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THE GREY MATTER

QUARTERLY NEWSLETTER FOR MEDICAL STUDENTS
BASED IN M.I.M.E.R. MEDICAL COLLEGE



Your Health Is In Your Hands
Lifestyle medicine

Prevent to Protect

It's a known fact that medical students are under constant stress. While we're studying it's majorly because of the vastness of the syllabus we can't remember and while we're not studying, it's just the guilt. And things seem to be quite fast-paced in medical colleges, a college fest then terminal exams then another college fest and before you know, we're all giving the university exams again. What we seem to neglect here is our lifestyle. We tend to stay up late to finish our journals while hogging on some chips and then wake up just in time to attend the 8 AM lecture the next day. We seem to normalise skipping meals, partying till late night and erratic sleep schedules.

The lockdown due to the COVID-19 pandemic managed to slow down our lives, get it back on track. And, what we started by relaxing at home to aping celebrities baking banana bread, ended up wasting days binge-watching every series that was aired on Netflix. This sedentary lifestyle is the root cause of all lifestyle disorders. This has been a pressing health issue since decades and is unknowingly taking us towards our doom.

Hippocrates very correctly said, 'All diseases begin in the gut'. Lifestyle diseases comprise a wide spectrum of health issues that stem from eating unhealthy food, not getting enough sleep, not exercising regularly and having a disturbed biological clock. There isn't any doubt about how our daily habits and activities deeply affect our health and life expectancy.

Instead of following a strict diet plan or consuming medicines & supplements after being diagnosed by metabolic condition, it is always better to strike a balance, to maintain a healthy lifestyle and avoid those in the first place. Hence, we at The Grey Matter newsletter thought of taking up this topic to highlight the pivotal role that a healthy lifestyle plays in keeping us physically and mentally fit.

All it takes is a little effort and a well-constructed routine. It's about time we switched to a healthier lifestyle.

Let food be thy medicine!

Keep reading and keep working out!

- *Nupur Chaturvedi & Saneeka Vaidya, Co-Editors*

Mindfulness And Meditation

The Next Big Public Health Revolution

By Rituja Jadhav, III/II M.B.B.S., M.I.M.E.R. Medical College, Pune.

Medical schools can be very overwhelming! From cadaver dissections to the omnipresent odour of formaldehyde, changing from the white coat to scrubs and then back to the coat, all in a single day and coming home to an empty fridge makes it a hard pill to swallow. That's where mindfulness and meditation come into play, when you run out of breaths between this chaos! What is the difference between mindfulness and meditation?

Mindfulness is the quality of being present and fully engaged with whatever one is doing at a particular moment, free from distractions or judgements and being well aware of all the thoughts and feelings without getting caught up in them. Meditation is the training ground for learning mindfulness. It's not a temporary state of mind that exists during meditation and then vanishes for the rest of the day. It is a way of living where one is able to take a step back from all the distractions.

One of the most effective vehicles of our brain is mindfulness. It's not easy to constantly live in the present. In fact, check it out yourself! You've been reading this article for past 2 minutes, did you notice your mind has wandered places?

According to a Harvard research, our mind is lost in random thoughts for almost 47% of the time. That is almost half of our lives! This makes the art of learning mindfulness important enough to save the slipping days of our lives. How does that work?

Mindfulness is simply learning how to train the mind to exist in the present. For example, right now, you might be sitting on a chair or a couch reading this newsletter on your phone, tablet or laptop. How does your gadget feel on your hand? Heavy? Hot? Warm? Or Cold? Are you sitting down? What parts of your body are supported by chair? Well, we hardly reflect on these things which is the foundation of mindfulness. Most people assume meditation is all about filtering thoughts or getting rid of negative emotions, but it's actually more about stepping back, visualising your thoughts and witnessing them without judgements.

How can mindfulness help medical professionals? Dr. Shauna Shapiro once said, 'What you practice grows stronger'. She created a model of mindfulness that explicitly includes our attitude, intentions as well as our attention.

All three parts work together synergistically. Mindfulness and meditation can actually change the shape of the brain, a process known as neuroplasticity. Research shows that the grey matter – the area of the brain responsible for emotional regulation, planning, and problem solving as well as the cortical thickness – responsible for learning and memory, increase with regular meditation practice simultaneously. Our repeated experiences shape our mind. If you are meditating with judgements, you are watering futile entity. If you are meditating with frustration, you are planting it!

Thousands of investigations have been carried out on mindfulness in huge chunks of population, including veterans with PTSD, patients with insomnia, women with breast cancer, stressed out college students and data shows two key things over and over again – First, mindfulness works, it strengthens our immune system, decreases stress and helps us sleep better. The latter was quite unexpected. Almost everybody, regardless of age, gender and background talks about self-judgement, doubts and shame which is ambiguous and universal, all of us feel it! On doing so, the Amygdala triggers a cascade of norepinephrine and cortisol, flooding our systems, shutting down the learning centres, shuttling our resources to survival pathways and literally robbing the brain of well-being!

So, what's the alternative? The answer to this is kind attention. Kindness bathes us with dopamine, turning on all the learning centres of brain and giving us the resources we need to change. True and lasting transformation requires kind attention! What are the other benefits of mindfulness? Mindful awareness disrupts automatic tendency to create space to choose a different response. The proven benefits of mindfulness are –

- Reduction of cortisol levels with better stress and anxiety response
- Improvement in mood and memory
- Reduction in blood pressure
- Improvement of immune function
- Development of awareness and resilience
- Prevention of relapse of depression and increment of emotional intelligence.

Lastly, it's true that mindfulness isn't going to solve all your problems as we can't change every little thing that happens to us in life, but we definitely can change the way we experience it! That's the potential of mindfulness and meditation. Nonetheless, this is a superpower and the one that is accessible to you, by you!

THE GUT FEELING



DR SUNDEEP JAIN , MRCS Ed, MCh, MS

In conversation with **Saneeka Vaidya & Mohak Tilokchandani,**
II/III M.B.B.S., M.I.M.E.R. Medical College, Pune



Dr Sundeep Jain (MRCS Ed, MCh, MS) is a gastrointestinal, HPB and Bariatric surgeon. He is a member of Royal College of Surgeons of Edinburgh. He completed graduation from Dr S N Medical College, Jodhpur, post-graduation in surgery from University College of Medical Sciences, Delhi and Post Doctorate (MCh) from G B Pant Hospital, New Delhi.

He also did an honorary fellowship in HPB/ LT surgery from King's College hospital London, UK. Dr. Jain has to his credit more than 25 publications and numerous faculty and paper presentations in National & International conferences. He has an expertise in Minimal Access surgeries for various cancerous and benign conditions. Dr. Jain has worked in several reputed hospitals in India and abroad. He has many honors and awards to his name. He is currently the Director of the department of GI, GI oncology, HPB, Bariatric, Minimal Access Surgery at Rukmani Birla Hospital, Jaipur. Dr Sundeep Jain realized the need of awareness about symptoms and signs of abdominal cancers in our society, so that we can diagnose them at the earliest and get cured. And, with the aim of spreading the awareness about the same, he founded the abdominal cancer day 19th May and Abdominal Cancer Trust in 2019.

Q. You are known to be an ace academician. What piece of advice would you want to give aspiring doctors of tomorrow about the learning methodology that needs to be followed to become a good clinician?

I wish to begin by extending my gratitude for having me for the guest interview for your newsletter and I wish to congratulate you all, medical undergraduates, for producing this newsletter so efficiently.

You may call me just having a keen interest in academics. Medicine is more of a passion than just a profession for any act of commission or omission could make a difference of life and death. Secondly, the will to learn something continuously is of paramount importance and the only ways to learn, I think, is through extensive reading, being highly observant, the ability to think about reasons behind patient's problems till they are solved and taking care of each patient as nothing less than our own family. Students, sadly, tend to read smaller or pocket

versions of good textbooks in a very exam-oriented manner which turns out to be very detrimental and hampers learning significantly.

Q. What inspired you to choose this speciality, and what kind of cases do you commonly come across?

While in my undergraduate years, I had a strong liking for anatomy, pathology, radiology and surgery. This is the perfect combination to learn for a surgeon. This is the perfect combination to be able to learn and practice surgery. That liking grew into a strong interest which drove me towards becoming a surgeon. After about a year of residency, I realized that GI surgery was my calling. The vast spectrum of the field in terms of the number of organs, a wide range of their diseases and number of possible operations to cure them makes this speciality challenging. Even today, after 15 years of practice I feel there is so much scope for learning and advancements like curative surgeries for advanced cancers of the abdomen including HIPEC, single incision surgeries and robotic laparoscopic surgeries to name a few.

Q. We read that you've numerous publications, faculty and paper presentations in National & International journals & conferences. What is your motivation behind this? And how do you manage to fit this in your schedule?

I'd like to highlight here that the true meaning of the word doctor is to teach. One shall seize every opportunity that comes their way to learn. Research in my view is a very interesting and insightful way of learning. Research not only helps you to recall that which you knew before but also helps you derive new conclusions making learning interesting. I have been involved in few such activities like research about a new method of liver resection that got published and is now available to doctors across the globe to learn from and save lives and that I believe is my motivation behind doing the same. In my opinion, we are all very competent and it all comes down to our priorities. So if we consider something to be important to us we automatically program our activities to create time for such things. Such activities give us purpose and that makes all the difference.

Q. This edition of the Grey Matter revolves around the theme of "Lifestyle Medicine". So we would like to ask you about the one change that you would like to see in the lifestyle of the people of our country so that they can lead healthier lives.

The modern lifestyle is certainly clock-oriented wherein time dictates when we eat or exercise rather than our actual body needs which culminate in excess calorie intake and other lifestyle issues. Regular exercise, a sound choice of food and its timely consumption and an overall active lifestyle are at the citadel of a healthy lifestyle and I would suggest all the people in the country, try and include these habits in their daily lives to lead a healthier life.

Q. Obesity in India has reached epidemic proportions in the 21st century, with morbid obesity affecting 5% of the country's population. What are the real challenges that morbidly obese people are facing? Is it really as simple as stop eating & start exercising? And as doctors of tomorrow, what would you like us, medical students, to do to reduce this alarming rise?

Morbidly obese people are carrying inside their bodies excess baggage beyond the physiological limits which is a serious and life-threatening disease. They suffer from poor quality of life, so much so that they lose interest in themselves, troubled with the social stigma that follows. Furthermore, a higher risk of developing diabetes, infertility, hypertension, obstructive sleep apnea, frequent fractures and even cancers adds to the significantly higher risk to life. Weight loss isn't a simple process. To "Stop eating and start exercising" is indeed simple but what is rather more difficult is to do so consistently. A lifelong commitment to maintain a healthy lifestyle is necessary. This regular and consistent effort is what makes the process hard. Medical students need to stay healthy so they can then help their patients and society at large to lead a healthier lifestyle. An ill doctor is of not much help to anybody. The counselling of friends, family and others and motivating them to lead healthier lifestyles would go a long way in making healthier demography making us a stronger nation and world.

Q. Lifestyle modifications can play a vital role in curbing the progression of many diseases. What are your views regarding the inclusion of more information about such modifications in the curriculum at the UG level? Do you think it could make patient-management better?

I believe that the myriad of diseases one can think of, have majorly two factors in common: genetic and environmental, with the lifestyle which is an environmental factor, playing a pivotal role in the development of most diseases including cancers. The education system, sadly focuses only scantily on the preventive aspects of diseases and the introduction of more subject matter about the same would surely improve the overall healthcare delivery system dramatically at a much lower cost and better outcomes.

Q. How has the field of GI surgery metamorphosed over the years in your view? Which part of practising it is the toughest according to you?

It is one of the newest branches in specialized surgery in India. Initially, it was started in just 3-5 hospitals, by a few visionary surgeons, who were masters in it. Initially, most of the

complicated operations could be done in only 10-12 hours are now done in 5-6 hours. The evolution has been phenomenal in various aspects of this science like surgical technique, instrumentation, anaesthesia and pain management to name a few. There has been another aspect of evolution including the increase in the number of seats from just 5 in 2002, when I joined, to almost 100 today and very importantly much higher female representation in all the sub-specialities of surgery including GI surgery indicating our social acceptance of ladies in a surgical role beyond just Gynecology. I hope in future this male-female surgeon ratio is equalized.

Q. The incidence of alcoholism and smoking has increased tremendously in the youth in the past few years. What do you think could be the main reasons for this increase and what ways would you suggest to curb the development of such habits?

We know that the basis of all the good things is knowledge and that of all harmful and useless things is the level of ignorance present. Alcoholism and tobacco consumption has been an age-old problem. This problem represents the ignorance of youth initially followed by the addiction in adulthood, be it educated or uneducated. They enjoy the mere temporary feeling of doing something 'hatke'. An important reason is, of course, cinema and social media. As simple as it gets, to curb the development of such habits, we need to educate the youth and rather children right from an early age. A simple solution to it is to start it early in life, primary and secondary school. Something like a chapter on the bad effects including death related to alcohol and smoking in their curriculum. This significant rise in the number of people indulging in alcoholism and smoking is reflected also in a parallel rise in the number of females into these habits. Although, there are multiple reasons, one possible subconscious reason behind the increased intake is to prove that they're no less than their male counterparts. It is because of our society which still lacks in giving our females an equal status. Unfortunately, our female population still has to struggle in every aspect to prove their worth. This is my message to the female readers that you're better and stronger in all terms including physical, mental and psychological aspects and males are the distant second.

Q. Modern day lifestyle has certainly become quite stressful. How elemental is this day-to-day stress in the development of lifestyle diseases?

Stress is a consequence of your bad lifestyle. They are not two different things. For example, somebody asks me, "How to prevent fracture or any injury to the body while driving at a speed of 150km/hr?" Are you getting it? So, stress is nothing but a reflection of your poor lifestyle. And, lifestyle means the physical things you do, the diet, your mental health, your thought process. All these parameters need to be assessed to know the bad-good-or-healthy lifestyle. Suppose you are a frequent party type person who is habitual of smoking, drinking and unchecked intake of all kinds of food. When this happens frequently without any checks in terms of the number of things

you consume and the duration of time you indulge in them resulting in bad sleep, bad health both physical and mental etc. All these represent a bad lifestyle. ALL these things are going to create stress. So basically, good practices are the key to a healthy lifestyle with lesser stress.

Q. We read about Abdominal Cancer Day. Can you please tell us your motivation behind starting it?

We know that diet, sleep and other lifestyle parameters are directly related to the development of morbid conditions like cancer. You know there's a good saying by Gautam Buddha 'Every human being is the author of his own health or disease.' Cancer is 90% of the times a lifestyle disease. Whatever we do has an implication on what kind of diseases we have. Only 5-10% of cancers are genetic and cannot be prevented. And it most definitely isn't your 'bad fortune', rather it is self-created to a large extent. In the last 15 years of my practice as a GI surgeon, most of my work has been related to GI (abdominal) cancers. We have treated almost 10,000 patients of GI cancer (including patient's consultations and operations). On diagnosis after their first visit, 65% out of those 10,000 patients, were found to have Stage 4 cancer. And, from the remaining 35% patients, 20% were stage 3 and only 15% were stage 1 or 2 cancer. Now patients with stage 4 cancer are mostly incurable and stage 3 patients need a much complicated and long treatment with chemotherapy, radiotherapy and surgery combined which results into a higher cost of treatment, higher risk of complications and an even higher risk of recurrence and metastasis. Most of stage 3 and 4 (85%) patients had ignored their symptoms for the duration of 3 months to 18 months before coming to me. And only 15% of the patients, reach within the three-month duration. From all this information, we come to know that people are so ignorant and tend to ignore their symptoms for a whooping amount of time. We spend many hours to treat one cancer patient. It includes the pre-operative preparations, operation and post-operative care. So the idea and motivation behind abdominal cancer day is to educate people about the symptomatology of this disease. Just by making people aware of what to look for and when to contact a doctor, we can help 85% of the patients detect their disease early and in getting a timely and most effective curative treatment. Along with this, we aim to focus on the preventive aspect of this disease which can be achieved by making people aware of the harmful effects of poor lifestyle, drugs, alcohol and smoking. Abdominal cancers include cancers of the oesophagus, stomach, liver, pancreas, gallbladder & bile ducts, colon & rectum and appendix. With the intent of spreading awareness, I have started an initiative called the Abdominal Cancer Day- 19th May, in 2019. The idea is to educate people about abdominal cancers, its symptomatology and its prevention. Abdominal cancer still is not considered as a spectrum of diseases and problems cited above are prevalent in developed nations also. What needs to understand and propagate is that the most initial symptoms of most types of abdominal cancers are nonspecific and common irrespective of the organ involved. So far, it has been 2 years that we are observing this day on 19th May. We are hopeful of saving much more lives by creating this awareness by detecting many of the present stage 3 and 4 abdominal cancers in earlier and treatable stages.

THE SPIRIT CATCHES YOU AND YOU FALL DOWN

-BY ANNE FADIMAN

Book review by Shriya Shah, II/III M.B.B.S., Dr. Vaishampayan Memorial Government Medical College, Solapur.

"I've always felt that the action most worth watching is not at the centre of things but where the edges meet. I like shorelines, weather fronts, international borders. There are interesting frictions and incongruities in these places and often, if you stand at the point of tangency, you can see both sides better than if you were in the middle of either one."

-Anne Fadiman

Imagine being a war refugee immigrating to a strange country having very different cultural beliefs than yours. Imagine not being able to read, write or comprehend any language that is spoken there, leaving gestures and relatives who can translate as your only means of communication.

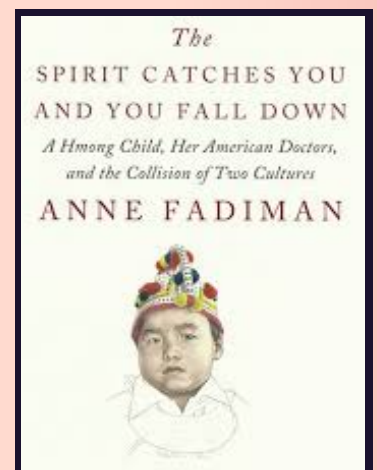
Imagine having your 3-month-old infant along with you, suffering from constant attacks of epilepsy, which in your native culture indicates either being possessed by a spirit or being left "soul-less" only to grow old as a religious healer (shaman). And now, imagine being the attending medical professional who is responsible for the treatment of the kid!

The medical profession, though noble, altruistic and extremely satisfying, has its own bad share of the story. Along with having to work at the gunpoint of bioethics, non-compliance and burn-out, one of the major problems doctors face is orthodox cultural beliefs and ideas, especially in countries that are home to diverse cultures and traditions.

"The Spirit Catches You and You Fall Down" is a Non-Fiction story by Anne Fadiman that highlights the cultural disparities

that revolve around the science of medicine. It is the story of Lia Lee, the 12th Child of a Hmong couple, immigrated to Merced, California from Laos, diagnosed with GTCS.

The book is an account of Lia's journey with her hesitant and terrified Hmong parents and her American doctors who are fighting hard to cure the adorable little girl while battling her frustrated yet



pitiable illiterate parents, un-cooperative about everything from the administration of medicines to compulsive alternative treatments that involve animal sacrifice and “tvix neeb” i.e., witch-doctory. The Hmong culture has extremely orthodox and adamant beliefs and practices about health and diseases, ranging from home deliveries and burial of the placenta to “quag dab peg” literally translated as “the spirit catches you and you fall down”, more about which you will find out in the book.

It is a portrayal of two cultures in an uneasy coexistence, the colliding of the worlds of western medicine and the Hmong culture. It is a poignant tragedy without any heroes or villains but an abundance of innocent sufferings and high morality.

Though the writing is even-handed and unbiased you find yourself hating and liking both the sides, thus torn between being a medical professional with the 'appropriate' knowledge of treatment and being a human being sensitive to parental suffering. Though it makes you really empathise with the doctors on some level, it also passionately advocates, urging our medical establishment to consider how their immigrant patients or patients with hardcore religious beliefs conceptualise health and disease.

The book is a must-read for every individual who advocates ethical medical practice, unbiased towards any creed or culture, but also is a staunch believer in the integrity of modern medicine.

the Mind-y project

by Aishwarya Puranik III/I M.B.B.S., M.I.M.E.R. Medical College

"AT WHAT HOUR OF THE DAY DO YOU CALM AND PREPARE YOURSELF FOR THE UPCOMING DAY?"

Things around can get daunting at times, helplessness can triumph, but the simplest step could be to prepare your mind for it, plan things out and get started with a motive.

Why rush in the day, when you can spend a few minutes to collect your thoughts and implement them methodically. Few of us would choose the early hours of a morning for this, while others might find nights more suitable. Either way, it would always be supportive to inculcate this habit in our lifestyle and take an overview of our day.

Whether you've got a tough day ahead of you with a long to-do list or a day off from work where you laze around in the comfort of home, the key is to prepare for it and never let guilt hinder your plans.

TAAZA KHABAR



by Rutuja Pawar, III/I M.B.B.S.,
M.I.M.E.R. Medical College, Pune

Dual-acting immuno-antibiotics can combat against AMR

The World Health Organization (WHO) has declared AMR (antimicrobial resistance) as one of the top 10 global public health threats against humanity. The list of bacteria that are becoming resistant to treatment with all available antibiotic options is growing fast and only a few new drugs are in the pipeline for treatment, creating a pressing need for new classes of antibiotics to prevent public health crises.

Wistar Institute scientists have discovered a new class of compounds that uniquely combine direct antibiotic killing of pan drug-resistant bacterial pathogens with a simultaneous rapid immune response for combatting AMR.

Existing antibiotics target only essential bacterial functions. However, bacteria can acquire drug resistance by mutating the bacterial target the antibiotic is directed against, inactivating the drugs or pumping them out. Hence the creative, double-pronged strategy is to develop new molecules that can kill difficult-to-treat infections while enhancing the natural host immune response. Harnessing the immune system to simultaneously attack bacteria on two different fronts will make it hard for bacteria to develop resistance.

The institute focused on a metabolic pathway that is essential for most bacteria but absent in humans, called methyl-D-erythritol phosphate (MEP) or non-mevalonate pathway. This pathway is responsible for biosynthesis of isoprenoids molecules required for cell survival in most pathogenic bacteria. By focusing on the IspH enzyme, an essential enzyme in isoprenoid biosynthesis, it could be used as a way to block this pathway and kill the microbes. Given the broad presence of IspH in the bacterial world, this approach may target a wide range of bacteria!

Shutterbug



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AKOLA

Youth For Heart

WORLD YOUTH HEART FEDERATION

**by Priyansh Shah, III/II M.B.B.S., Baroda Medical College
Founder & President- World Youth Heart Federation**

Technology is evolving, the world is becoming a global village where even viruses have the privilege to travel the world. But what is happening to us, humans? Without fail we are the pioneers of this change which is taking an unfathomable toll on our lives. Our lifestyles have drastically deteriorated in past 5-6 decades. On the same lines, awareness efforts about these changes have also increased but there is still a significant gap in the implementation of healthy lifestyle habits. But wait, is it even possible to have stress free and active lifestyles like our ancestors? This could only be possible if the awareness - implementation gap is bridged.

With the improved healthcare facilities, several acute conditions are now easily treatable which is indirectly increasing the burden of chronic diseases like coronary artery disease, hypertension, congestive heart failure etc. These chronic diseases are usually not treatable by popping pills but rather require radical changes in our lifestyles. Tackling all these areas without including the youth at the forefront would be impossible. Currently, the youth under the age of 35 comprises over 65% of the Indian population, now take a moment and imagine the power and responsibility we have.

It is extremely important to have a targeted approach and taking action by a population perspective. Currently, cardiovascular diseases (CVDs) cause over 17.9 million deaths per annum making it the leading cause of deaths globally. To put things in perspective, almost one in four deaths in India is due to cardiovascular diseases. It is a wakeup call for all the youth to start taking action in this direction.

This led to the birth of the World Youth Heart Federation, which is a social enterprise aiming to improve the cardiovascular health of the world by intersectoral collaboration. The community has a goal to reduce mortality due to CVDs by 30% by mobilizing 30,000 young individuals globally by the year 2030. The medical fraternity alone can treat the disease but together we can prevent chronic diseases. Individuals from diverse professions and background like engineering, graphic designing, CA, MBA, MPH, etc. are a part of the community. The Federation has five working committees namely Health Education, Entrepreneurship, Advocacy, Research and Technology which can be abbreviated by the acronym, H.E.A.R.T.

The five working committees systematically tackle different gaps and problems to produce a collaborative impact. The research committee works on conducting valuable pan India research studies and will also be starting a mentorship network where a group of mentees from various fields across India would be working on research projects under mentors. This committee thus helps in evidence creation.

The health education committee works on creating health education content for the general population, patients and the healthcare fraternity. The advocacy committee works on raising awareness and advocating for cardiovascular health at the population level along with various other stakeholders. The entrepreneurship committee works on solutions and how the needs of the community could be tackled by a startup. And finally, the technology committee works on innovations in the area of cardiovascular health. The entrepreneurship and technology committees also organize annual hackathons along with workshop to edify the budding innovators.

The federation recently concluded their first annual conference, Heartbeat. The first-ever Biodesign workshop in the world, specifically focusing on cardiovascular health was organized in this conference.

If only lifestyle disease prevention was as easy as a flu shot. There is no easy way around this, preventing this spectrum of diseases needs sustained changes in our lifestyles. Just like one size never fits all, we could identify the exercises and activities that are feasible and beneficial to us. Mindfulness and meditation for our mental health have been extensively discussed in the past few years. But let's be honest and ask ourselves, how many of us follow all the aspects of a healthy lifestyle right from our diet to our mind. It might be extremely difficult to follow a perfect routine but we can surely do it in moderation. The golden mantra is following the habits that you can continue for a lifetime rather than trying to follow the "perfect" routine for a limited time. Continued systematic efforts in this direction will help us achieve our goals and reduce the burden of this chronic disease, together!

DIALOGUE

DR. YUVARAJ BADHE, DEPT. OF MEDICINE, MIMER MEDICAL COLLEGE, PUNE

In conversation with **Alisha Shaikh, II/III M.B.B.S., M.I.M.E.R. Medical College, Pune and Shamama Khan, III/I M.B.B.S., Grant Medical College, Mumbai**

Dr. Badhe has been a part of the MIMER family since January 2017. He has done his M.B.B.S. from ACPM Medical College, Dhule. He completed his DNB (Medicine) and FCPS (Medicine) from MGM medical college and hospital, CIDCO Aurangabad and a Diploma in TB and Chest from YCM Hospital, Pimpri, PCMC Pune.

Q. What do you believe to be some of the most pressing health issues and why?

In our routine practice, many patients come up with their issues related to lifestyle changes that have led to metabolic syndromes like hypertension, type 2 diabetes mellitus, PCOS leading to infertility in females, and increasing number of cancers. Apart from non-communicable diseases, communicable illnesses are more common in the urban population. Infections like TB, malaria, dengue always have a high prevalence and are major health issues in our country. Due to the rising pollution levels accompanied by cigarette smoking, patients develop COPD, which is considered to be one of the major causes of death and it was also suggested to be the second leading cause of death in our country. Lastly, anaemia has become extremely common in females. It's the need of the hour to think and work on such issues prevalent in our society.

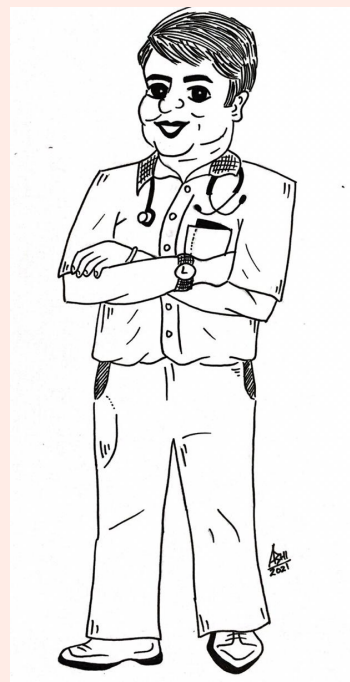
Q. What do you think has changed in medical education since your undergraduate days?

When we were undergrads, 20-25 years back, things weren't like they are today. Time has witnessed a change in academics, curriculum and even the lifestyle of students. With mobile phones and internet being a rare and exorbitant utility then, as UG students we had to completely rely on books. We used to go through the library shelves and the books over there offered us great knowledge, unlike today, where almost all the students have access to the internet through their mobile phones, laptops and tablets. YouTube and Google have an immense role in making information available at the tip of the fingers. The pattern of examination has been revised over the years, changing it into a less stressful and more student-friendly way. We had a tougher exam pattern. It was tougher to appear for exams where we had to attempt every single question, without any options.

Q. What skills does a medical student need to manage time and relieve stress?

Recent past shows that there have been very frequent incidences of depression and suicidal tendencies in UG students and one of the most important reasons leading to it has been stress.

Stress due to behavioural changes, peer pressure or even academic! From a warm and familiar environment at home to the vast academical and behavioural differences of a medical college has proven to be stressful for many. Thus, we first need to identify the stress, know its cause and effects on the student. The most crucial thing that a student can do is get help from a mentor. The mentor could be a classmate, a friend or even a senior. It is a tool with which a student can fight depression and stress. Apart from healthy mentor



-mentee relation, exercise holds great importance in a medicos life. Instead of snuggling in your room when being stressed, go outdoors and be one with nature. Bring your lifestyle change into existence! Play, exercise, read, do whatever that de-stresses you. We being the caretakers of our society often don't pay heed to ourselves and the little things that could do wonders.

Q. How can young medical practitioners prevent a sedentary lifestyle in clinics?

The universal lifestyle modifications like healthy eating, clean water and hygiene would help prevent infectious diseases in healthcare providers like us doctors. Non-infectious and non-communicable diseases like Diabetes, metabolic syndromes, hypertension, coronary artery disease need unhindered and regular attention on a daily basis. Hygiene maintenance and clean water consumption won't suffice. Obesity is a gateway to all non-communicable diseases. We need to spare a minimum of 30 minutes in our 24-hour schedule to involve in some physical activity. Dedicated time for any form of exercise like running, brisk walking, swimming or cardio at a gym shall be an ideal lifestyle. People choose to spend hours watching movies or visiting malls, but can't spare 3-4 hours in a week to lead a better lifestyle. This indicates that it's not the busy schedule of healthcare workers but the lack of will and sheer laziness to not exercise. All that needs to be practised is disciplined and motivated actions.

Q. The theme for this edition is 'Lifestyle medicine: Your health is in your hands'. To what extent do you believe in it?

Yes, I totally believe in it! Because of our sedentary lifestyle and unhealthy eating habits, we as health care workers suffer from it be it irregular eating intervals or skipping of meals which should be consciously avoided. Though there are many controversies between 2 meals or small frequent meals, I will strongly suggest having at least 8-10 hours of gap between 2 meals is optimum. Have either a healthy and nutritious breakfast or make it brunch at around 10 am. Later, one can indulge in a few snacks in the form of fruits during the day, a glass of milk in the afternoon, and light dinner later in the evening. That would summarise to 2 meals a day and a few snacks in between. Also, food necessarily should mean healthy food, rich in appropriate carbs, proteins, vitamins and minerals and should cover all types of grains and pulses with reduction in the intake of saturated fats in the form of animal fat. Vegetable oils containing unsaturated fatty acids i.e. omega 3 and omega 6 fatty acids should be preferred over animal fats. Apart from a nourishing diet, I shall again stress the importance of physical exercise. Minimum of 30 minutes of exercise a day is the mantra for a healthy life. These are some basic yet important things which must be followed for better health.

Q. Your take on COVID-19 Management in the country.

COVID-19 occurred in China and within a month it was in our country. With lockdown being announced in March, initially, we were clueless about the mechanism of this virus, the spectrum of diseases it could cause and the drugs which could act against it. The use of Hydroxychloroquine was skeptical and questionable. Anti-viral drugs like Favipravir and Remdesivir followed it. Simultaneously, we started using steroids-Methylprednisolone, and low molecular weight heparin for better prognosis. But, from then to now, oxygen therapy and mechanical ventilation have been consistent and definite treatment options. The reason for the fear and stress in the early times was the confusion and uncertainty. Healthcare professionals, the general public and even the government-everyone was under stress. Later in April, we used Doxycycline and Ivermectin for asymptomatic and mild COVID-19 patients, that prevented the patients from getting serious complication. This regime was for confirmed COVID positive patients, but what about those who weren't RTPCR tested and showed flu-like symptoms? For them, we used general antibiotics like Doxycycline, Azithromycin, and reassured the patient to not worry and stay at home. In cases of breathlessness, we admitted the patients, and most of the patients recovered just like the pre-COVID era. It was just the fear factor that created all the anxiety which has been improved majorly during the later stages of the pandemic!



For a doctor, the most valuable payback for their work is patients' appreciation and their kind words of gratitude. Here's one such incident,

Dr. Samina Ahsan shared with us.



In all my years as a doctor, I have treated all kinds of patients from various backgrounds. One family, in particular, stood out.

They were a couple who had been trying to conceive for a few years. They came to me for help with ART. I helped them to the best of my capability and they had a baby girl a year later. The couple showered me with blessings and gifts, but it's not the materialistic things that I remember. It's that through the years, I was their family physician and the bonds I made with the family have lasted till today when their baby girl is entering High School.

The relations between our families are stronger than ever. Their daughter is like my own and her chimes of "Maasi" continue to warm my heart. I treated them as I would any patient, but I ended up with friends for life!

**Compiled by Sumaiya Nadeem,
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If you have any such good appreciation notes or messages from your patients, please write to us about them at thegreymatter.mimere@gmail.com

The COVID-19 Pandemic:

How it reinforced the importance of Primary Prevention

by Dr. Saad Jamal, Post-intern, RajaRajeshwari Medical College and Hospital, Bangalore

The Covid-19 pandemic, caused by SARS-CoV-2, the most recently identified strain of the coronavirus, had its index case reported in Wuhan, China in December 2019. Symptoms of SARS-CoV-2 range from mild discomfort to more grievous symptoms such as breathing difficulties, cough, fatigue, fever, loss of taste and smell.

The pathophysiology behind breathing difficulties has been identified as Acute Respiratory Distress Syndrome (ARDS), caused by a multitude of cascading factors such as cytokine storm and hypercoagulability leading to multiple organ failure and septic shock. The transmission of the virus is mainly through the aerosol spread and less often through fomites.

Primary prevention according to the CDC (Centres for Disease Control and prevention), refers to intervening before health effects occur, through measures such as vaccinations, altering risky behaviours (poor eating habits, tobacco use) and banning substances known to be associated with a disease or health condition.

The World Health organisation in January 2020, after confirming the spread of SARS-CoV-2 via human-to-human contact, released an advisory document relating to measures of primary prevention, to help curb the spread of the Coronavirus. These included measures such as wearing masks, hand hygiene, social distancing and etiquette regarding coughing and sneezing.

Primary prevention has recently gained much traction in healthcare. In terms of chronic conditions such as diabetes mellitus and hypertension, primary and primordial prevention, not only help in identifying those at risk and implementing changes to one's lifestyle (such as increased physical exercise and changes to a diet with lower glycemic index) but such measures also help to eliminate the dire complications of such chronic lifestyle diseases, such as diabetic ulcers, strokes, nephropathies and retinopathies.

While the role of primary prevention in terms of chronic conditions has been well established, the emergence of the Covid-19 pandemic demonstrated that primary prevention in terms of an acute outbreak, such as a pandemic, is not implemented in many countries as well as we would have expected. To highlight the importance of primary prevention, let us look at some statistics put together by a review article "A Home Toolkit for Primary Prevention of Influenza by Individuals and Families" published in 2011. This article compares different methods of primary prevention and compares their efficacy when dealing with airborne viruses.

- According to the above mentioned article, diligent washing and hand sanitizing can reduce infections by 20%-95%. Furthermore, a 95% ethanol-based rub was shown to reduce the influenza virus to undetectable levels after 30 seconds of use.
- The study also emphasizes the importance of good ventilation in hospitals. High-efficiency particulate air (HEPA) filters, typically costing \$100, work in most homes and can remove nearly 98% of particles >0.3 µm. A more affordable solution, such as facing a fan outside the window in rooms with influenza patients was also found to be effective, creating negative pressure and thereby transporting the air from the room towards the outside, a principle that is being increasingly used in infective disease wards, for respiratory conditions in the UK.
- A hospital study found 2% and 19% rates of influenza in 2 similar buildings with and without UV lights. The effectiveness doubles when there is a continuous source of cold air at the ceiling, which sinks as warmer air rises and thus increases air circulation and hence creates greater exposure to the UV light. A ceiling fan can help facilitate this.

The fact that this information was available to us in 2011, which could have helped curb the rise of coronavirus cases, not only amongst the general public but also among healthcare workers in hospitals, leads one to the conclusion that an important pillar of primary prevention is also health education. The ongoing pandemic will always be known as one that was plagued by misinformation at all levels. Confusion regarding mask usage and the types of masks to be used was rampant. In some cases, misinformation led to worse consequences. One such example is of a couple who self-medicated with Chloroquine Phosphate, after the endorsement of Hydroxychloroquine by political figures. Within 30 minutes of ingestion, the couple started experiencing unpleasant side effects, eventually leading to the man's death. Such examples lead us to believe that health information and its responsible propagation to the masses should be the cornerstone of primary prevention.

In July 2020, the director of the CDC, Dr Robert Redfield famously claimed that if everyone in the United States wore a mask, they could have the situation under control in 4-8 weeks. While some saw this claim as a conjecture, a computer scientist by the name of De Kai, from UC Berkeley, developed a computer-based simulation that helps to compare infection rates between populations that largely wore masks and populations that had reduced mask usage.

A simulator by the name of MaskSim takes sophisticated programming used by epidemiologists to track outbreaks and pathogens like COVID-19, Ebola, and SARS, and blends this with other models that are used in artificial intelligence to take into account the role of chance, in this case the randomness and unpredictability, of human behavior—for instance, when a person who is infected decides to go to a beach.

According to the simulator, if 80% of a closed population were to don a mask, COVID-19 infection rates would statistically drop to approximately one twelfth the number of infections.

To conclude, primary prevention is of the essence, not only in terms of dealing with chronic conditions and their complications but also the model of primary prevention must be employed when dealing with outbreaks with a timeline more rapid, than those of chronic conditions. The implementation of such a model is of utmost importance, since it is imperative that we must be prepared to deal with a similar situation in the future, with the age old adage in mind - Prevention is always better than cure.



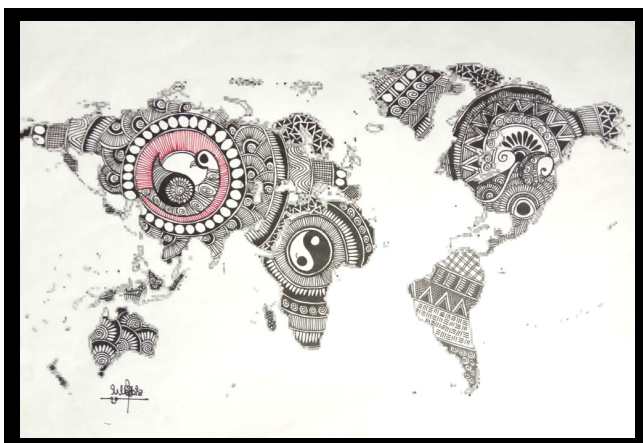
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