe exercise safely (frequency, intensity, type, time) tailored to comorbidities.



3.Sleep Science - Poor sleep is associated with obesity, diabetes, depression, and cardiovascular disease. Clinicians must understand circadian rhythms, sleep hygiene practices, and screening tools for sleep disorders (Luyster et al., 2012).

4.Stress and Mental Health - Chronic stress contributes to inflammation and accelerates disease. Knowledge of stress-reduction strategies-mindfulness, CBT-based interventions-is essential.

5.Substance Use and Addictive Behaviors - Understanding the epidemiology and management of tobacco, alcohol, and drug use is critical for comprehensive lifestyle intervention.

6.Social and Cultural Determinants of Health - Social support, cultural beliefs, and community structures strongly influence adherence. Clinicians must integrate a biopsychosocial model in care delivery.

"The American College of Lifestyle Medicine's promotion of the six pillars of lifestyle has influenced leading health organizations, such as the American Heart Association, to develop parallel frameworks-evolving from Life's Simple 7 to the more comprehensive Life's Essential 8 (Fig 3)

American Heart Association evolving framework for primary and primordial prevention



Figure 6. Life's Simple 7 to Life's Essential 8: the American Heart Association evolving framework for primordial and primary prevention. Reproduced with permission from Lloyd-Jones et al.²⁴ © 2022 American Heart Association, Inc.

Essential Clinical Skills in Lifestyle Medicine

Adopting LM requires clinicians to expand beyond biomedical expertise into *behavioral and coaching skills*:

- 1. Motivational Interviewing (MI)** - A collaborative, patient-centered counseling approach to elicit intrinsic motivation for behavior change (Miller & Rollnick, 2013). MI is particularly effective for dietary change, substance use, and physical activity adoption.
- 2. Behavioral Prescription Writing** - Instead of generic advice ("eat healthy, exercise more"), clinicians should provide specific, measurable, achievable, relevant, and time-bound (SMART) prescriptions, e.g., "Walk briskly for 30 minutes, five days a week."
- 3. Shared Decision-Making** - Empowering patients by co-creating health goals enhances ownership and adherence.
- 4. Cultural Competence** - Recognizing the influence of culture, tradition, and socioeconomic context in health behaviors ensures interventions are practical and respectful.
- 5. Digital and Telehealth Skills** - The use of apps, wearables, and remote monitoring enables continuous patient engagement and feedback.

Building a Lifestyle Medicine Team

A single clinician cannot deliver comprehensive lifestyle interventions alone. LM thrives in an interdisciplinary, team-based model.

Physicians and Nurse Practitioners - Lead clinical decision-making, diagnosis, and integration of LM into treatment plans.

Dietitians/Nutritionists - Provide individualized meal planning, culturally sensitive guidance, and support for special conditions (diabetes, CKD, etc.).

Exercise Physiologists/Physiotherapists - Develop safe and effective physical activity prescriptions, especially for patients with comorbidities.

Building a Lifestyle Medicine Team (contd)

Behavioral Health Specialists (psychologists, counselors, coaches) - Support stress management, habit formation, and addiction recovery.

Health Coaches - Facilitate sustained lifestyle change through ongoing accountability and motivation.

Community Health Workers - Bridge clinical care with local resources, addressing social determinants of health.

Team-based care ensures patients receive holistic support while reducing clinician burnout. Evidence shows multidisciplinary programs improve diabetes control, reduce cardiovascular risk, and enhance patient satisfaction (Ornish et al., 1998; Polak et al., 2020).

Models for Clinical Integration

Several models demonstrate how LM can be embedded into everyday practice:

1. **Primary Care Integration** - Embedding LM counseling into routine visits, supported by electronic health record (EHR) prompts, risk-screening tools, and referral pathways.

2. **Specialty Practice Application** - Cardiologists, endocrinologists, and psychiatrists applying LM interventions tailored to their patient populations.

3. **Group Medical Visits** - Shared medical appointments where patients receive LM education, peer support, and coaching in a cost-effective format.

4. **Hospital and Institutional Programs** - Hospitals integrating plant-based meals, stress management workshops, and smoking cessation programs for patients and staff.

5. **Community-Based Collaborations** - Partnerships with schools, workplaces, and local organizations to scale LM interventions beyond clinical settings.

Barriers and Enablers to Implementation

Barriers:

Limited time in consultations.
Inadequate LM training in medical curricula.
Lack of reimbursement models.
Perceived patient resistance or lack of motivation.

Enablers:

Training programs such as the American College of Lifestyle Medicine (ACLM) certification.
Digital tools for monitoring lifestyle behaviors.
Policy support for reimbursement of preventive and LM services.
Increasing patient demand for non-pharmacological approaches.

Incorporating lifestyle medicine into clinical practice: Practical perspectives

Practical Strategies for Clinicians

- ✓ *Start small*: Introduce LM by addressing one lifestyle domain per visit.
- ✓ *Leverage technology*: Use mobile apps to track activity, diet, and sleep.
- ✓ *Measure outcomes*: Monitor biomarkers (HbA1c, lipid profile, BMI) to demonstrate clinical impact.
- ✓ *Create referral networks*: Link patients with dietitians, exercise physiologists, and community programs.
- ✓ *Build institutional support*: Advocate for LM services within hospitals and practices.

The Future of Lifestyle Medicine in Clinical Practice

The integration of LM signals a paradigm shift from reactive treatment to proactive health creation. Future directions include:

Embedding LM into undergraduate and postgraduate medical curricula.

Expanding reimbursement models for LM services.

Leveraging precision medicine and digital health to personalize lifestyle interventions.

Integrating LM with regenerative health frameworks that link personal, ecological, and social wellbeing

Conclusion

Lifestyle Medicine represents a transformative opportunity to address the global burden of chronic disease by targeting root causes rather than merely managing symptoms. For clinicians, ***incorporating LM requires acquiring a new body of knowledge, developing behavioral and coaching skills, and working within multidisciplinary teams.*** Practical strategies-ranging from motivational interviewing and SMART prescriptions to group visits and digital monitoring-make LM both feasible and impactful.

Ultimately, embedding LM into clinical practice ***requires systemic change***-reform in medical education, supportive policy, and cultural shifts within healthcare institutions. By equipping clinicians with essential skills, fostering interdisciplinary collaboration, and embracing a regenerative perspective, Lifestyle Medicine can become a cornerstone of modern clinical practice, offering hope for healthier individuals, resilient communities, and sustainable health systems

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Sustainable Habits

Dr. Veenu Sharma

Sustainable habits are the true foundation of lifestyle medicine. Quick fixes and short-term resolutions often fail, but when healthy choices become small, consistent actions woven into daily life, they create lasting change. Whether it's choosing whole foods, exercising or practicing mindfulness for a few minutes each day, these habits compound over time, protecting against chronic disease and enhancing overall well-being.

How can we incorporate these sustainable habits with ease and joy?

Let's begin with defining our 'why'

When our intention is strong and aligned with what we really want, the chances of a habit becoming sustainable are high. Also, a short-term goal might not translate into long term behavioral change because the cue you are giving to your mind (and the sub conscious mind) is that you only need a short-term result!

That is the difference between losing weight for an occasion like a wedding versus losing weight to regain long term health or overcoming a chronic disease.

The stronger the why, more the chances are for a habit to become sustainable.

Start small

In his best-selling book Atomic Habits, James Clear talks about small habits making a big difference. He talks about focusing on getting 1 percent better every day and the astounding difference that can make!

Big changes often feel overwhelming. Tiny habits-like a ten-minute walk after meals or two extra glass of water in a day -are easier to adopt and repeat. Over time, these are the small actions grow into powerful routines.

I have seen in my Lifestyle Medicine practice that small steps like starting with 'positive prescriptions' that focus on adding one healthy behavior at a time really go a long way

Stop chasing perfection, just start

A quote about perfection that has deeply resonated with me is that **'perfection is a dream killer because it breeds fears and doubts that do not let a person take the first step.'**

Perfection creates the illusion that anything less than 100% effort is failure.

Dr Rangan Chatterjee in his book "Make Change that Lasts" talks about how striving for perfection and recognition, leaves one feeling disconnected from one's instincts and overwhelmed by unrealistic expectations.

Learning to trust oneself and embrace imperfection is a more transformative and joyful approach that can actually help us in making changes or habits that last.

Do not rely only on Motivation only : Motivation vs Discipline

Motivation can be fickle and unreliable . It can be high one day and low the next day. It is the discipline that is the game changer.

Discipline is the consistent act of doing what needs to be done, even when the feelings are low. Discipline lays down the foundation to build reliable habits.

While motivation provides the initial spark, discipline is the steady flame that sustains progress.

This is one of the reasons why new year resolutions fail because the motivation wanes away and people get discouraged by the "boredom" discipline requires.

Novak Djokovic once said that ' **discipline is the bridge between goals and accomplishments.**

Everyone who has achieved a health goal knows the importance of 'showing up' (for that morning walk or gym) no matter what the mind says.

Attaching a habit to a cue

In James Clear's Atomic Habits, the cue is the crucial first step in the habit loop.

It is easier to inculcate a new habit to your routine if you attach it to an already existing habit which works like a cue for the new habit.

Egs: After I sit at my desk to work every morning, I will meditate for two minutes

Or, when I wake up in the morning, I will open my window blinds for the morning sunlight.

Or, after my evening cup of tea, I will walk for 15 minutes

Gradually one can keep building on the pre-existing habits, also called **habit stacking** and build new sustainable habits with ease.

Golden Behaviors

One is more likely to do something that is easy, effective and doable

BJ Fogg in Tiny Habits talks of golden behaviours as actions that are most effective, one is motivated to do and has the ability to do.

This really helps me in brainstorming with my patients about possible actions they can take and selecting highly effective and easily achievable behaviors from a swarm of behaviors.

For example, in case of a person struggling with finding more time to exercise, instead of setting a vague goals like "I will somehow exercise more", one might identify a golden behavior such as "I will increase my step count to 10,000." This habit is effective (boosts daily activity), easy (requires no special time or equipment), doable and relevant (fits naturally into daily life).

By focusing on golden behaviors, we avoid overwhelm and build momentum with small, sustainable changes that create lasting improvements over time.

Reward yourself

Celebrating little victories and milestones in the journey can go a long way in reinforcing a good habit.

Celebrating and rewarding yourself can trigger release of dopamine, the pleasure hormone and anything that becomes associated with pleasure has a high chance of recurring.

Identity based Habits

The person we are today is based on our habits. Rather than focusing on changing only the habits, it is more effective if we work on our belief system and think of ourselves as the person we want to become.

Instead of telling yourself, 'I'll be healthy once I lose 10 kgs,' affirming 'I am healthy' helps shape your identity. This mindset naturally guides you toward health-promoting choices, which in turn support your weight-loss journey."

According to James Clear, there are two steps to changing your beliefs. First is decide the type of person you want to be and then prove it to yourself with small wins.

Awareness of self and your patterns

How many times have you heard someone say something like, 'I know I will take the gym membership but most likely, it will go waste" or 'I know I will lose a few kgs but it will all come back in sometime"

Before introducing a new habit or making any change it is worthwhile to introspect and work on our patterns and beliefs.

Letting go of what hasn't worked in past or acknowledging the beliefs that stand in the way of progress, makes room for fresh ideas and motivation for taking action.

Also when we work towards knowing ourselves non-judgementally, we create that beautiful space of self-acceptance that can hold the foundation of change and sustain it. It is the starting point of authenticity that aligns heart, mind and body.

It is easier to change our behaviors when one is aligned within out.

As Lifestyle medicine physicians it is worthwhile to spend time in actually knowing our patients and helping them introspect to know themselves.

Environment matters

A good environment removes the need for constant willpower and motivation by making positive changes a default part of your routine.

Eg if you have decided to go for a walk in the morning, having your walking shoes and clothes easily accessible and ready creates an environment that facilitates the new habit.

Another way environment can play a role is by making cues for bad habits less noticeable.

Eg If one is planning to give up eating sugary snacks, removing them from your environment (refrigerator, cupboards etc) means you don't have the visual cues and reminders anymore that would test your will power all the time.

Sustainable habits are rarely built in isolation-they thrive in a supportive and nurturing environment. For example, when a husband takes care of their infant for even a short while, it gives the new mother precious time to walk or exercise. This not only helps her manage post-pregnancy weight but also restores energy and confidence.

Being Consistent

One of the biggest hurdles in continuing with a habit that I have seen in my practice is the reluctance to restart in case of a break from a routine or habit.

Life happens. We all play myriad roles with so many responsibilities. One should not label oneself as a failure because of these breaks. Consistency does not always mean a continuation without a break. Getting back on the track as soon as possible and not giving up also counts as consistency.

The power of Joy

Lastly, as human beings we are inherently motivated by what makes us feel good and joyful. Sustainable habits flourish when joy is part of the process. Choosing activities you enjoy-like dancing instead of just "working out" or cooking colourful meals-makes healthy living feel less like a chore.

Joy adds motivation, turning routines into meaningful rituals and making the journey toward wellness both sustainable and beautiful.

References:

Atomic Habits by James Clear

Tiny Habits by B.J. Fogg

Make Change that Lasts by Dr Rangan Chatterjee

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M.D., Dip IBLM



Endocrine disruptors

Dr. Aarti Rathi

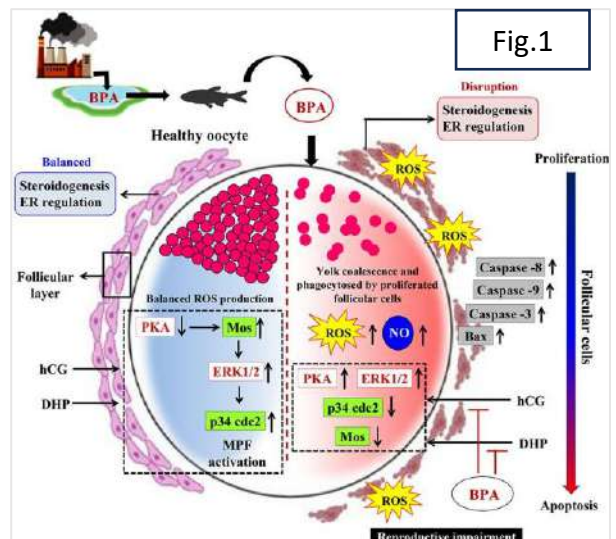
What are endocrine disruptors?

Endocrine disruptors, also termed endocrine-disrupting chemicals (EDCs) or hormonally active agents, are exogenous substances or mixtures that mimic, block, or otherwise interfere with the body's endocrine (hormonal) system, disrupting hormone synthesis, secretion, transport, binding, action, or elimination. This interference can impair development, reproduction, metabolism, immunity, and neurological function in both individuals and populations.

Chemicals that may disrupt the endocrine system:

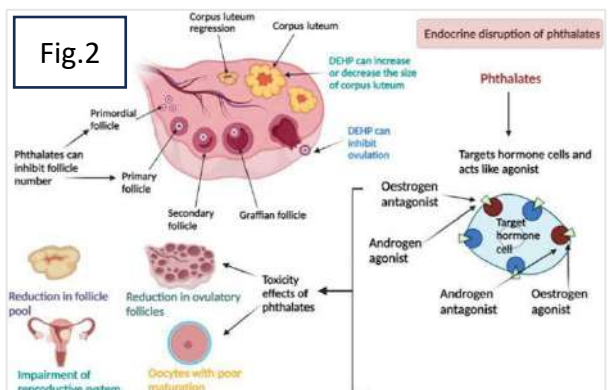
According to the Endocrine Society, there are nearly 85,000 human-made chemicals in the world, and 1,000 or more of those could be endocrine disruptors, based on their unique properties. The following are among the most common and well-studied:

1. **Bisphenol A (BPA)** is used to make polycarbonate plastics and epoxy resins. It is used in food packaging, manufacturing toys, and other applications. BPA resins may be found in the lining of some canned foods and beverages. (Fig.1)



Source: sciencedirect.com

2. **Phthalates** are a large group of compounds used as liquid plasticizers. They are found in hundreds of products including some food packaging, cosmetics, fragrances, children's toys, and medical device tubing. Cosmetics that may contain phthalates include nail polish, hair spray, aftershave lotion, cleanser, and shampoo. (Fig.2)



Source: sciencedirect.com

3. **Polybrominated diphenyl ethers (PBDE)** are used to make flame retardants for products such as furniture foam and carpet. (Fig.3)

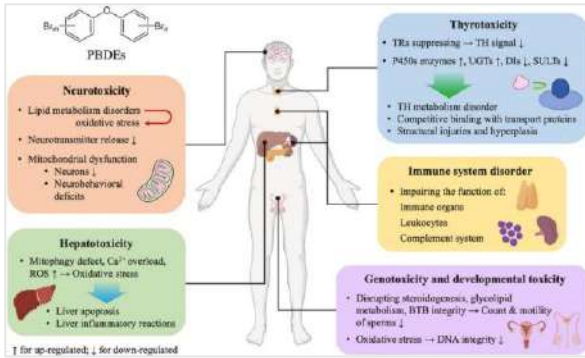


Fig.3

Source: sciencedirect.com

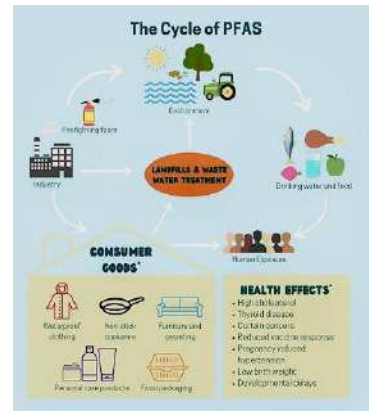


Fig.4

Source: Chicagochinesenews.com

4. **Per- and polyfluoroalkyl substances (PFAS)** are a large group of chemicals used widely in industrial applications, such as fire fighting foam, non-stick pans, paper, and textile coatings. (Fig.4 above)

5. **Parabens** are a family of chemical preservatives, like methylparaben and propylparaben, used in cosmetics, foods, and drugs to prevent the growth of harmful microorganisms. (Fig.5)

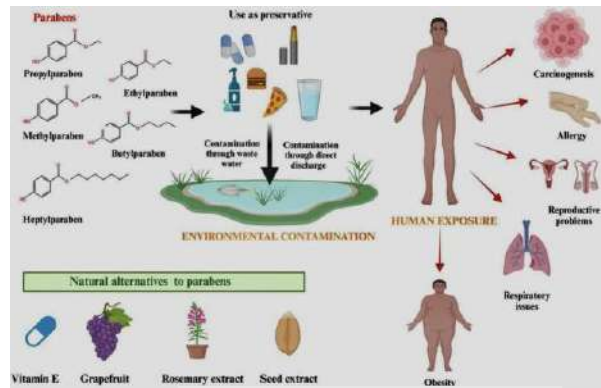


Fig.5

Source: sciencedirect.com

6. **Dioxins** are a by-product of certain manufacturing processes, such as herbicide production and paper bleaching. They can be released into the air from waste burning and wildfires.

7. **Perchlorate** is a colourless salt manufactured and used as an industrial chemical to make rockets, explosives, and fireworks, which can be found in some groundwater.

8. **Polychlorinated biphenyls (PCBs)** were used to make electrical equipment, such as transformers, and are in hydraulic fluids, heat transfer fluids, lubricants, and plasticizers. PCBs were mass-produced globally until they were banned in 1979.

9. **Triclosan** is an ingredient that was previously added to some antimicrobial and personal care products, like liquid body wash and soaps.

10. **Atrazine** is one of the most commonly applied herbicides in the world, often used to control weeds in corn, sorghum, and sugarcane crops.

Consumer products, their EDCs, and health impacts

Endocrine disruptors	Health Impact
Plastic Food Containers, Water Bottles, Cans	
<p>Bisphenol A (BPA), BPS, BPF (linings, polycarbonate plastics) Phthalates (used to make plastics flexible)</p>	<p>Sperm count and quality, infertility (men) Early puberty, menstrual irregularities (women) Increased risk of breast and prostate cancers Obesity, insulin resistance, type 2DM Neurobehavioral issues in children (ADHD, lower IQ)</p>
Cosmetics & Personal Care Products	
<p>Parabens (preservatives in lotions, creams, shampoos) Phthalates (in perfumes, deodorants, nail polish, hair sprays) Triclosan (antibacterial soaps, toothpaste) UV filters like Oxybenzone (sunscreens)</p>	<p>Parabens mimic oestrogen - linked to breast cancer and reproductive issues Phthalates -associated with reduced testosterone, cryptorchidism in boys Triclosan- thyroid hormone disruption, antibiotic resistance concerns Oxybenzone -linked to infertility and foetal growth restriction</p>
Non-stick Cookware, Stain-Resistant Fabrics, Food Wrappers	
<p>PFAS ("Forever chemicals") - used in Teflon coatings, grease-resistant fast-food wrappers, carpets, water-resistant clothes</p>	<p>Thyroid dysfunction Reduced vaccine response in children (immune suppression) Increased risk of kidney & testicular cancers Increased cholesterol, obesity, metabolic syndrome</p>
Pesticide-Treated Produce, Lawns, Agricultural Fields	
<p>Organophosphates (chlorpyrifos), DDT residues, Atrazine</p>	<p>Neurodevelopmental delay in children (learning disabilities, ADHD) Birth defects, low birth weight, foetal death Hormone-related cancers (prostate, breast)</p>

3. Consumer Products, Their EDCs, and Health Impacts

Endocrine disruptors	Health Impact
Canned & Processed Foods	
BPA in can linings Phthalates in food processing equipment, packaging	Hormonal imbalance ? infertility Obesity and metabolic disorders Early puberty in children
Flame-Retardant Furniture, Electronics, Mattresses	
PBDEs (Polybrominated diphenyl ethers)	Thyroid dysfunction Neurodevelopmental delays (lower IQ, behavioural changes in children) Possible liver toxicity
Drinking Water (contaminated sources)	
Perchlorate (rocket fuel residues, fertilizers) PFAS Atrazine (herbicide runoff)	Perchlorate - inhibits thyroid hormone synthesis -neurodevelopmental impairment in infants Atrazine- feminization of male reproductive organs (seen in frogs, possible human risk)
Household Dust & Indoor Air	
PBDEs, Phthalates, PFAS (leach from furniture, paints, cleaning products, electronics)	Chronic low-level exposure associated with asthma, allergies, developmental delays

Impact on population

Declining global sperm counts (over 50% since the 1970s across Western populations) attributed partly to EDC exposure.

Developmental and generational effects: prenatal and early-life exposures affecting multigenerational health (e.g. foetal malformations, altered neurodevelopment).

Widespread exposure: measurable levels of PFAS, phthalates, and BPA found nearly universally in population bio monitoring.

Impact on environment

Wildlife abnormalities: DDT-associated eggshell thinning and reduced bird hatch rates; male genitalia development in marine molluscs exposed to ship paints.

Eco toxicological effects: BPS shown to impair reproductive outcomes in zebra fish-reducing egg and sperm quality, altering gonadal mass

Impact on environment (contd)

Persistent environmental contamination: PFAS and similar compounds accumulate in ecosystems due to their stability ("forever chemicals").

How to Avoid Endocrine Disruptors

Individual and Clinical Recommendations

Reduce plastic use: avoid heating food in plastic, prefer glass or stainless steel containers; choose PFAS-free cookware.

Limit processed and packaged foods: opt for fresh, unpackaged foods to reduce exposure to packaging-associated EDCs.

Select safer personal care products: fragrance-free, paraben- and phthalate-free items; use mineral sunscreens (avoiding Oxybenzone).

Filter drinking water: especially in areas with known PFAS contamination.

Advice pregnant patients to minimize exposure: choose fresh foods, avoid known EDC-containing products, and select safer household materials.

Policy and Structural Interventions

Support regulation and screening programs, such as the EPA's Endocrine Disruptor Screening Program (EDSP).

Advocate for more robust, preventive regulation-similar to EU frameworks-to limit EDC use in cosmetics, food packaging, and consumer products.

Promote public awareness and research, especially focusing on cumulative, low-dose exposures and vulnerable populations (children, pregnant women)

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Ready reference guide for display in clinic:

Endocrine disruptors in daily life - What to avoid and what to choose instead

product	Main EDCs Present	Health Risks	Safer Alternatives
Plastic bottles, food containers, canned food	BPA, BPS, Phthalates	Infertility, early puberty, breast/prostate cancer, obesity, diabetes	Use glass, stainless steel, ceramic; buy BPA-free cans; don't heat food in plastic
Cosmetics & personal care (lotions, shampoos, perfumes, deodorants, nail polish)	Parabens, Phthalates, Triclosan, Oxybenzone (UV filter)	Breast cancer risk, low testosterone, thyroid imbalance, infertility	Choose paraben-free, fragrance-free, mineral sunscreen (zinc oxide/titanium dioxide)
Non-stick cookware (Teflon), stain-resistant fabrics, fast-food wrappers	PFAS ("Forever chemicals")	Thyroid dysfunction, cancers (kidney, testicular), obesity, immune suppression	Use cast iron, stainless steel, ceramic cookware; avoid stain-resistant sprays; prefer unpackaged/fresh food
Pesticide-treated fruits & vegetables	Organophosphates, Atrazine, DDT residues	Birth defects, neurodevelopmental delay, ADHD, hormone-related cancers	Wash/peel produce, buy organic when possible, support integrated pest management
Processed & packaged foods	BPA (lining), Phthalates (from packaging)	Hormonal imbalance, obesity, metabolic disease, early puberty	Eat fresh, home-cooked meals; reduce packaged snacks and canned goods

Ready reference guide for display in clinic:

Endocrine Disruptors in Daily Life - What to Avoid and What to Choose Instead

product	Main EDCs Present	Health Risks	Safer Alternatives
Furniture, mattresses, electronics (flame-retardant treated)	PBDEs (flame retardants)	Thyroid problems, reduced IQ, behavioural issues in children	Choose PBDE-free furniture; vacuum with HEPA filter; improve indoor ventilation
Drinking water (contaminated areas)	Perchlorate, Atrazine, PFAS	Thyroid dysfunction, impaired brain development, reproductive issues	Use certified water filters (activated carbon, reverse osmosis); check local water reports
Household dust & indoor air	PBDEs, PFAS, Phthalates (from paints, cleaners, plastics)	Asthma, allergies, developmental delay	Wet-dust and vacuum regularly; use eco-friendly cleaning products; ventilate rooms daily

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The unseen invaders: Microplastics in our bodies and our world

Dr Michelle Shah

What Are Microplastics and Where Do They Come From?

Microplastics are plastic particles less than 5 millimeters in size, down to microscopic and even nanoscale dimensions. They are the tiny beads, fibers and shards that shed from the breakdown of larger plastic products or are manufactured intentionally small (such as microbeads once common in cosmetics). **The versatility and durability of plastic have made them a mainstay of modern life, but those same qualities mean plastics persist for decades or centuries in the environment, gradually fragmenting but never fully disappearing.** Over time, sunlight, heat and mechanical forces shred plastic debris into ever-smaller pieces. The result is a kind of man-made "dust" or microplastics that are now everywhere around us.

Our daily lives contribute to the microplastic generation in surprising ways. **Simply opening a plastic bottle, tearing a plastic wrapper or walking on synthetic carpeting can release microscopic bits.** These particles hitchhike on household dust, fall with raindrops and swirl in the air we breathe. They have been detected in fruits and vegetables (likely taken up from soil or water), in table salt and even in the most remote wilderness.

Given the ubiquity of microplastics in our environment, it is perhaps unsurprising, that they have been found disseminated throughout the human body. We are exposed through the food we eat, the water we drink and the air we breathe **Once inside, these particles can travel in the bloodstream and lodge in organs.** In 2022, a groundbreaking study detected microplastics in human blood for the first time, finding plastic particles in almost 80% of healthy donors tested. The types of plastics identified in blood included polyethylene terephthalate (PET, used in soda bottles), polystyrene (foam and packaging) and polyethylene (plastic bags) (Leslie et al, 2022). This discovery confirmed that microplastics can overcome the body's filters to circulate and potentially deposit in tissues.

Subsequent studies have only added to the list of organs tainted with microscopic plastic. **Tiny plastic particles have been detected in human lungs, liver, kidneys, spleen and even in the heart.** In surgical samples of lung tissue from patients, microplastics were identified embedded deep in the lung airways. In one startling case report, surgeons found microplastic fragments in the heart tissue of patients undergoing cardiac surgery, raising questions about how these particles bypassed the circulatory filtration mechanisms.

One of the most unsettling recent findings is that microplastics may reach the human brain. While much evidence so far comes from animal models, such as mice showing plastic crossing the blood-brain barrier, human data is beginning to emerge. In 2025, a team of researchers published direct evidence of microplastic and nanoplastic particles in human brain tissue obtained from autopsies (Nihart et al, 2025).

Discovering microplastics in human tissues naturally begs the question: What are they doing to us? Are these tiny particles merely inert guests in our bodies, or could they be agents of disease?

At present, definitive answers are elusive since the field of microplastics and health is still in its infancy. Yet a growing body of research has raised multiple red flags that medical professionals should be aware of.

One obvious concern is **inflammation**. The immune system is adept at recognizing foreign particles and microplastics are no exception. In laboratory studies, microplastics have been shown to cause damage to human cells, provoking inflammatory reactions. Animal studies provide further hints: Jaime Ross, PhD and colleagues found that when mice drank water laced with microplastic fragments, the particles ended up in the mice's brains and triggered cognitive impairment akin to dementia.

Microplastics also pose a risk as Trojan horses for other harmful agents. **These particles can adsorb and carry toxic chemicals and pathogens on their surfaces.**

Another major area of concern is **endocrine disruption** and other chemical impacts. Plastics are laden with additives such as phthalates, bisphenols (like BPA), flame retardants and more, many of which are known endocrine disruptors. These chemicals can leach from the microplastic particles inside the body. It's noteworthy that microplastics have been **found in human placentas and breastmilk**, which raises the possibility of fetal and infant exposure to these substances during critical windows of development. Some studies in rodents have indeed found that microplastic exposure during pregnancy can lead to lower sperm counts in male offspring, ovarian damage in females and metabolic changes in the young.

Young children are known to have higher exposures to microplastics; they crawl on floors (picking up dust fibers), put objects in their mouths and drink from plastic bottles. Studies have found infants have more microplastics in their feces than adults do (one study cited nearly 10 times higher levels in babies). These exposures during critical developmental stages raise concerns about potential effects on growth, immunity and neurodevelopment.

For healthcare providers, microplastics represent a new frontier of environmental health that we cannot afford to ignore. What should medical professionals do with this knowledge? While research continues to fill in the blanks, **there are several concrete steps and roles for clinicians:**

Stay Informed and Educate: First and foremost, providers should stay abreast of emerging research on microplastics and health. This knowledge enables us to answer patient questions and validate their concerns. Increasingly, patients, especially expectant parents, those with unexplained inflammatory conditions or environmentally conscious individuals may ask about the risks of microplastics. We should be prepared to discuss what is known (and not known) in a balanced way. Framing microplastics as similar to other pollutants (like fine particulate air pollution) can help patients understand the concept.

Preventive Guidance: We can offer practical advice to patients on reducing microplastic exposure without causing alarm. For example, recommend avoiding microwaving food in plastic containers (to reduce breakdown of plastics and chemical leaching into food). Encourage use of glass or stainless steel bottles and food storage instead of single-use plastics, especially for hot liquids.

For families with infants, discuss alternatives to plastic bottles or how to safely prepare formula (some studies suggest cooling boiled water before adding formula to lessen bottle microplastic shedding). While we cannot individually escape all microplastic exposure, such measures can modestly reduce intake of plastic particles and associated chemicals.

Environmental History-Taking: Incorporate environmental health questions into routine history-taking. Just as we ask about smoking or occupational exposures, asking about water sources, use of plastic foodware, or proximity to pollution sources can yield insights.

In essence, healthcare providers can act as translators of emerging science for the public, advisors for individual risk reduction and advocates for broader change. It's a role not unlike what physicians did during the early days of recognizing lead poisoning or secondhand smoke; bringing medical credibility to environmental health issues.

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Lifestyle medicine: Unravelling common myths

Dr. Anchal Aggarwal

1) Myth: "I am too busy for a work out."

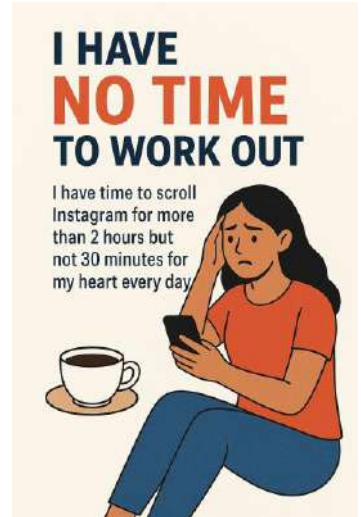
Fact: According to WHO, **just 2 hours a week** of exercise cuts your risk of dying from heart disease **by 20%, even 15 minutes a day** can start transforming your health-that's less time than brewing your morning chai /coffee!!.

We Indians, because of our genetic and lifestyle risk factors, actually need to be twice as active as Europeans - basically, we have to "jog away" our samosa privileges.

"Weekend warrior" workouts (cramming all exercise into 1-2 days) , **HIIT workouts** (just 20 minutes) delivers major gains, though you have more chances of injuring yourself.

The **biggest benefit** happens when you move from **doing nothing to something**.

Even 15 minutes of vigorous exercise per week lowers mortality risk by 18%.



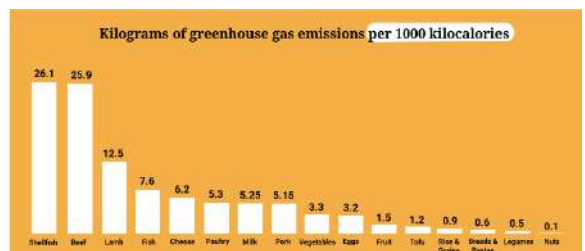
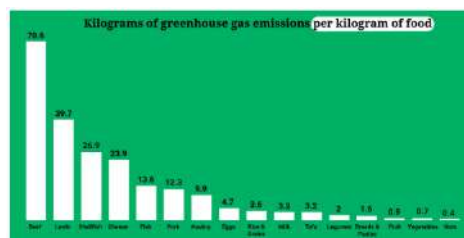
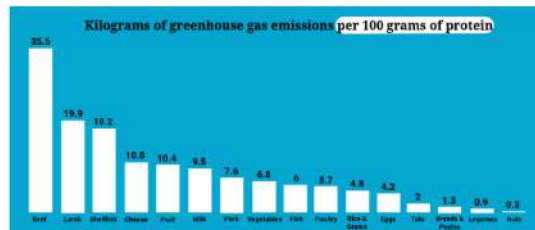
2) Myth: There is no difference between a plant-based diet vs an animal origin diet in terms of impact on environment.

Fact: Traditional Indian vegetarian meals like dal-rice and sabzi-roti have one of the **lowest carbon footprints globally** because growing pulses, grains, and veggies uses less land and produces **fewer greenhouse gases** than meat production.

Switching to plant-based eating can shrink your annual carbon footprint by up to 2.1 tons - that's like deleting 7,000 km of unnecessary road trips.

A 2023 landmark study showed plant-based diets slash climate-heating emissions by 75% compared to meat-heavy diets.

And the UN agrees: **plant diets cut methane emissions by over 93%.**



3) Myth: Vegetarian food is always healthy.

Fact: Not all vegetarian foods are healthy - pakoras, mithai, biscuits, burgers, pizzas, sauces, breads jams and fried snacks are more like villains in disguise as they have lots of sugar, salt, processed flour and unhealthy oils. There are ample studies which show "unhealthy plant-based diets" (refined carbs, sugary drinks) can increase the risk of various non communicable diseases like type 2 diabetes, cardiovascular diseases, cancer, dyslipidemia, Alzheimer's disease etc. So we need to focus on the quality of food we consume rather than consuming mindlessly and in excess.



Say "NO" to these

4) Myth: Doctors can't take care of themselves - they're always on their toes

Fact: About 1 in 4 Indian healthcare workers suffer from burnout - but lifestyle medicine is like the stethoscope for stress: always handy, always effective. Studies show doctors who prioritize exercise, nutrition, and sleep make better diagnoses and work more efficiently and productively than the ones suffering from burn out. Ayurveda got it right centuries ago: "Swasthasya Swasthya Rakshanam" -Only a healthy doctor can truly keep patients healthy. Following the 6 pillars of lifestyle medicine slashes burnout levels in physicians .Self-care = fewer medical errors + happier patients. In short, looking after yourself is actually looking after them.

5) Myth: I've been like this since childhood, I can't change now

Fact: According to Neuroscience , neuroplasticity can rewire your brain and learn new habits at any age. Indian wisdom has always known this - the concept of changing "samskaras" proves that behavior is never set in stone. Studies show just few months of consistent practice can literally reshape your brain. Tools like yoga and meditation are scientifically proven to enhance neuroplasticity - modern MRI scans now confirm what sages taught centuries ago. Indian philosophy's "Abhyasa" (practice) + "Vairagya" (discipline) = the ultimate habit-change formula. Wrong lifestyle choices can be corrected at any given point of life with conscious effort.

<https://pmc.ncbi.nlm.nih.gov/articles/PMC11641623/>

<https://pmc.ncbi.nlm.nih.gov/articles/PMC3505409/>

6) **Myth: Strength training will make me bulky. If I lift a dumbbell today, I'll look like Hulk tomorrow**

Fact: Women naturally have lower testosterone levels - **bulky muscles don't appear without steroids or extreme training.** Strength training builds strength and stamina, not unwanted size as it requires special diet plans and rigorous bodybuilding protocols and normal workouts don't get you there. **Regular strength training has far more benefits like it gives you toned muscles, improves metabolism, and improves bone density** - exactly what women need to prevent osteoporosis. Studies show that strength training **gives women the lean, defined appearance they desire while protecting long-term health**

7) **Myth: I don't go to the gym - too many young people are dying while working out!**

Fact: **Sudden cardiac death during exercise is extremely rare** - only 0.3 to 2 cases per 100,000 people per year. **The real risk lies in being inactive.** Regular exercisers actually have a much lower chance of heart issues. In India, **sudden events usually happen in men who jump into heavy workouts abruptly** - not in those who train consistently. At age 50, active individuals live 7-8 years longer than their sedentary peers. The baseline risk of heart disease is far greater in couch potatoes than in gym-goers.

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Case study: Wet waste management and kitchen garden: A sustainable practice in lifestyle medicine

Dr Harpreet Kour

Introduction:

Lifestyle medicine thrives on wholeness with all its six pillars of nutrition, physical activity, sleep, stress management, avoiding risky substances, and nurturing social connections. Yet, its essence extends beyond personal health. *It is also about the conscious choices we make to live gently with the environment around us. Every act of harmony with nature be it reducing waste, composting, or growing our own food becomes an extension of lifestyle medicine. For me, wet waste management and kitchen gardening are not just sustainable practices, but a way of living that nourishes both my body and my soul, while giving back to the Earth that sustains me.* For me, this journey began way back in 2015-16, while working with the NGO KLE Swashakti Women Empowerment Cell, under the leadership of Dr. Preeti Kore. One of the key objectives of this NGO is promoting a green and sustainable environment and little did I know that this would become a lifelong calling that connects me deeply to my roots, my health, and my passion for sustainable living.

The Larger Context - India's Waste Burden

According to the Ministry of Environment, Forest and Climate Change (2016), India generates about 150,000 tons of municipal solid waste per day, nearly 60% of which is organic waste. However, reports by the Centre for Science and Environment (2020) highlight *that only 20-25% of this waste is scientifically treated, while the rest ends up in landfills. In these anaerobic conditions, waste releases methane, a greenhouse gas 25 times more harmful than carbon dioxide.* Landfills are not only choking Indian cities but also polluting groundwater and threatening public health.

When I compost at home, I am not just growing vegetables, I am preventing my waste from becoming part of that toxic mountain. I am saving energy, reducing methane, and giving my children cleaner air to breathe.

My Journey into Waste Management

What began as an awareness project soon turned into a very personal practice. For the last decade, every Friday in my home is dedicated to my kitchen garden, a small but thriving patch of vegetables, greens, and seasonal fruits, grown with love and nurtured with the waste from my own kitchen.

People often ask me with curiosity and concern: Doesn't it smell? Do you get insects? Is it hygienic to keep inside the house? Can you really add bones and eggshells?

And I patiently answer them: Yes, it smells, but like the earth after the first rain. Yes, there are insects, but they are tiny silent workers, creating a balanced ecosystem. Yes, bones and eggshells can be added, but with care. I grind them first, because the smaller the waste, the faster the decomposition.

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Over the years, I have come to hold these truths close to my heart:

Waste is not filth. Waste is FOOD.

Decomposition is not decay. It is REBIRTH.

Insects are not intruders. They are CO-CREATORS.

This experience taught me that every challenge (ethical, environmental, or social) can be overcome with patience, just like composting turns waste into life-giving soil over time.

Materials Required: i) Two Magic bins (plastic bucket with side holes); ii) One Gamcha tub to collect the liquid fertilizer; iii) One small bucket; iv) Cocopeat

Stepwise Composting Process which can be effective practice at home with minimal efforts:

i) *Prepare Cocopeat:* Place one brick of cocopeat in a small bucket, soak it in water for 3 hours, and allow it to break down into powder. One brick yields about one bucket of fluffy, powdered cocopeat. ii) *Set the Base Layer:* Take a Magic Bin and spread a 9-inch base layer of cocopeat (and optional dry leaves) at the bottom. This acts as the bedding for composting. iii) *Add your segregated kitchen waste,* i.e vegetable peels, fruit skins, strained tea powder, crushed eggshells, and even ground bones (smaller the waste, faster the decomposition). iv) *Cover with Cocopeat:* After every layer of kitchen waste, add a thin spread of cocopeat to prevent odor and insects. Place a Gamcha tub beneath the Magic Bin to collect the drained liquid fertilizer ("compost tea"), which can later be diluted and used for plants. v) *Continue layering:* Repeat the process daily until the bin is full. vi) *Resting Phase"* : Once full, set the bin aside for about a month and start using a second bin. By the end of this resting period, the first bin will yield rich, earthy compost.

Tips for Smooth Composting: i) Sprinkle neem powder once or twice a week to reduce insects. ii) Chop waste into smaller pieces for faster breakdown. iii) Place compost bins on your terrace or balcony where there is enough sunlight for faster decomposition. iv) Place the bin in sunlight (terrace or balcony).v) Avoid leaving it in open spaces during rainy season (slows down the decomposition process). vi) Stir the contents gently with a stick once in a few days for better aeration. vii) Keep the bin covered with cocopeat and clean it weekly if needed.

Remember, in this process *patience is key. Composting is not an instant recipe; it is a meditation.*

Mechanism of Conversion of Waste into Manure

The composting process you practice is essentially aerobic composting, a natural biological process where microorganisms such as bacteria, fungi, and actinomycetes break down organic waste into stable, nutrient-rich manure.

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Why are the holes in the Magic Bin important? The side holes allow continuous airflow, ensuring that oxygen reaches all layers. Without oxygen, the waste would decompose anaerobically (without air), releasing foul odors and methane gas. With oxygen, however, the process is clean, fast, and produces an earthy smell instead of a rotten one.

The role of cocopeat: Cocopeat maintains moisture and porosity, creating the perfect environment for microorganisms to thrive while preventing excess smell or flies.

Stages of decomposition: i) Initial breakdown: Microbes feed on sugars and simple compounds, generating mild heat. ii) Active phase: High microbial activity breaks down complex materials (fibers, proteins, fats). Heat may rise, killing harmful pathogens. iii) Maturation: The compost cools down as the waste stabilizes, leaving behind "humus" which is a dark, crumbly, earthy-smelling compost.

In simple words, the Magic Bin is a **living ecosystem** to the millions of invisible helpers working silently day and night, turning yesterday's kitchen scraps into tomorrow's soil nutrition.

Integration with Kitchen Gardening

The compost and liquid fertilizer nourish my kitchen garden, which provides fresh spinach, tomatoes, chilies, and even a few fruits. This creates a circular system:

Waste → Compost → Soil → Garden → Food → Health

It is like returning what we take from the earth, and in return receiving nourishment.



From Kitchen Scraps to Garden Riches

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Adding Bio-Enzymes - My Plant's Homemade Meals

Later, I began experimenting with bio-enzymes, turning fruit and vegetable peels into liquid gold for my plants. In the jars bubbling quietly in my kitchen, I saw science and poetry come alive together.

Banana peel bio-enzyme: Full of potassium, it strengthens roots, supports flowering, and improves yield.

Lemon peel bio-enzyme: Mildly acidic, it prevents fungal infections, cleans leaves, and enriches soil.

Each jar of bio-enzyme bubbling away in my kitchen is a reminder that waste is never truly waste; it is just life waiting to take a new form.



Banana Peels
Nature's Secret Fertilizer



From Zest to Best
Lemon Bio-Enzymes

Outcomes and Impact

Environmental Impact: i) Reduction of household solid waste by 50-60%.

ii) Elimination of wet waste dumping, which otherwise generates methane in landfills.

Health & Lifestyle Medicine Impact: i) Access to organic, chemical-free vegetables supports healthy nutrition. ii) Gardening promotes physical activity and stress reduction. iii) Active participation fosters mindfulness and eco-conscious living.

Community & social impact: i) Serves as a replicable model for urban households. ii) Encourages neighbours and communities to adopt waste-to-resource practices.

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Nature's Basket at Home –
Pure, Fresh & Full of Love

Emotional Reflections

This practice is more than sustainability, it is soul-sustaining.

When I hold earthworms in my hand, I feel I am holding a piece of Earth's heartbeat.

When my plants bloom with compost I made, I feel I am part of a sacred cycle of giving and receiving.

When neighbours taste vegetables from my garden, they are not just tasting food, but also love, patience, and a philosophy of life.

Yes, it takes effort. Yes, it requires practice. But like any discipline in lifestyle medicine, it rewards me with resilience, immunity, and peace of mind. I believe my soil, my food, and my heart are all connected in that healing.



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Conclusion

This case study demonstrates that segregation of kitchen waste, home composting, and kitchen gardening provide a complete solution to the solid waste problem at the household level. From a lifestyle medicine perspective, this sustainable practice promotes better nutrition, physical activity, stress relief, and environmental stewardship making it a powerful integration of personal health and ecological responsibility.

My journey with wet waste management and kitchen gardening is not about waste alone, it is about healing. "Healing the soil, healing the air, healing the body, and healing the spirit"

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Book Review:

What your food ate

Author: David Montgomery and Anne Bikle

Contributed by: Dr. Nrutya Subramanyum

I first came across this book during an online Lifestyle Medicine webinar for family physicians, when one of the speakers recommended it. I picked it up about a month ago and, although not an easy read, it was immensely thought-provoking. The book asked questions about food and health that I had never considered before, and it left me with an urgency to share its message. So when it came time to suggest a book for our newsletter, my choice was clear.

Let me add a disclaimer at the start: the authors, David Montgomery and Anne Biklé, do not specifically advocate a plant-predominant diet. What they do emphasize is eating whole foods and minimizing highly processed foods. The book is structured into four sections: soil, plants, animals, and finally, us humans.

Soil as the First Link in the Food Chain

The opening section was an eye-opener. Just as our gut microbiome is critical to our health, the microbial diversity of soil is fundamental to soil health. Soil is not just dirt-it is a living ecosystem of microbes, fungi, organic matter, and minerals, working in symbiosis with plants.

"Healthy soil, in turn, becomes nature's pharmacy, supplying crops with essential minerals, supporting phytochemical production, and enhancing resilience against pests and disease. But fertilizers and pesticides disrupt this balance, much like antibiotics disrupt our gut microbiome."

When the soil's microbial diversity is reduced, plants become less nutrient-dense. So while crop yields may increase, the food we eat is nutritionally poorer, leading to a paradox of being simultaneously overfed and undernourished.

What shocked me further was the revelation that ploughing, long celebrated as a cornerstone of agriculture, actually harms soil health. By disturbing microbial life, it damages the very organisms that keep soil fertile. Farmers who switched to no-till practices, the authors note, saw stronger, healthier crops with better resilience and nutrition.

The Nitrogen Fertilizer Paradox

Another striking insight was the paradox of nitrogen fertilizers. While nitrogen is essential for amino acids and protein, in natural systems plants receive it through a symbiotic relationship with soil bacteria in the rhizosphere-a layer beneath our feet teeming with activity.

Synthetic nitrogen, introduced to boost yields, had unintended consequences: i) It diluted nutrient content in grains and vegetables; ii) It leached into waterways, creating dead zones and polluting drinking water; iii) It altered soil microbiology, weakening the natural cycles that sustain fertility

Once again, the short-term pursuit of yield undermined long-term health-of soil, food, and people.

Plants: The Bridge Between Soil and Us

This section focuses on phytochemicals-compounds plants produce to defend themselves but which also confer health benefits to us. The rhizosphere helps regulate phytochemical production, but fertilizers and pesticides interfere with this natural dialogue.

Reading this reminded me of a tragic moment early in my medical career: the first patient I lost during internship, a 19-year-old who had ingested organophosphate pesticide. At the time, I never thought about the direct link between agricultural chemicals and our health. Yet, as the authors explain, glyphosate-the most widely used herbicide-disrupts soil microbes, weakens nutrient absorption, and leaves residues everywhere.

*Pesticides are now found in groundwater and surface water.
Studies in India and elsewhere have detected residues in breast milk.
Chronic exposure has been linked to neurological disease, cancers, and endocrine disruption.
Glyphosate even acts as a heavy metal chelator, pulling toxic metals into plants..*

And, much like antibiotics created superbugs, pesticides have given rise to super-pests. As Jeff Goldblum's character famously said in *Jurassic Park*: "**Life will find a way.**"

Predator-Prey Balance: Nature's Pest Control

The author's give a very compelling insight into the predator-prey relationships in ecosystems and how they act as natural pest management. When these relationships are intact, farms require fewer (or no) chemical interventions.

Dung beetles play a critical role in pastures, breaking down manure, recycling nutrients, and suppressing parasites that would otherwise plague livestock. The decline of dung beetle populations due to chemical dewormers and pesticides leads to heavier pest loads, creating a vicious cycle of more chemical use.

Dragonflies are voracious consumers of mosquitoes and other insects. In wetland-adjacent farms, healthy dragonfly populations keep pest populations naturally low. But when pesticides enter water bodies, dragonfly larvae are harmed, disrupting this elegant form of biological control.

Bees-the cornerstone pollinators-are particularly vulnerable. Neonicotinoid pesticides impair their navigation and immunity, while glyphosate alters their gut microbiomes. This not only reduces pollination but also destabilizes entire ecosystems of food production.

The lesson is clear: Leave nature be, ecosystems have evolved and they are part of a web of interactions. When we destroy predators, we amplify problems.

The Decline in Nutrients

The authors provide compelling evidence that today's food is less nutritious than it once was:

Between 1940 and 2000, U.K. vegetables lost 20-40% of key minerals like calcium, magnesium, iron, and zinc.

Wheat protein levels declined as fertilizers inflated yields but diluted nutrients.

A 2004 study in the Journal of the American College of Nutrition showed declines in vitamins A and C, riboflavin, and minerals across 43 U.S. crops compared with 1950 levels.

Montgomery and Biklé call this the "**dilution effect**"-an apt description of how **industrial farming has traded nutrient density for calories**.

The Green Revolution in India: A mishap?

The Green Revolution of the 1960s and 70s is often celebrated for ending famines in India. High-yield rice and wheat, combined with fertilizers and irrigation, boosted production dramatically.

But it came at a steep cost: i) Diverse grains like millets, sorghum, and barley were displaced; ii) Refined wheat and rice became staples, contributing to soaring rates of diabetes and other NCDs.; iii) Soil health declined, and water scarcity worsened under monocropping.

For me, this chapter struck home. **By prioritizing quantity over quality, we engineered an epidemic of metabolic disease.**

Animals: Lessons in Body Wisdom

The section on animals was fascinating. Left to themselves, livestock display "body wisdom"-instinctively choosing plants that meet their nutritional needs.

But feedlots and total mixed rations override this innate ability, just as processed foods hijack our own satiety cues. The result is meat and dairy products with altered nutrient profiles. Most notably, the omega-6 to omega-3 ratio is skewed unfavorably in grain-fed livestock, echoing the inflammatory burden in human diets.

Farms That Heal

Throughout the book, Montgomery and Biklé showcase pioneering farms that are rewriting the agricultural script. These examples prove that soil and human health can be restored.

Tobacco Road Farm (Connecticut) - A small-scale farm demonstrating how cover crops and diversified rotations can enrich soil fertility without chemicals. Their model shows how even small farms can deliver nutrient-rich produce while improving soil structure.

Singing Frogs Farm (California) - Famous for its no-till market gardening, this farm produces remarkably high yields on a small footprint while building soil carbon and biodiversity. It's a shining example that productivity and regeneration are not mutually exclusive.

Blue Dasher Farm (South Dakota) - Entomologist Jonathan Lundgren integrates crops and livestock, relying on biodiversity rather than pesticides. Their produce tests higher in nutrients while restoring ecological balance.

Gabe Brown's Ranch (North Dakota) - A leader in regenerative ranching, Brown eliminated synthetic inputs and instead uses cover crops, no-till farming, and rotational grazing. His soils now store more carbon and water while producing healthier livestock.

Polyface Farm (Virginia) - Joel Salatin's multi-species grazing system mimics ecosystems, enriching rather than depleting land. The result: food that is nutrient-rich and environmentally sound.

Stone Barns Center (New York) - Partnering with chefs, this farm prioritizes flavours and nutrient density, demonstrating how farming and cuisine can work hand in hand.

Together, these stories provide hope. The damage is not irreversible. With the right practices, farms can regenerate soil, restore nutrients, and sustain livelihoods. Here's a link to an Indian farmer practicing no till farming <https://thebetterindia.com/106908/raju-titus-no-till-natural-farming/>

Vision for the Future: Farming as a part of Preventive Medicine

The final chapters of the book align seamlessly with Lifestyle Medicine. The authors argue that **farming must move beyond yield maximization to become a public health intervention.**

*They outline a vision based on: i) **Regenerative Principles** - no-till, cover crops, rotational grazing; ii) **Redefining Success** - rewarding farmers with subsidies based on nutrient density and biodiversity of their produce and not yield quantity; iii) **Reducing Chemicals** - phasing out glyphosate and synthetic fertilizers in favor of composts and microbial inoculants; iv) **Integrating Tradition with Science** - bringing back resilient crops like millets alongside modern agronomy; v) **Food as Medicine** - seeing sustainable agriculture and soil favourable farming practices as one of the methods to address the growing burden of NCDs*

The authors are cautiously optimistic. Regenerative pioneers are proving it can be done, but scaling up will need policy support, and clinical advocacy which will hopefully translate to consumer demand.

As a Lifestyle Medicine practitioner, this book left a deep impression on me. We advise patients on dietary choices, but those choices are limited by what the food system provides. If the soil is sick, the vegetable market is sick the animals are sick and yes the humans are sick!

What Your Food Ate is not just a book about farming-it is a call for policymakers and clinicians alike to see soil health as the foundation of preventive medicine. When we heal the soil, we restore not only ecosystems but also the nutritional integrity of food and, ultimately, the health of our patients.

On a personal note, reading this rekindled my interest in gardening. I grew up with a kitchen garden and had started one on my terrace, unfortunately it was damaged in a cyclone and I didn't restart. I had also been composting at home but stopped recently as a community garbage disposal system was initiated in our locality.

This book has inspired me to restart my kitchen garden maybe I can regenerate my potted soil with compost that I make with the vegetable waste generated in my kitchen.

I also dabbled in hydroponics a few years ago this book has me questioning the nutrient density of crops grown hydroponically and aeroponically.

Points to Ponder

- ❖ Nutrient efficacy/density in crops grown hydroponically /aeroponically
- ❖ Organic certification - What does it mean? <https://npop.apeda.gov.in/>
- ❖ Heavy-metal contamination in traditional herbal medicine- Effect of pesticides/fertilizer use?
- ❖ Need to create awareness among consumers about the importance of choosing organically grown fruits and vegetables
- ❖ Need to create awareness on regenerative farming among farmers and the lay public

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