



INDIAN SOCIETY OF
LIFESTYLE MEDICINE

4th International Conference of Indian Society of Lifestyle Medicine ISLMCON 2023



INDIAN SOCIETY OF
LIFESTYLE MEDICINE

4th & 5th November 2023, Chennai
<https://www.islm.org.in/>

Theme: "Lifestyle Medicine: Revolutionizing healthcare"

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ISLMCON 2023
<https://www.islm.org.in/>

Theme: "Lifestyle Medicine: Revolutionizing healthcare"

Messages from across the globe





Message

Dr. Padmaja Patel



Dear Valued Conference Attendees,

Welcome to the International Lifestyle Medicine Conference, hosted by the Indian Society of Lifestyle Medicine (ISLM). As we gather here today, we celebrate the growing global community of healthcare professionals, researchers, and students who are dedicated to whole-person care through lifestyle-based interventions.

Lifestyle medicine is a movement that redefines healthcare by emphasizing the connection between our simple daily choices and long-term health outcomes. Our choices in what we eat, how we move, how we manage stress, and how we engage with our communities have a significant impact on our well-being.

I commend our tireless conference attendees who pursue lifestyle-based interventions in their practice, advance research, expand knowledge, and inspire future generations.

We also commend the remarkable research and advancements taking place worldwide in the field of lifestyle medicine. Your presence here signifies your dedication to proactive and preventative healthcare, foundational to all healthcare. You are pioneers of a new era in medicine where empowerment, education, and engagement are imperative.

I urge you to seize this opportunity to learn from distinguished experts, exchange ideas, and form connections that will propel our shared mission. The insights, collaborations, and knowledge gained during this conference will serve as invaluable tools in the transformation of healthcare and the promotion of a healthier lifestyle.

In closing, let us embrace the spirit of unity and collaboration that defines our community. Depart with renewed determination to positively impact the health and well-being of individuals and communities worldwide. Thank you for your dedication, enthusiasm, and unwavering commitment to wellbeing and lifestyle-based interventions.

In Health,

Padmaja Patel, M.D. FACLM, DipABLM

President-Elect, American College of Lifestyle Medicine



INDIAN SOCIETY OF
LIFESTYLE MEDICINE

Message

Dr. Rob Lawson



Many congratulations to the Indian Society of Lifestyle Medicine for staging your 4th International Conference, this year in Chennai. Setting up a Society from the ground up takes courage and commitment which clearly you have in abundance, so you should be justly proud of your achievements.

Revolutionizing Healthcare is the title of your conference, and it will resonate with your partners in Lifestyle Medicine organizations around the world which are at different stages of their own healthcare revolution. And this difference reflects their local situation culturally, socioeconomically, environmentally, and also their healthcare systems. This diversity is important and from which we can all learn, as the Lifestyle Medicine revolution spreads into the areas of greatest need in our respective communities.

To attain this spread maybe we all need to have an internal health-revolution mindset burning within each of us which collectively can be externalized into concerted action at our community and national levels.

I am sure that your conference will inspire delegates and also galvanize action into adopting widely the nuances and full scope of Lifestyle Medicine for the benefit of all. It is a very optimistic Medicine.

Congratulations again and have a wonderful conference.

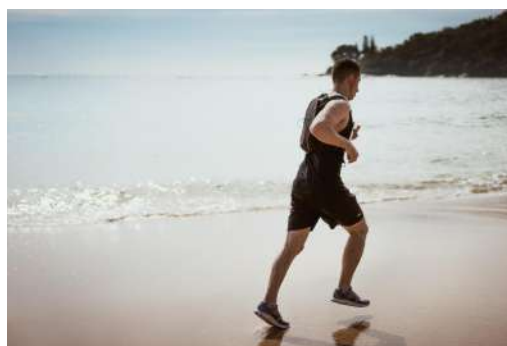
Best wishes to you all from the British Society of Lifestyle Medicine and the European Lifestyle Medicine Council.

Dr Rob Lawson FRCGP, FBSLM, Dip IBLM/BSLM

Chair, BSLM

President ELMC

Member WLMO Executive Council





Message

Dr. Wayne Dysinger



Transformation to something better is one of the core goals of life. Lifestyle Medicine promises real transformation around how we think about and approach both health and healing. We can assess and treat differently. We can highlight relationships and connection. And those simple things lead to both disease prevention and reversal. And that is transformation!

Congratulations to each of you - transformation pioneers - as you attend the 4th International Lifestyle Medicine Conference sponsored by the Indian Society of Lifestyle Medicine. As someone who has watched Lifestyle Medicine rapidly spread and grow around the world, I'm excited for you as an individual, but also for you as a community.

India has unique challenges which bring with them exciting opportunities to show the world the power of Lifestyle Medicine. Thank you for your commitment to transformation! Keep doing the work. Your patients and your societies need you! One of the important goals of ISLM is to spread awareness about non-communicable diseases (NCD's) and to emphasize upon the essential role of lifestyle medicine in combating the onslaught of NCDs.

Wayne S. Dysinger, MD, MPH

Physician and Founder, Lifestyle Medical
Chief Medical Officer, Healthy
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Message

Dr. Ifeoma Monye



Dear Esteemed Participants,

I bring you greetings from the General Assembly and the Executive Council of the World Lifestyle Medicine Organization. As we gather for the 2023 edition of the Indian Society of Lifestyle Medicine annual conference, I extend my heartfelt goodwill and best wishes to all attendees. This event symbolizes our shared commitment to promoting healthier lives and well-being through the principles of lifestyle medicine. Your dedication to enhancing the quality of life and preventing disease through lifestyle interventions is truly commendable. I am confident that this conference will be an invaluable platform for knowledge exchange, innovation, and collaboration. May the discussions and insights shared here empower us to make a profound impact on the health of individuals and communities worldwide. Together, we can drive positive change and build a healthier future for all. May your journey towards holistic well-being and evidence-based practices be fruitful, and may you leave with valuable insights to transform lives for the better. Wishing all attendees, a healthy, enlightening and inspiring experience at this conference.

Warm regards,

Dr Ifeoma Monye MD, FRCGP, FACLM, FBSLM

President

World Lifestyle Medicine Organization





Message

Dr. Beth Frates



This meeting is a nexus of innovation, collaboration, and knowledge sharing. It's where industry trends are discussed, partnerships are formed, and new ideas are born. It's a platform for professionals to stay at the forefront of their field and drive positive change.,

Beth Frates, MD FACLM DipABLM

Lifestyle Medicine and Coaching

President American College of Lifestyle Medicine

Clinical Assistant Professor, Harvard Medical School

Director of Lifestyle Medicine and Wellness, Mass General Hospital

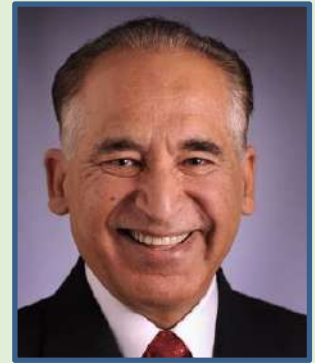
Director of Wellness Programming, Stroke Institute of Research and Recovery





Message

Dr. Ravinder Mamtani



Embracing Lifestyle Medicine: The Time for Action is Now!!

The world has witnessed remarkable advancements in healthcare. Traditional approaches, including public health initiatives, innovative treatments, surgical procedures, and cutting-edge diagnostic techniques, have played a pivotal role in elevating overall health. Nevertheless, a host of burgeoning challenges has arisen, casting shadows over our advancements and, in some instances, pushing us backward. A glaring example is the concerning decline in life expectancy observed in certain nations.

The prevalence of chronic diseases warrants special mention. In 2019, chronic conditions accounted for a staggering three-quarters (approximately 75%) of all global deaths. These conditions not only lead to premature mortality but also inflict widespread suffering, contributing significantly to soaring healthcare costs.

Scientific evidence has repeatedly underscored the value of curtailing chronic diseases through the adoption of healthy lifestyles. This involves embracing a healthy diet, engaging in regular physical activity, effectively managing stress, quitting tobacco use, fostering social connections, and maintaining a healthy sleep routine. It is abundantly clear that the integration of Lifestyle Medicine into our healthcare systems is the way forward, and the need for action is pressing. Lifestyle Medicine, which addresses the root causes of chronic diseases, is not just a healthcare innovation; it is a lifeline for a healthier future.

Given the escalating burden of chronic diseases in India, the 4th Indian Society of Lifestyle Medicine's conference, aptly titled "Lifestyle Medicine: Revolutionizing Healthcare," assumes a position of paramount importance. It offers an exclusive platform for healthcare professionals to engage in substantive discussions and share invaluable insights. This event demands our active participation.

I extend my heartfelt congratulations to the Society for hosting this conference! My sincere hope is that this gathering will not only establish a robust foundation for bolstering educational, research, and clinical endeavors in the field but also foster partnerships that will drive forward the cause of lifestyle medicine in India. Your dedication to this vital aspect of healthcare is truly commendable.

Ravinder Mamtani, MD, FACPM, FACOEM, FACLM

Professor of Population Health Sciences

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

Vice Dean for Population Health and Lifestyle Medicine

Institute for Population Health, Weill Cornell Medicine- Qatar

Education City, Doha - Qatar



Message

Stephan Herzog



Dear Dr. Rabbanie,

We are excited about the upcoming Lifestyle Medicine Conference and certification exam in Chennai 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. Furthermore, you are serving as Vice President of the World Lifestyle Medicine Organization and Dr. Nambiar is on the IBLM MOC council and the LMGA advisory board, which all have such an important impact on the field of Lifestyle Medicine around the world. We commend your conference participants for their foresight and commitment in joining this ever growing global movement of transforming the medical landscape.

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





Message

Susan Benigas



As the Executive Director of the American College of Lifestyle Medicine (ACLM), and on behalf of ACLM's Board of Directors and its 10,000 members, it is with great delight that I extend well wishes to the Indian Society of Lifestyle Medicine (ISLM) as it hosts its 4th annual International Lifestyle Medicine Conference in Chennai, India, applauding ISLM President Rabbanie Tariq and Immediate Past President Sheela Nambiar for their visionary and steadfast leadership.

Drs. Tariq and Nambiar are purpose, passion-driven physicians who understand what's at stake and know that lifestyle medicine must become the foundation of a transformed and sustainable system of healthcare delivery throughout the nation of India and around the world.

ACLM and ISLM are trusted sister organizations, both members of the Lifestyle Medicine Global Alliance (LMGA) and the World Lifestyle Medicine Organization (WLMO). ACLM and ISLM are close and trusted partners, devoted in our commitment to one another to offer support in advancing the field of lifestyle medicine in our respective countries and for the benefit of humanity on every continent.

Long before Covid-19, we were lamenting the looming global pandemic of type 2 diabetes that's robbing years from lives and life from years. Yet, we know that for the treatment, even reversal, and prevention of type 2 diabetes and the other non-communicable diseases that are ravaging our nations, evidence shows that lifestyle medicine as a first treatment approach is vital. By identifying and eradicating the root cause of disease, with the goal of health restoration, we can turn the tide on the alarming non-communicable disease trends and their associated costs.

ISLM represents the bold, courageous physicians and medical professionals who are at the forefront of real HEALTH care. Congratulations and thank you to all who are attending India's premier medical education event, and special recognition to those sitting for the International Board of Lifestyle Medicine (IBLM) certification exam!

Susan Benigas,

Executive Director

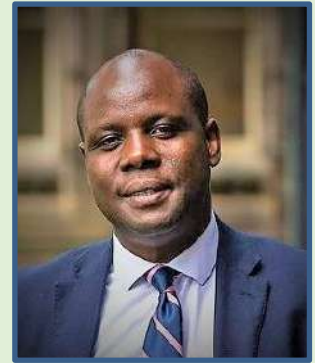
American College of lifestyle Medicine

www.lifestylemedicine.org



Message

Prof Edward Kunonga



It's great to be invited to one of the best conferences on Lifestyle medicine globally. India continues to make great strides in establishing lifestyle medicine as a speciality and it's good to see the excellent programme with so many great speakers and opportunities to hear about innovative practice. Lifestyle Medicine is part of the solution of the ever-increasing burden of non-communicable diseases globally and it is good to see a growing movement of lifestyle medicine specialists in India.

Prof Edward Kunonga,

Director of Transformational and Population Health Management
Northeast and North Cumbria, NHS
UK



Message



Dr. Archisman Mohapatra

Dear Esteemed ISLM Members,

It gives me great pleasure to extend my warmest greetings to each one of you as we approach the much-awaited 4th Annual Conference of ISLM to be organized at Chennai in early November 2023.

Conferences serve as invaluable platforms for the exchange of ideas, knowledge, and expertise. They offer us a unique opportunity to engage in stimulating discussions, foster collaborations, and explore innovative solutions to the challenges we face in contemporary times. I am particularly excited about ISLMCON 2023, as it promises to be a hub of intellectual discourse, bringing together some of the brightest minds and visionaries in the field to deliberate on a focused theme, "Lifestyle Medicine - Revolutionizing Healthcare".

GRID Council takes immense pride in being a research partner to ISLM. Both ISLM and GRID are committed to evidence-based practice for the betterment of human health. GRID acknowledges that given the epidemiologic transition that India is going through, lifestyle conditions will have exponentially increasing public health relevance. It is with this context that there is an immense and immediate need to scale up Lifestyle Medicine as a specialty for medical practice in India.

We are happy to witness that through the relentless efforts of ISLM, Lifestyle Medicine is fast catching up as a specialty of choice among medical practitioners across India. We are also excited to note that the organizing committee of ISLMCON 2023 has put in tremendous effort to curate a diverse and engaging program, featuring renowned speakers, interactive sessions, and thought-provoking presentations. I am confident that this conference will not only broaden our mutual horizons but also provide a conducive platform for networking and forging lasting professional relationships among peers, partners and patrons.

As we look forward to ISLMCON 2023, I am filled with optimism about the transformative impact such collective efforts can have on our fields of expertise and, by extension, the world. I am sure, the deliberations at ISLMCON 2023 will further drive the collaborative efforts of ISLM and GRID going forward.

Let us make the most of this opportunity, embracing the spirit of collaboration, curiosity, and innovation that defines great scholarly endeavors.

Wishing all a fruitful and memorable ISLMCON 2023!

Best regards

Dr Archisman Mohapatra

Executive Director

GRID Council, NOIDA, India

Email: archisman.m@thegridcouncil.org





Message



Dr. Rabbanie Tariq

Esteemed Colleagues and Distinguished Guests,

I extend to you all a warm welcome to the Annual International Conference of the Indian Society of Lifestyle Medicine (ISLM). It is a privilege to address you as the President of ISLM and share my reflections on this momentous occasion.

Our gathering today represents the confluence of minds dedicated to the relentless pursuit of advancing the frontiers of healthcare through Lifestyle Medicine. The theme of this year's conference, "Lifestyle Medicine- Revolutionizing Healthcare" underscores our unwavering commitment to catalyze a profound change in the landscape of global health.

In an era marked by an ever-escalating pace of change, Lifestyle Medicine has emerged as a beacon of hope and a catalyst for a seismic shift in our approach to health and well-being. This discipline emphasizes the pivotal role played by lifestyle factors such as nutrition, physical activity, stress management, and social connectedness in the prevention and management of chronic diseases.

Our conference is a testament to the dynamic evolution of Lifestyle Medicine. It brings together luminaries, trailblazers, and practitioners from diverse corners of the globe. Here, we engage in a symphony of ideas, a fusion of knowledge, and a crucible of innovation. It is a platform for the exchanging ideas that drive healthcare's future.

As we traverse the labyrinthine corridors of modern healthcare, the compass that guides us should always point towards the patient. Lifestyle Medicine offers not merely a prescription but a promise—a promise of treating not just ailments but individuals in their entirety.

I wish to express my profound gratitude to our members, partners, and sponsors for their unwavering support. Your commitment strengthens our collective resolve to make an indelible impact on human lives, ushering them towards healthier, more fulfilling existence.

I beseech you all to actively immerse yourselves in the rich tapestry of this conference. Engage in thought-provoking dialogues, forge collaborations that transcend boundaries, and embark on a collective journey to redefine healthcare through Lifestyle Medicine.

Let us remember that our endeavors hold the potential to shape destinies, transform societies, and rewrite the narrative of health and well-being.

I thank you for your unwavering allegiance to ISLM, for your resolute dedication to the cause of Lifestyle Medicine, and for being the vanguard of change in healthcare.

In the spirit of camaraderie and intellectual curiosity, I eagerly anticipate the enlightening discussions and encounters that await us during this conference.

With utmost respect and anticipation,

Dr Rabbanie Tariq

MBBS, MD, FRSPH, FISLM, IPFPH, DipIBLM

President, Indian Society of Lifestyle Medicine



Message

Dr. Lakshmi Sundar



Dear colleagues and friends,

It is with great pleasure that I welcome you to the fourth edition of ISLMCON. It is what I hope will be a collective, pioneering effort towards foraging new avenues in medicine. Placing scientific validity at the centre of healthcare can often be confused with an emphasis on medication and medical procedure. While they are an imperative part of our work, it is important that we develop a nuanced understanding of the human body and its accompanying, routine choices.

Every speck of knowledge that we gather on lifestyle medicine serves the purpose of replenishing scientific inquiry and better healthcare. I urge you to attend the conference with this intention - that the dissemination of research findings may not only equip your practice but nudge you towards your own bright ideas! On behalf of my team, I thank you for your participation and hope you have a warm and lovely stay in my beautiful city.

Best

Dr Lakshmi Sundar

Secretary, ISLM





Message

Dr. Vinu Vij



Esteemed Colleagues and Dear Friends,

We are thrilled to welcome you to the 4th Annual International Conference of the Indian Society of Lifestyle Medicine (ISLMCON 2023). The conference theme, "Lifestyle Medicine - Revolutionizing Healthcare," emphasizes the pivotal role of Lifestyle Medicine in transforming the healthcare narrative.

It's our collective endeavor to provide you all with a diverse and engaging program, featuring renowned speakers, interactive sessions, and thought-provoking presentations. This event brings together thought leaders and medical practitioners from various disciplines and different corners of the world.

We sincerely hope that this event serves as a platform for the fruitful exchange of ideas that are shaping the future of healthcare, emphasizing the transformative power of Lifestyle Medicine.

We wish you all a productive and memorable ISLMCON 2023!

With a deep sense of gratitude,

Dr. Vinu Vij

Treasurer, ISLM





Message

Dr. Anupama Devadas



Dear Esteemed Delegates,

It is with great pleasure and anticipation that we extend our warmest welcome to the 4th International Conference of the Indian Society of Lifestyle Medicine. The Conference promises to be an enlightening platform, embracing the significant impact of lifestyle choices on health and wellbeing.

Our core mission is to facilitate an exchange of ideas, research and best practices in lifestyle medicine. With our collaborative spirit, we aim to harness the power of lifestyle interventions in preventing chronic diseases, improving patient outcomes and elevating the quality of healthcare delivery on a global scale.

We invite your active participation in this event and believe that all our learning, expertise and commitment are essential to advancing the frontiers of lifestyle medicine as we collectively chart the path toward a healthier and resilient global community.

Dr. Anupama Devadas
Joint Secretary, ISLM





Message

Dr. Nrutya Subramanyam



Dear Friends and Esteemed Colleagues,

With great enthusiasm, we extend a warm welcome to you all at the 4th Annual International Conference on Lifestyle Medicine-ISLMCON 2023!

As a dedicated family medicine practitioner and primary healthcare provider, I firmly believe that Lifestyle Medicine is the path forward in reshaping healthcare practices. Being the first point of contact for many patients, I have witnessed the transformative power of lifestyle choices in improving health outcomes. Each step we take toward promoting well-being has a profound and lasting impact.

Together, we have the potential to make a profound difference in the lives of countless individuals, guiding them towards embracing healthier habits and experiencing a higher quality of life. Your unwavering commitment to this noble cause is truly commendable, and it fills us with pride to be a part of this global movement.

We extend our heartfelt gratitude for your passion and dedication to Lifestyle Medicine. Let us come together, collaborate, learn from one another, and inspire each other to craft a healthier world for all. Together, we can "Revolutionize Healthcare" and usher in a new era of wellness.

With gratitude and excitement for the journey ahead,

Dr Nrutya Subramanyam

Organising Secretary
ISLMCON 2023





Message

Dr. Suvetha Kannappan



"Embrace the Power of Healthy Living!"

Dear Friends and Colleagues,

It is with great pleasure that we welcome you to ISLMCON 2023. This event is a celebration of our shared commitment to promoting well-being and longevity through sustainable, healthy choices. As we gather here to exchange knowledge, ideas, and experiences, let us remember that our collective efforts have the potential to transform lives. Each day, we make choices that influence our health and vitality, and by advocating for lifestyle medicine, we empower individuals to take control of their own well-being. Let this conference be a source of inspiration and a catalyst for positive change. May the connections you forge and the knowledge you gain here ripple out into your communities, sparking healthier lives for all.

Thank you for being a part of this vital movement. Together, we can shape a healthier future for generations to come.

Wishing you a conference filled with learning, inspiration, and meaningful connections!!!

With health and gratitude,

Dr. Suvetha Kannappan

Organizing Secretary

ISLMCON 2023





From the Editor's desk...

Dr. Richa Lal

Dear friends,

We present the ISLMCON2023 souvenir with much joy and gratitude.

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.

The ISLM has come a long way since its foundation and reflections on the "Journey of ISLM since its inception till now..." is an inspiration to move ahead with a greater enthusiasm and commitment.

The invited short articles authored by the experts in lifestyle medicine have immense contemporary relevance. The readers would relish insights on the "Role of strength training beyond building impressive muscles"; "Unlocking the essentials of Vitamin B12" and "Spectrum and pitfalls of plant-based eating patterns".

The Abstracts of scientific papers submitted for the conference are a reflection of contemporary research in the arena of lifestyle medicine with special relevance to our country.

We hope you would savour browsing through each section of the souvenir.



Richa

M.Ch (Paediatric Surgery), Dip IBLM

Email: richalal@gmail.com



About “Indian Society of Lifestyle Medicine”: The journey from inception till now...

The Indian Society of Lifestyle Medicine (ISLM) is a non-profit organization dedicated to integrating Lifestyle Medicine into clinical practices. Our members include healthcare professionals across various medical fields, such as General Practitioners, Specialists, Super-Specialists, and allied health professionals, including dietitians, psychologists, and exercise physiologists.

ISLM advocates for evidence-based behavioral change and lifestyle management as primary measures for preventing and treating lifestyle-related and non-communicable diseases.

The society's journey began during two Lifestyle Medicine conferences hosted by the Asian Society of Lifestyle Medicine (ASLM) in Taipei and Manila. On February 6, 2018, ISLM was officially founded by 12 Indian delegates during the Second Annual ASLM Conference in Manila, Philippines.

The executive committee of ISLM, consisting of Dr. Samuel George Hansdak as President, Dr. Sheela Nambiar as Secretary, Dr. Jacqueline Michael as Joint Secretary, and Dr. Pramodh RK as Treasurer, was elected to lead the society.

ISLM's First Annual Conference took place in December 2018 in Bangalore, India, as a collaborative effort with ASLM. This event featured international and national speakers who shared their expertise in Lifestyle Medicine. Additionally, nine Indian delegates took the International Board of Lifestyle Medicine (IBLM) exam, affiliated with the American Board of Lifestyle Medicine.

In 2020, ISLM achieved significant milestones. The society secured membership with the Lifestyle Medicine Global Alliance (LMGA), signifying global recognition.

ISLM is currently registered as a non-profit society and has established a Board of Directors to manage various aspects of Lifestyle Medicine, such as education, research, clinical services, IT and social media, and membership and alliances. The society conducts monthly virtual webinars featuring renowned speakers on diverse Lifestyle Medicine topics, attracting both members and non-members.

ISLM has continued to grow, advancing to Tier 3 status with LMGA and forming vital alliances with organizations like LMGA, Asian Lifestyle Medicine Council and World Lifestyle Medicine Organization.

The Third International Lifestyle Medicine Conference was held virtually on November 5th and 6th, 2022, with over 600 delegates in attendance. The conference featured educational workshops, keynote addresses, and engaging discussions led by esteemed national and international speakers.

About “Indian Society of Lifestyle Medicine”: The journey from inception till now...

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

The society actively participates in global NCD prevention and awareness initiatives. ISLM is also a network member of the NCD Alliance and part of the World Lifestyle Medicine Organization since February 16, 2023, aiming to unite and serve Lifestyle Medicine organizations worldwide. The GRID Council and the Indian Society of Lifestyle Medicine signed a Memorandum of Understanding (MoU) to collaborate on promoting a healthier lifestyle and advancing the field of Lifestyle Medicine in India.

ISLM organized a Walkathon in Chennai on “World Obesity day” ie 4rth March 2023. It was a well attended event inaugurated by the commissioner of Greater Chennai corporation Dr J Radhakrishnan. ISLM also celebrated the LM week (June 5-June 11, 2023) wherein a wide spectrum of activities were organized as a celebration of healthy behaviors and as a public awareness campaign on the impact our choices can have on chronic diseases.



DID YOU KNOW?

Fibre is found only in whole plant foods. A high fibre diet helps in weight loss, improves digestion, relieves constipation & reduces the risk of diabetes, heart disease, stroke & certain types of cancer. Fibre also helps you feel full & satiated.



About "Indian Society of Lifestyle Medicine": The journey from inception till now...

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

Benefits of whole food plant based:

- 1 Reduces inflammation due to antioxidants
- 2 Improves immunity
- 3 Improved gut health because of fibre prevention of chronic Lifestyle diseases
- 4 Helps in weight management
- 5 Improves emotional & mental well being

For more info, please visit www.islm.org.in



To maintain a healthy weight
Atleast 150 minutes per week of moderate intensity exercise.



NEAT (NON-EXERCISE ACTIVITY THERMOGENESIS)

is energy expended on all daily activity that isn't exercise, eating, or sleeping. It can account to about 15% of calories burned in a day, depending on a person's activity level. It includes movements or tasks that you do throughout the day, but not considered as exercise. This can include walking, taking the stairs, cleaning, playing fetch with the dog, standing, cooking & even fidgeting !!

For more info, please visit www.islm.org.in

STRESS MANAGEMENT

Chronic stress is strongly linked to poor health outcomes due to its physiological and behavioral effects. Hence stress management forms one of the 6 pillars for maintaining a healthy lifestyle. Focusing on all the other pillars is also important for managing stress, demonstrating the interconnectedness of these pillars of health and well-being.

Stress causes activation of the sympathetic nervous system, can cause alterations in gut function and immunity & can adversely affect health behaviors resulting in poor dietary choices, inactivity, disordered sleep and substance use.



For more info, please visit www.islm.org.in

SUBSTANCE ABUSE

“ Substance abuse and mental illness often co-exist. Substance abuse may trigger or worsen mental health conditions, particularly in people with specific vulnerabilities.

Some people with disorders like anxiety or depression may use drugs in an attempt to alleviate psychiatric symptoms ”

For more info, please visit www.islm.org.in

Social Connections

Social connections reduce anxiety and depression, regulate emotional well being, lead to better self esteem and empathy and improve immune system

BOOST YOUR IMMUNE SYSTEM

For more info, please visit www.islm.org.in



Fourrts





ISLMCON 2023
<https://www.islm.org.in/>

Theme: *"Lifestyle Medicine: Revolutionizing healthcare"*

Invited articles



Strength training is not just about building impressive muscles!!

Dr. Sheela Nambiar

WHO recommendations for Physical exercise states:

Adults aged 18-64 years should do at least 150-300 minutes of moderate-intensity aerobic physical activity or at least 75-150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week

They should also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional health benefits.



Exercise is one of the most researched modalities that benefit health & longevity with a minimum risk (provided one trains sensibly). Early in my career as an Obgyn, recognizing the lacunae in my ability to advice my patients on exercise due to my lack of knowledge about it, I decided to certify to be a Fitness Consultant, trainer and coach and started teaching fitness. I have now been teaching women of all ages on how to exercise for over two decades. I've taught a variety of forms of fitness from aerobic and stepper classes, yoga and strength training. I have found that the Strength training classes saw the biggest changes both in physique and mindset. However, strength or resistance training is not the most popular class for women.

There are several key benefits of including strength training into your fitness routine. While it's true that women enjoy dance based aerobic training, strength training when taught the right way and included into a well-rounded fitness routine can have enormous benefits that cannot achieved by cardio alone. It can also be enjoyable, empowering and certainly benefit appearance. Gender stereotypes are the primary reason most women shy away from strength training. It is commonly believed that men need to be strong and muscular, but these are not viewed as a positive trait for women in most cultures like ours.

The most frequently observed barriers for women are the stigma of 'masculine/muscular' appearance, discouragement from family or friends, lack of social support, lack of knowledge, discouragement from trainers themselves who often encourage women to focus only on cardio, lack of time, boredom, lack of proper supervision and poor accessibility to a good gym. Men tend to be more likely drawn to strength training, (sometimes ignoring other aspects of fitness, cardiovascular exercise & flexibility).

All the Pillars of fitness - Strength, Cardiovascular endurance, Flexibility and Body composition are important for a holistic fitness routine.

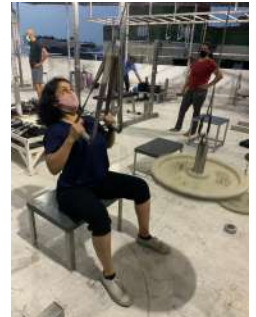
Importance of muscle:

- Muscle is one the most important organs of longevity and health and we need to protect and preserve it using resistance training

Strength training is not just about building impressive muscles!!

Besides acting as a principle reservoir for amino acids for vital tissues in the absence of amino acid absorption from the gut, it is important for recovery from chronic illness (cardiac disease & even cancer).

Studies have shown that muscle mass is an independent predictor of longevity and amount of muscle you carry relative to body height is inversely associated with all-cause mortality in older adults



- Muscle strength and functionality is **associated with cognitive function**. It was found that the higher the functionality and quality of muscle, the better the cognition in a study by Kristi et al.
- Muscle-strengthening exercises **lower risk of all-cause mortality**, cardiovascular disease (CVD), total cancer, diabetes and lung cancer.
- *Resistance training assists in the **prevention and management of Type 2 Diabetes** by decreasing visceral fat and inflammatory markers, increasing the density of GLUT4, and improving insulin sensitivity*
- One of the most interesting benefits of regular strength training is the reduction in body fat as a result of an **increase basal metabolic rate** when you start to build muscle. It goes without saying that nutrition plays an important role. The right diet, with enough protein intake while staying within your recommended energy balance will help with body re-composition, that is, losing fat and gaining muscle making you appear leaner and stronger.
- Contraction of muscle releases a host of neurochemicals and hormones including Myokines which have been called the "hope molecules". Hope molecules cross the blood-brain barrier and can **positively impact mental health** by increasing optimism and hope, increasing resilience to trauma and stress and reducing signs of depression.
- The other benefits of strength training include **a decrease in blood pressure, improvement in blood lipid profiles**, increase in muscle quantity and quality and connective tissue cross-sectional area, improved functional capacity of the muscle thereby improving physical movement and athletic performance, **improves bone mineral density, stimulates neuroplasticity in the brain, improving memory, executive function and cognition. Improves mood, reduces stress and inflammatory markers.**

You move better, you look better, you are stronger, more confident and positive!!

Building muscle prevents the loss of lean body mass or sarcopenia that typically accompanies ageing unless we deliberately train our muscles against resistance. Sarcopenia, or the decline of skeletal muscle tissue with age, is one of the most important causes of functional decline and loss of independence in older adults. Sarcopenia starts to appear in our 40s. **Loss of muscle mass is predictive of a shorter lifespan, and worse recovery after injury or surgery. Frailty of old age, with decline in muscle mass sets one up for falls and injury which is the most common cause of morbidity and mortality in older individuals.**

Strength training is not just about building impressive muscles!!

Strength training is a great way **to address muscle imbalances** which are often the cause of low back pain or poor posture for instance. It could be tight chest muscles and weak back or the rotator cuff muscles of the shoulders leading to rounded/drooping shoulders. Or, it could be weak hamstrings and over-compensated quads that can lead to knee, hip & back pain. These imbalances can be rectified using the right strength training protocol in combination with stretching.

Most often BMI is used to identify overweight/obesity. BMI which takes into account only the height and total weight of the person, does not consider the amount of lean body mass or fat% that one is carrying. To identify this, the gold standard is of course the DEXA scan. Machines using bioelectrical impedance that are now available in most health centers, although not highly accurate, is good enough to track your fat% and lean body mass when you train.

The objective of exercise should be to lose visceral fat and good quality build muscle.

Are fat loss and muscle gain mutually exclusive?

Not!!- if the training strategy and nutrition favor body re-composition. *Preserving muscle mass (if not building it) is important even for overweight/obese individuals.* Strength training should be part of a fitness routine irrespective of age or size. *'Thin' individuals who want to "gain weight" should ideally be looking at building muscle not just gaining weight on the scale.* Patients with Lean PCOS, for instance, will benefit from Strength training for their exercise.

How do you start Resistance training?

Traditional RT is one of the safest forms of exercise. What I mean by traditional RT is the old-fashioned strength training routine (used by body-builders), of performing multiple sets of different exercises for various muscles or muscle groups at varying repetitions depending on fitness and strength levels. You could for instance do 3 sets of 8-10 repetitions each of different exercises. The exercises should address all the body parts.

While exercising its important to pay attention to the instructions for every exercise. There are ways in which one could injure oneself if the exercise is not performed correctly. When done repeatedly, these instructions get internalized in a way that you perform the exercise correctly by default.

Basic exercises using the larger muscles of the body like the squat, alternate lunge, shoulder-press, chest press, bent-over rowing, deadlift abdominal and core exercises can be a starting point. Exercises for the smaller muscles like the biceps, triceps, calves and forearms should be included. There are hundreds of exercises that you could explore as you get fitter. RT is far from boring as some may like to think. The same exercise can be modified to different fitness levels.

Many people prefer to work with a trainer to be individually guided or join a group class to stay motivated. *Being guided properly is mandatory if you want to prevent injury.*

Strength training is not just about building impressive muscles!!

The basic principle of Strength Training is the **Overload principle**, which means that to continue to stimulate a muscle you need to challenge it. This would mean that you should gradually increase the intensity of your exercise (usually by increasing the weight lifted) for the muscles to continue to grow in strength and/or size. How quickly you increase the weight used will depend on individualization and your goals.

✓ Understand the myriad benefits of strength training - Prioritization.

✓ Dispel myths about 'bulking'!

✓ Rethink - Traditional recommendation of 'lots of cardio' alone is not sufficient.

✓ Recognize that Strength training improves confidence in one's own body, preventing fear of falling/losing balance.

✓ Understand that RT improves 'body-intelligence' and 'body awareness'.

✓ Defocus from weight scale and BMI alone to Body re-compositon.

Muscle is the most underestimated endocrine organ in the body. Its function is not limited to mobility and physical appearance but as the research grows, we understand its importance in mental health, prevention of chronic disease, recovery from illness, mortality and quality of life.

In my second book, 'Gain To Lose', I explore Strength training and its various benefits.

References

- i) Kraemer WJ, Ratamess NA, French DN. Resistance training for health and performance. *Curr Sports Med Rep*. 2002 Jun;1(3):165-71. doi: 10.1249/00149619-200206000-00007. PMID: 12831709.
- ii) Vasudevan, A, Ford, E. Motivational Factors and Barriers Towards Initiating and Maintaining Strength Training in Women: a Systematic Review and Meta-synthesis. *Prev Sci* 23, 674-695 (2022). <https://doi.org/10.1007/s11121-021-01328-2>
- iii) Ten Hoor, G.A., Kok, G., Peters, G.J.Y. et al. The Psychological Effects of Strength Exercises in People who are Overweight or Obese: A Systematic Review. *Sports Med* 47, 2069-2081 (2017)
- iv) Serafim TT, de Oliveira ES, Maffulli N, Migliorini F, Okubo R. Which resistance training is safest to practice? A systematic review. *J Orthop Surg Res*. 2023 Apr 12;18(1):296. doi: 10.1186/s13018-023-03781-x. PMID: 37046275; PMCID: PMC10099898.
- v) Srikanthan P, Karlamangla AS. Muscle mass index as a predictor of longevity in older adults. *Am J Med*. 2014 Jun;127(6):547-53. doi: 10.1016/j.amjmed.2014.02.007. Epub 2014 Feb 18. PMID: 24561114; PMCID: PMC4035379.
- vi) Metter EJ, Talbot LA, Schragger M, Conwit R. Skeletal muscle strength as a predictor of all-cause mortality in healthy men. *J Gerontol A Biol Sci Med Sci*. 2002 Oct;57(10):B359-65. doi: 10.1093/gerona/57.10.b359. PMID: 12242311.

Strength training is not just about building impressive muscles

References (contd)

vii)Storoschuk, KL, Gharios, R, Potter, GDM, Galpin, AJ, House, BT, Wood, TR. Strength and multiple types of physical activity predict cognitive function independent of low muscle mass in NHANES 1999-2002. Lifestyle Medicine. 2023;e90.

viii) Strasser B, Pesta D. Resistance training for diabetes prevention and therapy: experimental findings and molecular mechanisms. Biomed Res Int. 2013;2013:805217. doi: 10.1155/2013/805217. Epub 2013 Dec 22. PMID: 24455726; PMCID: PMC3881442.

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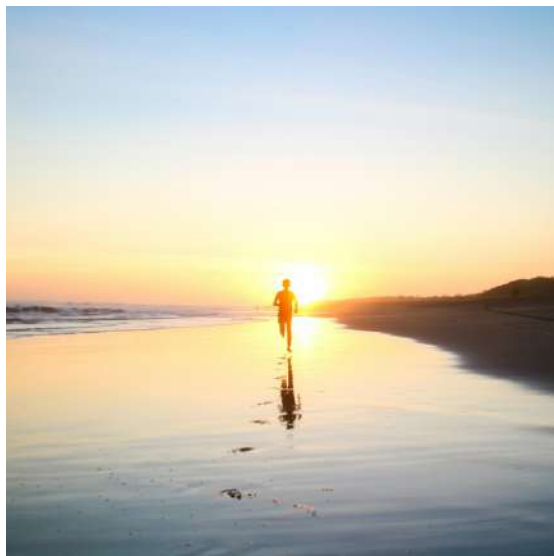
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Unlocking the Essentials of Vitamin B12: Importance, Requirements, and Supplementation

Dr. Lakshmi Sundar

Vitamin B12, also known as cobalamin, is a vital water-soluble nutrient essential for several critical bodily functions. It plays a pivotal role in the development of the central nervous system, red blood cell formation, DNA synthesis, and maintaining homocysteine balance. This vitamin exists in various forms, with the active ones being methyl cobalamin and 5-deoxyadenosylcobalamin, and the inactive forms being hydroxocobalamin and cyanocobalamin. Understanding the importance of vitamin B12, its dietary sources, requirements for different age groups, and the necessity for supplementation under specific circumstances is crucial for maintaining overall health. (1)

Importance of Vitamin B12

*Vitamin B12 is involved in a range of vital functions within the body: i) **Central Nervous System Development:** B12 is essential for the development and myelination of the central nervous system, making it crucial for normal brain and nerve function; ii) **Red Blood Cell Formation:** B12 plays a significant role in the production of red blood cells. A deficiency can lead to anaemia, characterized by fatigue and weakness; iii) **DNA Synthesis:** It is essential for DNA synthesis, contributing to the replication and repair of genetic material within cells; iv) **Homocysteine Balance:** B12 helps in converting homocysteine, an amino acid, into methionine, which is crucial for numerous biochemical reactions. Elevated homocysteine levels are associated with an increased risk of cardiovascular diseases.*

The recommended daily intake of vitamin B12 varies according to age and life stage (Table 1)

Table 1: Recommended daily intake of Vitamin B12

Age group	RDI (mcg)
Birth to 6 months	0.4
Infants 7-12 months	0.5
Children 1-3 years	0.9
Children 4-8 years	1.2
Children 9-13 years	1.8
Teens 14-18 years	2.4
Adults	2.4
Pregnant teens and women	2.6
Breastfeeding teens and women	2.8

Unlocking the Essentials of Vitamin B12: Importance, Requirements, and Supplementation

Dietary Sources

For healthy adults on a non-vegetarian diet, obtaining the recommended daily intake of vitamin B12 from food is typically achievable. Common dietary sources of B12 are depicted in Table 2.

Table2: Dietary sources of Vitamin B12

Food	Microgram/serving	% DV
Beef liver, cooked, pan-fried, 3 ounces	70.7	2,994
Nutritional yeast, fortified, from several brands (check label), about ¼ cup	8.3 to 24	346 to 1,000
Salmon, Atlantic, cooked, 3 ounces	2.6	108
Tuna, light, canned in water, 3 ounces	2.5	104
Beef, ground, 85% lean meat/15% fat, pan-browned, 3 ounces	2.4	100
Milk, 2% milkfat, 1 cup	1.3	54
Yogurt, plain, fat free, 6-ounce container	1.0	43
Cheese, cheddar, 1½ ounces	0.5	19
Egg, whole, cooked, 1 large	0.5	19
Turkey, breast meat, roasted, 3 ounces	0.3	14
Breakfast cereals, fortified with 25% of the DV for vitamin B12, 1 serving	0.6	25
Tempeh, 1/2 cup	0.1	3
Banana, 1 medium	0.0	0
Bread, whole-wheat, 1 slice	0.0	0
Strawberries, raw, halved, 1/2 cup	0.0	0
Beans, kidney, boiled, 1/2 cup	0.0	0
Spinach, boiled, drained, 1/2 cup	0.0	0

However, for individuals following strict vegetarian diets or vegans, supplementation with B12 is often necessary (2), as plant-based foods are generally poor sources of this essential vitamin (Table 2). It's important to note that B12 can be stored in the body, so it can take months to years before a deficiency becomes biochemically evident.

Factors Affecting Absorption

Several medical conditions and medications can hinder the absorption of B12: i) *Atrophic Gastritis*: This condition, which can be autoimmune or caused by *H. pylori* infection, results in reduced secretion of hydrochloric acid and a lack of intrinsic factor, both of which are essential for B12 absorption; ii) *Bacterial Overgrowth Syndrome*: Individuals with bacterial overgrowth in the small intestine may have megaloblastic anemia due to B12 deficiency. B12 binds to bacteria in the gut, making it unavailable for absorption (3); iii) *Lack of Acid in the Stomach*: Adequate stomach acid is necessary to release B12 from food for absorption; iv) *Metformin Use*: Metformin, a medication commonly used to manage diabetes, has been associated with lower B12 levels. The prevalence of B12 deficiency in Metformin users varies based on factors such as the dose of Metformin and the individual's race. An increase in dose of Metformin by 1mg/day reduces the level of B12 by 0.147pg/ml. (4)

Vitamin B12 Supplementation for Special Cases

Bacterial Overgrowth Syndrome: Management of bacterial overgrowth syndrome typically involves antibiotics to address the overgrowth, correction of nutritional deficiencies, especially B12, and probiotics.(5). Large doses of B12 like 1000-2000 mcg per day for 2 weeks or more based on initial values has shown improvement in serum B12 levels and anemia (6)

Patients with Diabetes on Metformin: Individuals taking Metformin, especially at doses larger than 1500mg/day, should consider B12 supplementation due to the risk of deficiency associated with this medication.

Atrophic Gastritis: For those with atrophic gastritis, parenteral replacement of intramuscular cyanocobalamin is often necessary. This involves a high dose of B12 administered daily for a week, followed by weekly injections for 4-8 weeks, and thereafter, monthly for life. (7)

Bariatric Surgery: Patients who undergo certain types of bariatric surgery, such as Roux-en-Y gastric bypass, are more likely to develop severe B12 deficiency. In such cases, intramuscular cyanocobalamin is the gold standard of treatment. Individuals with restrictive procedures may manage with oral B12 supplementation. (8)

Terminal Ileal Resection: Those who have had more than 60cm of terminal ileum resected are at a higher risk of B12 malabsorption, and intramuscular injections may be required every 1-3 months. (9) Once the levels of B12 are in the low normal range, intramuscular injections may be required every 1-3 months (10)

Cyanocobalamin vs. Methylcobalamin

Vitamin B12 supplementation is not only essential in disease states but also for people with limited B12 intake through their diet. Two forms of B12 are available: the active form, methylcobalamin, and the inactive form, cyanocobalamin. Interestingly, both forms need to be converted into active forms before the body can use them.

Measurements of holotranscobalamin levels following supplementation have shown that levels are better with cyanocobalamin

Conclusion

Vitamin B12 is a critical nutrient that plays an integral role in various bodily functions, including central nervous system development, red blood cell formation, DNA synthesis, and homocysteine balance. While many individuals can obtain their daily B12 requirements from dietary sources, special cases, such as those with medical conditions or individuals on specific medications, may require supplementation. It is essential to be aware of the sources, requirements, and factors affecting B12 absorption to ensure optimal health and well-being. Whether you're a healthcare professional or someone looking to maintain their health, understanding the intricacies of vitamin B12 is essential for promoting overall wellness.

References:

1. <https://ods.od.nih.gov/factsheets/VitaminB12-HealthProfessional/>
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10030528/>
3. <https://www.sciencedirect.com/topics/medicine-and-dentistry/bacterial-overgrowth#:~:text=Small%20bowel%20bacterial%20overgrowth%20can,vitamin%20in%20the%20distal%20ileum>
4. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6867725/>
5. <https://onlinelibrary.wiley.com/doi/full/10.1111/apt.12456>
6. <https://www.aafp.org/pubs/afp/issues/2003/0301/p979.html>
7. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6867725/>
8. <https://pubmed.ncbi.nlm.nih.gov/24091055/>
9. <https://europepmc.org/article/med/890622>
10. (<http://depts.washington.edu/growing/Assess/SBS.htm>)

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Plant based eating patterns: the spectrum and the pitfalls

Pooja Manoj

Plant-predominant eating patterns are diets that focus on plant-based foods, including fruits, vegetables, whole grains, legumes, nuts, and seeds. These diets includes a spectrum of plant-centric diet patterns as follows: i) **Vegan diet**: A vegan diet is a plant-based diet that excludes all animal products, including meat, dairy, and eggs; ii) **Vegetarian diet**: A vegetarian diet is a plant-based diet that excludes meat but may include dairy and eggs; iii) **Flexitarian diet**: A flexitarian diet is a plant-based diet that allows for occasional consumption of meat and animal products; iv) **Mediterranean diet**: A Mediterranean diet is a plant-based diet that emphasizes fruits, vegetables, whole grains, legumes, nuts, and seeds. It also includes fish and seafood as well as moderate amounts of dairy and poultry; v) **Low fat diet**: A plant-based diet that emphasizes whole, minimally processed foods such as fruits, vegetables, whole grains, legumes, nuts, and seeds. It excludes added sugars, refined grains, and unhealthy fats ; vi) **Very low fat diet**: A plant-based diet that emphasizes whole, minimally processed foods such as fruits, vegetables, whole grains & legumes. It excludes added sugars, refined grains, fats & oil, avoids nuts & seeds too to keep the total fat low. Eg- Ornish, Esselstyn, McDougal, Pritikin, PCRM diet; v) **Raw food diet**: A raw food diet is a plant-based diet that emphasizes raw or minimally cooked fruits, vegetables, nuts, and seeds.

The distinction between "vegan" and "whole foods plant-based" is important because a vegan diet isn't necessarily a high-quality diet. Meals which contain refined grains, sugary beverages, added sugars, excessive fats, and hyperprocessed vegan meat and dairy substitutes can still be vegan but not healthful. A WFPB diet is high in quality. It is designed to optimize health, as it is consistent with an extensive body of research showing that healthful, properly planned plant-based diets are associated with reduced risk of mortality, CVD, type 2 diabetes, certain cancers, hypertension, hypercholesterolemia, and obesity.

Some of the **plant predominant diets specifically designed for various medical conditions** are as follows:

The DASH (Dietary Approaches to Stop Hypertension) diet is a dietary pattern that is designed to help lower blood pressure and improve overall health. The diet emphasizes fruits, vegetables, whole grains, lean protein, and low-fat dairy products while limiting the intake of saturated and trans fats, added sugars, and sodium. This diet is rich in nutrients such as potassium, calcium, magnesium and fiber which are known to help lower blood pressure & also reduces the risk of heart disease.

The Portfolio diet is a dietary pattern that is designed to help lower cholesterol levels and reduce the risk of heart disease & stroke. The diet emphasizes the consumption of fruits, vegetables, whole grains, legumes, nuts, and soy products.

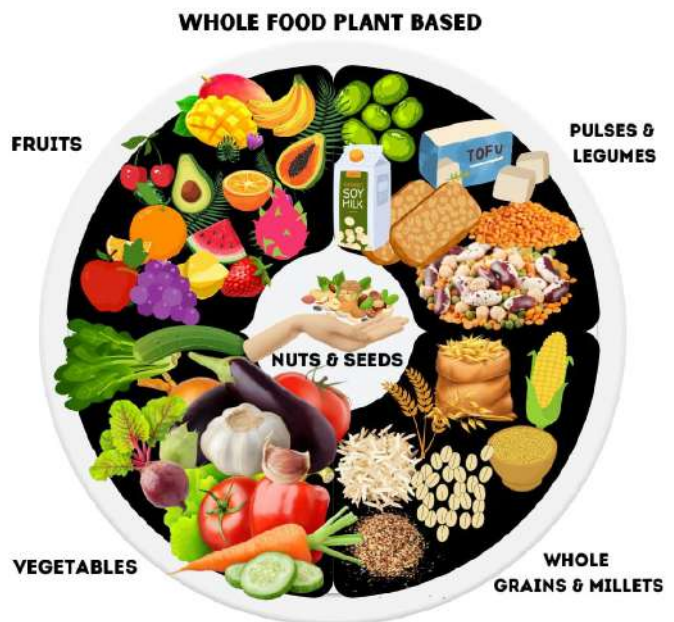
The diet also includes specific cholesterol-lowering foods such as oats, barley, psyllium husk, nuts, and soy protein in whole form.

Plant based eating patterns: the spectrum and the pitfalls

This diet has been shown to be effective in reducing LDL cholesterol levels by up to 30%. The Portfolio diet was compared to a low-saturated fat diet and a statin in a head-to-head trial. The study found that the *Portfolio diet was more effective in reducing LDL cholesterol levels than the low-saturated fat diet and was equally effective as the statin.*

The **MIND (Mediterranean-DASH Intervention for Neurodegenerative Delay)** diet is a dietary pattern that is designed to help reduce the risk of Alzheimer's disease and improve cognitive function & reduced risk of heart disease & stroke. The diet emphasizes the consumption of fruits, vegetables, whole grains, legumes, and nuts, as well as fish and poultry. It also includes specific brain-healthy foods such as **berries, leafy greens, and nuts.** The MIND diet has been shown to be effective in reducing the risk of Alzheimer's disease by up to 53% in those who adhered to the diet rigorously and by up to 35% in those who followed it moderately.

A low-fat plant-based diet is a dietary pattern that is rich in whole, minimally processed plant foods such as fruits, vegetables, whole grains, legumes, nuts, and seeds. This diet avoids added sugars, refined grains, and unhealthy fats. Research has shown that a low-fat plant-based diet can be effective in managing type 2 diabetes by improving insulin sensitivity and reducing the risk of heart disease. The diet has also been associated with weight loss and improved glycemic control. The Physicians Committee for Responsible Medicine recommends a low-fat plant-based diet for the management of type 2 diabetes



The **Fasting Mimicking Diet (FMD)** is a dietary pattern that is designed to mimic the effects of fasting while still allowing for the consumption of food. The diet involves consuming a low-calorie, low-protein, and high-fat diet for a period of 5 days each month. The diet is designed to promote cellular regeneration and rejuvenation, which can have a range of health benefits.

Pitfalls of plant based eating patterns

Nutrients of Concern

Although a WFPB diet is high in quality certain nutrients are viewed with skepticism traditionally. These nutrients are discussed in the subsequent text.

Plant based eating patterns: the spectrum and the pitfalls

Protein

A [vegetarian diet](#) or a vegan diet can easily meet human dietary protein requirements as long as energy needs are met and a variety of foods are eaten. Vegetarians should obtain protein from a variety of plant sources, including legumes, soy products, grains, nuts and seeds.

There is no need to consciously combine different plant proteins at each meal as long as a variety of foods are eaten from day to day, because the human body maintains a pool of amino acids which can be used to complement dietary protein. Plant proteins may provide a better "protein package" compared with animal proteins. While animal proteins may include high levels of saturated fat, plant proteins contain fiber, heart-healthy fats, vitamins, minerals, and phytochemicals. This may be one reason why vegetarians and vegans experience lower rates of chronic disease



Grains: Image courtesy Smart foods



Pulses-image courtesy Krishak Jagat

[Vegans](#) may require a slightly higher daily protein intake due to the slight decrease in the digestibility of plant proteins compared with animal proteins. These estimates may vary, but [studies show that](#) 1 to 1.1 g/kg of protein may be an appropriate level to compensate for reduced digestibility. Also adults [older than 60](#) may benefit, in terms of optimal muscle and bone mass, from slightly higher intakes of protein than those currently recommended in the DRI, perhaps 1 to 1.3 g/kg/day.

Excessive protein consumption can lead to an increased production of inflammatory metabolites by the intestinal microbiota, and the consumption of saturated fats (found mainly in foods of animal origin) is capable of activating Toll-like receptors in immune system cells. This stimulates the production of proinflammatory cytokines, and all these factors together can create a cancer-promoting environment. Prioritizing the consumption of proteins from animal sources could have a negative impact on one's life expectancy. The profile of the amino acids found in these foods, with a higher content of methionine and branched-chain amino acids, leads to greater stimulation of IGF-1 and mTOR, in addition to greater cell proliferation. This contributes to the cellular senescence process and, consequently, to aging.

Omega 3 fatty acids

There are 3 main omega-3 fatty acids. The short chain omega-3 fatty acid alpha linolenic acid (ALA) and the two long chain omega 3 fatty acids - DHA (Docosahexaenoic acid) and EPA (Eicosapentaenoic acid)

Plant based eating patterns: the spectrum and the pitfalls

ALA can be found in plants. DHA and EPA is usually obtained from fish, although fish obtain it from marine algae. The body can convert ALA to DHA/EPA but the rate of conversion varies and may reduce with age and can differ between individuals based on gender, genetic factors and the overall composition of the diet.

ALA is readily available in a wide variety of plant foods. Sources include walnuts, flaxseeds, chia seeds, hemp seeds, edamame, seaweed, canola oil, mustard, soyabean & flaxseed oil, algae & some herbs & spices. Other green leafy vegetables and beans also contain small amounts.

To meet daily requirements of 2-4 grams of ALA per day a tablespoon of chia seeds or ground flaxseeds (linseeds), two tablespoons of hemp seeds or six walnut halves will be sufficient

There are many vegan DHA supplements made from seaweed, and some include EPA. While the need for vegans to supplement with DHA is debatable, it's more clear that [vegans meeting ALA requirements](#) shouldn't need to supplement with EPA.

Vegetarians and vegans already have about a [one-quarter lower](#) risk of heart disease than regular meat-eaters and on average have lower triglyceride levels; it's not clear that EPA or DHA supplementation will further reduce their risk.

Vitamin B12

Vitamin B12 intake is a significant nutritional concern for vegetarians and vegans, as it's generally found only in animal foods. However, it should be pointed out that vitamin B12 is produced by micro-organisms in soil, not by animals. Humans can obtain their recommended dose either by taking a supplement or via foods fortified with B12. Research suggests that vegetarians, and especially vegans, may have [inadequate levels](#) of vitamin B12. Vegetarians obtain vitamin B12 from dairy foods and eggs, but vegans don't.

Exclusively breast-fed infants of vegan mothers with limited Vitamin B12 reserves can have [severe](#) neurological damage, failure to thrive, developmental delays, and anemia as breast milk of vegan mothers have small amounts and only limited amounts of vitamin B12 crosses the placenta in these women during fetal development.

In a 2013 review of the literature on vitamin B12 status in vegetarians and vegans, scientists found that vegetarians develop vitamin B12 depletion or deficiency regardless of demographics, place of residency, age, or type of vegetarian diet. Regardless of dietary preference, the NIH recommends that all adults older than 50 must obtain most of their B12 through supplements and fortified foods due to impaired absorption that occurs during aging.

Foods such as nutritional yeasts, breakfast cereals, and plant milks can be fortified with vitamin B12, but a regular, consistent supply should be included in the diet. Vitamin B12 and other B vitamins are involved in homocysteine metabolism, and it has been hypothesized that supplementation with these micronutrients can reduce CVD risk by lowering homocysteine levels. However, RCTs have found that vitamin B12 (and folic acid) supplements lower [homocysteine](#) levels, but not CVD risk. Also, it has been found that if the folic acid intake is high through fortified foods, it can mask the presence of vitamin B12 [deficiency](#).

Calcium: The RDA for calcium for adults is 1,000 mg per day. It is practically impossible to meet these recommendations without a properly planned vegan diet or without large amounts of dairy, calcium-fortified foods, or supplements. Because vegans don't consume dairy products, without fortified foods or supplements, their [calcium intakes](#) tend to be low (about 400-600 mg per day).

Some of the plant-based calcium rich sources are- red & green amaranthus, fenugreek leaves, agathi greens, curry, mint, parsley leaves, green & moth beans, ragi & other millets, horse gram, bengal gram, green gram, rajma, almonds, quinoa, chia seeds, flaxseeds, sesame seeds, poppy seeds, coriander seeds, fennel seeds, soyabean, tofu, figs.

[Calcium](#) in bones tends to dissolve into the bloodstream, then pass through the kidneys into the urine. Sodium (salt) in the foods can greatly increase calcium loss through the kidneys. If sodium intake is reduced to 1 to 2 grams per day, calcium retention is better.

Vitamin D : Vitamin D is important for bones because it can increase calcium absorption when the body signals that it needs calcium. Without Vitamin D only 10-15% of calcium is absorbed. Increasing vitamin D intake has been shown to reduce fracture risk.

In fact, while calcium in dairy products alone may not directly strengthen bones, increasing intake of [vitamin D](#) has been shown to reduce fracture risk up to 26%. Cow's milk is not a natural source of vitamin D, as it is added after production, and plant-based milks are fortified with comparable amounts. About 15 minutes of sunlight on the skin each day normally produces all the vitamin D one needs. If there is no sun exposure, one can get vitamin D from a supplement or fortified foods.

The recommended dietary allowance is 600 IU (15 micrograms) per day. White button mushrooms, when placed in the midday sun for 15-20 minutes, would form enough vitamin D to provide more than 10mcg per [100g of fresh mushroom](#), which would give the recommended daily dose of vitamin D. There are two forms of supplemental vitamin D: ergocalciferol (D2) and cholecalciferol (D3). Vitamin D2 is always vegan, made from exposing fungi to UV rays. Vitamin D3 normally comes from fish oil or sheep's wool, but a vegan version is also available.

Iron: The iron in plants (fruits, vegetables, grains, nuts) is less well absorbed than heme iron. Plant based diets contain only non-heme iron, therefore it is important to be aware of foods that are high in iron and techniques that can promote iron absorption. However, [surveys of vegans](#) have found that iron deficiency anemia is [no more common](#) among vegetarians than among the general population although vegans tend to have lower iron stores.

Adding a vitamin C source to a meal increases non-heme iron absorption up to six-fold which makes the absorption of non-heme iron as good or better than that of heme iron. Both calcium and tannins (found in tea and coffee) reduce iron absorption. Tea, coffee, and calcium supplements should be used several hours before a meal that is high in iron.

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Ingredients

For filling

Finely chopped carrot -2
Finely chopped beans- 1/2 cup
Finely cut capsicum- 1/2 cup
Soya chunks boiled and
mashed coarsely- 1 cup
Grated ginger- 1/2 tablespoon
Grated garlic- 1/2 tablespoon
Salt and chilli powder to taste

For dough


Wheat flour- 2 cups
Salt- ½ tsp
Water – as required



Recipe by
Dr. Suvetha Kannappan



Momos Treat

 3 -4 servings  30 minutes

Method

- In a thick bottom kadai, add the cut vegetables and soya chunks with grated ginger and garlic and cook for sometime
- Open the lid and add salt and chilli powder (optional) and saute.
- Switch off the stove and keep the cooked vegetables aside
- The vegetable stuffing is ready
- Knead the wheat flour with water and little salt to chapati dough consistency
- Make small balls from the dough
- Roll the balls into a thin circle of 3 Or 4 inches
- Add two teaspoons of vegetable filling in the center
- Lift the edges and start pleating the momos
- Join together at the center
- In a idli cooker steam for 6 -7 minutes.
- Yummy healthy Momos ready
- Serve hot



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Abstracts of scientific papers



Conference Registration ID 050037
Abstract Registration ID ISLM2023/1687776642

Abstract Serial ID: 4
Sub-theme: Others

Title : Myths regarding menstrual related practices and hygiene among adolescent girls from Private, Public (Government) and Ashram schools of Amravati District.

Authors : Dr. P.V. Kale, Dr. P.A. Warbhe, Dr. A.K. Jawarkar

Introduction: Adolescence in girls has been recognized as a special period which signifies the transition from girlhood to womanhood. Menstruation is a phenomenon unique to girls. Beginning of the menstrual cycle brings in physiological change in the life of the adolescent girls. However, in India majority of the adolescent girls are ignorant of these changes and lack scientific knowledge of menstruation. This is because this topic is shrouded in secrecy. Menstruation has always been surrounded by taboos and myths that exclude women from many aspects of socio-cultural life. Good hygienic practices such as the use of sanitary pads and adequate washing of the genital area are essential during menstruation.

Methods: Cross sectional, descriptive and comparative study was carried out in randomly selected Private, Government and Tribal schools of Amravati district.

Results: Total 450 adolescent girls from Government, Private and Tribal schools participated in the study. School absenteeism was seen in 78.7% of ashram school girls due to shyness. 92% of the girls from ashram school were restricted from entering into the kitchen during menstruation as compared to private and public schools (30.7 and 12.7% respectively). 87.3% of girls from ashram school were asked to stay isolated and avoid touch during menstruation.

Conclusion: It is necessary to improve knowledge of girls on menstruation, so that their education is not affected and they are able to avail all the opportunities for their better future. The finding of the study shows that there exist religious and cultural beliefs among the school girls. These beliefs if not addressed at this stage, would be carried to another generation. Because of the prevailing myths, girls are deprived of their basic fundamental rights. There is a need to talk to these adolescents and their parents and guardians so that they do not face any challenges in achieving full growth and development. To improve the maternal health is one of the Millennium Developmental Goal, so it can be achieved by increasing awareness regarding menstrual hygiene in adolescent life of girls which will eventually help to reduce the child mortality and morbidity to achieve one more Goal and this intervention may have the potential to result in substantial savings for the nation.

Keywords: Reproductive health, Lifestyle, Menstrual related practices, Myths, Hygiene, Adolescent girls, Tribal schools

Conference Registration ID 050070
Abstract Registration ID ISLM2023/1689162102

Abstract Serial ID: 5
Sub-theme: Physical activity

Title: Estimation of prevalence of metabolic syndrome among first year medical students at a medical college in south India.

Author :Dr. Ravi Ghatanatti

Introduction: Metabolic syndrome is a growing concern as it predisposes to cardiovascular comorbidities and type 2 diabetes mellitus. Medical students lead a relatively sedentary lifestyle. Early detection of metabolic syndrome and follow up would help in preventing complications. The study's objective was to determine the prevalence of metabolic syndrome in healthy medical students at a Medical College in South India and to compare the prevalence among male and female students.

Methods: A cross sectional observational study was conducted from January 2018 to July 2018 involving 120 students, 67 (55.83%) female and 53 male (44.17%). The study was conducted using the criteria for metabolic syndrome defined by the international diabetes federation. Data for height, weight, waist circumference, fasting blood glucose, serum cholesterol, serum triglycerides (TG), high density lipoprotein (HDL), and low density lipoprotein were collected. Data were analyzed using SSPS version 20.0. A comparison of physiological parameters was made using an independent t test, and prevalence was estimated using the Chi square test. $P < 0.05$ was considered statistically significant.

Results: Metabolic syndrome was observed in 13.33% (16) of the sample population. The prevalence among females (10) was found to be more than males (6) but not statistically significant ($P = 0.66$). The prevalence of various parameters in the study respondents was abdominal obesity (59.17%), raised TG (2.50%), reduced HDL (38.33%), increased blood pressure (BP) (systolic BP [SBP] - 20.83%, and diastolic BP - 28.33%), and raised blood glucose (5.83%). Regarding gender analysis, 46.27% of females and 28.30% of males had lower HDL values ($P = 0.04$). SBP was higher in 37.74% of males than in 7.46% of females ($P = 0.0001$).

Conclusion: The prevalence of metabolic syndrome was 13.33% among first-year medical students, more in females than males. 76.6% of students showed at least one risk factor for developing metabolic syndrome. Early detection and hence early prevention of the condition helps individuals to stay fit & healthy.



Conference Registration ID 050073
Abstract Registration ID ISLM2023/1689254300

Abstract Serial ID: 7
Sub-theme: Nutrition

Title : Knowledge, Attitude and practice of reading food labels among students of health profession education - an exploratory study

Authors : Dr. Sudha Ramalingam, PSGIMR.

Introduction: Food labels help consumers make healthier choices while shopping for food products. A single glance at the food label on the back of a product can drastically change unhealthy food consumption habits and perhaps can serve as a tool to prevent morbid non-communicable diseases. Students with health science majors are the country's future health care providers. Equipped with the knowledge of medicine and science, these students should ideally be practicing healthy food habits by regularly reading food labels on the back of packaged products. But whether they read food labels or not is a topic of interest. The aim of this study was to determine the knowledge, attitude and practice (KAP) of reading food labels among a group of health science students. The study also aims to address the probability of buying a packaged food item based on the front of the cover advertisements and marketing techniques used by companies.

Methods: The convenience sampling method was used to select students. 110 participated (mean age:19.3, females: 68.2%) in the initial phase of the study. A standardized questionnaire (similar to the one done by International Food Information Council Foundation in 2019) consisting of 13 questions was used.

Results: Almost all the students agreed that reading food labels is important (95.5%) but most of them only practiced this habit occasionally (Only 40% claimed to read labels regularly). However most students claimed to read food labels while buying a product for the first time (66.3%). Female students seemed to have a better understanding of the importance and practiced the habit of reading labels more often as compared to males (females: 94.6%, males: 91.4%). Only 26.3% claimed to almost always read food labels. While shopping for packaged food products, most students always looked for Date of manufacturing(83.6%), Price(76.3%), Brand or Company(74.5%) and product name(76.3%) as compared to Nutrient label (38.1%), photos on the front of the cover(54.5%) and ingredients(44.5%). This indicated the influence that companies have on buyers, including students in the health profession. It was found that taste(48.1%) and price(30%) have the most influence on students compared to other factors like health symbols(16.3%), convenience of packaging and environmental sustainability. While buying packaged food items a vast majority of students looked for Expiry date first(66.3%). Students with allergies read the nutrient label and ingredients more frequently than students without allergies. Most students used ingredients to tell if a food was healthy or not. Most students who read nutrition labels usually looked for Calorie(30.9%), Trans fat(23.6%), and Total sugar(13.6%) information. A significant negative correlation was found between students who were considered overweight (BMI > 25) and their lack of food label reading habits. The total KAP score was taken to be 116 and the optimum was considered as 80. 50.9% of students had a KAP score above 80.

(Conclusion on next page)

(Contd from previous page)

Title : Knowledge, Attitude and practice of reading food labels among students of health profession education - an exploratory study

Conclusion: Although health profession students had the knowledge of the importance of reading food labels, practice of the same was found to be relatively unsatisfactory and highly influenced by brands and companies. Lack of knowledge of food labels leads to unhealthy food habits amongst these students. Planned awareness programs and events are highly recommended and may prove to be beneficial.

Conference Registration ID 050069

Abstract Registration ID ISLM2023/1689342790

Abstract Serial ID: 9

Sub-theme: Physical activity

Title: Qualitative analysis of the Influence of Lifestyle on Home Exercise Program (HEP) adherence in clients with chronic musculoskeletal pain

Authors :Dr. Narasimman Swaminathan, Dr. D.C. Mathangi

Introduction: Chronic musculoskeletal pain affects a majority of the population globally. The line of management includes medications and lifestyle modifications inclusive of physical activity. This qualitative study explored the factors influencing adherence among clients with chronic musculoskeletal pain to a prescribed Home Exercise Program (HEP).

Methods: The study was approved by the Institutional Ethics Committee (IEC). Clients were recruited from the Physiotherapy OPD of a tertiary care hospital. As a part of this qualitative study, clients who consented to participate were interviewed on a one-on-one basis, to explore and understand their experiences and opinions of performing the exercises prescribed in the HEP, as a part of their lifestyle modification. The responses were audio recorded, transcribed. The transcripts were qualitatively analyzed by the thematic analysis approach, to explore upon the emerging themes.

Results: The influencers of exercise adherence fell under four major domains of purpose for adherence, influencing factors, facilitators, and barriers. Each of these domains had multiple sub-domains, mapping the explored factors.

Conclusion: Exercise adherence as a component of lifestyle modification among clients is chiefly influenced by factors that pertain to the individual themselves (their biopsychosocial self), their interactions with the physiotherapist and the prescribed exercises. These findings shall facilitate the Health Care Professionals involved with the clients to better prescribe exercises, improve rates of adherence and provide health & wellness coaching as appropriate, to make physical activity a non-negotiable component of the clients' lifestyle.

Keywords: HEP, exercise adherence, physiotherapy, chronic musculoskeletal pain

Conference Registration ID 050050
Abstract Registration ID ISLM2023/1689395863

Abstract Serial ID: 10
Sub-theme: Digital health

Title : Impact of Lifestyle Medicine on Type 2 Diabetes Remission in Indian population

Authors : Dr.Pramod Tripathi, Dr.Nidhi Kadam, Dr.Thejas Kathrikolly.

Introduction: Numerous studies have reported Type 2 diabetes (T2D) remission. However, evidence is scarce on large-scale cohort studies, particularly from India that investigate the effectiveness of lifestyle intervention on T2D remission. Considering that the Asian Indian phenotype is uniquely associated with central obesity and thus predisposed to a higher risk of T2D, this study aimed to evaluate the impact of a one-year lifestyle modification program- Holistic Transformation Program (HTP) on T2D remission in Indian population.

Methods: This study was carried out at Freedom from Diabetes clinic, Pune from April to December 2021 among patients diagnosed with T2D. The one-year intervention comprised of four protocols: individualized plant-based diet, physical activity, psychological intervention and medical management. Anthropometric and biochemical parameters were monitored with scheduled consults every three months. Post-intervention, remission was defined as HbA1c <6.5% (48mmol/mol) for a minimum of 3 months in the absence of pharmacotherapy.

Results: Out of 2763 patients, 837 (30.2%) attained remission with a significant decrease in median weight ($p < 0.05$). Remission rates as high as 70% was observed for > 50% decrease in absolute HbA1c. Remission was significantly associated with > 15 kg weight loss, intermittent fasting, diabetes duration of <10 years and normal Homeostatic Model Assessment of Insulin Resistance (HOMA-IR) values at endline ($p < 0.05$). We also observed higher rates of remission among drug naive patients (HbA1c > 48 mmol/mol at baseline) Regardless of medication status at baseline, improvement in HbA1c and weight loss were comparable between patients on external insulin and/or OHA ($p > 0.1$).

Conclusion: Our novel findings suggest that lifestyle medicine mediated by a holistic and customized lifestyle intervention has the potential to achieve T2D remission in Indian population. A follow-up of the intervention, currently underway, will provide further insights into the long-term effects of the intervention.



Conference Registration ID 050075
Abstract Registration ID ISLM2023/1689614341

Abstract Serial ID: 13
Sub-theme: Physical activity

Title : Role of physical activity and screen time in subjective well-being of adolescents - A Cross-sectional study

Authors : Dr. K.R.Pandiyar, Dr. V.C.Punitha. MMCH&RI.

Introduction: Due to the Covid 19 pandemic, the world entered into more of a virtual domain. The sudden transition from the physical to the online realm drastically decreased physical activity while increasing screen time in adolescents. Extensive studies have highlighted that increased screen time severely affects their physical health, but the impact on their subjective well-being is under- explored. Subjective well-being is the evaluation of the quality of a person's life from their own perspective. This study aims to explore the impact of physical activity and screen time on subjective well-being in adolescents.

Objectives: 1. To assess the prevalence of screen time and physical activity in adolescents; 2. To explore the association between physical activity and screen time with subjective well- being in adolescents.

Methods: A school-based cross-sectional study will be conducted in a private school in Kanchipuram, Tamil Nadu, with around 400 students between the age group of 11 - 17 years.

After obtaining informed & written consent from the parents of the students, data will be collected. Physical activity will be evaluated through Physical activity questionnaire [PAQ-A] and subjective well-being will be assessed by 2 components, i.e. cognitive - Life satisfaction through SWLS (satisfaction with life scale) and affective - Positive affect and negative affect by (PANAS C8). Screen time will be evaluated by seven in seven questionnaire to be filled up by the parents.

Results: Results can be finalized after the study.

Keywords: Physical activity, screen time, Subjective well-being, Adolescents.

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Conference Registration ID 050045
 Abstract Registration ID ISLM2023/1689670466

Abstract Serial ID: 14
 Sub-theme: Digital health

Title : Lifestyle Modification for Diabetes Management: Measurable Outcomes in a real-world setting

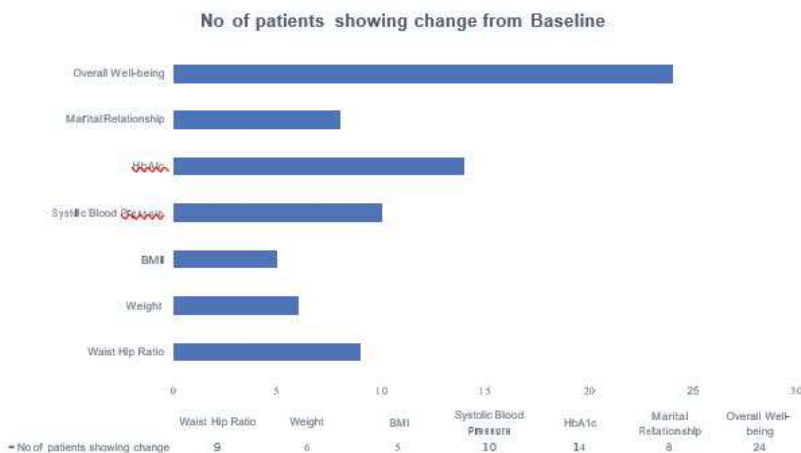
Authors : Dr. Suresh Purohit

Introduction: Diabetes is a chronic lifestyle disorder which is now being considered a part of a larger cluster - the Metabolic Syndrome where it co-exists with other comorbidities such as hypertension, dyslipidemia, obesity to name a few. While newer aetiologies are coming to light towards causation of diabetes, there are also newer advances happening in treatment modalities for diabetes. Lifestyle modification has evidently been the first ever step to apply in every patient diagnosed with diabetes.

Methods: Patients with mildly uncontrolled diabetes despite of taking OADs / Insulin with HbA1c ranging from 7.4% to 8.0% were enrolled within this project. These patients were then counselled about our specifically curated patient-centric lifestyle modification plan which has three arms - Diet / Exercise & Sleep. Patients were then evaluated directly after three months with their HbA1c levels, blood pressure and a qualitative survey about their well-being post the intervention.

Results: Out of 35 patients offered the plan, 25 patients agreed to and continued over till end of the study. Approximately 76% of the patients showed positive benefits post the intervention in the form of change in waist-hip ratio, weight, body mass index (BMI), systolic blood pressure, improved marital relationship and overall well-being. Around 56% of the patients reported a reduction in HbA1c.

Conclusion: Patients with diabetes are at an exponentially multiplied risk of developing several complications and co-existing comorbidities. Even minor sustainable changes in diet and sleep patterns, with some degree of physical activity suggested as per the individual patients can bring about visible and measurable changes in these patients that enable better glycaemic outcomes thus highlighting this tool has a significant place in diabetes armamentarium.



Conference Registration ID 224183631
 Abstract Registration ID ISLM2023/1689772314

Abstract Serial ID: 15
 Sub-theme: Digital health

Title : Understanding the influence of internet on self-medication practices among the residents of urban centres across India A Cross-Sectional

Authors : Shriram.S, Vaibhav Dilip Patil, Dr.Akash Gajanan Prabhune. IIHMR, Bangalore

Introduction: Self-medication is common globally, with a prevalence of 48.6%. In India, studies show a range of 8% to 92% and an average prevalence of 53%. The COVID-19 pandemic has exacerbated self-medication due to fear, misinformation, and limited healthcare access. The study aimed to investigate the internet's influence on self-medication and stratify it by acute and chronic conditions.

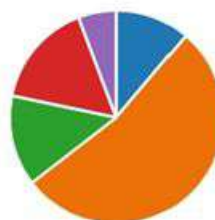
Methods: The study employed a cross-sectional design, utilizing an electronic questionnaire to collect data. A snowball sampling method was employed, initially reaching out to 10 eligible candidates on LinkedIn, who were then encouraged to refer 3 additional participants each. The sample consisted of 355 respondents from Ludhiana, Bangalore, and Chennai, over a period of 3 months. The inclusion criteria involved residents above 18 years without formal medical or allied health education but with internet access and smartphones. Participants with medical education or ongoing training were excluded from the study.

Results: The majority of participants belonged to the age group of 20-40 years with almost equal distribution of males (51%) and females (49%). The most common condition for self-medication was Cold and Cough followed by headache. The most Common Source of Knowledge was local Pharmacists followed by the Internet across the sample. No statistically different patterns were observed between acute and chronic conditions. The population preferred buying from branded and local pharmacies with online pharmacies being seldom used. Overall internet has a limited impact on self-medication, however, it stands as the second common choice for Indian Customers after the Pharmacist.

Keywords: Self Medication, Patient Safety, Internet and source of health information, Consumer health informatics

Consider your instances of buying medication without consulting a physician.
 How did you make decision to buy a particular drug

Ask family.	35
Ask pharmacist.	167
Research on the internet	43
Use old prescription	50
Other	18



Conference Registration ID 050083
Abstract Registration ID ISLM2023/1690658002

Abstract Serial ID: 16
Sub-theme: Others

Title : Effect of 12 weeks of intensive lifestyle intervention program on Type 2 Diabetes Mellitus patients and it's complications.

Authors: Dr. Mrunal Phatak, AIIMS Nagpur.

Introduction: Diabetes mellitus is a chronic, metabolic disease characterized by elevated levels of blood glucose, which leads to serious damage to the heart, blood vessels, eyes, kidneys and nerves. Lifestyle medicine certified clinicians are trained to apply evidence-based, prescriptive lifestyle change to treat and often reverse such conditions by intensive protocol used. Applying the six pillars of lifestyle medicine-a whole-food, plant-predominant eating pattern, physical activity, restorative sleep, stress management, avoidance of risky substances and positive social connections-provides effective prevention for these conditions. Fifteen patients of type 2 Diabetes mellites were included in the study to assess the effect of 12 weeks intensive lifestyle intervention program in anthropometric, hematologic and nerve conduction parameters.

Methods: Fifteen patients of type 2 Diabetes mellites were included in the study. The patients in their 1st visit were counselled for lifestyle medicine. Anthropometric parameters, blood investigations and nerve conduction studies were done. The patients were followed by telephonic or WhatsApp on weekly basis to ensure the adherence and after 12 weeks the same parameters and investigations were repeated.

Results: There was significant improvement in pre and post intervention based on the investigations after 12weeks of intensive lifestyle intervention programs.



Conference Registration ID 050008
Abstract Registration ID ISLM2023/1690729363

Abstract Serial ID: 17
Sub-theme: Others

Title : Understanding the relationship between Stress, Physical Activity, Sleep Quality and Heart Rate Variability among First-Year Medical Students in a hilly region of Kumaon,Uttarakhand.

Authors : Seema Gaur, V K Dwivedi, Preeti. SSJGIMSR, Almora, Uttrakhand.

Abstract details :

The medical field is renowned for its high demands, exposing doctors to continuous stress from their early days as students. First-year medical students undergo a significant paradigm shift upon entering medical college. The Perceived Stress Scale (PSS-14), developed by Cohen et al., is a validated tool for assessing stress. Occupational stress affects Heart Rate Variability (HRV) parameters, leading to reduced parasympathetic drive and increased sympathetic activity. The International Physical Activity Questionnaires (IPAQ) and the Pittsburgh Sleep Quality Index (PSQI) are validated tools commonly used to evaluate physical activity levels and sleep quality.

Identifying these vulnerable students who need support in handling the challenges of the medical curriculum is crucial and hence a comprehensive understanding of their physical activity, sleep and overall sympatho-vagal balance is essential, to plan any mitigating strategies. Hence, in our study we attempt to investigate the relationship between the above parameters in a high altitude setting among the first-year medical students. As the study is ongoing, the results are awaited.

All data will be summarized using mean (SD) or median (IQR) based on the normality of data. All comparisons will be done by Students' t-tests or Mann Whitney U test. All correlations will be done using Pearson or Spearman correlation coefficient.

Keywords: PSS-14, IPAQ, PSQI, Heart Rate variability, Kumaon



Conference Registration ID 000104
Abstract Registration ID ISLM2023/1690794017

Abstract Serial ID: 18
Sub-theme: Physical activity

Title The relationship between physical performance and quality of life and the level of physical activity among the elderly

Authors : Lekshmi Prasad , R Aruna

Introduction: Loss of physical function during the process of aging might affect the quality of life. Physical function assessment tests predicts outcomes such as falls, institutionalization, and death. Studies assessing the association of physical function with quality of life and physical activity level of elderly population in India is scarce. Hence we aimed to assess the physical function of community dwelling older adults and to determine its association with physical activity levels and quality of life.

Methods: This was a cross-sectional analytical study. 89 community dwelling older adults between 60 and 80 years of age were recruited. Physical function was assessed by standing balance, walking speed, and grip strength. Quality of life was assessed by WHO QOL BREF questionnaire and physical activity level was assessed by International Physical activity Questionnaire.

Results: Standing balance was reduced in 24% and walking speed was decreased in 33% of the participants. Males had higher walking speed, and grip strength. Quality of life was better among males. Standing balance, walking speed and grip strength was significantly higher in moderate - heavy activity levels. There was positive correlation between physical function and quality of life. There was also positive correlation between physical activity level and quality of life.

Conclusion: Physical function, quality of life and physical activity level were decreased. Males had better physical function and quality of life. Physically active individuals had better physical function and quality of life. Early detection of decreased physical function and increase in physical activity level could result in better quality of life among elderly.

