Kerala Journal of PMR

Old saying Health is Wealth
A few tablets of Exercises,
Can be jogging, cycling, yoga,
Swimming ,walking.
Capsules of Veggies, fish, meat,
Syrups of water pure,
Liniments of fresh air, sleep
and Sunlight, it goes so on,
Avoiding invasive Alcohol,
and smoke and drugs.
Gives these thy Health
Sudheera !

April 2026
Vol 25 Issue 1

FROM THE EDITOR'S DESK

There were days at work where I felt like the third wheel. Our colleagues would refer to PMR for 'Physio'. It was obvious PT had either a portion or no role in care, but the referral tag persisted. Working in a private tertiary center meant the clientele came to see subspecialists after having done everything possible at the local level. The problem is much of the conditions were non-communicable diseases (read as self-induced issues). With all tests done and meds prescribed and failed on therapy protocols, I was caught in a dilemma of what I could offer.

Posture is not a reason for referral but often underlies many MSK issues. This is where I began. With this I was neither a threat nor a necessity. People who understood the value of this work referred. Others treated us like an unwanted middleman as they romanced physiotherapy. The problem I faced, was how to address care after their pain was gone. Or rather, how to make care complete? This issue is all about that.

We live in an itemized society. Once doctors think they know what you do, some will imitate to expand their own power base. The only way to stay relevant in the referral chain then is to have undeniable skills all value but do not want or cannot copy. This leads us to the theme of this issue. I brought my lifestyle medicine team members in as authors to give readers the bigger picture. As doctors we can only help people identify what is harming them and help them set goals to overcome these, if we have done so ourselves. In doing so we become the doctor all doctors need, not only for their patients but themselves

This is my last issue for this term. The new editorial board is ready. I had fun, and I hope you enjoy the read.

Ravi Sankaran MD
Professor and Head
Department of PMR, Amrita hospitals, Kochi

TABLE OF CONTENTS

GROUND TRUTH: KERALA PHYSIATRY AND LIFESTYLE PRACTICE

Dr Ravi Sankaran MD

Nearly one in two adults in Kerala have at least one significant chronic (NCD) condition such as cardiovascular disease, diabetes, cancer, respiratory disease, or musculoskeletal/mental health disorders. Guidelines have permeated clinical practice to the extent any MBBS holder can prescribe the right tests and drugs. Where many MBBS/ MD/ MS/ DM/ MCh fail is the soft skills needed to manage the lifestyle factors that drive these. Sadly, some are also victims of wrong habits.

The skills needed to handle this population are Lifestyle modification, exercise and counselling. These are skills every Physiatrist need, but may not have specially trained in. Perplexity AI helped generate the data in the table below.

Table 1: NCDs in Kerala, common figures

Condition	Current Cases (Prevalence)	New Cases per Year (Incidence)
Cardiovascular diseases	5,040,000–5,760,000	360,000–720,000
Cancers	36,000–54,000	88,460
Chronic respiratory diseases	1,440,000–3,600,000	~30,000
Diabetes mellitus	5,760,000–7,200,000	360,000–720,000
Chronic kidney disease (CKD)	2,520,000–3,240,000	~25,000
Mental health disorders	3,960,000–5,400,000	Not precisely available
Neurological disorders	180,000–360,000	Thousands/year (mainly stroke)
Musculoskeletal disorders	3,600,000–5,400,000	Not precisely available
Endocrine disorders	1,800,000–2,880,000	Not precisely available
Chronic liver diseases	180,000–360,000	Not precisely available

Kerala in a snapshot*
Population dispersion: ≈47% in cities
Number of Doctors:

Degree	Current Seats (Annual Intake)	Estimated Total Graduates in State
MBBS	4,905	80,000+
MD/ MS/ PG Dip	1,625+	15,000+
DM/ MCh	1,889	Several thousand

Assuming there are more than 100,000 Modern Medicine practitioners in Kerala, then one can assume there are that many referral points for Physiatrists interested in this kind of work.

Next, we look at the district level view.

Table 1:

	Prevalence	Monthly incidence	Physiatrists
Malappuram	4,272,090	17,942	≈30
Thiruvananthapuram	3,429,192	14,402	≈60
Ernakulam	3,409,416	14,320	≈30
Thrissur	3,241,990	13,616	≈20
Kozhikode	3,205,733	13,464	≈50
Palakkad	2,918,678	12,014	≈4
Kollam	2,737,364	11,122	≈5
Kannur	2,620,643	10,608	≈14
Alappuzha	2,210,134	9,282	≈10
Kottayam	2,050,966	8,615	≈10
Pathanamthitta	1,243,752	5,224	≈4
Kasaragod	1,357,970	5,704	≈3
Idukki	1,151,891	4,838	≈2
Wayanad	849,054	3,567	≈1

*data collected from PerplexityAI, IAPMR Kerala LM database, and concerned specialists

Considering all the above we can see there is scope for Physiatrist-led lifestyle practice. The rationale for doing so can be found in the article I wrote on how I ended up doing this.

****

WORD FROM THE FRONTLINES

Dr Ravi Sankaran MD

Background:

Objective: Ascertain the number of Physiatrists in Kerala doing lifestyle counselling. Of those doing this describe their prescription patterns.

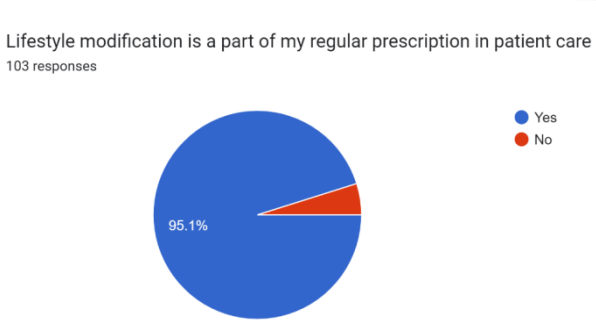
Methodology

A Whatsapp survey from the PMRs of Kerala group was conducted. Inclusion was being a member of the group. The usual exclusion were chronic non-responders, members known to be no longer practicing in Kerala, or those who refused to tell me their name. One query and two reminders were provided until the label of non-responder was applied. The general survey question asked was 'Do you advise lifestyle modifications as part of treatment?'. Those who responded positively were given a more specific survey. Regardless of response they were asked about their own lifestyle parameters. The questions are visible in the pie chart reports below.

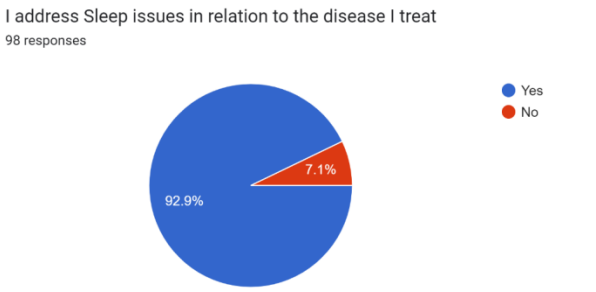
Results

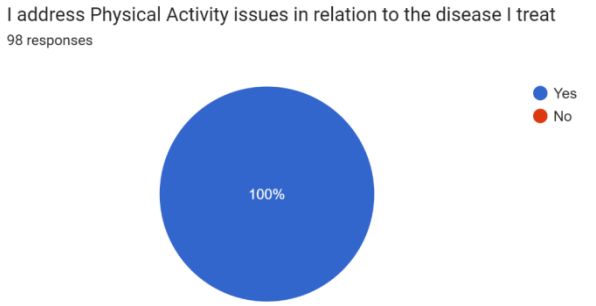
Of the general survey results: 150 members were sampled, 104 responded. There were 95% positive and 5% negative responses were obtained. The positive responders were included for the specific survey. Both groups were queried about their individual lifestyle aspects. There were 46 non-responders.

The results are as follows.



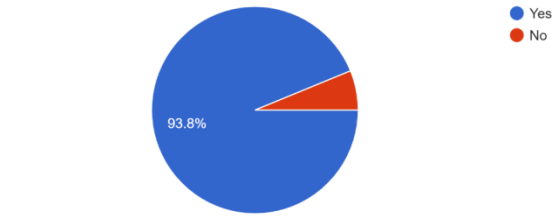
Of those who address lifestyle factors in their patients:





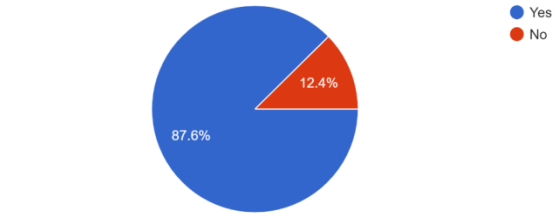
I address Diet/ Nutrition issues in relation to the disease I treat

97 responses



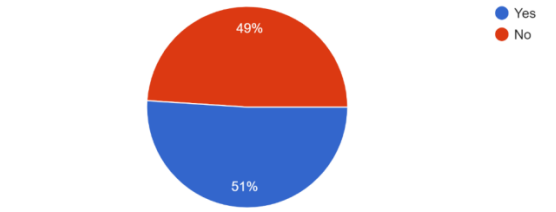
I address Stress issues in relation to the disease I treat

97 responses



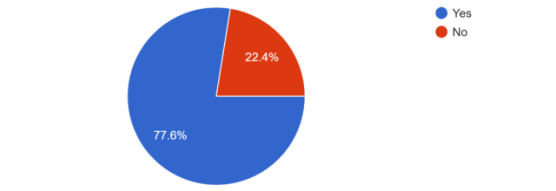
I address Relationship issues in relation to the disease I treat

98 responses



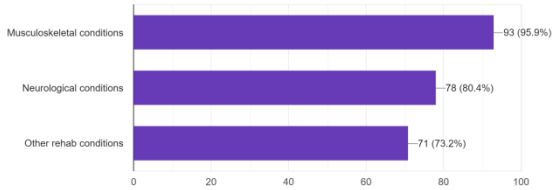
I address Substance abuse/ Addiction issues in relation to the disease I treat

98 responses



I assess lifestyle factors in

97 responses



Discussion

There is a strong number of Physiatrists doing lifestyle counselling.

Conclusion

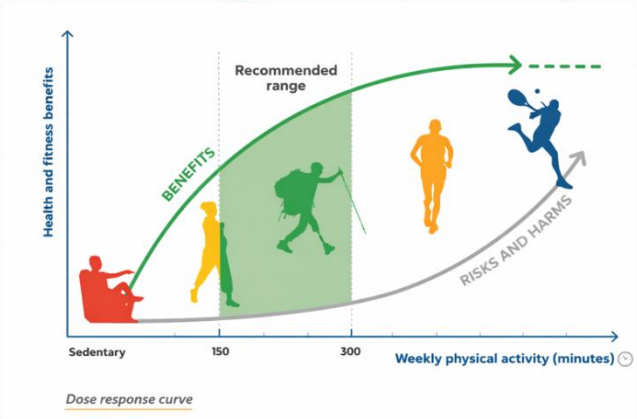
Kerala Physiatrists are already doing this sort of work. Areas to be developed are diet, weight loss, and counselling skills.

****

BY THE BOOK: WHAT THE GUIDELINES SAY ABOUT PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOUR – WHY IT MATTERS

Dr. Nitha J, MD

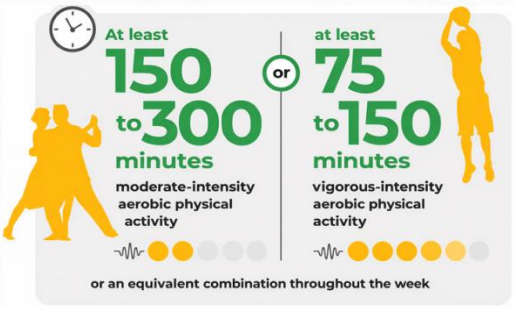
The World Health Organization (WHO) guidelines provide evidence-based recommendations for the general population regarding the intensity, type, and duration of physical activity required across different age groups—including children, adolescents, adults, and older adults—to achieve optimal health outcomes.1

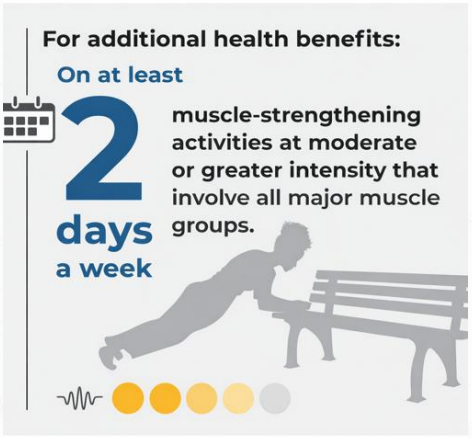


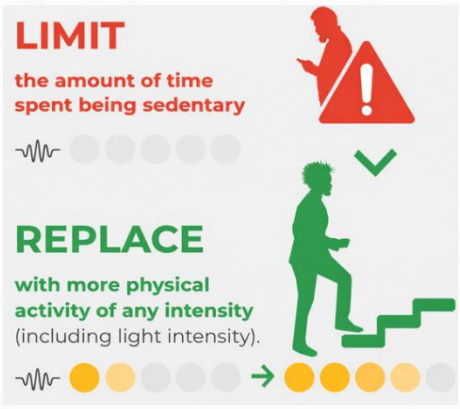
Dose response curve

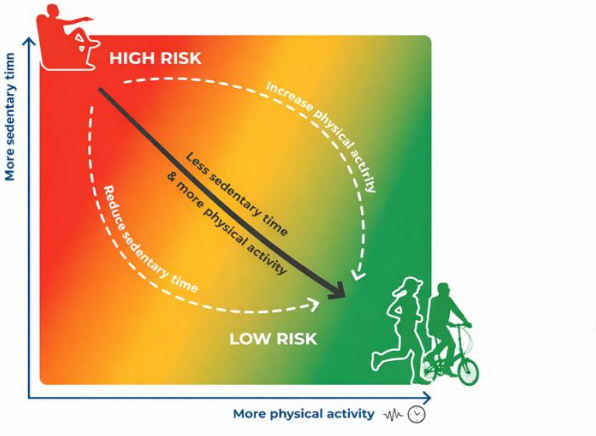
A central message emphasized in the guidelines is that any physical activity is better than none. Even small increases in activity levels are associated with measurable health benefits.

The WHO guidelines can be broadly summarized with these 5 images.









The relationship between levels of sedentary behaviour and physical activity. Adapted from WHO Guidelines.

Children and adolescents are advised to limit the amount of time spent in sedentary behaviour, particularly recreational screen time.

They should engage in at least an average of 60 minutes per day of moderate- to vigorous-intensity physical activity across the week. Most of this activity should be aerobic in nature. Additionally, vigorous-intensity activities and those that strengthen muscle and bone should be incorporated at least three days per week.

Adults should aim to limit sedentary time and replace it with physical activity of any intensity, including light-intensity activities. Substituting sedentary behaviour with even minimal physical movement provides measurable health benefits.

Adults 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; Muscle-strengthening activities are recommended on two or more days per week, as these provide additional health benefits. However, the evidence is currently insufficient to determine the exact duration of strengthening activity required for optimal outcomes.

For older adults, physical activity programs should incorporate fall-prevention strategies. Activities that combine balance training, strength exercises, endurance activities, gait training, and functional training have been shown to reduce both the rate of falls and the risk of fall-related injuries.

Older adults living with disability are advised to perform multicomponent physical activity programs emphasizing balance and strength training, ideally three or more days per week, to maintain functional independence and reduce fall risk.

Gentle stretching exercises may also be beneficial, particularly for pregnant and postpartum women, as part of an overall activity program.

Evidence Supporting Physical Activity

There is strong evidence that physical activity across all intensities is associated with multiple health benefits:

- Reduced all-cause mortality
- Lower cardiovascular disease mortality
- Reduced incidence of hypertension
- Lower risk of cardiovascular disease
- Reduced incidence of type 2 diabetes

Moderate-to-high certainty evidence also indicates:

- Reduced risk of certain site-specific cancers
- Improved mental health and psychological well-being
- Enhanced cognitive function and brain health
- Improved sleep quality and health-related quality of life

Higher levels of physical activity are further associated with:

- Improved cognitive performance (processing speed, memory, executive function)
- Reduced risk of cognitive impairment and neurodegenerative disorders (e.g., Alzheimer's disease)
- Favourable body composition and reduced weight gain in adults
- Improved bone health and reduced risk of osteoporosis in older adults
- Reduced risk of falls and fall-related injuries

Physical activity performed across different domains—including leisure-time, transport-related, and occupational activity—contributes to overall health benefits.

Multicomponent exercise programs incorporating strength, balance, endurance, and functional mobility training are particularly effective in maintaining musculoskeletal health.

Importantly, current evidence indicates that recommended levels of physical activity are safe, and the health benefits significantly outweigh potential risk

Physiatrist's Perspective

The WHO guidelines provide a broad public health framework highlighting the health benefits of physical activity across different age groups and health conditions. From a population health perspective, the recommendations successfully address the needs of a wide demographic and encourage individuals to engage in physical activities of their choice.

However, the guidelines are intentionally general in nature, focusing primarily on recommended duration and intensity of activity, rather than detailing specific exercise modalities, progression protocols, or condition-specific exercise prescriptions.

For physiatrists, lifestyle modification extends beyond general physical activity recommendations and requires targeted exercise prescription with structured progression, along with nutritional, psychological, and social lifestyle interventions. These aspects are not fully addressed in the current guidelines, highlighting the need for more detailed rehabilitation-oriented physical activity prescription protocols

Nevertheless, from a public health standpoint, the WHO guidelines effectively promote physical activity and serve as an important foundation for encouraging healthier lifestyles across the population.

Reference

1.*WHO Guidelines on Physical Activity and Sedentary Behaviour*. (World Health Organization, Geneva, 2020).

****

LIFESTYLE PRESCRIPTION

Dr Unnikrishan Ramchandran MD

Introduction

Lifestyle diseases are on the rise worldwide, including India. In a state like Kerala, almost one in four persons is diabetic, and almost half of the adult population has hypertension. The prevalence of cancer in Kerala is almost double the national average. Obesity and coronary disease in Kerala is among the highest in India. All the three diseases account for many deaths and morbidity. Inarguably all the above-mentioned problems and their increase in past few decades can be traced to an aberrant lifestyle, with less exercise and a change from traditional foods to a western oriented, sugar and calorie rich diet.

Studies have shown that only about 40% of Americans adhere to optimal weight management[4]. Cardiovascular disease (CVD) and cancer account for more than half of all deaths in the US [3,4,5] Studies have shown that more than 80% of chronic conditions could be avoided through the adoption of healthy lifestyle recommendations[13,14,15]

Blue Zones research: lessons from the world's longest-lived populations showed that Lifestyle Medicine principles promotes longevity and improves quality of life [8].

The diabetes prevention program a large - 27-center randomized clinical trial reported that Lifestyle intervention is more effective than metformin at preventing the progression of prediabetes to type 2 diabetes. After 3 years, the lifestyle intervention group had decreased their incidence of type 2 diabetes by 58%, compared with just 31% in the metformin treated group.

The lifestyle heart trial conclusively showed that Lifestyle management could prevent progression of coronary artery disease and could be used as a secondary prevention tool. It showed that lifestyle interventions reversed the progression of coronary artery disease (CAD) as measured by quantitative coronary angiography [10, 11] and also resulted in a 400% increase in the blood flow to the heart by PET scan [12].

Lifestyle medicine is a fast-developing field, defined by JAMA as "Evidence based practice of assisting individuals and families to adopt and sustain behaviours that can improve health and quality of life. It focuses on preventing, managing and reversing chronic disease. It has traditionally accepted six pillars of intervention- Diet and eating behaviour, Physical activity, Restorative sleep, Stress management, avoidance of risky substances, and Positive social connections [1].

Physiatry aims to improve or preserve function and reduce disability in patients and one of the arms of the speciality is preventive rehabilitation. This is where

incorporating the concepts of Lifestyle medicine comes into relevance.

Physicians often give lifestyle advice in a casual manner and many do not even mention lifestyle modifications focussing only on medications. Giving specific advices as a prescription with definite goals and end points results in more adherence by the patient.

SMART goal setting

SMART is an acronym for "Specific, Measurable, Achievable, Relevant, Time bound". Goal setting is a process where a realistic goal which is achievable in a defined time period is set after discussing with the patient regarding the diagnosis and the need for lifestyle management, the various components of lifestyle which needs to be addressed and charting out a program towards achieving that goal in a time bound manner. In fact, this is an individualised program based on measurable parameters like body weight and BMI, blood pressure, blood sugar level, body fat percentage, muscle mass, and function.

Setting goals and charting a specific, individualised program, with progress which is measurable is more likely to get compliance and gives purpose to the patient rather than vague advices like "take care of your diet" "Reduce carbs, eat more fruits and vegetables" "walk daily". Giving targets and goal setting is a way of giving a feedback to the patient and to reinforce their adherence to the program.

Leaky Gut/ Gut Microbiome

Gut microbiome is gaining attention in recent times as a contributory factor in chronic diseases. Recent advances has improved our understanding of the role of the gut microbiome as an endocrine organ that manufactures an array of chemicals, in response to various stimuli, that influence the regulation of multiple distant organs.24 These chemicals play a substantial role in the development of a "leaky" gut, which allows toxins to enter the bloodstream and results in inflammation and promotion of CVD, obesity. Adipose tissue and Diabetes often co exist. Obesity is now considered an inflammatory disease[27,28,29].

Unhealthy diet, Lack of exercise, stress and medications cause dysbiosis of the gut microbiome, which causes oxidative stress and cell injury resulting in chronic inflammation which is postulated as a cause of Obesity, Diabetes, CAD, Cancer and depression.

Diet/ Nutrition

Bodai et al, reported that only 23% of Americans eat a healthy and wholesome diet [4]. Studying the effects of dietary risks globally, it was concluded that 11 million deaths were attributable to dietary risk factors- High intake of sodium (3 million) Low intake of whole grains (3 million) low intake of fruits (2 million). Suboptimal diet is responsible for more deaths globally than any other risks, and also 255 million daily adjusted life years lost because of disability [2] Data from ICMR has pointed out the alarming scale of increase in Diabetes, Hypertension, and cardiac disease over the past decades in India. In states with high prevalence of these conditions show an increasing trend in Obesity also.

Studies have proven how particular foods influence endothelial cell function,[6] glucose control, and insulin sensitivity[7].The China Study, which found that the Chinese counties that ate the most plant-based foods had the least or no chronic diseases and those who had adopted a westernized diet of predominantly animal protein had the most heart disease, cancer, and

diabetes.[1]

Whole, plant-based food maximizes the consumption of nutrient-dense foods and minimizes animal-based products (including dairy) and processed foods with added sugar, salt, and oil. Consuming whole, plant-based foods is synonymous with an anti-inflammatory diet [16]

The nutrition advice basically would focus on avoiding or minimising Low nutrient and/or high calorie items (eg. Meat: beef, pork, lamb, chicken, turkey, seafood / Processed meats: salami, bologna, ham, turkey, chicken ; Animal dairy: milk, cheese, yogurt, kefir, sour cream, cottage cheese, butter ; Sugar substitutes and refined sugars: aspartame, high-fructose corn syrup ; Processed foods: refined grains (white bread, cookies, fried potato chips) ,Soft drinks, alcohol) and to opt for high nutrient /low calorie diet (Leafy greens ,Vegetables: cruciferous, squash, garlic ,Mushrooms ,Fruits: berries, bananas, pomegranates ,Legumes: green beans, lentils, soybeans, sugar snap peas, Whole grains: quinoa, wheat, oat, rice, pasta, barley, corn ,Seeds: flax, chia, pumpkin, sesame ,Plant-based “dairy”: soy, almond, rice milk).

Physical activity

Being active in daily life and doing any form of exercise is helpful. Studies done in the west have shown that only 40% of adults follow an active lifestyle [4]. Different types of exercise have shown benefit by improving aerobic fitness and metabolism (Aerobic exercise), muscle mass and function which reflects as improved efficiency in daily activities (Muscle strengthening exercise) flexibility (Stretching) Balance (Balance exercise). Exercise and physical activity is an integral component of any lifestyle program. In addition to the above benefits, it helps in fat loss and weight reduction, which directly translates into benefits in patients with diabetes mellitus, fatty liver and cardiac disease.

Lifestyle alterations, including a healthy diet and the pursuit of exercise, can have a positive impact on mental health as well as cardiovascular health [22] The influence of exercise in the treatment of depression and anxiety has been well documented. Physical activity decreases symptoms of depression and anxiety, and physical inactivity increases the risk for the development of both the conditions[23]

The American Institute for Cancer Research reported in 2014, from worldwide data, that diet, physical activity, and weight control are major contributors to long-term survival after a diagnosis of breast cancer[24]

Sleep, Stress, Depression and Emotional resilience

There is a complex interplay of sleep, mental health, and chronic disease, which emphasizes the critical role played by sleep in health outcomes and overall well-being [25]. Sleep is far from a passive state; it is a vital process for brain restoration and regulation. Inadequate sleep disrupts critical neural processes and impairs cognitive functioning [26]

One of the challenges of lifestyle management is the patient’s strict adherence to the program and the resolve to continue the modifications on an ongoing basis. Detailed discussions and SMART goal setting is aimed at addressing this problem. Counselling of the patient, along with regular follow up and constant reinforcement may be needed. People differ in their ability to

stick on to a regular program of diet modification and exercise. This is explained by the concept of "emotional resilience".

Emotional resilience is defined as one's ability to respond to an adverse situation and, more importantly, a return to the "pre-event" baseline state of health. Depression, anxiety, stress, insomnia, and the presence of comorbidities are factors which can negatively affect Emotional resilience. These are often co existent and works as a vicious circle compounding Emotional resilience.

Stress is difficult to measure scientifically because it exists in varying degrees in daily life. Depression is often undiagnosed, and is common in chronic diseases, and one of largest contributor to the worldwide burden of disease[17]. The association of obesity and depression has been confirmed by several recent large meta-analysis studies [18,19]

Depression is a risk factor for development of cardiac disease, and also factor which negatively affects prognosis in patients with Cardiac disease [20,21]

Substance abuse

Substance abuse is a social disease. Over the years, there has been an increasing trend in the use of opioids worldwide. This has implications for the individual, families, and society in general. Studies have documented the Indian scenario and its unique challenges as a developing nation [30,31,32.]

The use of marijuana and recently synthetic opioids like MDMA have spiked. This has a deleterious effect on the individual by increasing risky behaviour for the individual and promoting violent crime in the society. A more disturbing trend is the lower age (school children) at which they are introduced to these psychotropic substances.

Social health

People with good social connections are more likely to be physically active and less likely to suffer from depression. It is one of the components of maintaining good mental health. Social isolation is associated with poor outcome in cases of heart failure and also increases the risk of developing coronary artery disease, stroke and dementia [33].

A large study addresses the importance of strong social connections; socially integrated women who practiced a healthier lifestyle, perhaps minimizing their stress levels, had decreased recurrence rates and an increase in overall disease-free survival after a diagnosis of breast cancer[34] Emotional resilience addresses one's potential to return to a "previous normal" and is enhanced by an intense social support system.

How to make a Lifestyle prescription

Lifestyle prescription should address all the six elements discussed above. A good history can give an insight into the diet and exercise habits, emotional and mental state of the patient, Substance usage, social life and social support system, sleep pattern. A customised program can be charted out with active participation of the patient to set realistic goals. A monitoring and feedback mechanism should be implemented. Periodic group counselling helps reinforce adherence to the program. For each of the six domains, we can include a screening question, decide a target to achieve, and fix SMART goals.

Lifestyle prescription can be done by adhering to the principle of "Assess, Align and Act"

Assess…Formulate screening questions to bring out data relevant to the topic…and identify weak domains.

Align …Align the goal setting/ target with the patients' priorities

Act…Prepare a custom-made program for the individual and periodically follow it up.

1. Nutrition recommendation -increased consumption of leafy greens, vegetables, fruits, legumes, and whole grains as staple foods and avoidance of sugars, processed food, oil and salt.

Question- how many servings of fruits and vegetables servings do you eat daily?

Target – 5-7 servings of fruits and vegetables daily, 6-8 cups of fluids daily, limit sugars, fried foods, avoid processed foods.

SMART goals examples- " I will use unsweetened tea and avoid sugars for the next three months" , " I will add a cup of vegetables to my lunch and dinner"

2. Physical activity- Reduce sedentary periods, and be active in daily life. Aerobic exercise program targeting a minimum of 30 minutes per day, with not more than 2 days gap without exercise (150 mts of moderate or 75 mts of severe exercise per week). Muscle strengthening exercises 2-3 days per week targeting major muscle groups.

Question- how many hours of exercise- aerobic, strength training do you engage in daily?

Target – 150 mts of moderate or 75 mts of severe exercise per week). Muscle strengthening exercises 2-3 days per week. Reduce sedentary periods

SMART goals examples " I will get up and move every half an hour" " I will walk every day for 30 mts in the evening" " I will do strength training using dumb bells 3 times a week"

3. Ensure a regular sleep pattern with adequate restorative sleep. Also to avoid digital devices use atleast from an hour before sleep.

Question- how many hours do you sleep daily? / Do you feel refreshed on waking up?

Target – 6-8 hours of sleep, with a regular sleep-wake time schedule, and avoid digital use atleast from one hour before sleep.

SMART goals examples " I will sleep daily at 11 pm and wake up at 6 am"

4. Stress relief- counselling, Meditation etc can help reduce stress.

Question- Do you always feel worked up/ stressed out/ unable to cope?

Target – Mindfulness or meditation, breathing exercises daily for 10-15 minutes

SMART goals examples "I will do meditation daily for 10 minutes before sleep", "I will do breathing exercises daily in the morning"

5. Avoid tobacco, limit alcohol consumption and avoid psychoactive substances usage and use counselling and deaddiction methods as feasible.

Question-In the past week how many times have you used tobacco/ alcohol/ psychoactive substances?

Target – No tobacco, No Psychoactive/ abuse of prescription opioids/ limit alcohol usage

SMART goals examples " I will quit smoking from today" " I will reduce alcohol to weekends only "

6. Develop a good social support network and social networking.

Question- do u have atleast one person who is emotionally supportive in life ?

Target – To have atleast one or two meaningful social connections (friends/ siblings/ spouse)

SMART goals examples- " I will call my friend every week atleast once" " I will go out and spend time with my spouse atleast 3 times a week"

References

1. T Campbell, T.Campbell II The China study Solution : the simple way to lose weight and reverse illness, Using a Whole-Food Plant based diet. Rodale books (2016)
2. Health effects of dietary risks in 195 countries, 1990-2017; a systematic analysis for the Global Burden of Disease study 2017-Lancet. 393(10184)pp 1958-1972.
3. Twombly R. Cancer surpasses heart disease as leading cause of death for all but the very elderly. J Natl Cancer Inst 2005 Mar 2;97(5):330-1.
4. Bodai BI, Nakata TE, Wong WT, et al. Lifestyle medicine: A brief review of its dramatic impact on health and survival. Perm J 2018;22:17-025
5. Jones DS, Podolsky SH, Greene JA. The burden of disease and the changing task of medicine. N Engl J Med 2012 Jun 21;366(25):2333-8.
6. Tuso P, Stoll SR, Li WW. A plant-based diet, atherogenesis, and coronary artery disease prevention. Perm J. 2015;19(1):62-67.
7. Ujvari D, Hulchiy M, Calaby A, Nybacka Å, Byström B,Hirschberg AL. Lifestyle intervention up-regulates gene and protein levels of molecules involved in insulin signalling in the endometrium of overweight/obese women with polycystic ovary syndrome. Hum Reprod. 2014;29(7):1526-1535
8. Buettner D, Skemp SS. Blue Zones: Lessons from the world's longest lived. Am J Lifestyle Med. 2016;10(5):318-321.
9. Knowler WC, Barrett-Connor E, Fowler SE, et al. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. N Engl J Med. 2002;346(6):393-403.
10. Ornish DM, Brown SE, Scherwitz LW, et al. Can lifestyle changes reverse coronary heart disease? The Lifestyle Heart Trial. Lancet. 1990;336(8708):129-133.
11. Ornish D, Scherwitz LW, Billings JH, et al. Intensive lifestyle changes for reversal of coronary heart disease. JAMA. 1998; 280(23):2001-2007.
12. Gould KL, Ornish D, Scherwitz L, et al. Changes in myocardial perfusion abnormalities by positron emission tomography after long-term, intense risk factor modification. JAMA. 1995;274(11):894-901
13. Bodai BI, Tuso P. Breast cancer survivorship: A comprehensive review of long-term medical issues and lifestyle recommendations. Perm J 2015 Spring;19(2):48-79. DOI: https://doi.org/10.7812/ TPP/14-241.
14. Hyman MA, Ornish D, Roizen M. Lifestyle medicine: Treating the causes of diseases. Altern Ther Health Med 2009 Nov-Dec;15(6):12-4.
15. Ford ES, Bergmann MM, Kröger J, Schienkiewitz A, Weikert C, Boeing H. Healthy living is the best revenge: Findings from the European Prospective Investigation Into Cancer and Nutrition-Potsdam study. Arch Intern Med 2009 Aug 10;169(15):1355-62. D
16. Watzl B. Anti-inflammatory effects of

plant-based foods and of their constituents. Int J Vitam Nutr Res 2008Dec;78(6):293-8.

17.Lopez AD, Murray CC. The global burden of disease, 1990-2020. Nat Med 1990 Nov;4(11):1241-3.

18. Luppino FS, de Wit LM, Bouvy PF, et al. Overweight, obesity, and depression: A systematic review and meta-analysis of longitudinal studies. Arch Gen Psychiatry 2010 Mar;67(3):220-9.

19. Nicholson A, Kuper H, Hemmingway H. Depression as an aetiologic and prognostic factor in coronary heart disease: A meta-analysis of 6362 events among 146 538 participants in 54 observational studies. Eur Heart J 2006 Dec;27(23):2763-74

20.Hare DL, Toukhsati SR, Johansson P, Jaarsma T. Depression and cardiovascular disease: A clinical review. Eur Heart J 2014 Jun 1;35(21):1365-72.

21. Tuso P. Treatment progress indicator: Application of a new assessment tool to objectively monitor the therapeutic progress of patients with depression, anxiety, or behavioral impairment. Perm J 2014 Summer;18(3):55-9.

22. Mosovich SA, Boone RT, Reichenberg A, et al. New insights into the link between cardiovascular disease and depression. Int J Clin Pract 2008 Mar;62(3)

23. Miller GE, Blackwell E. Turning up the heat: Inflammation as a mechanism linking chronic stress, depression, and heart disease.

24. What breast cancer survivors can do - American Institute for Cancer Research (AICR); 2014 Oct

25. Ramos AR, Wheaton AG, Johnson DA. Sleep Deprivation, Sleep Disorders, and Chronic Disease. Prev Chronic Dis 2023;20:230197.

26. McConnell BV, Kronberg E, Medenblik LM, Kheyfets VO, Ramos AR, Sillau SH, et al. The rise and fall of slow wave tides: vacillations in coupled slow wave/spindle pairing shift the composition of slow wave activity in accordance with depth of sleep. *Front Neurosci.* 2022;16:915934. 10.3389/fnins.2022.915934

27. Hunter P. The inflammation theory of disease EMBO reports 2012. 13;11:968-70.

28. Cancello R, Clément K. Review article: Is obesity an inflammatory illness? Role of low-grade inflammation and macrophage infiltration in human white adipose tissue. BJOG 2006 Oct:1141-7.

29. Gregor MF, Hotamisligil GS. Inflammatory mechanisms in obesity. Ann Rev Immunol 2011;29:415-45.

30. Degenhardt L, Grebely J, Stone J, et al.: Global patterns of opioid use and dependence: harms to populations, interventions, and future action. Lancet. 2019, 394:1560-79.

31. Pattern and process of drug and alcohol use in India . (2008) https://main.icmr.nic.in/sites/default/files/icmr_bulletins/bulljan-mar08.pdf.

32.Magnitude of substance use in India(2019). https://www.lgbrimh.gov.in/resources/Addiction_Medicine/elibrary/magnitude_substance_abuse_india.pdf .

33. National Academies of Sciences, Engineering, and Medicine; Division of Behavioral and Social Sciences and Education, Health and Medicine Division, Board on Behavioral, Cognitive, and Sensory Sciences, Board on Health Sciences Policy; Committee on the Health and Medical Dimensions of Social Isolation and Loneliness in Older Adults. Social Isolation and Loneliness in Older Adults: Opportunities for the Health Care System. National Academies Press; February 27, 2020.

****

SARCOPENIA AND PHYSICAL ACTIVITY GUIDELINES

Dr. Lakshmi Nair MD

Introduction

Sarcopenia, characterized by low muscle mass, muscle weakness and impaired physical function, is associated with long hospital stay and adverse health care outcomes. Addressing or reversing sarcopenia and frailty is one of the prime focuses of cardiopulmonary and elderly care rehabilitation. In the background of increasing access to critical care rehabilitation in India, it is highly important the rehab physicians are equipped with the skill to screen for and manage sarcopenia and frailty.

Muscle mass decline begins from 30 years of age, accelerating after 50 years and resulting in a loss of nearly 20% in muscle mass and 40% in muscle strength from their peaks in early adulthood. Physical function starts declining after the age of 65, resulting in nearly 50% reduction in exercise capacity. These declines even though commonly misinterpreted as natural aging process, are one the leading causes for loss of independence and poor quality of life. They are also predictors of disability, hospitalizations and death.

Sarcopenia and frailty are distinct; sarcopenia is more about physical aspect and is a precursor for frailty. Frailty is a multidimensional term involving physical as well as cognitive decline and increasing vulnerability to adverse health outcomes.

Nearly 1 in 5 individuals above the age of 60 are sarcopenic globally. But young individuals can also be sarcopenic with risk factors like physical inactivity, malnutrition and systemic disease. A 2020 meta-analysis reports higher sarcopenia prevalence in dementia (26.4%), diabetes (31.1%) and respiratory disease (13.3%)

Screening and assessment of sarcopenia

- History- History of functional decline reported as difficulty in climbing stairs, falls and restricted outdoor mobility
- Clinical assessment- Poor hand grip strength, reduced muscle bulk, reduced walking speed and easy fatiguability during exertion.
- European Working Group for Sarcopenia in Older people (EWGSOP2) recommends assessing with five item SARC-F(Strength, Assistance with walking, rising from a chair, Climbing stairs and Falls) questionnaire
- Screening tests- Hand grip strength with dynamometer, 6 Min walk test- reduced walk distance compared to age predicted normal. Sit to stand from Chair- No. of repetitions in 30 sec. 2 min stand march test if unable to do 6 MWT. Short Physical Performance Battery (SPPB) and Timed Up and Go (TUG)
- Imaging- DEXA scan, MRI (for muscle cross sectional area), BIA (Bioelectrical

Impedance) to detect low appendicular muscle mass.

Management Strategies

- Resistance exercise- Strengthening exercises become the key in addition to the aerobic training strategies. Even muscle fiber type and Oxygen utilization capacity has been proven to improve with strengthening exercise. The quadriceps strength is closely related to the length of hospital stay and mortality. Progress and maintenance is important. Increase the resistance once 15 repetitions become easy. Include strength training in the exercise schedule minimum twice a week. Include major upper and lower limb muscles, do stretching prior to prevent injury. Apply joint preservation strategies and include balance training whenever necessary.
- Protein rich diet- Low serum albumin is an indicator of frailty. Moderately high protein diet is proven to improve muscle strength and improve muscle bulk in MRI and improve waist circumference. Indian diet is highly deficient in protein unless thoughtfully addressed by a dietician. Calculated the RDA requirement and 1-1.2gm/ kg and up to 1.5gm/kg in critically ill. Consider supplements when appropriate. Leucine (In whey, diary, meat) is better to prevent sarcopenia in elderly people by promoting muscle protein synthesis.

Conclusion

Sarcopenia is often under diagnosed due to the lack of awareness among public as well as health care professionals. While being easily misinterpreted as the part of natural aging, early diagnosis and intervention (starting in mid-life) might be the key to preventing or slow progression. Addressing sarcopenia in young patients who are deconditioned due to chronic cardio-pulmonary diseases improves their quality of life and the outcome after major hospitalizations. A multidisciplinary approach involving Physicians, nurses, physiotherapists, dieticians and psychologists is essential in sarcopenia care.

Reference

Robin M Daly etal: Sarcopenia in general practice: Towards improving muscle health screening, assessment and management in Australia AJGP Vol 53, Issue 10, October 2024.

****

MEDICINE NUTRITION IN THE INDIAN CONTEXT

Nivedita Pavithran PhD

In an era where nutrition information is ubiquitous yet chronic disease rates continue climbing across India, a fundamental disconnect persists between knowing and doing. Patients arrive armed with impressive nutritional knowledge. They can recite the benefits of millets and turmeric, they know about avoiding sugar and oil. Yet they struggle with the same conditions: diabetes, hypertension, heart disease, and metabolic syndrome that have reached epidemic proportions in our country. The problem is not a deficit of information. It is a failure of translation.

As a nutrition expert specializing in lifestyle medicine, I have learned that technical knowledge, while essential, represents only a fraction of what makes nutritional interventions succeed in the Indian context. The art of lifestyle medicine lies in understanding human beings. It lies in understanding their joint families, their pressure cookers, their tiffin services, their festival traditions, their relationships with mothers-in-law who insist on ghee, and their Tuesday nights when driving home through Kochi traffic leaves no energy for cooking. It lies in bridging these lived experiences with the science of how food affects human physiology.

Early in my career, I operated as the archetypal expert. I dispensed beautifully crafted meal plans with precise portion sizes and detailed recipes. These plans often ended up crumpled in auto rickshaws or used as chapati covers. The problem was not my nutrition knowledge. It was my approach.

I now begin every consultation by acknowledging a fundamental truth: patients are the experts on their own lives. I may understand biochemistry and metabolic pathways. But they understand their work schedules, their family dynamics, their mother's insistence on frying everything, their emotional triggers after a long day, and the pressure to serve certain foods at festivals. My role is to create a partnership between these two domains of expertise.

This shift from prescriber to collaborator is evidence based. Motivational interviewing research demonstrates that patients are far more likely to sustain behavior change when they articulate their own reasons for doing so, rather than receiving external directives.

THE INDIAN CONSULTATION

I open consultations with a simple question: "Tell me about your relationship with food. Not what you eat, but how food fits into your life. The good, the challenging, and everything in between."

This question yields richer information than any dietary recall in the Indian context. Patients reveal childhood memories of grandmothers forcing extra ghee. They describe the stress of cooking separate meals for picky children and

demanding in laws. They share the guilt of skipping breakfast because morning rush leaves no time. They speak about the pressure to eat at every social gathering, where refusing food causes offense. One patient from Punjab shared that his entire family identity revolved around butter chicken and heavy cream dishes. For him, "eating light" felt like rejecting his culture. These stories are not merely interesting background. They are the keys to sustainable change.

My most powerful assessment tool is the mindful food journal, adapted for Indian realities. Unlike traditional diaries focused on calories, I ask patients to record what they ate, their hunger level, their emotional state, their environment during eating, and how they felt afterward. Crucially, I instruct them not to change their eating during this week. The goal is observation without judgment.

Patients return with revelations. "I had no idea I was eating dinner at 10 pm every night while watching TV." "I never noticed that every afternoon slump sent me to the chai wallah for biscuits." "I didn't realize I was finishing whatever my children left on their plates." "I discovered I eat most when my mother in law criticizes my cooking."

Collaborative Goal Setting for Indian Families

After assessment comes the critical juncture. The temptation is to list everything needing change. More vegetables. Fewer fried foods. Smaller portions. Earlier dinners. This approach overwhelms patients and triggers resistance, especially in a culture where food is love and hospitality.

Instead, I ask: "Looking at this information together, what feels most important for you to address? What change might make the biggest difference in your daily life?"

This question honors patient priorities. It ensures relevance to their actual life circumstances. It builds commitment through autonomy. Patients invest more effort in goals they have chosen. I have learned to trust that patients often identify the right starting point, even when it differs from what I might have prioritized.

A Kerala housewife focused solely on reducing coconut in one daily vegetable instead of overhauling everything. That modest goal evolved into experimenting with using coconut only for garnish, then discovering she preferred the lighter taste, then gradually reducing coconut across all preparations. Another patient chose to address his midnight appam and stew habit. That choice revealed underlying stress from work. Addressing stress management created broader benefits than any dietary change alone could achieve.

A Bengaluru techie decided to focus on her filter coffee habit. Not eliminating it, but reducing sugar gradually from three spoons to one, then to half, then to none. She discovered she actually preferred the taste of real coffee. This small win gave her confidence to address other habits.

The entry point matters less than the momentum it generates. Success in one domain builds self efficacy that spills over into others.

Common Indian Patient Problems and Solutions

The Rice Identity Crisis

South Indians have a deep emotional connection with rice. A meal without rice feels incomplete. Patients panic at the thought of reducing rice. They associate

it with hunger, weakness, and cultural betrayal.

I never ask patients to eliminate rice. Instead, we explore modifications. Can we shift from polished white rice to parboiled rice, which has more nutrients and lower glycemic impact? Can we mix rice with millets like kambu, chama, or varagu? Can we increase the vegetable to rice ratio on the plate? Can we practice eating rice mindfully, savoring each bite rather than swallowing mechanically?

One patient agreed to try small millets mixed with rice at a 1:3 ratio. She found she liked the nutty flavor. Gradually she increased to 1:1. Her blood sugar improved without her feeling deprived.

Festival and Wedding Season

Indian social life revolves around food. Weddings, festivals, family gatherings, religious observances all center on elaborate meals. Patients feel trapped between health goals and social obligations.

I explicitly honor these traditions and never recommend abandoning them. Instead, we explore modifications and additions. Can we serve ourselves smaller portions of each dish rather than skipping any? Can we focus on vegetable dishes and take just symbolic amounts of payasam and fried items? Can we eat slowly, savoring each taste, stopping when satisfied rather than when the leaf is clean?

I help patients develop scripts for graceful refusal. "The food is wonderful, I'm just saving space for the next course." "I'm focusing on how I feel after eating these days, so I'll take a small serving." "Your mother's cooking is so special, I want to truly savor it slowly." These phrases navigate pressure without conflict.

The Diabetes Reversal Expectation

Indian patients with diabetes often arrive expecting dramatic reversal overnight. They have read internet stories and watched YouTube videos. When results come slowly, they become discouraged.

I reframe expectations realistically. We celebrate small victories: fasting blood sugar dropping by ten points, needing less medication, feeling energetic after meals instead of sleepy. One patient celebrated when his morning reading stayed below 140 for a whole week. Another rejoiced at reducing one diabetes tablet. These incremental wins build momentum.

What Really Drives Change in Indian Patients

After years working with Indian patients, I have identified what truly motivates sustained dietary transformation. It is rarely abstract health metrics. Patients do not maintain habits because their HbA1c dropped by one point. They sustain change because:

- ✓ They feel better in daily life. The patient who notices they can climb stairs without breathlessness, who has energy to play with grandchildren, who sleeps through the night without waking for water, who thinks clearly during afternoon meetings has internal motivation that no lab report can match.

- ✓ I deliberately draw attention to these experiences. "You mentioned having energy all afternoon yesterday. What do you think contributed to that?" This simple question helps patients connect their choices with positive outcomes.
- ✓ They experience mastery over their condition. Each successful day, each navigated wedding, each festival managed without blood sugar spikes builds confidence. Patients begin seeing themselves as capable of managing their health despite challenging circumstances.
- ✓ Their family notices and supports them. When a husband comments that his wife seems more energetic, when children say Amma seems happier, when the mother in law asks for the new recipe, these validations become powerful reinforcement.

Celebrating Non Scale Victories

While weight loss often motivates initial visits, it is an unreliable metric for ongoing motivation. Weight fluctuates based on water, hormones, and countless factors. Patients who tie their motivation exclusively to the scale frequently become discouraged during normal fluctuations.

I systematically highlight other victories that resonate with Indian patients:

Clothes fitting differently. Being able to cross legs comfortably while sitting on the floor. Reduced medication doses. Better reports from annual checkups. Comments from relatives at family gatherings. Not feeling sleepy after meals. Walking faster during morning walks. Reduced joint pain. Better digestion and reduced bloating. Clearer skin. More energy for daily tasks.

These victories accumulate even when the scale stalls, providing sustained motivation through the inevitable plateaus.

Conclusion

After years of practice in India, I understand my role differently than I did at the beginning. I am not primarily a dispenser of nutrition information. That information is widely available through apps and WhatsApp forwards. Instead, I am a guide. A translator between scientific knowledge and the reality of Indian kitchens. A witness to patients' struggles and triumphs within their families and communities.

The most effective nutrition expert in the Indian context brings deep technical knowledge about how food affects health. But they pair this with genuine curiosity about each patient's unique life. They respect family hierarchies while advocating for the patient's health. They honor food traditions while suggesting gentle modifications. They understand that a meal plan that ignores the pressure cooker, the joint family, and the wedding season will fail.

When patients succeed, it is not because my advice was brilliant. It is because they discovered their own capacity for change within the constraints of their lives. They built skills that will serve them for decades. They developed a relationship with food that supports rather than undermines their health. I simply helped clear the path, provided tools, and

believed in their ability before they believed in themselves.

This is the art of lifestyle medicine nutrition in India. Meeting people where they are, honoring their complexity and their wisdom, and accompanying them on the journey toward healthier, more nourished lives.

****

BRAIN HEALTH AND SLEEP: A FOUNDATIONAL PILLAR OF REHABILITATION AND LIFESTYLE MEDICINE

Dr Nitha J MD

Sleep was historically considered a passive state of rest with reduced brain activity. However, with the advent of EEG and modern neuroscience, sleep is now recognized as a highly organized and active neurophysiological process. During sleep, particularly slow-wave and REM stages, the brain supports memory consolidation, synaptic homeostasis, and neural plasticity[1]During deep sleep neurotoxic metabolites are removed which includes the clearance of β-amyloid and tau proteins, which are implicated in neurodegenerative diseases such as Alzheimer's disease.[2] Adequate sleep supports motor learning, cognitive rehabilitation, stroke recovery, neural network reorganization. Sleep disturbances are associated with poorer rehabilitation outcomes and reduced neuroplastic potential.[3]

How much time should we sleep?

Sleep is an important foundational lifestyle domain like diet and exercise. Sleep being a state of active neural restoration; adequate sleep is essential for optimal health. Adults should generally obtain at least 7 hours of sleep per night on a consistent basis to maintain optimal physical and mental health.[4] Habitually sleeping less than 7 hours has been linked with several adverse outcomes, including weight gain and obesity, diabetes mellitus, hypertension, cardiovascular disease, stroke, depression, and increased overall mortality. Insufficient sleep is also associated with reduced immune competence, heightened pain perception, poorer cognitive and physical performance, greater likelihood of errors, and an increased risk of accidents. Regularly sleeping more than 9 hours per night may be appropriate in certain circumstances, such as in young adults, individuals recovering from accumulated sleep deprivation, or those experiencing illness. However, for the general adult population, the health implications of consistently sleeping beyond 9 hours remain uncertain and may vary depending on underlying conditions and individual health status. Healthy sleep includes adequate duration, good quality, appropriate timing and regularity, and the absence of sleep disturbances or disorders

Neurobiology of sleep

NREM sleep, particularly slow-wave sleep (SWS), is crucial for neuronal restoration and metabolic homeostasis. During this stage, reduced neuronal activity facilitates synaptic downscaling, energy restoration, and activation of the glymphatic system, which enhances clearance of neurotoxic metabolites.[2]

REM sleep is strongly associated with emotional regulation, memory consolidation, and motor learning. Neuroimaging and electrophysiological studies show that REM sleep supports integration of emotional experiences and consolidation of procedural and motor memories, processes particularly relevant to neurorehabilitation and skill acquisition.[5]

The cyclic alternation between NREM and REM sleep enables coordinated neural processing and facilitates neuroplasticity, allowing the brain to reorganize synaptic connections and strengthen learning-related neural networks.[1]

Sleep plays a critical role in maintaining synaptic homeostasis and neuroplasticity, processes that are fundamental for learning, memory formation, and neural recovery. According to the synaptic homeostasis hypothesis, wakefulness is associated with widespread synaptic strengthening due to continuous learning and sensory input, while sleep—particularly slow-wave sleep (SWS)—facilitates selective synaptic downscaling, allowing the brain to remove redundant synaptic connections while preserving and strengthening important neural circuits. This balance improves signal efficiency and supports optimal cognitive and motor functioning.[6]

Sleep aspects in Rehabilitation

Sleep also contributes significantly to motor learning consolidation. During sleep, recently acquired motor skills undergo neural reorganization, stabilizing and enhancing motor memory. Studies have shown that sleep following motor training improves skill performance, accuracy, and retention, suggesting that sleep-dependent consolidation is an essential component of motor recovery after neurological injury[7]

Sleep plays a fundamental role in maintaining cognitive performance, particularly in domains such as attention, executive functioning, and processing speed. Adequate sleep supports optimal functioning of the prefrontal cortex, which governs higher-order cognitive processes including decision-making, working memory, and cognitive flexibility.[8] Conversely, sleep deprivation leads to reduced attentional capacity, slower processing speed, and impaired executive control, thereby negatively affecting daily functioning and task performance.

Post-TBI sleep disturbances are common and may interfere with neuroplastic processes necessary for restoring cognitive abilities. Evidence suggests that adequate sleep facilitates memory consolidation, synaptic reorganization, and neural repair, which are essential for regaining cognitive skills during rehabilitation.[7]

Motor Learning and Functional Rehabilitation

Sleep plays a crucial role in motor learning and functional recovery. Adequate sleep also influences the effectiveness of rehabilitation therapies. People who obtain sufficient sleep after motor training demonstrate greater therapy gains, improved motor skill retention, and better functional outcomes

compared with those experiencing sleep deprivation. Sleep facilitates synaptic plasticity and reorganization of motor networks, which are essential mechanisms underlying recovery after neurological injury [1]

The timing of therapy sessions relative to sleep cycles may also influence rehabilitation outcomes. Motor practice performed during the day followed by a period of sleep can enhance consolidation of learned movements, suggesting that structuring rehabilitation sessions to allow adequate sleep afterward may optimize recovery and long-term skill retention.[9]

Pain Modulation and Central Sensitization

Sleep plays a significant role in pain modulation and central pain processing. Experimental studies demonstrate that sleep deprivation lowers pain thresholds and increases pain sensitivity, partly through alterations in central nociceptive pathways and impaired descending pain inhibitory mechanisms.[10] Inadequate sleep also disrupts endogenous analgesic systems and increases inflammatory mediators, which may amplify pain perception.

There is a well-established bidirectional relationship between sleep disturbance and chronic pain. Poor sleep quality can exacerbate pain intensity and reduce pain tolerance, while persistent pain can fragment sleep and reduce restorative sleep stages. This reciprocal interaction often creates a self-perpetuating cycle, where pain disrupts sleep and inadequate sleep further worsens pain severity.[11]

These mechanisms have important implications for conditions characterized by central sensitization, such as myofascial pain syndrome, fibromyalgia, and other chronic widespread pain disorders. Sleep disturbances, particularly reduced slow-wave sleep, have been associated with enhanced central pain processing and hyperalgesia in these conditions. Therefore, addressing sleep quality may represent an important therapeutic target in the management of chronic pain and rehabilitation programs. [10]

Emotional Regulation and Mental Health

Sleep plays a key role in emotional regulation and mental health by maintaining balanced activity between the prefrontal cortex and limbic system. Sleep disruption is strongly associated with mood disorders such as depression and anxiety, as inadequate sleep increases emotional reactivity and reduces the brain's ability to regulate negative emotions.[8]

In rehabilitation settings, poor sleep may reduce motivation, engagement, and participation in therapy, potentially slowing recovery. Adequate sleep helps stabilize mood and improve cognitive and emotional functioning, thereby supporting better rehabilitation outcomes.[12]

Sleep Disruption in Common Physiatry Populations

Stroke - Sleep disturbances are common after stroke, with a high prevalence of obstructive sleep apnea and circadian rhythm disruption. These disturbances may impair neuroplasticity, cognitive

recovery, and functional rehabilitation, thereby influencing long-term outcomes.

Traumatic Brain Injury – TBI patients frequently experience insomnia, hypersomnia, and circadian rhythm disorders. Persistent sleep disturbances can contribute to chronic fatigue, cognitive impairment, and reduced functional recovery during rehabilitation.

Spinal Cord Injury- Individuals with spinal cord injury often develop sleep problems due to autonomic dysfunction, impaired respiratory control, and reduced mobility. The prevalence of sleep apnea is significantly higher in this population and may worsen fatigue and daytime functioning.

Chronic Pain and Myofascial Disorders - Chronic pain conditions, including myofascial pain syndrome, are frequently associated with sleep fragmentation and reduced restorative sleep. Poor sleep may impair muscle recovery and contribute to central pain amplification, creating a cycle of worsening pain and sleep disturbance.

Neurodegenerative Disorders - Sleep disturbances are common in neurodegenerative diseases such as Parkinson's disease and Alzheimer's disease. There is a bidirectional relationship, where neurodegeneration disrupts sleep regulation while chronic sleep impairment may accelerate neurodegenerative processes.

Sleep Assessment

A structured clinical interview is essential for identifying sleep disturbances in rehabilitation patients. Key domains include sleep quality, which explores perceived restfulness, difficulty initiating or maintaining sleep, and overall satisfaction with sleep. Assessment of sleep timing, sleep fragmentation and circadian rhythm helps identify irregular sleep–wake patterns, delayed sleep phase, or disruptions related to hospitalization, neurological injury, or shift in daily routines. Finally, daytime symptoms such as excessive sleepiness, fatigue, impaired concentration, mood changes, and reduced participation in therapy should be explored, as these may indicate clinically significant sleep dysfunction affecting rehabilitation outcomes.[8]

Screening tools

The Insomnia Severity Index (ISI) is widely used to assess the severity and impact of insomnia symptoms, including difficulties with sleep initiation, maintenance, and early awakening. The Epworth Sleepiness Scale (ESS) evaluates daytime sleepiness and helps identify patients with excessive daytime somnolence that may suggest underlying sleep disorders.

For screening obstructive sleep apnea, the STOP-BANG questionnaire is commonly used in clinical practice. It evaluates risk factors such as snoring, tiredness, observed apnea, hypertension, body mass index, age, neck circumference, and gender, providing a practical tool for identifying individuals who may require formal sleep studies

Lifestyle Medicine Interventions for Sleep Optimization

Behavioral Strategies

Behavioral strategies form the cornerstone of lifestyle-based approaches to improving sleep. Sleep hygiene fundamentals include maintaining a comfortable sleep environment, limiting caffeine and electronic device use before bedtime, engaging in regular physical activity, and establishing relaxing pre-sleep routines. These measures help support normal sleep physiology and improve overall sleep quality.[13]

Cognitive Behavioral Therapy for Insomnia (CBT-I) is considered the first-line non-pharmacological treatment for chronic insomnia. It combines cognitive restructuring with behavioral techniques such as stimulus control and sleep restriction to address maladaptive sleep behaviors and beliefs, resulting in sustained improvements in sleep onset, duration, and efficiency.[14]

Maintaining regular sleep–wake timing is also essential for stabilizing circadian rhythms. Consistent bedtimes and wake times help synchronize the internal biological clock, improving sleep quality and daytime alertness, which is particularly important for patients undergoing rehabilitation.

Regular physical activity has been shown to improve sleep duration and quality by enhancing slow-wave sleep and overall sleep efficiency. Exercise may also reduce sleep onset latency and improve daytime alertness. However, timing is important, as vigorous exercise close to bedtime may delay sleep onset in some individuals.

Light Exposure and Circadian Regulation

Light is the primary external cue regulating the circadian rhythm through its influence on the suprachiasmatic nucleus of the hypothalamus. Morning light exposure helps synchronize the internal biological clock, promoting earlier melatonin offset, improved daytime alertness, and better night-time sleep initiation.

Conversely, excessive evening exposure to blue light, particularly from electronic screens, can suppress melatonin secretion and delay circadian timing. Limiting screen exposure and reducing artificial light in the evening may therefore help maintain normal sleep–wake patterns and improve sleep quality.[13]

Stress Regulation

Stress and psychological hyperarousal are common contributors to sleep disturbances. Mindfulness practices help improve sleep by promoting present-moment awareness and reducing rumination and emotional reactivity, thereby facilitating sleep initiation.

Relaxation techniques, such as progressive muscle relaxation and guided imagery, reduce physiological arousal and sympathetic activation, supporting smoother transition into sleep. Breathing interventions, including slow diaphragmatic breathing, can further activate parasympathetic pathways, lower heart rate, and enhance relaxation before bedtime.[15]

Rehabilitation- Specific Clinical Implications

Integrating Sleep into Rehabilitation Planning - Sleep assessment should be incorporated as a standard component of rehabilitation care, as sleep disturbances can significantly affect recovery trajectories. Optimizing sleep may enhance neuroplasticity, motor learning, pain control, and overall therapy responsiveness, thereby improving functional outcomes.[7]

Timing Rehabilitation Relative to Sleep - The timing of rehabilitation interventions may influence treatment effectiveness. Motor and cognitive training followed by adequate sleep can facilitate memory consolidation and skill retention, suggesting that aligning therapy schedules with sleep-related consolidation windows may optimize rehabilitation gains while also supporting fatigue management.

Sleep as a Therapeutic Target, Not Just a Symptom - Sleep should be considered a modifiable therapeutic target rather than merely a secondary symptom. Addressing sleep disturbances can contribute to improvements in pain modulation, cognitive performance, functional recovery, and participation in rehabilitation programs, reinforcing the importance of sleep-focused interventions within physiatric practice. [10]

Future Directions and Research Opportunities

Future research should further explore sleep-targeted interventions as a strategy to enhance rehabilitation outcomes, particularly in neurological and musculoskeletal recovery. Understanding how improving sleep quality influences neuroplasticity, motor learning, and functional restoration may help refine rehabilitation protocols.[7]

Advances in wearable technologies provide new opportunities for continuous monitoring of sleep patterns, circadian rhythms, and activity levels in rehabilitation patients. These tools may allow clinicians to integrate real-time sleep data into individualized rehabilitation planning.

Emerging research on the glymphatic system highlights the role of sleep in clearing neurotoxic metabolites from the brain, suggesting potential implications for recovery after neurological injury and prevention of neurodegeneration.[2]

Additionally, the development of precision sleep medicine—which tailors sleep interventions based on individual physiology, circadian patterns, and comorbidities—may enable more personalized approaches to optimizing sleep and improving rehabilitation outcomes.

References

1. Diekelmann, S. & Born, J. The memory function of sleep. *Nat Rev Neurosci* 11, 114–126 (2010).

2. Xie, L. *et al.* Sleep drives metabolite clearance from the adult brain. *Science* 342, 373–377 (2013).

3. Lowe, A., Neligan, A. & Greenwood, R. Sleep disturbance and recovery during rehabilitation after traumatic brain injury: a systematic review. *Disabil Rehabil* 42, 1041–1054 (2020).

4. Watson, N. F. *et al.* Recommended Amount of Sleep for a Healthy Adult: A Joint Consensus Statement of the American Academy of Sleep Medicine and Sleep Research Society. *Sleep* 38, 843–844 (2015).

5. Walker, M. P. & Stickgold, R. Sleep-Dependent Learning and Memory Consolidation. *Neuron* 44, 121–133 (2004).

6. Tononi, G. & Cirelli, C. Sleep and the Price of Plasticity: From Synaptic and Cellular Homeostasis to Memory Consolidation and Integration. *Neuron* 81, 12–34 (2014).

7. Rasch, B. & Born, J. About sleep's role in memory. *Physiol Rev* 93, 681–766 (2013).

8. Krause, A. J. *et al.* The sleep-deprived human brain. *Nat Rev Neurosci* 18, 404–418 (2017).

9. King, B. R., Hoedlmoser, K., Hirschauer, F., Dolfen, N. & Albouy, G. Sleeping on the motor engram: The multifaceted nature of sleep-related motor memory consolidation. *Neurosci Biobehav Rev* 80, 1–22 (2017).

10. Finan, P. H., Goodin, B. R. & Smith, M. T. The association of sleep and pain: an update and a path forward. *J Pain* 14, 1539–1552 (2013).

11. Haack, M., Simpson, N., Sethna, N., Kaur, S. & Mullington, J. Sleep deficiency and chronic pain: potential underlying mechanisms and clinical implications. *Neuropsychopharmacology* 45, 205–216 (2020).

12. Irwin, M. R. Sleep and inflammation: partners in sickness and in health. *Nat Rev Immunol* 19, 702–715 (2019).

13. Irish, L. A., Kline, C. E., Gunn, H. E., Buysse, D. J. & Hall, M. H. The role of sleep hygiene in promoting public health: A review of empirical evidence. *Sleep Med Rev* 22, 23–36 (2015).

14. Trauer, J. M., Qian, M. Y., Doyle, J. S., Rajaratnam, S. M. W. & Cunnington, D. Cognitive Behavioral Therapy for Chronic Insomnia: A Systematic Review and Meta-analysis. *Ann Intern Med* 163, 191–204 (2015).

15. Jerath, R., Edry, J. W., Barnes, V. A. & Jerath, V. Physiology of long pranayamic breathing: neural respiratory elements may provide a mechanism that explains how slow deep breathing shifts the autonomic nervous system. *Med Hypotheses* 67, 566–571 (2006).

****

MOTIVATIONAL INTERVIEWING IN HARMFUL HABITS

Dr. Lakshmi Nair MD

INTRODUCTION

Motivational Interviewing is a counseling technique that helps individuals to resolve ambivalence and change their behaviour.

It becomes an integral part of cardiac rehabilitation as we are aiming for lifestyle changes and adherence to new habits. For eg. Quit smoking, exercise, eat healthy, risk factor control, medication adherence etc. It is important to avoid judging or policing while you talk to the patient as it might result in immediate resistance. It is also important to be assertive and convincing. It is even more difficult to ensure long term compliance. But once the patient starts enjoying the new lifestyle, compliance can be ensured.

An easy way to start is by citing evidence. Patient should be an active decision maker rather than a passive listener. Goal oriented approach is always better. Goal should be set by the patient depending on what motivates him the most. The physician only guides the patient towards realistic goals and sets timelines to achieve it. It is equally important to review the patient regularly at least for a year to ensure long term compliance.

EVIDENCE FOR BENEFITS OF BEHAVIOUR CHANGE

- Medication adherence- nearly 50% benefit for survival
- Smoking cessation- 10 years non quitters have twice the mortality as quitters. All ceased smoking in hospital but 50% resumed within 20 days of discharge, 63% resumed by 12 months
- Physical activity adherence- 30% reduction in mortality
- Dietary improvements- 50% survival impact. Dietary changes were made at 2 months but By 12 months back to their old dietary score
- Mental health management- anxiety /depression at 2-4 m post event more likely to have unhealthy lifestyle at 12 months

PRACTICAL EVIDENCE BASED STARTEGIES

- Assess: Self-efficacy / barriers
- Raise the issue without losing rapport- Tell me more about..., What might help you become more active... What would
- Instead of Telling/ Persuading/ convincing/ policing Go for Resist righting/ Understanding motivation/ Listen/ Empower

- Information-ELICIT What do you...know about... INFORM What else would you like to know about... CHECK how does that apply to you... what do you make of that?
- Find out what motivates the patient the most to set lifestyle goals.
- Respect the patients expertise and preferences
- Build partnership (Establish preferences for information and participation)/ Information giving (Evidence, address worries and expectations)/negotiation and communication (Clarify values and preferences in the light of evidence / negotiation with the patient regarding what is best for them)/ agreement(treatment plan)
- GOALS- SMART- Importance and Confidence (Scale 1-10), Concordance (Goal is important to patient as well), linked to values (Reason Underneath the change), small steps, action plan, coping plan
- Patient states their - Desire- I want to, Ability I can (Confidence), Reason Meaningful (Values), Need (Important), (DARN)
- Patient changes from - Amotivated(I have no desires)/ External (Someone else told) / Introjected (I have internalized the nagging better do it)/ Identified/ (doing this will help me to achieve my goal) Integrated (Doing this is a part of who I am)/ Intrinsic (I love doing this)

The spirit of motivational interviewing is to gain patient's trust in which

1. the clinician does not assume the role of an expert (superior to the patient) but partner in decision making
2. Empathy towards patient's needs, experiences and points of view
3. Compassion for patient's life and experience (Clinician does not pursue their own interest and gives high priority to the patient's needs.)
4. Evoking motivation to change by exploring and reinforcing the patient's reasons for change.

Techniques of motivational interviewing

1. First element- Open ended questions
2. Active listening- reflecting patient's thoughts regarding bad habits
3. Affirmation- praise/ recognition/ understanding
4. Summarizing
5. Encourage self -motivational statements

- Building motivation through expression of DARN (Desire, ability, reason, and need).

- Stating CAT (Commitment, Activation, Taking steps)

Motivational Interviewing is a therapeutic style which can be combined with other approaches as well.

BEHAVIOUR CHANGE MODES AND THEORIES

- Cognitive Behavior Therapy(CBT)
- Motivational Interviewing(MI)

- Self-Regulation Theory
- Health belief model CMO- B model- Capability/ Motivation/ Opportunity

Components include

- Address unhelpful thoughts and behavior
- Address self-efficacy
- Use action plans and coping plan- Use of diaries and self-monitoring tools
- Consider pros and cons, advantages and disadvantages, resolve ambivalence

Patient's adherence to the life style changes at 6 months and 1 year after the start of the cardiac rehab program is an indicator of the success of the program. Having a skilled cardiac rehab psychologist and goal-oriented team approach would help a long way for the program's success.

Reference

Bischof G, BischofA, RumpfHJ. Motivational Interviewing: An evidence-based Approach for use in Medical Practice. Dtsch Arztebl Int. 2021 Feb19;118:109-115.

****

STRESS AND THE SELF: NEUROBIOLOGICAL FOUNDATIONS AND REHABILITATION APPLICATIONS IN PHYSIATRY

Dr Ravi Sankaran MD / AI Assist

Introduction

Stress is an often-overlooked determinant of clinical outcomes in rehabilitation medicine. In many patients, symptoms fluctuate and functional decline persists despite appropriate guideline-based treatment and stable structural pathology. When diagnostic testing fails to explain deteriorating function, clinicians must consider physiologic mechanisms that may impair recovery. One potential contributor is chronic physiologic stress activation without adequate recovery.

Understanding how stress affects adaptation, neuroplasticity, and functional recovery may help explain why some patients fail to improve despite appropriate therapy. Addressing stress regulation may therefore represent an important but underrecognized component of rehabilitation practice.

Stress Is Necessary for Adaptation

Stress is often framed as harmful, but biologically this is incomplete. Physiologic systems require controlled exposure to stress to maintain function and adapt to environmental demands. This principle is described by hormesis, in which moderate stress exposure enhances resilience and performance.

Examples of beneficial stress include physical exercise, cognitive challenge, rehabilitation training, and environmental exposure. These stimuli activate physiologic systems and trigger adaptive responses across multiple domains. In this sense, the body does not seek comfort but rather adapts through cycles of challenge followed by recovery.

The Stress–Recovery Cycle

Adaptive stress operates through a cyclical process:

stressor → physiologic activation → recovery → adaptation

During the activation phase, the sympathetic nervous system and hypothalamic–pituitary–adrenal (HPA) axis increase metabolic demand and mobilize energy resources. During recovery, parasympathetic activity promotes tissue repair, neural consolidation, and metabolic restoration. Repeated cycles of activation and recovery strengthen physiologic capacity and improve resilience.

However, when recovery is insufficient, physiologic systems remain chronically activated. This cumulative burden is referred to as allostatic load. Persistent

allostatic load disrupts neuroendocrine balance and impairs adaptive capacity. Rehabilitation therapies themselves function as controlled stressors intended to stimulate neuroplastic change. Without adequate recovery, these adaptive processes cannot occur effectively.

Passive Versus Active Stress Processing

Not all stressors are processed in the same way. A useful distinction can be made between active stress processing and passive stress exposure.

Active stress processing involves engagement with the stressor through purposeful action. Examples include exercise, rehabilitation training, problem solving, and social interaction. These activities provide a physiologic outlet for stress activation and typically culminate in resolution followed by recovery.

Passive stress exposure, in contrast, involves prolonged stimulation without meaningful action. Examples include continuous screen exposure, constant information consumption, emotional rumination, and excessive intake of refined carbohydrates. These stimuli activate the same physiologic stress systems but do not provide a mechanism for resolution. As a result, stress pathways remain activated for prolonged periods.

This distinction may help explain why modern lifestyles can produce high levels of fatigue and physiologic dysregulation despite relatively low physical demand.

Modern Stimulation as a Barrier to Recovery

Modern environments expose individuals to unprecedented levels of sensory and cognitive stimulation. Digital media, artificial lighting, constant novelty, and continuous information streams activate attention, emotional, and reward systems within the brain.

Unlike traditional stressors, however, these stimuli rarely culminate in physical or cognitive resolution. Instead, they create a pattern of chronic low-grade activation without adequate recovery. Consequences may include sleep disruption, autonomic imbalance, persistent sympathetic activation, and cognitive fatigue.

Persistent stress activation can also promote neuroinflammation and impair neuroplastic processes. These mechanisms are increasingly recognized across multiple rehabilitation populations. Chronic stress may reduce synaptic plasticity and cortical adaptability, limiting motor learning and rehabilitation gains. Sustained sympathetic activation can amplify nociceptive signaling and contribute to central sensitization. Cognitive effects may include impaired attention, executive dysfunction, and reduced working memory, all of which can interfere with therapy participation and increase functional errors.

In addition, autonomic dysregulation and metabolic disturbances may contribute to persistent fatigue, while emotional and motivational changes may reduce therapy adherence.

Converting Harmful Stress Into Adaptive Stress

Because stress itself is necessary for adaptation, the clinical goal is not to eliminate stress but to improve how it is processed.

One important strategy is converting passive stimulation into active engagement. Passive stressors keep stress circuits activated without resolution. Examples include rumination, doom-scrolling, and continuous information consumption. Active stress channels the same physiologic activation into purposeful activity such as exercise, rehabilitation training, deliberate learning, or social engagement. Through action, the nervous system is able to complete the stress cycle.

A second principle is bounding the stressor. Useful stress has clear limits in time and intensity. Boundaries allow recovery mechanisms to activate and prevent excessive physiologic load.

Equally important is pairing stress exposure with recovery. Recovery processes include sleep, parasympathetic activation, social connection, and quiet cognitive states. Without recovery, stress accumulates and contributes to allostatic load.

Cognitive interpretation of stress also influences physiologic responses. When stress is perceived as a challenge, the resulting response tends to be more adaptive. When perceived as a threat, the response becomes defensive and maladaptive. The prefrontal cortex plays a central role in regulating this interpretation and modulating amygdala activity. Clinical techniques such as cognitive reframing, mindfulness, and goal-oriented behavior can help modify stress perception and improve emotional regulation.

Finally, resilience can be strengthened through progressive exposure to controlled stressors. Examples include graded exercise, progressive cognitive challenge, and structured rehabilitation training. Over time, these interventions strengthen regulatory systems within the autonomic nervous system and HPA axis, expanding the individual's capacity to tolerate stress.

The Stress Resolution Model

Many patients experience persistent stress not because their lives contain extraordinary demands but because their stress responses are repeatedly activated without being resolved.

The human stress system evolved to manage episodic challenges that required immediate action, such as physical effort, problem solving, or social conflict. In these contexts, stress typically followed a predictable physiologic sequence:

stimulus → action → recovery

Through this cycle the organism returned to baseline and adapted to future challenges.

Modern environments increasingly disrupt this pattern. Many contemporary stressors activate the same neurobiological systems but do not provide a behavioral pathway for resolution. Continuous digital stimulation, emotional rumination, irregular sleep

patterns, and chronic information exposure repeatedly activate attention, reward, and threat-detection systems in the brain without requiring meaningful action. The result is persistent low-grade activation of stress pathways.

Over time, this pattern contributes to the accumulation of allostatic load, characterized by autonomic imbalance, endocrine dysregulation, and impaired recovery capacity.

Clinical Implications for Physiatry

Recognizing unresolved stress activation has several implications for rehabilitation practice.

First, clinicians should assess behavioral sources of chronic stimulation, particularly those affecting sleep and recovery. This assessment may include evaluation of perceived stress, coping strategies, sleep quality, and daily behavioral habits. Screening instruments such as the Perceived Stress Scale and Brief Resilience Scale may be helpful adjuncts.

Second, patients can be taught strategies to convert passive stress into active stress processing. Physical activity remains one of the most effective regulators of stress physiology, while breathing exercises, mindfulness practices, and social interaction can enhance parasympathetic activation and emotional regulation.

Finally, clinicians should emphasize the importance of completing the stress cycle through recovery behaviors. Adequate sleep, regular physical movement, and structured periods of cognitive rest help restore physiologic balance and support neuroplastic adaptation.

Conclusion

Human physiology requires stress to adapt and maintain function. The critical factor is not the presence of stress but how it is processed and resolved. The stimuli are otherwise normal things, but in abnormal quantities (e.g. regular consumption of sugar sweetened food/ beverage) or doses (e.g. binge watching). Deep history taking may or may not immediately identify these triggers. This is the first step though. The next is for the person to self-assign goals to overcome the problem.

Modern environments frequently expose individuals to continuous stimulation without physiologic resolution. This pattern produces persistent activation of stress pathways and contributes to the accumulation of allostatic load. For patients undergoing rehabilitation, such dysregulation may impair neuroplastic adaptation, increase fatigue and pain, and limit functional recovery.

Recognizing and addressing stress regulation therefore represents an important opportunity within physiatric practice. By restoring the balance between challenge and recovery, clinicians may help patients regain physiologic capacity for adaptation and improve rehabilitation outcomes.

****

RESILIENCE AND WELL-BEING: REFLECTIONS FROM CLINICAL PRACTICE

Aparna Rajeev, MPhil

A woman once told me, *"I didn't know I was strong until life gave me no choice."* She had survived a major injury, and the months that followed were filled with pain, fear, and uncertainty. Yet beneath all that exhaustion, there was something quietly alive - something reorganizing, adjusting, and reaching for balance. That "something" is what we often call resilience.

Psychological literature defines resilience in clinical terms, but in real life it appears in far subtler ways. It shows up in everyday choices people make when life feels heavy, getting out of bed despite pain, attending a therapy session even when motivation is low, or deciding not to give up. Resilience, as I have come to understand it through my clinical work, is the inner strength to accept pain and still choose to move forward. As a clinical psychologist, my role is often not to create this strength, but to help people reconnect with it - the strength they may have forgotten they possess.

The American Psychological Association defines resilience as *"the process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress"*. This adaptive process involves several interrelated capacities, including emotional regulation, cognitive flexibility, supportive relationships, agency, hope, and meaning making. Importantly, resilience is not about avoiding pain, but about learning how to live with it without being overwhelmed.

Resilience is rarely dramatic. More often, it is quiet and repetitive. Trying again after a setback, adjusting expectations, or continuing despite uncertainty. Even when people feel broken, there is often a part of them still moving gently toward healing.

Over the years, one belief has become increasingly clear to me: human beings are inherently resilient. People often come to therapy feeling depleted, convinced they have lost all strength. Yet the very act of seeking help is itself an expression of resilience. Allowing oneself to feel sadness, fear, or vulnerability, rather than shutting down is resilience too. Research supports this observation, suggesting that resilience is a dynamic, developable process rather than a fixed personality trait (Bonanno, 2004).

In my work with individuals facing chronic pain and lifestyle-related health challenges, I repeatedly witness this capacity. Patients adapt routines, negotiate limitations, and slowly rebuild a

sense of agency. Resilience, I have found, is both innate and cultivated - it grows through personal effort, social support, and small, meaningful wins.

Well-being is often misunderstood as the absence of pain or distress. From an Acceptance and Commitment Therapy (ACT) perspective, well-being is better understood as the ability to live a meaningful life while remaining open to difficult internal experiences. ACT emphasizes *"psychological flexibility", which is* the capacity to stay present, accept what is beyond one's control, and commit to actions guided by personal values. Studies have consistently shown that higher psychological flexibility is associated with better mental health outcomes, lower distress, and improved quality of life, even among individuals living with chronic illness and pain.

Many patients tell me that their psychological pain feels heavier than their physical pain. Often, it is not the pain itself that diminishes well-being, but the struggle against it. When individuals learn to make space for unpleasant emotions rather than fighting them, something shifts. Acceptance does not mean resignation; it means acknowledging reality as it is, so that energy can be redirected toward what truly matters. When patients reconnect with values such as family, dignity, contribution, or independence, they often find renewed motivation even when symptoms persist.

Resilience, then, becomes the foundation on which well-being rests. It allows individuals to remain engaged with life, maintain relationships, and pursue meaning despite ongoing challenges. Well-being is not a permanent state of happiness, but a dynamic process of balance, adjustment, and growth.

Resilience is not rare or exceptional. It is a universal human capacity, present from birth, shaped by experience, and strengthened through connection, meaning, and inner balance. Perhaps the true work of healing is not teaching people how to be resilient, but helping them recognize the resilience and well-being already alive within them.

"You can't stop the waves, but you can learn to surf." — Jon Kabat-Zinn

References

American Psychological Association. (2015). The road to resilience.

https://www.apa.org/topics/resilience

Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? American Psychologist, 59(1), 20–28. https://doi.org/10.1037/0003-066X.59.1.20

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2012). Acceptance and commitment therapy: The process and practice of mindful change (2nd ed.). Guilford Press.

****

MANAGING COUPLE CONFLICT IN CLINICAL SETTINGS: THE ROLE OF FAIR FIGHTING AS A HEALTH FOCUSED COMMUNICATION TOOL

Sivapriya V MSW

Introduction

Disagreements between partners are normal, and they can sometimes appear during medical or rehabilitation sessions. When couples argue in front of a clinician, it can disrupt:

- Emotional stability
- How well they follow treatment instructions
- Their overall recovery

Clinicians are not expected to solve relationship problems. However, they *are* responsible for keeping the session calm, safe, and focused on health.

A simple communication approach called fair fighting can help couples express themselves more calmly. When used carefully, it reduces tension and supports better clinical outcomes.

This article explains:

- What clinicians should do when couples fight in session
- How to stay neutral and avoid taking sides
- How conflict affects physical and emotional health
- When and how to introduce fair fighting
- When referral to therapy is necessary

1. What Should a Clinician Do When Couples Fight During a Clinical Encounter?

A clinician's main responsibility is to protect the clinical environment, not fix relationship dynamics.

Primary Goals

- Maintain calm in the room
- Stay neutral
- Prevent the argument from escalating
- Preserve trust with both partners
- Bring focus back to treatment

Practical Steps

1: Regulate the Room

A gentle, respectful interruption helps reduce emotional heat.

Eg: “I can see this is important to both of you. Let’s slow down so I can fully understand each of you.”

This sets a calmer tone and establishes the clinician as the guiding voice.

2: Shift from Fighting to Observation

Ask neutral, health-related questions, such as:

- When this happens, what do you feel in your body?
- How does this situation affect your pain or recovery?

This helps partners see their conflict as something connected to health—not a personal battle.

3: Highlight Patterns, Not Blame

Describe what is happening in the room without choosing sides.

Eg: "I'm noticing interruptions and raised voices, which makes it harder for both of you to feel heard."

This helps couples become aware of their communication habits.

2. How Clinicians Can Avoid Being Pulled into the Couple's Fight

Neutrality is the foundation of safe clinical practice.

The Three Rules of Neutrality

Rule 1: Validate Emotions, Not Accusations

Say:

"It sounds like you're feeling unsupported."

Avoid:

"Yes, he should be more supportive."

Focus on feelings, not judgments.

Rule 2: Avoid Becoming the Referee

Do not decide:

- Who is right
- Who is wrong
- Who "started it"

Instead,

"What usually happens between you when symptoms increase?"

Rule 3: Use Process Comments Instead of Content Comments

Risky content comment:

"You shouldn't say that."

Safe process comment:

"It seems the conversation is escalating."

This keeps the focus on how they speak—not what they say.

Key Principle

The clinician observes the interaction; they do not join the conflict.

3. Impact of Couple Conflict on Clinical Outcomes

Arguments between partners can strongly influence physical and emotional health.

Biological Effects

Chronic stress from conflict can raise:

- Cortisol levels
- Sympathetic nervous system activity
- Muscle tension
- Pain sensitivity
- Sleep problems

Conditions that worsen due to conflict:

- Chronic pain
- Fibromyalgia
- Fatigue-related disorders

Behavioural Effects

Conflict often reduces:

- Treatment follow-through
- Exercise or rehab participation
- Medication consistency

Psychological Effects

Conflict can increase:

- Thinking
- Anxiety
- Depression
- Feeling hopeless or helpless

4. Introducing Fair Fighting in a Clinical Encounter

Fair fighting is a simple, structured way for partners to communicate respectfully.

In clinical settings, it should be used only briefly and gently not as full couples therapy.

How to Introduce It

Step 1: Connect Communication to Health

Eg: "How you talk to each other can directly influence stress and pain levels."

Step 2: Ask for Permission

Eg: "Would you be open to trying a short communication technique to support your recovery?"

Step 3: Share Only a Few Basic Rules

Choose 2–3 core guidelines:

- One person speaks at a time
- Use "I feel" instead of "You did"
- No interruptions

Step 4: Demonstrate in Session; One person speaks at a time. This teaches listening and reduces defensiveness.

Step 5: Reinforce Positive Change

Example:

"Notice how that stayed calmer and clearer."

This encourages partners to repeat healthier patterns at home.

5. Which Couples Are Suitable for this

Fair fighting works best when:

- Both partners show basic respect
- Neither partner is afraid of the other
- They can calm themselves reasonably well
- They want to improve communication
- There is no coercive control

These couples usually have communication problems—not deep relational trauma.

Poor Candidates

Avoid fair fighting when:

- There is severe emotional reactivity
- Personality disorders are untreated
- Communication involves contempt
- Blame is rigid and persistent

These couples need specialist therapy.

Absolute Contraindications

Never use fair fighting if there is:

- Domestic violence
- Threats or intimidation
- Severe emotional abuse
- Substance intoxication

Safety must always come first.

6. When to Refer to Couples Therapy

- Conflict frequently takes over clinical sessions
- Patterns repeat without improvement
- Emotional safety is compromised
- Relationship issues block medical or rehab progress

Conclusion

Clinicians are not responsible for solving relationship problems. Their role is to keep the clinical space safe, calm, and focused on healing. By Regulating the room, staying neutral, observing interaction patterns, using simple fair-fighting rules and Referring when necessary. Clinicians can support better health outcomes without becoming therapists. Fair fighting, when used in a light and controlled way, can help patients communicate more calmly, reduce stress-related symptoms, and improve the effectiveness of treatment.

****

SPIRITUALITY IN HEALTH AND WELL-BEING

V Siva Kumar PhD

Introduction

Every human being longs for good health and happiness. All activities in life are aimed towards this end. But at the practical level, we find illness, disharmony and problems of all sorts. Human societies throughout the world, cutting across civilizations have sought answers to this dichotomy by seeking refuge and following personalities who in turn could guide and provide clarity. In the ancient land of Indian sub-continent, enlightened masters appeared more or less in every century to reveal and uphold the truth about life. They answered every query from the most mundane to the highly subtle and also did monumental service to mankind by composing works of great literature that retain the status of holy books to this very day. This article shall attempt to decipher the same in terms of implications for health and wellbeing.

Fundamentals of life

Even the most materialistic of persons cannot deny the reality of physical death. It is inevitable for every life that is born. But, in the meantime during the course of one's life from infancy to ripe old age, the question to what sustains oneself is answered by 'something' that animates the body and it is inevitable to come to the conclusion that it is 'the Spirit'. All religions have attempted to explain this fundamental dimension of existence. While we all are animated and sustained by this spiritual dimension, the wholesome differences that are so obvious on the relative place is due to the nature of individual minds at the psychological dimension.

Eastern scriptures explain this variety in terms of reincarnation and the carry-forward of impression from past lives. Though we could only take this conclusion in terms of faith, the stark and visible differences among each one of us, nay even within siblings born to the same parents cannot be ignored. Hence, to put it in a nutshell, each one of us have a physical dimension in terms of our bodies, the mental dimension, in terms of our mind accounting for all the differences and the Spiritual dimension that rises above all differences and serving as a transcendental ground on which the phenomena appear both at the individual level and at the cosmic level.

Ancient but ever fresh

While the physical and mental dimension changes with every cycle of birth and death, the spiritual dimension powering the same does not undergo any change. Sages have used metaphors to drive

home this point by employing easy to understand examples and imageries. In the Bhagavad Gita, chapter 7, verse 7 puts this lucidly as "sutre mani-gana iva" meaning 'like pearls strung on a thread' attributed to the declaration of the transcendent being in this instance represented by Lord Krishna.

The implications of this insightful statement are enormous. It effectively means, each one of us though apparently limited by a physical body and a mind however unsteady, we all are effectively powered by the great Spirit, which is not confined to the physical frames and unconstrained by the mental vagaries as well.

The clue to health and wellbeing could be deciphered here unmistakably. A mind that is well informed about the nature of existence does not falter. It strives to realize its higher dimension finding it the most, perhaps the only worthy thing to strive for in this life. Those who are lucky to reach a preceptor in this journey get blessed with a unique aid to plough through the rough mental bareness and turn it fertile and experience abundance.

Different strokes for different folks

The seers who graced the Indian landmass recognized the inherent differences in the temperament of individuals and did not subscribe to the 'one size fits all' concept. Providing practical solutions, they informed that those who are restless and active could follow the path of 'Karma' Yoga while those with a devotional bent of mind could worship the transcendental in the form of their favourite deity and this is "bhkati' yoga.

However, those who have an intellectual bent of mind are instinctively drawn to the 'Jnana' Yoga, the path of knowledge. To put it in the words of Swami Vivekananda, 'Spirituality is the manifestation of divinity already within us'. This could be done either through dedicated work, devotional outlook and contemplative subtleties as well.

Importance of Spiritual Knowledge-Jnana Yoga

The ancient Patanjali yoga sutras have clearly defined the ultimate goal of life as the 'cessation of discriminative perceptions' by experiencing the one underlying unitary dimension of existence. This is clearly directed at the individual mind that remains in the unrelenting grip of separateness. By reflecting on the truth, ideally from a preceptor, the individual is encouraged not to stop until the final frontier is crossed which is indeed the common dimension of existence both of oneself, obviously inclusive of the body and the thoughts-filled mind, along with all animate and inanimate entities of the vast visible universe. The message is that the background screen should not be forgotten while 'seeing' the images in the eternal and engrossing movie being constantly churned out by creation.

Science discovers Spirituality

Interestingly, outstanding physicists of the atomic age were all deep scholars of eastern philosophy and metaphysics. By scientifically exploring the subtleties of the manifest universe, they found themselves reaching the subtle

dimension of the collective Mind itself. In the field of life sciences too, noted biologists like Bruce Lipton author of the book 'Biology of Belief' have explored the persistent power of the mind to positively affect the physical body.

Scientific Programs like 'Pain Reprocessing Therapy' have successfully concluded the most scientific randomized control studies involving multiple sites to demonstrate the power of the brain to rewire itself to focus away from the pain with targeted training sessions powered with convictions arising from the spiritual dimension of existence. Many medical schools in the west have spirituality as part of their curriculum in the recent decades.

Return of Sovereignty

The most valuable gift the ancient knowledge of spirituality is the return of our sense of control of our own lives. By right understanding, one could lead a healthy life by appropriate exercise to the physical frame, worthy inputs to the mind that lead towards the realization of the subtle and higher spiritual dimension of life. Such a person is at peace with himself who will turn out to be a blessing to the people around him. All auspiciousness will get endowed spontaneously.

Conclusion

As the saying goes, "one has to put food where the mouth is!'. A life that is aware of the fundamental dimensions of existence ends up putting everything in its rightful place. While living, focusing on both physical and mental health is important but that is not confused with unwarranted fear of sickness and the unwinnable fight with the inevitability of eventual death. As testified by the great masters, the spiritual dimension has also an immortal façade to it and awareness of this reality not only instantly calms the mind but has the immensely alluring possibility to free one from the fear of death itself. A life lived from a position of mental strength and clarity is the greatest gain to oneself and the most valuable gift one could render to the world as well.

****

THE PATH FORWARD

Dr Ravi Sankaran MD

This is amongst the easiest of these to write so far. Apparently most all of our PMR Drs do lifestyle work already.

First the pedagogue should be the paradigm. Looking at our own cohort. Sleep problems were reported by Females aged 30–39. Females aged 40–49 were overweight, which appears closely related to the fact the same group reported not doing enough exercise. Males age 30–39 were most likely to report deficient sleep, had higher rates of not meeting physical activity recommendations and were more frequently not being of ideal BMI. Those aged 40–49 had stress management issues. Meaning all of us have some work to do on ourselves.

Second is survival of our profession. While the youngsters look to itemize themselves by learning procedures 1% of the population require, the seasoned Physiatrist knows having a multidisciplinary team for lifestyle management makes them the hottest Dr in the hospital.

Dr. Steven Faux mentioned professional cannibalism in our recent national conference, We can expect our medical colleagues to continue appropriating out skills, then exclude us from care. NCS/ EMG in Trivandrum is just one example. Reality is such that everyone needs a Physiatrist. The question is as a professional body are we mature enough to be what patients need. That is up to you. Take care of yourself and you will better understand the process to getting to health and maintaining it. Pills, procedures, therapy referrals are all Band-Aids in comparison.

****

LIFESTYLE CLINIC NON-ATTENDANCE FOLLOW-UP SURVEY A CLINICAL AUDIT REPORT

Nansi Raju MSW

Background

Lifestyle clinics play an important role in supporting patients with behaviour modification related to diet, physical activity, sleep, and other health behaviours. However, non-attendance after referral reduces the potential impact of these services.

A follow-up survey was conducted among patients who had been referred to the Amrita Lifestyle Clinic but had not attended their appointment. The aim was to identify barriers to attendance and potential strategies to improve clinic utilization.

Objectives

1. To determine whether patients were aware of their referral to the Lifestyle Clinic.
2. To assess whether the purpose of the clinic had been clearly explained.
3. To identify barriers preventing patients from attending.
4. To evaluate patient perceptions regarding the usefulness of the clinic.
5. To explore strategies that may improve attendance.

Methods

Study Design

A telephone-based follow-up survey was conducted among patients who had been referred to the Amrita Lifestyle Clinic but had not attended. All patients were referred by a Physiatrist and counselled in advance about the encounter and variety of services included in it. All referred patients had Fibromyalgia.

Contact Procedure

Patients were contacted up to three times. If there was no response after three attempts, they were classified as non-responders.

Sample

- Total patients contacted: 39
- Responders: 30
- Non-responders: 9

Data Collection

A structured questionnaire was used to collect information on: Awareness of referral, Understanding of the clinic's purpose, Barriers to attendance, Perceived usefulness of the clinic, Travel and logistical barriers, Lifestyle behaviour change, Comfort discussing lifestyle issues, Usefulness of reminders.

Results

Awareness of Referral

All respondents reported that they were aware that they had been referred to the Lifestyle Clinic.

Response	Number	Percentage
Yes	30	100%
No	0	0%

Explanation of Clinic Purpose

All respondents indicated that the purpose of the clinic had been explained to them.

Response	Number	Percentage
Yes	30	100%
No / Not sure	0	0%

Difficulty Traveling to the Clinic

Barrier	Number
No difficulty	9
Distance	10
Transport issues	8
Cost	2
Physical difficulty	1

Distance and transport availability were the most reported logistical barriers.

Conflict with Work or Family Responsibilities

Response	Number	Percentage
Yes	0	0%
No	30	100%

Clinic timing did not appear to be a significant barrier.

Perceived Benefit of the Clinic

Response	Number	Percentage
Yes	16	53%
Not sure	14	47%
No	0	0%

Nearly half of respondents were uncertain whether the clinic would improve their health.

Independent Lifestyle Changes

Response	Number	Percentage
Yes	20	67%
No	10	33%

Many patients reported that they had already initiated lifestyle modifications independently, including diet and exercise changes.

Comfort Discussing Lifestyle Habits

Respondents generally reported feeling comfortable discussing lifestyle behaviours such as: Diet, Physical activity, Sleep habits, Alcohol consumption. No major concerns regarding communication with healthcare staff were identified.

Usefulness of Reminders

Response	Number	Percentage
Yes	24	80%
No	6	20%

Most respondents felt that reminder systems (phone call, SMS, or WhatsApp) could help improve attendance.

Reported Reasons for Non-Attendance

Open responses revealed several common themes: Lack of immediate motivation to attend, Perception that lifestyle advice can be managed independently, Already receiving advice from other healthcare providers, Difficulty arranging transport or accompaniment.

Discussion

The survey findings indicate that lack of awareness was not a major barrier, as all respondents reported knowing about the referral and understanding the clinic's purpose.

However, several other factors may contribute to non-attendance: Travel-related barriers, particularly distance and transport access, Uncertainty regarding the benefit of attending the clinic, Perception of self-sufficiency, with many patients already attempting lifestyle changes independently. Ironically those who qualified for the study were already given multiple reminders and follow-up calls. The perception of lifestyle being self-manageable is ideal, but not realistic. The evidence being their poor condition despite self-management already being in effect. The study results when compared to reality indicate a perceived lack of importance for medically supervised lifestyle management. This is something our referrers can improve on.

Conclusion

Healthcare professionals need to stress the importance of Lifestyle management by a trained multidisciplinary team.

****

THE ECONOMICS OF PREVENTION: THE FINANCIAL PROMISE OF LIFESTYLE MEDICINE

Dr Anand Raja MD

Money and medicine have always had an odd relationship. Pharmaceutical innovations dominate headlines, surgical suites are bustling with activity, and hospitals shine with pricey equipment. However, many of the illnesses that occupy these hospitals, such as diabetes, heart disease, hypertension, and fatty liver disease, often start subtly in day-to-day activities like eating, moving, sleeping, and handling stress. A seemingly straightforward question is posed by lifestyle medicine: what if the most effective medical treatments weren't always the costliest ones? Lifestyle medicine is fundamentally more than just telling patients to eat healthier or exercise more. It signifies a change in our understanding of health, illness, and healthcare economics. The notion that prevention could be both economically viable and medically effective is becoming more and more appealing in a world where healthcare costs are still rising (1).

The Cost of Living the Modern Way

The majority of today's healthcare systems are designed to treat illness after it manifests. The process of developing diabetes is well-known: prescription drugs, routine blood tests, consultations, and occasionally hospital stays due to complications. Both the individual and the healthcare system as a whole bear an increasing financial burden over time. Every year, diabetes alone costs hundreds of billions of dollars worldwide. Obesity, chronic respiratory conditions, and cardiovascular disease all follow similar trends. These are illnesses that frequently call for lifetime care. The emphasis of lifestyle medicine is shifted from treatment to prevention. It asks, "Why did it develop in the first place?" rather than, "How do we manage this disease?" Financially speaking, that change is revolutionary.

The Most Affordable Medicine

A lot of lifestyle interventions are incredibly affordable. You don't need a prescription to walk. Rather than purchasing pricey supplements, improving one's diet frequently entails going back to simpler foods. Changing one's habits is the only cost associated with good sleep hygiene. However, in some situations, these minor interventions can yield results that are on par with medical therapy. Research has demonstrated that structured lifestyle modifications can lower cardiovascular risk, lower blood pressure, and reverse early type 2 diabetes (2,3). Lifestyle medicine can seem almost revolutionary to patients who are having trouble paying

for their medications. The doctor recommends exercise, healthier eating habits, and better routines rather than adding another medication. The treatment becomes affordable as well as medically accessible.

The Hidden Financial Benefits

Beyond hospital expenses, lifestyle medicine has financial benefits. When chronic illnesses get better, people frequently experience 1) fewer absences from work, 2) increased output, 3) reduced rates of disability, and 4) enhanced standard of living. Families and communities are impacted by these effects. A healthier person contributes more to society and spends less on healthcare. Employers are becoming more aware of this. Because they lower healthcare utilisation and increase worker productivity, workplace wellness programs, exercise initiatives, and nutrition counselling are gradually turning into investments rather than expenses (4).

The Cost of Inaction

The cost of not using lifestyle medicine is another way to comprehend its economics. Societies suffer in several ways when unhealthy lifestyles proliferate 1) Growing healthcare costs, 2) Loss of a productive workforce, and 3) consequences for intergenerational health. Children who grow up in unhealthy environments are more likely to develop metabolic diseases and obesity at a young age. This leads to a vicious cycle in which economic disadvantage is sustained by poor health. By treating the underlying causes of illness, lifestyle medicine presents a chance to end this cycle.

Prevention Is Cheaper Than Repair

The high cost of treating chronic illness is posing a basic arithmetic challenge to healthcare systems worldwide. The cost of a heart bypass procedure can exceed the annual income of many families. One of the costliest long-term medical treatments for kidney failure is dialysis. However, decades of lifestyle-related risk factors are the root cause of many of these conditions. The need for advanced medical care is not eliminated by lifestyle medicine. However, it can lessen or postpone the need for it. Financially speaking, prevention works similarly to compound interest: minor adjustments made early yield significant gains later on. For instance, extensive studies like the Diabetes Prevention Program have shown that lifestyle modifications can prevent or postpone diabetes in high-risk groups and continue to be economical over time (3).

Public Health and Policy Implications

The financial promise of lifestyle medicine is not limited to individual behaviour. It also requires supportive environments and policies. Urban planning that encourages walking and cycling, availability of healthy food in communities, taxation policies that discourage unhealthy products, and educational programs that promote health literacy all contribute to healthier lifestyles. Systematic reviews of prevention programs show that lifestyle interventions targeting high-risk populations are consistently cost-

effective from both healthcare and societal perspectives (5). Government initiatives such as national diabetes prevention programs have also demonstrated reductions in healthcare costs and healthcare utilization (6).

The Paradox of Lifestyle Medicine

Despite its promise, lifestyle medicine faces a curious challenge. Healthcare systems often reimburse procedures and medications more readily than counseling about diet, exercise, and behaviour change. A surgeon may be compensated generously for an operation, while a physician spending an hour helping a patient redesign daily habits may receive little financial recognition. This paradox reveals something deeper about modern medicine: we are better at paying for treatment than for prevention. Economic analyses of public health programs increasingly show that preventive interventions can produce long-term savings when measured in cost per quality-adjusted life year (7).

Conclusion

Beyond numbers and budgets, lifestyle medicine offers a more human vision of healthcare economics. Instead of a system that waits for disease to appear and then spends vast resources trying to control it, lifestyle medicine encourages individuals and communities to participate in their own health. It reminds us that health is not only something delivered in hospitals. It is also built in kitchens, parks, workplaces, and families. In a world where healthcare costs continue to rise, lifestyle medicine offers a rare combination: a strategy that improves health while reducing financial burden. Sometimes the most powerful medicine is not the most expensive one. Sometimes it is simply a healthier way of living.

References

1. Livingston KA, Freeman KJ, Friedman SM, Stout RW, Lianov LS, Drozek D, et al. Lifestyle medicine and economics: A proposal for research priorities informed by a case series of disease reversal. Int J Environ Res Public Health. 2021 Oct 29;18(21):11364.

2. The Cost-Effectiveness of Lifestyle Interventions for Preventing Diabetes in a Health Resource-Limited Setting J Ma, X Wan. B Wu Journal of Diabetes Research. 2020;

3. The 10-year cost-effectiveness of lifestyle intervention or metformin for diabetes prevention: an intent-to-treat analysis of the DPP/DPPOS Diabetes Prevention Program Research Group - Diabetes care, 2012 - diabetesjournals.org … The Diabetes Prevention Program (DPP) and its Outcomes Study (DPPOS) demonstrated that either intensive lifestyle intervention or.

4. Cost savings and reduced health care utilization associated with participation in a digital diabetes prevention program in an adult workforce population CC Sweet. Jendretzke Journal of Health Economics and Outcomes Research.

5. Zhou X, Siegel KR, Ng BP, Jawanda S, Proia KK, Zhang X, et al. Cost-effectiveness of diabetes prevention interventions targeting high-risk individuals and whole populations: A systematic review. Diabetes Care. 2020 Jul;43(7):1593–616.

6. Kuo S, Ye W, Wang D, McEwen LN, Villatoro Santos C, Herman WH. Cost-effectiveness of the National Diabetes Prevention Program: A

real-world, 2-year prospective study. Diabetes Care. 2025 Jul 1;48(7):1180–8.

7. Herman WH. The cost-effectiveness of diabetes prevention: results from the Diabetes Prevention Program and the Diabetes Prevention Program Outcomes Study. Clin Diabetes Endocrinol. 2015 Sep 2;1(1):9.

****

LOOK IN THE MIRROR: DO YOU LIKE WHAT YOU SEE?

Dr Ravi Sankaran MD

Introduction

Are doctors good examples for what they preach? We will just look at the typical Kerala PMR practitioner.

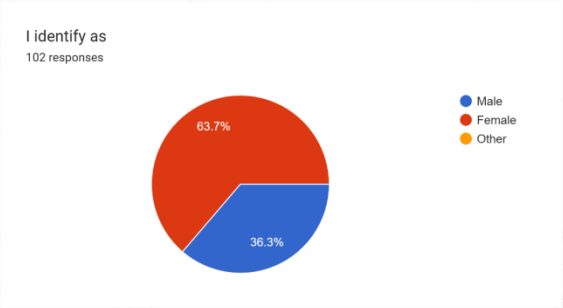
Methods

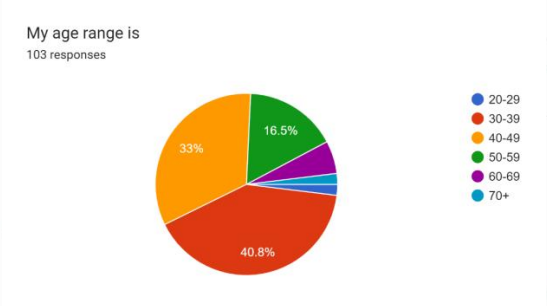
A custom survey screening individual lifestyle factors was delivered as part of the usual theme related practice survey. Only the usual responders were included in the google forms survey.

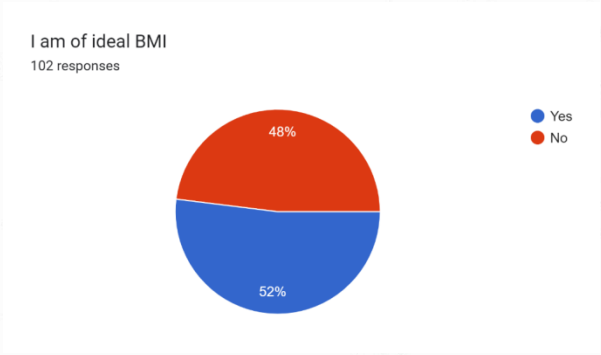
Results

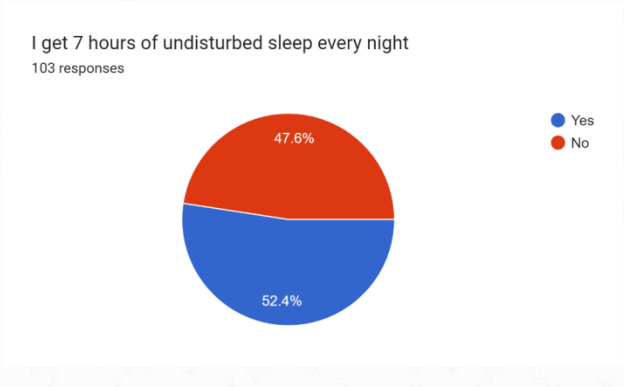
Of 150 sampled, 104 responded.

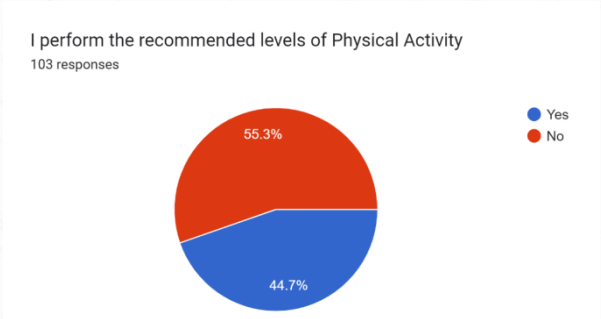
General results

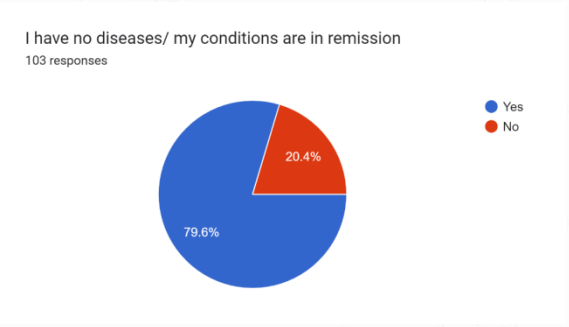


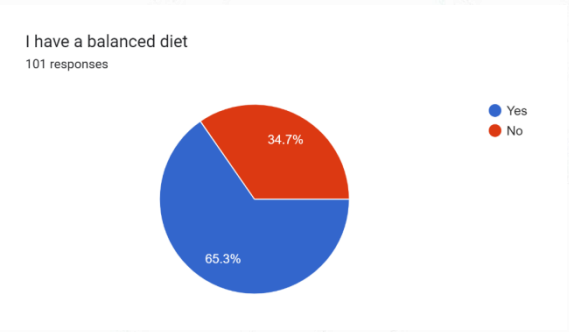


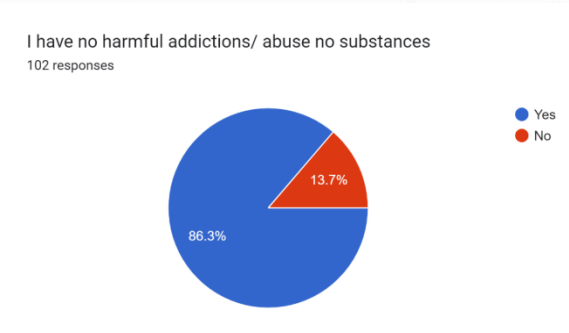












Specific results

Males age 30–39 were most likely to report deficient sleep, had higher rates of not meeting physical activity recommendations compared to older male groups and were more frequently not being of ideal BMI. Those aged 40–49 had sleep deficiency less common than in 30–39, but stress management issues appeared more often. Some reported imbalanced diet compared to females of same age. Men aged 50–59 were more consistent in reporting balanced diet and stress management, but addiction/substance issues surfaced slightly more than in females. And men age 60–69 & 70+ generally had stronger lifestyle adherence (sleep, diet, stress). A few reported not being of ideal BMI, but addiction-free status was high.

Females of age 30–39 frequently reported not being of ideal BMI. Sleep deficiency was less common than males of same age, but stress management issues were notable. Some reported imbalanced diet and lack of physical activity. Those aged 40–49 were more likely than males to report deficient sleep and not meeting physical activity recommendations. Stress management was mixed: some strong, some deficient.

Females aged 50–59 generally had better adherence to sleep and diet than younger females. A subset reported not being of ideal BMI. And those age 60–69 strongly adhered across most lifestyle factors. Deviations were mainly in BMI and occasional diet imbalance.

Comparing groups most sleep problems were reported by Females aged 30–39. A large proportion in this group answered “No”, meaning they don’t consistently get 7 hours of sleep. Other groups with notable sleep issues: Females 40–49 also had many “No” responses, but the 30–39 female group was the most consistent cluster with poor sleep.

Comparing groups again the worst exercise profile was seen in Females aged 40–49. Many in this group reported “No”, indicating they don’t meet recommended activity levels. Females 30–39 also had a fair number of “No” responses, but the 40–49 female group stood out as the weakest overall.

Comparing groups by BMI the most overweight group was again Females aged 40–49. In contrast, Males 40–49

had more “Yes” responses, meaning they were closer to ideal BMI compared to their female counterparts.

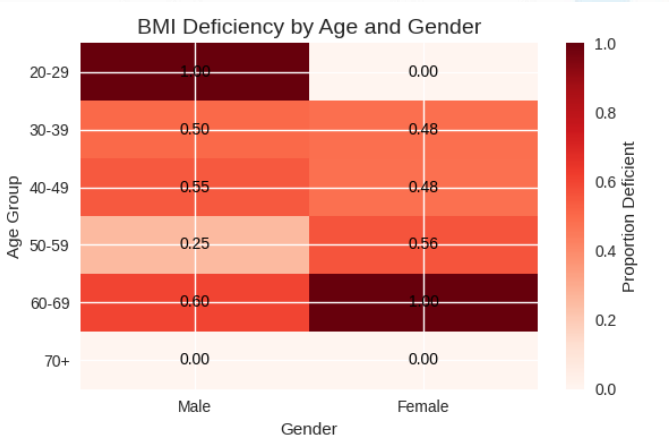
Summary of results

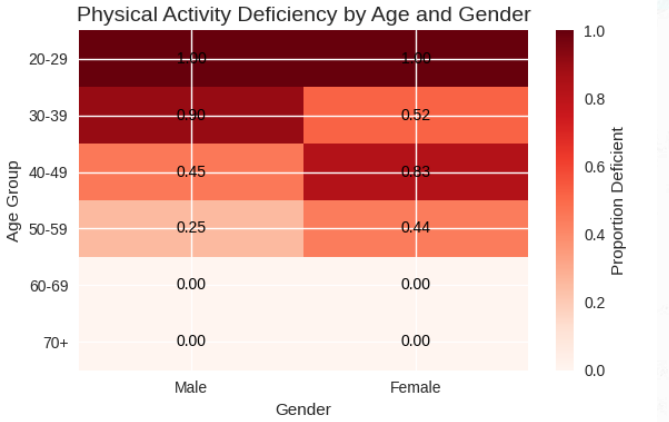
Discussion:

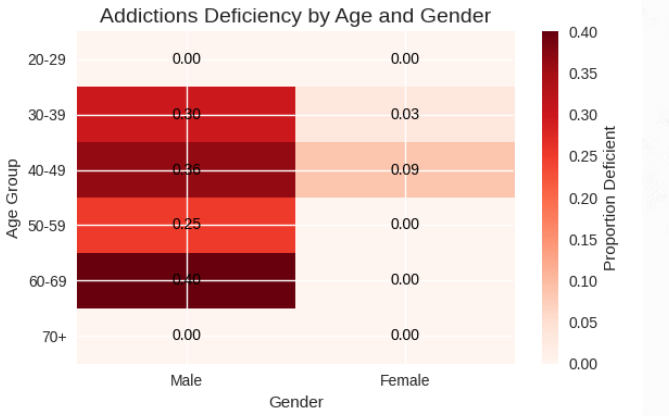
The results of this study show the following. Sleep deficiency is most pronounced in males 30–39 and females 40–49. BMI issues are common across females 30–39 and males 30–39. Physical activity deficiency is reported more by females 40–49 and males 30–39. Stress management problems are more notable in males 40–49 and females 30–39. Diet imbalance is more scattered, but males 40–49 and females 30–39 stood out. Addictions/substance issues are rare overall, but slightly more reported in males 50–59.

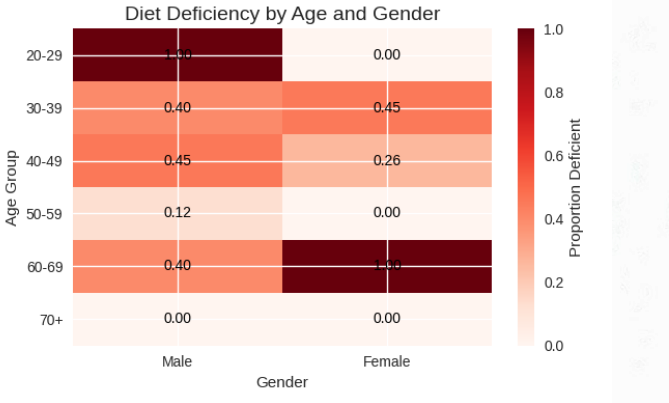
As good or better health is a product we promote as clinicians, it is expected the pedagogue is a paragon. We see reality is different. While PMR is relatively less hectic a discipline, those of us in the private sector face a variety of issues that can interrupt well-being practices. It remains our responsibility to take care of ourselves.

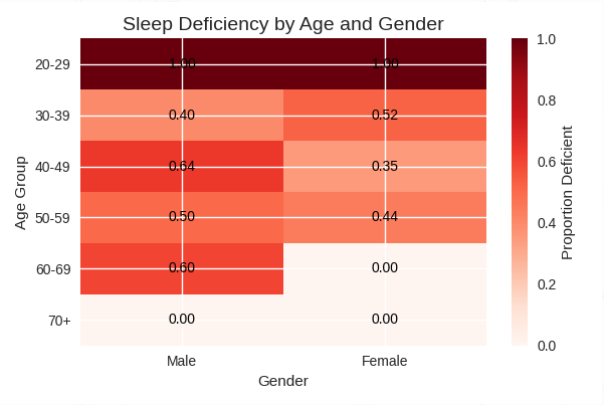
People don’t willingly compromise their health, especially when they know what they are doing is wrong. What we see as deviations are either individual or society level related phenomenon.

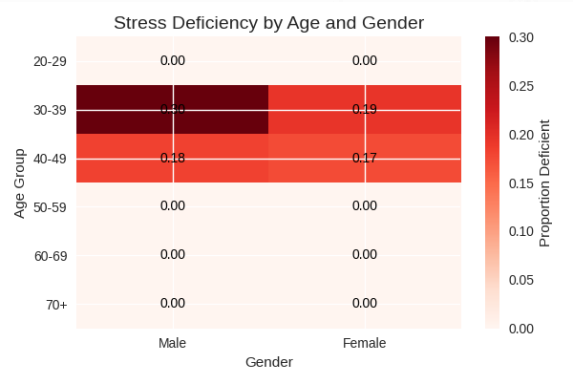









Sleep Deficiency by Age and Gender
20-29
30-39
40-49
50-59
60-69
70+
Age Group
1.00
1.00
0.40
0.52
0.64
0.35
0.50
0.44
0.60
0.00
0.00
0.00
Male
Female
Gender
1.0
0.8
0.6
0.4
0.2
0.0
Proportion Deficient


Stress Deficiency by Age and Gender
20-29
30-39
40-49
50-59
60-69
70+
Age Group
0.00
0.00
0.19
0.18
0.17
0.00
0.00
0.00
0.00
0.00
0.00
Male
Female
Gender
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Proportion Deficient

****

YOU ARE THE LIGHT: BEHAVIOR CHANGE, STAGES OF CHANGE, AND THE PHYSIATRIST AS A THERAPEUTIC INSTRUMENT

Dr Ravi Sankaran MD

Addressing non-communicable disease requires a coach. A good lifestyle coach is first a practitioner. Lifestyle interventions require patient participation and sustained behavioral adaptation. Patients often know what to do but struggle to do the right things. Why? Behavior change is a neurobiological process, not simply a matter of willpower. When we facilitate adaptive change we become the Dr everyone needs. By effecting the same in ourselves first we lead by example. Rather than another article to read take this as a challenge.

Step 1: review the lifestyle guidelines

Step 2: identify the areas you are most and least deficient in

Step 3: what is the smallest change you can introduce to your life as it is to get better at your smallest deficiency

Step 4: how many months would it take you to get the biggest problem area tackled?

As you responded, what did you feel? Feeling disgust, fear or frustration is normal when we consider altering lifelong harmful habits. Why? Changing habits is never that easy. As physicians we need to know the neurobiology of behavior change. This starts with brain systems involved in change. The Prefrontal cortex does executive control and planning. The Limbic system is responsible for emotional salience and threat detection. The Basal ganglia is the seat of habit formation. Lastly the Dopaminergic reward pathways preserve or diminish motivation and reinforcement. Knowing these helps us identify the stage of change a person is in and how to best guide them from there.

Change is perceived as a stressor, a threat to system stability. The utility of a system though resides in its flexibility not stagnation. Stress utilized correctly makes us stronger. On the most basic level the autonomic nervous system regulates behavioral rigidity vs flexibility. When change is perceived as bad, chronic stress impairs adaptive change.

The question arises then what is neuroplasticity and habit formation? Simply put repetition and reinforcement make habit loops: cue → behavior → reward. Experts as usual disagree on the number of reps, but it takes about 6 months to wire a new habit.

There are stages of Change. We need to know this so our counselling doesn't fall on deaf ears. Simple questions expose the patient level of willingness to change.

Let's use an example to start. (Any resemblance to real people is coincidental) A 36 y/o male Physician has DM II with a family history of the same and in every generation the onset is a decade earlier. Despite continuous glucose monitoring and regular insulin dosing his sugars are poorly controlled. He is obese, has obstructive sleep apnea from a swayback posture and weak core muscles due to excess visceral fat. Early cognitive impairment signs are present in the form of impulsive behavior, poor planning, and perseveration on harmful habits. Of these is the tendency to indulge in sugar sweetened beverages and foods. Simply put this is pharmacologically supported gluttony. As a clinician you know if he converted to a healthy lifestyle, he might reverse his DM II and enjoy a better life. The problem is he should also. So how do we assess this?

Stage	Clinical Characteristics	Intervention	Example
Precontemplation	Not yet considering change	Education, awareness	If you continue like this where will you be in 5 years?
Contemplation	Ambivalent, considering change	Explore ambivalence	What fears do you have about changing to a healthy lifestyle?
Preparation	Intending to act	Planning	What is the easiest goal you can achieve that aligns with better health today?
Action	Actively implementing change	Support and reinforcement	How many times did you meet your goal in the month?
Maintenance	Sustaining change	Prevent relapse	What helped you succeed?
Relapse	Regression, common and expected		How can we avoid situations that lead to failure?

The above model has strengths but it helps to have alternative approaches. The patient described is open about his DM II and his eating habits. Meaning they are not hiding from the facts. Details like this are found Self-Determination Theory. It sets the core drivers of behavior change as Autonomy, Competence, and Relatedness. We help them identify intrinsic motivation to improve extrinsic compliance. The added value of this is to consider where the impetus for change comes from. Naturally internal motivation with a meaningful goal is optimal. Applied to our corpulent clinician the

angle would be to drive at all the complications of long-term DMII, and how this will affect family, and life post retirement.

The last is Social Cognitive Theory. It stresses the role of self-efficacy, observational learning and the importance of modelling. This is a more granular level of observing intervention and impact to motivate. Simply put all these approaches lead is to the key intervention Motivational Interviewing. This technique helps resolve ambivalence, enhancing intrinsic motivation, and finally supporting autonomy

The reason we consider the above is because the Dr-patient can be a mechanism of change if used correctly (and vice versa). When a patient trusts you it reduces perceived threat, which facilitates cognitive openness and behavioral flexibility. The seasoned Physiatrist then becomes regulator of patient nervous system state. How? A calm, regulated presence promotes physiologic safety because emotional regulation is biologically contagious (co-regulation). And for all of that to happen you should have gone through the struggle they are facing and succeeded.

This brings us back to the title and the thought experiment we did at the beginning. A hypocrite clinician doing lifestyle is spreading poison. Patients are influenced not only by what clinicians say, but by what they embody. What they need to experience is from a care provider is calm, regulated responses, and consistency. Next they will test your credibility and authenticity. Patients detect congruence between: Recommendations and clinician's behavior. Embodied credibility enhances adherence. Lastly, a clinician's presence is a therapeutic intervention: Attention, Listening, Regulation, and reflecting with Compassion. These influence patient physiologic state and adaptive capacity. All of this means we understand where they are coming from and have the capacity to guide them to a better state.

Physiatrists are uniquely positioned to handle this because we: focus on function, understand neuroplasticity, emphasize adaptation and recovery, and work longitudinally with patients.

****

TO BOLDY GO…

Dr Ravi Sankaran MD

This article has nothing to do with lifestyle medicine. It's the precursor to the following article 'How I ended up here'. Healthcare utilization is affected by patient perception. One can have routine services declare themselves the best, and people will come. In neurological rehabilitation outcomes may never be optimal, but people will still crave that. The average man doesn't know what really to expect. They do what they can and leave the rest in able hands. For those claiming to be best (while mundane), their confidence will smooth out the rest. Basically, they are telling people what they want to hear, knowing very well what is most likely going to happen regardless of where it happens. Behaving like that is strange to me.

For much of my life confidence was not my strength. This carried through into my post PG days. Until then I just had to pass exams. Now I was responsible for human life and had an idea of what could go wrong. The worst part was people looked at me as though I had the answers to their problems. This made me even more cautious. This is not the expected introduction for an article titled as such, but it is the truth.

After my Michigan State University (MSU) days I joined Amrita in 2009. Being my first real job, I had no idea what I was getting into. Everything I took for granted at MSU had to be built from scratch. Specifically, that meant having a referral stream, facilities to perform procedures, etc. The standing rule was every patient went to therapists after we saw them. These patients were already fully worked up. Meaning we had little to offer besides therapy. Therapy did not yield long lasting gains. Some came back with pain. Injections were a way to address this. Being junior approval to start was needed. One of the department seniors (Q) called them 'eyewash' (e.g. meaningless). I persisted in asking until Q consented. Q reverted with a list of instruments required before the first injection would be permitted. The list began with a cart and kept growing with revisions until it had everything except an Arti lamp. Finally, permission was given to start. Q insisted on doing the first injection. They first told the patient injections were no benefit. The patient felt confused. Q's approval was required for each future case. All selected patients were told similarly. This made it look like I was injecting them for personal pleasure rather than their benefit. Procedure volumes naturally dropped. Instruments for procedures collected dust. Seeing opportunity, the cart was taken by department cleaner. Q had a good laugh. Their decades of good results didn't utilize these. Their outcomes were therapist dependent.

Fear of having a bad outcome post-procedure arose in me. As it was, I was defying seniors. If the patient felt worse for whatever reason, I would be in trouble. This fear was compounded by Q's willingness to comment on the same. Caution was applied to whomever needed procedures. I continued injecting under that stress. Better and faster outcomes ensued. The service slowly grew and so did my confidence levels. I later understood why Q called it eyewash. Some would get injections then resume the behavior that made the pain occur. He was not completely wrong. Some in power wield a heavy hand to avoid problems. Q was being refined and gentle. More clashes were on the horizon though.

One can't grow until they try. I had to learn how to enter a problem and succeed. Much personal and professional growth came from developing outside of my areas of comfort. I always hoped for a system that would give all I needed to succeed. I never thought I'd have to make the cake I wanted to eat. The truth was I lacked the confidence to excel even in areas I knew well (in theory). One needs experience to have conviction. I was a junior consultant who didn't (still doesn't) know the local language. This meant innovating. I failed in many attempts but never gave up.

Confidence is muscle people develop. It grows not with success but learning how to overcome challenges. In our early days confidence comes from mimicking our seniors. It also comes from being confident of our capacity. It may also come from just following rules. The healthcare equivalent is guidelines. PMR patients often come after everyone else has done the guidelines. This means most treatments will not have a straightforward level 1A recommendation. I had knowledge but not the experience related to delivering it. I wanted to expand our services to meet the basic requirements. Doing so meant I was going against all the department seniors. As a result, support was not guaranteed. I had to be confident in something, so I trusted in my desire to see people improve and moved forward from there. If I gave up on myself, I would be giving up on my patients.

A US hospital donated an old fluidotherapy device. Unknowingly mold invaded it and when we put the device on the therapist using it began coughing. It was scrapped. With this, those bothered by my attempts to grow gained evidence of my ineptitude. The next was a Nintendo Wii. Q said it was only for established centers not general departments like ours. The senior faculty were soft on females. When we got the right case, I drummed up our female faculty to plead for approval. Once approved, the locals thought the name sounded like the native word for 'difficult'. Meaning no one would try. With persistence it was a big success. My latent confidence rose a bit too. Being the early 2010's, no one else had such. We were now playing the same game on a different level.

One day in 2012 I was chatting with my Neurosurgery colleagues. They were in a fix because a patient with an intra-cranial aneurysm got operated on but

deteriorated due to vasospasm. They were researching and found a paper on Hyperbaric Oxygen Therapy. They said if I got it, they would support me. We had an adequate number of people with approved indications. Looking at the costs, I was horrified, 1+ Crore. I had some confidence but not enough to commit to this level. My patients needed this, so I took the gamble. In 2013 I went to the US and got certified. I visited the Seachrist factory in Los Angeles. I also visited a few other clinicians who were using HBOT for decades. On my return trip to work I visited the first private HBOT chamber in India at Apollo Hospital Delhi. Getting back to work I placed the purchase order. Q confidently told me 'It won't make money like you think it will." He ensured colleagues knew his blessing was not on it. Luckily my intentions were only to help people. India's first HBOT chamber under PMR launched in November 2014 and it has gone steady since, even through the COVID pandemic. It paid off in two years. Q seeing its success began chanting HBOT had no role in actual rehabilitation. By then others were copying my lead and at least four other Physiatrists had started their HBOT services. Ultimately Q's own friend had a rehabilitation condition warranting it and improved. Now they were tongue tied. This antagonism was nothing new. The way to handle it was to just ignore the comments and silently go on working. We don't need others approval to do what is good for patients. Another variant emerged. A different Dr (not wanting to lose patients to us) decided to imitate. Their engineer visited promising to make a chamber faster than our retailer and capture the market before us. Their intention was obvious. There are a few ways to differentiate yourself from copycats. Certification from an authoritative body is a must. Raw experience is another. That comes from handling whatever comes your way. We started treating not only what we could but what they could not: radiation necrosis of the jaw, of the brain, Diabetic Foot, HIE, hyperacute TBI patients, etc. Though I didn't know it at the time, the rewards of this approach would surface in time.

The department was coming to a rolling boil, and bigger problems surfaced. While the first PG of the department had continuous in-house night duty, later PGs learned how to manipulate their way out of it. The sole admitting Dr was also averse to medically unstable patients. Indian PMR was fathered by Surgery. In a recent paradigm shift things are more Medical. This led to a competency gap, we as a profession are still trying to fill. Things came to a head when a patient crashed at midnight and the namesake duty PG (who lived 30 minutes away) refused to come in. Their junior who lived near went to the bedside but was clueless of how the patient ended up in the ICU. They were unable to give any history or exam despite having the patient, family, and nurses around. The referring doctors heard about this and stopped sending transfer requests. A service with a regular 10-15 patients dwindled down to nothing. The desire of having a non-problematic service became a problem. Seeing all this I had already distanced myself from the mess well in

advance. This event led me cut off all support. There were people needing rehab. The competency to deliver was also available. The conditions were not conducive for results.

This led to General Medicine being weighed down with long stay patients. They asked me if I could start admitting. If I had been afraid in the past, this was my most fearful moment. It meant starting a parallel admission service to the current one. The service was empty but still present in name. I asked my Guru about all this. She said, 'Don't be afraid to do the right thing'. There was no other way the department could come up. Medical Director gave permission, and I began. Q warned me there was 'no coming back from it'. I stepped forward and didn't look back. The day stability was given more value than growth was the actual point of no return. That was baked into the department foundation. Starting a parallel service to the department head was just another step along the path to resetting the faulty base.

Then came the next problem. No in-house support. That group of PGs wanted to be taught without having responsibility. Medical Superintendent ordered the PGs to do in-house duty. Simply put now they had to behave like PGs. They tried to fight me and lost. They were upset at me but could not harm patients. They were all at heart good people misled by delusions of comfort and no responsibility. As the old service withered, mine was the only rounds happening. They had to learn somehow.

I truly hope no one else must go through such trials. Looking at some of our predecessors, this is inevitable. Life is weird. If you succeed none will know your struggle. All they will see is the outcome. It is expected every doctor has their own service. The only path is to keep moving forward tired or not. If you stumble detractors gain leverage and you will be vilified. Success comes to those who stick out their necks. There is a process to succeeding. It looks a bit like this: the need always exists, it is perceived, fear of what can go wrong arises, need for change over-rides it, start the approval process, make a small business plan, gather all stakeholders and confirm support, send the in-charge reminders until the job is approved. Once started, do your best every day because the first year is often a roller-coaster.

Bringing change generates friction. This manifests as excitement and agitation. Agitation arises in those looking for stability (fear of change), or who are jealous. They express their concern as criticism. The bold will tell you on your face, the others find to someone to tell you. Hear what the negative people say. They are trying to show you how things can go wrong. Identify the actual issue and address it as soon as possible.

Within a year the new service ballooned to 30 in-patients and 30+ in the Guesthouse. We began draining the local hospitals of rehab patients. They noticed. All the strokes, spinal cord injuries, and brain injuries started coming to us. Thirty inpatient beds filled by PMR patients will constipate any hospital. Even one with 1000+ beds. The result was elective surgeries had to be cancelled, because

there was no ICU bed for post-op care. Why? Because the ward beds were also filled by PMR patients. It became obvious we needed a separate admission facility. By this point receiving others backbiting, shaking up stagnation, me sending irritating reminders to those with power was all just daily work. Q busied themself declaring how it would fail spectacularly, and people's lives were in danger. Knowing I would ignore them they sent cronies as mouthpieces. Within six months we had a separate admission facility in the Guesthouse. The Extended Medical Care Facility (EMCF) was opened on July 3rd 2014. Only PMR could admit there. The same ill-wisher and sycophants now wanted to collaborate. As it was all private rooms with a verandah at low rates, patients loved it. Seeing how detractors used any small failing to create unrest I was cautious. Being the sole accountable and knowing their intentions I blocked their admissions. Handling EMCF alone meant I was on call every night for many years. It made me sharper at a price. The cost was insomnia and stress. Just before the ward opened I finished my spasticity fellowship in Japan. We did our first ITB pump in 2015 and a few SDRs the same year. Having a dedicated ward made rehabilitation that much easier. We released the first in the world publication on HBOT in Hypoxic Ischemic Encephalopathy. Its value was something I would only learn later.

Life is a dynamic process influenced by many things we can't perceive. The state government changed. The incoming party made rules to target the hospital. At that time, we were the largest private hospital in Kerala. The result was EMCF was shut down in 2017. We can't control everything in life.

Once you succeed others will try to copy. Two corporate hospitals arose in the interval. One started rehab under Ayurveda with PT. They kept losing patients to us until they hired an experienced Physiatrist. The other started with Physiatrists but to this day have not stabilized. Neither have the tech or sub-specialization to compare. They manage to retain their own patients. I was unaware of all these things. What I noticed was our numbers began to drop. This was around the time the Uber app was rising. Fallaciously I attributed our low numbers to it. A junior faculty watched our numbers fall and the corporates rise, as if witnessing a natural wonder. They neither understood how advanced we were nor that our cases were being hijacked. It took years for me to understand these entities were bribing all the ambulances (even against patient consent). Another way they harvested was to allow patients to discharge with bills pending. Their agency would do collections later. Working in a charity hospital, such options don't exist. All the nonsense aside I had gained the confidence to do what I liked to do without fear. I could enter new unknown areas and not just thrive but succeed. When others imitate your work then use unethical means to take and keep it from you, all you can do is grow elsewhere.

While competitors could only brag, our numbers did not return to where they were. Luckily the medical fraternity was

finding our HBOT publications. We ended up getting everyone else's waste cases, while the corporates kept the easy ones (SCI, stroke, TBI, etc). This newfound freedom left me wondering what other opportunities there were in PMR. I got involved in Artificial Intelligence, Neural Therapy, Pelvic Floor rehabilitation and most recently Lifestyle Medicine. Pioneering these has been enjoyable.

As usual I've vilified people. This deserves a revisit, as without them there would be no MD PG course. For faculty retiring from a government job, such jobs are just an extra inning. At that age they won't have major ambitions. Administration pushed them into starting the (their first) MD course. Having an aggressive headstrong junior faculty (me), it was very uncomfortable for a person looking to slowly wind down. There was an age gap widened by differing priorities. Most want to sleep at night and preserve their remaining health. Unstable fussy patients don't support that desire (especially in a private setting). Those who never treated such patients logically avoid them. When evasion goes so far as to make juniors call the original admitting service for permission to start laxatives for patients now under us, it is a problem. They will think we are morons. Creating stumbling blocks for juniors trying to grow the discipline is counterproductive. Being the obstacle to one's own department is something words can't describe.

Lethargy at the top trickles down. Many of our initial faculty hires conformed. They sacrificed opportunities to grow for the sake of acceptance. As new services emerged they had no part in it. Sadly, the early MD PGs also absorbed it. One queried 'Its only PMR. Why do we have to work like this?' This came from the PG who could not understand why they had to now do in-house night duty instead of sitting at home with family every evening. Young clinicians who don't experience hard cases early will never be comfortable with them later. The physical therapists had little respect for us in those days. No one needs a doctor who just writes Physical Therapy orders. Therapists don't know medicine, but anyone can see what work is happening. When I joined, it was all their work, and they knew it. Now things have shifted. Their attitude has not, but they cannot get away with overt disrespect. Being stuck in between was pressure from all sides. One can become stronger or succumb and crumble.

Antagonists make us stronger. I'm better because of Q, and ever grateful. The reverse is untrue. When I joined Amrita I lacked clinical experience to make good decisions. Q's frequent casual criticism made me paranoid enough to develop it. There are better means to the same end. It was not enough to gain confidence. Next was to instil this in others. How? First by being the example. But also, our PGs learn how to solve problems in real time. Juniors are supported in taking up new things if they show they have done a critical analysis. I remain willing to answer their queries, to admit when I don't know, and say if I am trying to see if things work. This shows them the process of learning continues post degree. By growing services beyond just

physical therapy the department's work culture changed. Students had opportunities to learn things from me the other faculty did not know. The same found themselves learning procedures from the PGs. Basically, the department they were now in was not the one they joined. Their resistance to growth meant they no longer fit in. So, they moved on. Regarding those who imitated us and took what we built, they are the reason we have so many new skills and services. Every dark cloud has a silver lining.

Stability without growth equals stagnation. Success is a moving target for which both are required. There will always be mismatches between juniors and seniors. This is accentuated by the leaps and bounds technology introduces. Some devalue growth as struggles entail. That is their choice. If you do your best for patients, you will be forced to grow. Rejecting chances to grow impairs the future generation. Such people should hope those hampered do not find a voice (like I just did).

****

MY PATH TO LIFESTYLE MEDICINE

Dr Ravi Sankaran MD

When I started Internal Medicine residency, people noted I was off tune. My friend (best resident of our batch) could see 15 patients in 30 minutes versus me doing 5 in 30. Why so slow? I had a delusion that healthcare was all about helping people get better and seeing them through their journey. That meant talking to them. At the end of some days, I felt my work was incomplete. I had done all my notes, seen the consultations, followed up the investigations, dictated discharge summaries, but something was missing. I'll use a few short stories to frame the issue.

One was an African American man whose chief complaint was the 'donkey kicked him'. Basically, he had an automatic implanted defibrillator that activated at the wrong time sending him down a flight for stairs into the basement, headfirst. Fear made it activate, and the shock felt like a donkey kick in the chest. He was more afraid even after device interrogation showed the machine was working fine. Basically, it became his fault. My attending started benzodiazepine to make him less anxious, and psychology was scheduled on discharge. I felt sad as his wife and kids abandoned him. Living alone, he was going to get a beer from the basement when it happened. He had to crawl to the phone with a bleeding head to call an ambulance. I made extra efforts to help. This drew the attention of my attending who commended the efforts but also had no idea what more to do. He was still scared as he was taken home. 'What if it happens again?' was his concern. His echo was the revert.

Another was an African American teen. He was sent from the Emergency Room with seizures. He never really had them, but his eyes were weird. He had a persistent non-fatigable horizontal opsoclonus/ nystagmus. He had gone somewhere, and the ambulance was called on him in view of this. Being a person of color and a minor, he could not refuse. His admission was on a Thursday night while his single mother was working and caring for the younger siblings. The whole story was so weird I came in on my day off just to get the full story. Her narration made everything clear as mud. One of my seniors caught me in the act and reported me to the Program Director. I was awarded movie tickets for going over and above the call of duty, but he didn't get better.

The last was an African American female with SLE, CKD and CRPS in both hands. On rounds my attending asked me about pain control medicines, expecting me to say Hydroxychloroquine as a response. I was in my first 3 months and ignorant.

More than that was the overwhelming concern that she could not do her ADLs. My teacher said a nursing home was her best option if no one at home could take care of her.

I don't think my teachers were heartless. There is a point in care when pragmatism overrides emotion. Having been through the system enough they learned to harden their hearts and move on. My fresh eyes kept seeing suffering not alleviated by all our interventions. The result was to blame the patient and discharge them. They were admitted and it was our job to document effort made, then get them discharged. Why? Insurance companies paid their bills. Residency in America was a numbers game called by the insurance company. We danced to their tune or got punished. Simply put this was depressing. I didn't join medicine to be the best paid hospital clerk (note writing) nor the advocate to convince a biased jury (insurance) my patient needed more care. But that was the flavor of American healthcare in 2006.

In second year, we got a PMR rotation. They had an empty position, and we liked each other. The faculty was more humanistic. I thought changing to PMR would make things better. One PMR faculty (Dr Atty) told me 'Unlike Neuro, or Ortho etc, PMR is vast'. He said 'It will take 5-10 years to figure out what works for you. Be open minded and take one day at a time'. The toxic environment of Internal Medicine was replaced by an Eternal Sunshine ambience. Until… One consultation was a 17 y/o male with a Motor Vehicle Accident. On hearing about it, I was expecting an unconscious person with polytrauma. I rechecked rooms when I found a fully conscious young man walking around chatting with his sister. His parents were divorced. Mom's new boyfriend was selling him illegal home-made drugs (money came from child-support paid by the father). The boy would score a hit, get high, jump in a car, go fast and hit something. This was the seventh time. All the pieces fell into place when his mom came to the hospital. She wore a T-shirt that said, 'Treasure Chest'. The words were in a place most would be ashamed seeing. His father came later and begged us, tears in eyes, to save his son. My attending listened compassionately and told him he would try his best. Assuaged the father left. I asked my boss what the plan was. There was no way to help them. All we could do was medical work. As he had no activity of daily living deficit he would not qualify for rehabilitation. As they were not rich, he would not qualify for outpatient residential rehabilitation facilities (Origami was the name of ours). So even after changing to PMR and moving to Sparrow hospital (Michigan State University/ MSU) insurance still ruled the show. PMR was an elective admission not mandatory, and we had to justify ourselves to the insurance Dr weekly. I thought my struggles would end with residency. Again, I was wrong.

Amrita was the first private hospital PMR setup in Kerala. The department was started in 2008 by Dr Surendran. For the prior 7-8 years there was just a Physical Therapy department. This shift was not smooth. The erstwhile Senior PT used to

introduce himself to patients as 'Dr…' He saw PMR as a threat, so he began schemes to have us removed. He tried to repeatedly humiliate Dr Surendran in the department. When that failed, he lied to other allied doctors and administration to achieve the same effect. Sir did not abandon his post despite the insults. Having failed, Senior PT put a PT in Ortho OPD. This effectively bypassed PMR. Ortho happily obliged saying 'We'll handle all the easy cases'. What to do with the hard ones was the challenge. Such patients were chronic and had psychosomatic issues. Neurology and Neurosurgery had more of the same. All the investigations needed were done, all the pills tried. All anyone else knew was to write physiotherapy and refer. Annoying were swarms of people coming to me chanting 'Physiotherapy'. It felt demeaning. That was my ego getting rubbed the wrong way. There was a gap in care, and it was gaping at me. I was clueless about how to close it.

I did what I thought would fix things. I got irate and scolded my referring Neurologist. I told her no one took us seriously since we were not ordering scans and prescribing medicines. She was happy with my posture work outcomes otherwise, so she consented to give patients per my request. In retrospect I regret doing this. My actions were not appropriate. Through my time at MSU all our patients were thoroughly pilled and billed before coming to us.

I got what I thought I wanted. And nothing changed. Our patients still came brainwashed for exercise and eager to return home. As we were not their first choice for coming to a tertiary care hospital our consultation became the reason they could not go home faster. So, they took the liberty of expressing their frustration at us. Or they would ask us to refer them to a sub-specialist. We knew our sub-specialists would send them back anyway, but we could not deny the request. The concern was our referrers would see their discontent and think we were not working optimally. In a capitalistic environment the person with money has the power. The environment was not optimal, but it was what we had to work with.

Despite now being able to prescribe tablets and order radiology I still felt something was missing. My neurologist had a running joke with me. Even after patients got better, I would find issues to sort out. I kept seeing those who temporarily improved. When they relapsed, they had issues like being overweight, sleep architecture/ hygiene issues, psychosocial stress, prolonged inactivity etc. Our colleagues frequently missed or didn't want to deal with these issues. I could identify the issues but didn't know how to address them. Many did well with posture correction exercises I taught. When they failed, they came back. Lifestyle factors were often the driving force. The most common being 'the pain stopped' so they stopped exercising, or obesity/ body use patterns creating strain. Investigating what exercises would burn off how many kcal per unit time showed me the truth. No realistic amount of exercise would burn off their extra weight. This meant their food input was going to affect their body

weight. I learned the MyPlate model to quickly explain this. Once you tell some people 'eat less rice' they will show their true colors. One lady asked not once but nine times in the same encounter if she really had to reduce rice. She was morbidly obese. Controlling food was important, but not all responded to simple food proportion guidance.

Dr George Joseph has a unique talent. Instead of sending every patient to a therapist for modalities, he could make patients laugh off their pain. He felt all pain was psychosomatic, so he made them smile. I didn't understand why initially, even after he told me. If we can't grasp what's in front of us, we will keep bumping into it until we do. I learned pain truly was psycho-somatic in some way. Dead eyes, inability to return a smile, irregular behavior were the clinical indicators. This approach did not help them lose weight, etc though.

Patients just want relief. They may feel like they are moved along a conveyor belt of tests that lead to pills or procedures. Some get confused if this is not done. The process ignores things they know relate to their issues (ergonomics, stress, being overweight). Some learn that no one will address these issues. They seek relief in whatever is popular (Physiotherapy being the most common). They often stick with that until it fails, then begin hunting again (Ayurveda and the host of quacks). Others get relief and unknowingly repeat the behaviors that make the problem worse. When we don't educate them on this, we are parasites. Financially thriving off others suffering is wrong. It is also quite normal in healthcare nowadays.

Many times, our colleagues did all the level 1a stuff. Having done that they knew something was missing in care and thought I could fill that. I knew lifestyle factors were involved. How to address them was the issue I faced. Having unique skills is a double-edged sword. Our medical colleagues value fancy technology, high stakes procedures, or things requiring raw skill or intellect. All those can be 'itemized' and chanted at a patients face to placate/ dispel them. Our allied colleagues often chant 'Physio' as such. It is a simple heuristic. Anything not solved by EBM goes to allied health. None of them really understand what it is. Most never take the time to understand either. They know it isn't the pills they prescribe nor risky procedures. By extension then these must be a benign placebo (that makes people stop bothering them). Sadly, such is not true. This empowers those without a solid scientific grounding, into believing they are as important as the medical work. Both parties overlook the cause of problems and benefit financially. Regardless of level 1a, everyone just wants a good outcome for the patient whatever the means. It's easier/ safer to stand on the level 1a podium and condemn those who deviate, so most take that path.

Lifestyle work is common sense and compassion. By default, it will be rejected, ignored, or devalued. The hardest part of this is there is no comparator, standard of care, EBM guideline, social normative behavior or common knowledge. Lifestyle work

borders and overlaps wellness, nutraceuticals, and quackery. Thanks to the internet allied and non-medical people are already in this space. Medicos must compete with charismatic sensationalists. No matter how wrong/ unqualified, the message is followed. Who in their right mind studies so hard, only to compete with such. There is an apt saying. 'If you wrestle with a pig, you get dirty and the pig enjoys it.' So, the sensible avoid this work.

I started clinical care two decades ago. Initially everything was fascinating. I didn't really understand what I was seeing. Good outcomes generated elation, and negative ones prompted more study. Learning new things gives a dopamine kick, until implementation made it mundane. I kept getting bored because I was learning how treatment influenced disease. Once I learned if it was useful or not, curiosity faded. All along, I was ignoring the person who had it. This was not fair to them. What I was doing was offering treatments for conditions which were not deficiency of these treatments (the sense in those words requires a bit of thought). By the time patients enter your space you know what the complaint is, what they will say, how you will respond, and likely how they will revert to the response. If the stereotyped script plays out, one feels like a machine. Having developed our services to a level few in India can provide (at present), work got boring again. No patient deserves a doctor who is not interested. Using the individualized approach of lifestyle medicine ensures things are perennially interesting as no two people are the same, even if their diagnosis is. The history taking process changes into something more personal, and the patient realizes that the core problems are being exposed. Those who don't want them addressed will get lost to follow-up. They are deniers. The rest follow a particular set of paths. The truly motivated find this level of history taking to be what they were longing for and find ways to address the issues. Some are pre-contemplative. There are techniques to help them shift to people with a plan to improve. All in all, it is a more fulfilling process than running the same patient encounter scripts day after day.

A struggle I've faced is how to address people who think Physiatrists and Physical Therapists are the same thing. Colleagues refer patients to us specifically for Physical Therapy for a variety of reasons. For some it is heuristic, for others it's a convenient word anyone understands. Others are afraid we'll change their diagnosis or treatment. One fringe thinks all we do is order therapy. They eventually decide they can do the same and pose as us. Another takes our procedures and send the patient to therapy. All this left me frustrated. Burning up in anger is stupid, but the tension was undeniable. The pressure eventually matured into a question. 'What can a Physiatrist do without therapists?'.

I have had a lot of success in life, but it came at a cost. Overweight, insomnia, paranoia, being easily irritable all became normal for me. I didn't like that. It really struck me how out of shape I was one day. I was examining posture in a patient

when I felt their belly touch mine. They were overweight, like many of my patients, but this was a first. When I looked down, I found my own belly was out enough to bump theirs. There is no point telling people what to do if we are not the example of it first. Despite my achievements I was missing out on something in healthcare. This is when I was guided to lifestyle medicine. This approach focuses more on prevention and working without medicines as much as possible. It is individualized care. Changing my lifestyle helped.

My Neural Therapy teacher (Dra. Katia Puenta de la Vega Costa) introduced me to this discipline. She set me on a hunt to find courses. This led me to CMC Vellore's Diploma course. In that, they teach all the basic skills needed to deliver this type of care. While I still use the Myplate model, patients find more satisfaction when my dietician does a full food frequency inventory. This leads to better compliance. Much of myofascial pain is sarcopenia, and lack of adequate physical activity. For many years I would only correct posture and treat pain. Learning lifestyle medicine expanded my perspective and care options. In the past our colleagues were happy to have pain patients do long-term follow-up with us. The problem was once pain was controlled, I didn't know what more to offer. I had no contingency. Now I have a three-month plan. People feel confident when they hear it. It leads to them being independent of us in the end. People come with pain which is psychosocial in origin. As Physicians we can't treat those things. The course showed us how to help people overcome these on their own. We just guide.

I've often heard Physiatrists say 'PMR adds quality to years'. Many would then just send patients to therapists. Some would maintain connection by prescribing pills, others by doing injections, others with surgery. A few would completely wash their hands off the case. Medical issues left unsupervised in the hands of paramedicals is irresponsible. But was there another way to keep the connection with a patient? The harsh reality of Neuro-rehab is there may not be major gains one year from the injury. Pain rehab patients often wax and wane. That won't stop people from chasing their dreams until they realize the truth or run out of money. After that they either become content with what they have or enter depression. Regardless they will sleep and wake up to face another day.

Lifestyle Medicine offers the skills needed to handle these issues, and by extension maintain a connection. I can't help the patients I mentioned earlier in the article. I can offer better care to those in front of me now though. It took me five years longer than Dr Atty predicted, but I know my flavor of rehab now. You don't have to walk my path. What you must do is walk yours to the fullest.

****

WHAT IT TAKES TO MAKE A KJPMR ISSUE

Dr Ravi Sankaran MD

With every term of KJPMR I close with an article like this. More than for memories this is for the person taking over. In this term KJPMR continues as a themed release. Much of structure set in my first term was discarded by my successor. He did his part well and there was no need to revive it. When I returned there was a communication gap that led to the first issue of this term coming out too early. The subsequent issue followed until we rectified it. Regardless a five-year publication cycle was planned out. Having an excellent Associate editor made work easier this time. Having done my first term without such meant I could guide them from experience. Between us we did flip the themes a few times. One of those led to a senior becoming critical. Overall, though this was a success. As usual I set the deadline one month before release.

This term we tried something new. KJPMR was used to identify and address knowledge gaps the major indexed journals do/ cannot. Publication bias is a real issue, and budding doctors can only learn so much from people just trying to rack in citations and get promotions. Meaning a lot of the published work is of little value to them. Or it doesn't touch on topic relevant to their daily practice. To be different theme related surveys were sent out. The intention was to gather the stance of Kerala Physiatrists. Of the 251 members only some 160 responded. The others were marked as chronic non-responders and blacklisted from future surveys. This was in the interest of time and saving my cervical spine. Of the responders in general 75% would eventually respond, some requiring up to three reminders. Most of the reminded were apologetic in some form. Meaning their negligence was not intentional. Regardless the surveys exposed member incapacity/ disinterest in participation and voicing their side of the story. If our people remain dull, we are to blame for being in a bad position. Some participated but displayed inability to read instructions, e.g. the usual survey said 'inform me once done. I have no way of knowing otherwise'. About 1/4th of responders would eventually say they already had. Two asked why I kept reminding them to do so even after they had. All I could do was show them the prior instructions.

As most of our people still can't write even non-scientific content, it means I do most of the writing. This is truer regarding themes where everyone is clueless. On average that means at least 30% of the articles are made by the chief editor. Luckily, we are in the age of chatbots. This time around I wanted to try something different, so I began applying

incidence figures to Kerala demographic data and linked that to Physiatrist numbers. Despite being the state with the highest number of Physiatrists, we are a far call from the optimal ratio to manage care for our concerned population. If anyone in the executive committee takes the time to read the first four articles of any issue they will have a wealth of information regarding need of the hour, what our population wants, what support is needed etc. And if not, things will go as they are.

The Bellevue hospital in New York has a literary journal. It is a place anyone can publish their experiences in healthcare. It is a fascinating read. Most of our colleagues don't find scientific articles engaging. Most want spice. Adding masala rips the journal out of the confines of scientific publications but could boost readership. This was the gamble I took this time around. How? A dedicated literary journal section was the answer. This is a place where non-scientific content could be found. 'Why I became a Physiatrist', the therapeutic misadventures of Ravi Sankaran, financial implications of disease treatment, patient stories, members in action, etc. This was the material to fill it. As usual keeping it alive was my job, but in retrospect it was worthwhile. The efforts of organizing my thoughts led to the desired outcome. This issue has a patient narration, translated by the Physician taking care of her. It's beautiful. The physician even rendered the article with a graphical representation of the patient's struggle.

In my first term I promised 'Resistance is futile' in an article called Stone soup. The intention was that our own write for the journal. I delivered on this promise this time around. My associate editor went around recruiting people to write 'Why I became a Physiatrist'. One author was given acclaim by the Australian president of PMR Dr Steven Faux. Another gimmick to get others to write was using AI. After making the table of contents we'd figure out who would possibly do what. I used my influence over junior faculty who could not say no. Getting started is the hardest step for most. Analysis paralysis, etc come into play. I used a chatbot to make article outlines that the author then need only modify. After coercion we found most were content making the outlines into full sentences and adding scattered pictures. We all start somewhere. Considering low readership many AI related mistakes have flown under the radar. One devout senior reader caught me red handed though. In the cardiac rehab release I made an article on CR without PT. The chatbot rapidly gave me an outline. I changed things to my liking, and it went to publication… with a fatal error. This senior found and pointed it out. See if you can find it. Clue: it contradicts the entire theme of the article and comes at the end (yes, I am trying to get you to read it). The last release had an article almost entirely made by AI. The author left all the telltale chatbot signs, then commented the journal had such articles in it. That is a whole new problem. Lastly in order to make this issue, I also fell prey to use a chatbot written article. Tell me which one you think it is.

Readership remains laughably low. The journal is posted both in the national, state and Amrita WhatsApp groups. Along with that I send to those who show an interest. Lastly every member of the Kerala chapter group who responds to surveys gets a direct copy. This means about 200-so direct copies. Of the receivers about 25 provide some acknowledgment of receiving the issue. From there about 10-15 read and revert. Those who do read enjoy it thoroughly. Many young Physiatrists have found hope and solace in my boring stories. If we can inspire a few lives with our words, the torch is carried through time. Personally, I don't enjoy making KJPMR issues. I will however put my best into whatever I do. Along the way things become fun, and I get better at the concerned.

At the outset of taking over I was instructed to get scientific articles. The intention is admirable. People with authority have vision. If that is not clarified for the one doing the labor the following happens. If KJPMR (currently a completely non-scientific journal) were to get indexed a good volume of contributions could be channelled to it. That would destroy the already indexed IJPMR. That is a journal whose board I sit on and helped get indexed. It was a long struggle to regain the indexing which was lost after Dr Upinderpal Singh took it there the first time. The simple truth is KJPMR is a placard. It's a way to show the power of the chapter. So, along those lines I could have but didn't start the E-ISSN process. The internet never forgets. Meaning this journal will live on, somewhere, somehow.

Lastly it has never been my intention to use the journal to slander others. Everyone has unique perspectives and approaches to problems. Some are productive, others are 'stabilizing'. As I narrate one-sided perspective on past issues, it's inevitable some are villainized. If anyone doubts, all these are just normal people living the way they feel is best. I benefitted by improving my writing skills. Considering the number of irritating articles I've made it's only fair to say the following. If you want to make an issue, first you need a journal (pune intended). Second you need a big ego. Having a big ego without a journal means your words won't carry far. Having a journal with no big ego means you have an insipid product. Put both together and you have KJPMR (the KJPMR of this term).

Let's see what the future holds for KJPMR. I'm not Vikramaditya, but Vetal may seek me out again. I asked State President to 'not put all his eggs in one basket'. By diversifying the hope is to have enough future alternatives. Vetal will be confused whom to jump on. In closing the term has been fun. I want to thank my writing guru, Sir Terry Pratchett. When you read my attempts at clever word play and bathos, those are my humble attempts to channel his genius. And of course I thank you dear reader. You made it this far.

****

A POSSIBLE SOLUTION

Dr Ravi Sankaran MD

It's easy to point out logical flaws in the demands others make. Easier still when you are the donkey bearing the brunt of the labor. Doing so is not productive though. In the article labelled 'Making an issue', I raised multiple issues. Now I propose a solution.

KJPMR since its revival in 2019 has never operated like a standard name brand scientific journal. It is a place to deposit ideas, feelings, and experiences related to healthcare. Such journals exist and are indexed with DOIs. Hektoen International: A Journal of Medical Humanities, is an example. It is indexed in NLM, and WorldCat. The Indian Physiatrist diaspora currently lacks the tempering needed to thrive in the Pubmed/ Scopus domain. That is not criticism but a statement of our humble position. That will not improve by demanding more scientific publications. It improves when ideas emerge on pages for others to read. This has been my path, hence the authority to say so. Writing for a humanities journal is not as rigorous as a scientific one. Language can be flowing, flowery, and cleverly worded without fault. It remains for those who pay for the journal to decide this though. Until now I was just chief editor (read as primary author).

In some strange future where this happens, what is needed is for the journal to first change its name. Chapter-centric branding does not invite the plethora of potential articles. A more apt name would be 'Humanities in Physiatry'. While we are still a small cohort even in the international stage, the name invites to all who hear the calling. Having an Article Processing Charge is appropriate and can support the journal/ give value to the content.

E-ISSN is a few hours job. The remainer indexing is not far off as the foundation has been in place since 2019. The prior editors were regular in their updates. If the scope of the journal was set to include anything not purely scientific it would ensure IJPMR would hold its place in getting people promotions and sharing information. We know our people have material to contribute. The concern would be outpourings of negative emotions with no specific message or path to redemption. If you read articles in this recent tenure (and this issue) you'll see me as an author trash all sorts of people. The intention is not that though, and I attempt amends in the closure. This is where peer review is critical. If standards are not upheld this will degenerate into a gossip magazine. Teacher will turn on student and vice versa then implosion will follow.

Why would anyone write for this journal? Eventually everyone wants to be discovered. History is written by the

writers. Google scholar visibility is a decent low bar. With a dedicated webpage, HTML tags (keywords) can be assigned and a DOI issued. Key words/ meta-data tags are: Title, Author names, Journal name, Volume/Issue/Year, Abstract, Downloadable full-text PDF link, Persistent URLs (don't change with each update). DOI issuance is either free or on a case-by-case basis (Zenodo). It becomes easier if a known publisher picks up this kind of work. Then a publishing portal comes into play. Most issues cost a few lakhs to make. Indexing drives up the article count and DOAJ and/ or ROAD are venues for this. Others are MLA Directory of Periodicals, ERIC, OpenAIRE, etc.

There are more details involved in the process (per the chatbot I queried). Those details at present are irrelevant. Aside from a short finger count most of the people with the power to make this reality do not read the journal. Some are unaware of who does the cover-art. Having posed this, I'm willing to be editor for such a job. Our colleagues need this. My thanks to Dr Anand Raja for the idea.

****

BACK IN BUSINESS

Narrator- Smt Pushpa Devi w/o Manoj Singh

Translator/ Composer/ Author - Dr Manjunath Alure MBBS

You see, sir, our lives began far from the city lights, in a small, rented house on the outskirts of Delhi, where the fields began. It was just me, my husband, and our two children, my daughter in sixth grade, my son in third. My husband's old auto-rickshaw was our only lifeline, its meager earnings just enough to put food on our plates. Every day was a fight for survival, a battle of a few rupees.

But a mother's dream has no price. My children had to get a better life. So, with a dream in my heart, I began making papads at home, laying them out to dry under the hot sun. In the evenings, my husband would take them on his route, selling them to passersby. We weren't rich, not by a long shot, but we were a family, and that was all that mattered. People in the village praised my hustle, my quick hands. "She works like a deer," they'd say, and my name became synonymous with hard work and efficiency. There wasn't a wedding or a feast where I wasn't called to help.

Then came the day my son asked, his eyes wide with a hope I couldn't bear to disappoint. "Mom, there's a parents' meeting tomorrow. Please, will you and Dad come? You never have." I looked at my husband. He knew what it meant to miss a day's work, but he saw the longing in our son's face. After a long moment of thought, he simply said, "Okay, let's go." So, we piled into the auto, the four of us, sitting so close, and began our journey.

It was our fate, I suppose. Just as we were driving, a large vehicle came out of nowhere and slammed into us from behind. The world exploded into a violent shriek of metal and a thunderous crash. A searing pain, like a boulder had crushed my back, was the last thing I felt before everything went black.

When I woke up, I was in a hospital. Some kind soul had brought me here. The doctor stood over me, his face grim as he shook his head slowly. "I'm sorry," he said. "Your spine is broken. We can operate, but for you to ever walk again, you will need a miracle. We will do our best."

What is a poor woman like me to do when her very foundation is shattered? My children were so young, their dreams still waiting to be built. How could I become a burden to them, to my husband? The thought of being useless, of being dependent, gnawed at my soul. I felt like dying. I cursed God and my own fate.

The operation was a blur. When I regained consciousness, I tried to move my legs, a small flicker of hope still in me.

But nothing. No feeling, no strength. I couldn't feel anything below my waist. Even my basic needs had to be managed with a tube and a diaper. Was this really what was left of my life? I cried until my eyes were swollen and sore.

But my husband, he is a saint. "I'm here," he said, holding my hand. "Don't you worry. I will take care of everything." For six months, he stayed by my side. He took care of me and the children with more love and patience than my own mother would have. I begged him to leave me, to find someone else, but he was resolute. "I will not marry again in this life," he told me, a promise as solid as stone.

He became a mother and father rolled into one. He'd wake up early, get the children ready for school, cook their meals, do the dishes, and wash the clothes, all while looking after me. "Go drive the auto," I'd plead with him. But he would just smile and say, "I've rented it out. Your health is more important. You just rest." It was only months later, when I was moved to AIIMS to learn to use a wheelchair, that I learned the truth. To pay for my surgery, my medicines, and our daily expenses, he had sold the auto.

They taught me to navigate a wheelchair, to do my own work. I pushed myself, not wanting to be a burden on anyone. With a new sense of purpose, I practiced harder than anyone else. They say a drowning man will clutch at a straw, right? I used this second chance to become a little independent. With the wheelchair, I felt I could run again, and the fear of being a burden slowly faded. My confidence grew.

That's when I called my sister from the village. She had just finished her 10th grade and was on a break. We started making papads at home together, and my husband would take them to sell. We even dreamed of taking a loan to open a small shop. My husband is now driving a rented auto again, and my sister's presence is a great comfort.

My children have suffered, sir. They have shown such strength. They never complained. The other day, I overheard my neighbors talking about the parents' meeting. I waited for my children to say something, but they didn't. I knew they were holding back, scared to ask me to come in a wheelchair, scared it would embarrass their mother. A mother's heart knows.

I couldn't stand it. So, on the day of the meeting, I gathered all my courage and, with my husband's help, went to the school. As I rolled through the gate, trying to avoid everyone’s gaze, my son saw me. His face, which had been so sullen, lit up. He ran to me. "Mom! Dad! You came!" he cried, "I'm so happy you came!"

And then he broke down, his small body shaking. "I'm so sorry, Mom," he sobbed, holding me. "I didn't invite you this year. All of this happened because I asked you to come last year. I was so scared something would happen to you again." My heart shattered. My little boy thought he was to blame for everything. "Don't think like that, my son," I said, holding him tight. "Your mother is strong. I'm here. I will never leave you." I held back my tears, not wanting him to see how much his words had broken me.

His friends came up to us then. "Aunty! How are you?" they asked. "We missed you so much! Aunty, come, let's take a group photo!" They were so full of innocent love. I couldn't say no. As they gathered around, I wiped away my tears with the corner of my sari. A few drops still fell onto my lap, but the children were smiling, and that was all that mattered. The teachers praised them, and I felt a joy so deep it was like I could stand on my own two feet again.

On our way home that evening, the children fell asleep, exhausted but happy. As my son drifted off, I heard him whisper in his sleep, "I love you, Mom. Thank you so much." My tears, held back for so long, finally streamed down my face. "I love you too, son," I whispered back.

Legend- painting to represent the patient's situation by Dr Manjunath Alure

****

A JOURNEY CHOSEN BY THE SPECIALTY REFLECTIONS FROM PHYSICAL MEDICINE & REHABILITATION

Dr. Sonu MS, MD DPMR FIPM

"The purpose of medicine is not only to save life, but to restore the life within it."

When I was invited to write about my journey into this specialty, it made me pause and reflect on the path that led me here. Over the years, many seniors and colleagues have asked me a simple question: "Why did you choose this specialty?"

My answer has always been the same—look at this specialty with open eyes, not through the narrow and judgmental tunnel vision that sometimes passes through generations.

Because when you truly look at Physical Medicine and Rehabilitation, you see something extraordinary. It is one of the few fields in medicine where science, compassion, engineering, and human resilience meet.

We deal with pain.

We deal with neurology. We deal with rheumatology. We deal with orthopedics.

We care for children and the elderly alike.

We work alongside multiple surgical specialties.

And beyond all this, which other specialty exposes us so deeply to the engineering side of medicine—biomechanics, orthotics, prosthetics, assistive technologies, and functional restoration?

Above everything else, we are the specialty that truly deals with rehabilitation—restoring function, independence, dignity, and hope.

The Beginning: A Specialty I Never Knew

Ironically, during my undergraduate days at Government Medical College Thiruvananthapuram, PMR clinical postings were optional. Like most of my batchmates, I had almost no exposure to this specialty.

Later, while submitting my options for postgraduate courses, I called one of my seniors to ask about this unfamiliar branch. His response was simple but reassuring: "It is a beautiful specialty. It is as good as any other."

Back in 2012, after two long years of struggling with the newly introduced NEET PG, I finally secured a DPMR seat at Government Medical College Kozhikode. To be completely honest, PMR was probably just one among the 355 options I had filled while desperately trying to secure any clinical seat. Thousands of candidates with better

ranks had opted for other well- known specialties. Looking back today, I strongly feel that I did not choose this specialty—this specialty chose me.

The Formative Years

When I joined Government Medical College Kozhikode, I was fortunate to have wonderful batchmates—Dr Prakash K V, Dr Bineesh, Dr Shadiya, Dr Reshmi, Dr Bisha, and Dr Farhana.

We were privileged to learn under dedicated teachers including Dr Sreedevi Menon P, Dr TK Vasudevan , Dr Sreejith K, Dr Roy R Chandran, Dr Shehadad K, Dr Muralidharan PC, Dr Krishnaprasad, Dr Sooraj rajagopal, Dr Reeba Mary Mani, Dr Mohan Raj, and Dr Hemalatha.

I was equally blessed with supportive seniors like Dr Lekha, Dr Dhanya, Dr Soumya Viswanath, Dr Arun Ram, Dr Sudhil, and Dr Tojo, who helped us take our first steps into the vast and fascinating world of rehabilitation.

Among all my teachers, two mentors had a profound influence on me—Dr Roy R Chandran and Dr Shehadad. They were far more than teachers.

They were guides, role models, inspirations, and at times even elder brothers and close friends.

During those years, I often stood amazed at the results rehabilitation could achieve. Watching patients regain lost functions, independence, and confidence was deeply fulfilling. The DPMR years, however, passed very quickly.

Learning Beyond Training

After completing my diploma, I joined the Health Services. In every hospital where I worked—both as a specialist and sometimes even as a general physician—I tried to provide the best rehabilitation care possible. Many times I experienced immense satisfaction when patients benefited from true rehabilitation, rather than what is often narrowly perceived as just “physiotherapy.”

A turning point in my career came during a bus journey back from a mid- term conference in Thrissur with Dr Santhosh K Raghavan. During that journey, he shared his experiences from his DPMR days and explained why he had pursued DNB after his diploma. According to him, the diploma sometimes felt like something in between undergraduate and postgraduate training. That conversation stayed with me.

By then I had already fallen deeply in love with PMR. I decided to pursue further training— either secondary DNB or MD in PMR. I registered again for NEET PG and the secondary DNB examination with just two months to prepare. I took leave from service, stayed away from distractions—even away from my family—and began preparing. Those days were among the toughest days my brain had ever experienced. The intense preparation felt like information overload, but it also reignited my academic curiosity.

When the results were announced, I was overwhelmed with joy. I secured first rank in the secondary DNB examination and became the state quota topper in Kerala. I remain deeply grateful to Dr Selvan P, who helped me obtain the necessary certificates required for the examination.

The Unexpected Challenge

Following this, I continued my academic journey again at Government Medical College Kozhikode. But soon came an unprecedented challenge— the global pandemic of COVID-19. Clinical services, outpatient clinics, admissions, teaching sessions, and academic discussions were all severely disrupted.

During my mandatory quarantine after COVID duties, my mentor and brother Dr Roy R Chandran took the effort to bring home-cooked food every single day from his house— treating me as though I were a member of his own family. Even today, tears come to my eyes when I recall those days. In today's fast-moving world, such kindness from a teacher to a student is rare. It is a gesture I will never forget.

Despite all the challenges, the MD years also passed quickly. I was fortunate once again to have supportive colleagues like Dr Aneesh Nalinakshan, Dr Sajna Roy, Dr Kaveri, Dr Ayisha, Dr Jijith, and Dr Deepak who stood together during those difficult times.

Returning to Where It All Began

After completing my MD, it was again Dr Selvan P who advised me to consider joining the DME service. Eventually, in 2026, I joined Government Medical College Thiruvananthapuram, as an Assistant Professor in Department of PMR—the very institution where my medical journey had first begun.

"Life sometimes comes full circle. When the Doctor Becomes the Patient"

Many of you may know that I myself live with Erb's Palsy, from which I was fortunate to achieve partial recovery. During my postgraduate training and while working in different districts, I had the opportunity to treat several children with the same condition.

In those moments, I was not just a doctor treating a patient. I was someone who had walked a similar path.

I could treat them not only with scientific knowledge but also with personal understanding. Most of the time the outcomes were excellent, and the gratitude expressed by parents was deeply touching. Those moments reminded me why rehabilitation medicine is so meaningful.

A Note of Gratitude

No journey in medicine is ever walked alone.

I remain deeply grateful to all my teachers, who shaped my understanding of rehabilitation and instilled in me the values of compassionate care. My heartfelt thanks to my seniors, who guided me with patience and encouragement when I first stepped into this specialty, and to my juniors and colleagues, whose teamwork, discussions, and friendship made the journey meaningful.

I am especially thankful to my patients, who trusted me with their struggles and allowed me to be part of their recovery journeys. Every patient encounter has been a lesson in resilience, courage, and the true meaning of healing.

Above all, I owe an immeasurable debt of gratitude to my family. Their unwavering

support, sacrifices, patience, and encouragement have been the strongest foundation behind every milestone I have achieved. Whatever heights I may have reached in my professional journey have been possible only because of their belief in me.

Looking Ahead

As medicine moves rapidly into the era of artificial intelligence, robotics, and technological advancements, some may wonder about the future role of physicians. But rehabilitation teaches us something fundamental.

“Technology may assist healing, but compassion completes it.” Machines may analyse data.

Machines may support function. Machines may even predict outcomes.

But no machine can replace the human ability to inspire hope, motivate recovery, and stand beside a patient through their journey back to independence. And that is the essence of Physical Medicine and Rehabilitation.

“In rehabilitation, we do not simply treat disease. We restore lives.”

Looking back at my journey today, I realise something profound. I once thought I had chosen this specialty.

But in truth—

this specialty chose me…!!

****

WHY I AM A PHYSIATRIST

Dr. Aravind PR MD

Physician specialties with the best Lifestyle Balance

Rank	Specialty / Subspecialty	n	Lifestyle Balance Index	Hrs/Week	Schedule & Shifts Quality	Call Burden	Clinical Workload	PTO
1	Preventive Medicine	42	1.77	40.7	1.16	0.81	74%	5.2
2	Dermatology	205	1.51	38.3	1.16	0.87	97%	4.7
3	Allergy & Immunology	66	1.43	39.8	1.14	0.90	89%	4.5
4	Psychiatry	514	1.32	40.7	1.11	0.95	88%	4.7
5	Physical Medicine & Rehab	300	1.32	42.8	1.12	0.90	92%	5.2
6	Family Medicine	1,084	1.29	41.6	1.11	0.94	90%	4.9
7	Rheumatology	100	1.29	40.7	1.15	0.99	93%	5.3
8	Ophthalmology	321	1.24	42.0	1.13	0.97	94%	4.8
9	Endocrinology	100	1.23	42.7	1.13	0.97	93%	5.3
10	Radiation Oncology	182	1.21	45.5	1.15	0.96	91%	6.2
11	Internal Medicine	696	1.18	44.0	1.07	0.94	90%	5.1
12	Podiatry	1,246	1.16	44.2	1.10	0.94	94%	4.4
13	Pathology	208	1.16	45.4	1.10	0.99	85%	5.7
14	Urgent Care	49	1.13	41.4	0.91	0.89	88%	4.3
15	Plastic Surgery	98	1.09	52.8	0.96	0.98	92%	15.9
16	Radiology	539	1.01	45.8	0.97	1.04	94%	10.1
17	Neurology	354	1.01	46.1	1.00	1.00	88%	5.4
18	Otolaryngology	203	0.99	46.8	1.05	0.99	94%	4.6
19	Pediatrics	996	0.96	43.4	0.95	1.05	88%	4.7
20	Gastroenterology	222	0.94	46.7	1.00	1.02	95%	5.3
21	Infectious Disease	92	0.91	47.7	1.00	1.13	76%	5.0
22	Urology	237	0.88	49.5	0.99	1.02	95%	5.8
23	Hematology Oncology	173	0.86	47.6	1.06	1.21	85%	5.0
24	Orthopedic Surgery	558	0.82	50.7	0.96	1.03	94%	4.9
25	Hospital Medicine	879	0.80	45.1	0.81	0.97	94%	3.7
26	Pulmonology	53	0.80	46.1	0.92	1.12	93%	4.7
27	Emergency Medicine	783	0.79	34.9	0.57	0.90	92%	3.0
28	Cardiology	423	0.70	51.6	0.93	1.16	93%	5.5
29	Nephrology	131	0.70	48.7	0.87	1.16	91%	5.3
30	Pulmonary & Critical Care	179	0.65	48.9	0.78	1.12	90%	5.1
31	Anesthesiology	1,386	0.64	47.6	0.79	1.22	96%	8.2
32	Obstetrics & Gynecology	512	0.64	49.1	0.82	1.19	90%	5.1
33	Surgery	718	0.61	53.3	0.76	1.06	91%	5.1
34	Critical Care	161	0.59	46.0	0.61	1.00	94%	5.3
35	Neurosurgery	88	0.48	56.3	0.67	1.12	91%	4.7
	All specialties combined		1.00	45.5	1.00	1.00	91%	5.6

Note: Some specialties are missing due to low n

Source: All Physician salaries on Marit (Full-time only), Updated 01/30/26

marit

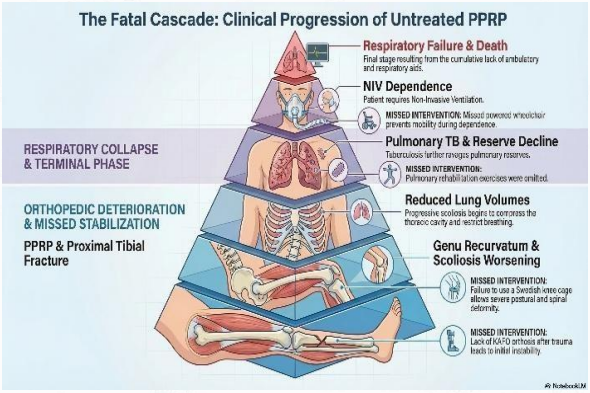
Why am I a PHYSIATRIST? - I have pondered over this question multiple times in my life, at times with existential dread, but more often with pride and gratitude.

My priorities were clear by the time I entered my PG preparation phase; I wanted a clinical branch with patient interaction and decent work-life balance.

PMR fitted right into that description. We did have a few lectures by PMR department in my MBBS days, but my understanding of what exactly this specialty does was very superficial.

As I was going through my Postgraduate training, I slowly delved into the depths of the Rehabilitation Medicine. Rather than treating a single body part or disease the focus was on a holistic approach. The people we cared for are those with disabilities, those who are sidelined by the society and even by the rest of the medical community. The goal may not

always be finding a cure, but finding solutions for society re- integration.



The more I understood about Rehabilitation the more I realized that without good Rehab, many lives are cut short or lived in pain unnecessarily. The clinical trajectory of my uncle's life highlights the secondary complications of an acquired disability. He had Post

Polio Residual Paralysis. Ambulatory and active in his youth, his lack of orthotic intervention led to a cascade of musculoskeletal and systemic failures. A

minor trauma resulted in a comminuted fracture of the tibia due to localized osteopenia, and his

unmanaged biomechanics eventually manifested as severe scoliosis. This structural shift compromised his pulmonary reserve. He later got pulmonary tuberculosis, further decreasing his lung capacity. He spent his final years dependent on NIV, ultimately succumbing to respiratory failure at age 61.

This is just his medical history; the psychosocial and financial burdens of his illness is something I have witnessed firsthand. Reflecting on his trajectory, I couldn't help but imagine how early PMR intervention would have altered his respiratory and musculoskeletal outcomes, ultimately adding more years to his life and more life to his years. His life is a burning reminder in my heart to not let any patient settle for a limited functionality when a better one is within reach.

I have also had moments in my life when I re-evaluated my career choice. My biggest gripe about PMR is that there is very low awareness about it amongst our peers in other specialties. The common public gets to know about rehabilitation services when they are referred to us by these other specialties, that too as an afterthought

and not as an early intervention. Yet once a patient goes through the rehabilitation journey, we become their lifelong doctors. I have patients of GBS who recovered fully from their neurological deficits, but still come back to me even for a minor cold. I meet my patients in their darkest hours when they are lost, and as I guide them back into the light, a deep bond of trust, love, and care—a true transference and countertransference- develops.

Other than the clinical work, another aspect of PMR that I enjoy is the leadership role we have to play in the multidisciplinary rehab team. I enjoy the responsibility of hiring and building a team from the ground up, acting as a mentor who recognizes talents and promotes it. I get to shape my team's ethics and clinical approach to patient care. Of course, with great power comes great responsibility; dealing with interpersonal conflicts and managing daily logistics can be a real headache. However, at the end of the day, the reward of seeing an in-sync team outweighs the challenges.

While modern medical advances continue to reduce mortality rates, they also lead to a rising prevalence of morbidity and long-term disability—making the role of rehabilitation more critical than ever. Technology is booming and so are we. The future where we are all “semi cyborgs” is not far away. We already have wearable electronics tracking our medical data; AI is also finding its way into healthcare; Robotics and Brain

Computer Interfaces are the new frontiers of research; One of the Paris Olympics torchbearers was a Paralympian in a wearable robotic exoskeleton. These technologies will empower a person with disability. The future is exciting, and as Rehabilitation Physicians, we will have lot to learn and contribute.

So to sum it up, I chose PMR for the balance it offered, but I am a Physiatrist now because I want to help people who are otherwise overlooked, I want to develop an everlasting relationship with my patients whilst I do that, I want to create and manage a system that caters to that need, I want to be excited for what the tech driven future that awaits us and most importantly I do not want another soul to suffer what my uncle went through; living out their lives without any life in them.

****

MEMBERS IN ACTION

IAPMRCON 2026 @ Kochi

The 54th IAPMR national conference happened in Kochi this year from Feb 11-14. Dr Mathew KM was the President, Dr Sasikumar the Secretary, Dr Ravi the Scientific Chairperson, and Dr Rajesh the Treasurer. Overall, the scientific sessions were appreciated but there were a lot of internal and external obstacles that flavored the overall experience. A national strike happened on day 1. The core committee had to manage the event managers at every step. Overall it was a once in a lifetime opportunity.

Dr Sreekala V K in the Global Preventive Summit of Oncology with M V Pillai, renowned oncologist and Dr Vasanthamallika, Vice Principal, Travancore medicity, Kollam on 18.01.2026 at Hyatt Regency Trivandrum! Dr. Sreekala Chaired a session in the summit- "Role of Exercise in Prevention of cancer."

Dr Shadiya Beegum ,Consultant ,Lisie hospital Kochi delivered a lecture on Pulmonary Rehabilitation as part of COPD day observation

Dr. Fathima Haneena, Consultant, KIMSHEALTH took a session on Shoulder Rehabilitation @ AFP Trivandrum chapter

Dr. Nitha J , took a session on Neuro-Rehabilitation in KIMSHEALTH Medical Update 2026 at Thenkassi

Dr Ravi was invited to speak on rehabilitation after Common Peroneal nerve repair.

****