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LIFESTYLE MEDICINE

Lifestyle Medicine:

What It Is, and Practical Skills For Everyday Life

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Introduction

Lifestyle medicine is a relatively new area of medicine, which uses evidence-based lifestyle measures as primary – but not exclusive – means to prevent, treat, and reverse disease. It is based on six pillars, which are a whole plant-based way of eating, restorative sleep, regular physical activity, stress mitigation, positive social connections, and avoidance of risky substances. It involves patient effort and as such, it is diametrically opposed to the "medical-industrial complex" approach, which offers a pharmaceutical for almost every complaint. Pharmaceuticals are occasionally needed, such as an antibiotic for a bacterial infection, but there is always something we can be doing in concert with the medication, and lifestyle medicine is the field in which that is explored.

American Medicine

In this country, the traditional medical model teaches physicians to reach for a pill first, and regards simple lifestyle interventions such as dietary change, as "controversial." Physicians are little more than salespeople for Big Pharma, though they do not realize this. We are often taught exclusively about the paper towels (of sorts) that Big Pharma has available to sell us, while no one looks to shut off the water at the source. Among other countries we are quite unique in that we allow direct marketing of pharmaceuticals to patients, who are then bombarded with misleading advertisements for said medications, starting in childhood. Thus even when a physician prefers not to use these medications, they must be learned, as patients will doubtless request them, having seen the deceptive drug commercials on television and the internet. After finding out how to reverse our #1 killer - heart disease[1] – in the 1990s, the discoverer Dr. Ornish realized that "reimbursement is a much more powerful determinant of medical practice than research."

Are Those Medications Really Helping?

I have realized that we imbibe a fair amount of Big Pharma propaganda in medical school. For example, we are taught that statins are a miracle drug which prevents heart attacks and strokes, etc. And when surveyed, patients believe statins to be 20 times more effective than they actually are.[2] The truth is that patients would need to take a statin for 6 years to reduce their risk of death from a second heart attack by a measly 3%.[3] When surveyed, patients would opt to not take these medications, however they are never offered this information.[4]

What Is Conveniently Left Out of Medical Education & Training

Not discussed at all is the fact that a whole-food, plant-based diet reduces cardiovascular risk by 60% in under 4 years.[5] We are taught to recommend calcium supplements to almost all patients, little knowing that they have been demonstrated to increase cardiovascular risk,[6] whereas dietary calcium (i.e., food!) does not similarly increase risk.[7,8] I have faithfully taught my diabetic patients not to eat "too much" fruit, but have since learned that the human body sees the fructose in fruit (does not increase the blood sugar as most believe!) quite differently than industrial sugar (does produce hyperglycemia,[9,10] and there is no upper limit of safety on fruit consumption, even in diabetics. Unfortunately, I recognize that my previous actions allowed chronic disease to continue, thus ensuring a steady stream of income for the pharmaceutical industry.

Even during the early stages of physician training, it becomes evident that much illness could be easily preventable, with simple lifestyle changes, however we as physicians are not given these tools with which to help patients. This knowledge is something that must be pursued after training, at our own cost and initiative.

My “Awakening”

It was a complete revelation to me, that there was an entire body of evidence out there, and a truly preventative field that involved actual data. In training, we attend lectures two or three times daily, and they are always clamoring for more speakers. Recently, I talked with my old residency Program Director and offered to come to present at one of these lectures, so others could learn about this amazing field of medicine, in which core issues were actually addressed. Sadly, my offer was declined, with my program director stating “We try to stay away from the controversial stuff.” So apparently it is thought to be “controversial” to advise patients that say, changing their diet can lead to reversal of their heart disease,[11] or reversal of their diabetic nerve pain within days.[12] This is the state of mainstream medicine in America. And we have the results in accordance with that.

Patients may believe that all physicians are taught how to prevent disease (in addition to treating acute illness) in medical school, little realizing that we are not. We do not teach patients to use lifestyle measures to address illness, as we are largely ignorant of this as physicians, leading to our current state of spending more on healthcare than all other Western nations, yet having the worst outcomes in that group. So all that being said, let’s get into the “controversy” that is lifestyle medicine.

Six Pillars

Lifestyle medicine is based on six pillars, or lifestyle choices, that we can make to affect our health. Illness is often assumed to be genetic, however this is often not the case at all, and genes are not a health destiny. For example, breast cancer is widely thought to run in families, yet only 2.5% of cases are familial.[13] It is said that "Genes hold the gun, but diet pulls the trigger," which I have found to be true. Food has been shown to influence the behavior of 500 genes, though doubtless it affects many more.[14] In what is called the "Nigerian Paradox," if one has two copies of the ApoE4 gene in the U.S.A., one has 9 times the risk of getting Alzheimer's disease, however the Nigerians have the highest incidence of the ApoE4 gene and almost the lowest incidence of Alzheimer's disease[15] in the world. Not to concentrate solely on food, other lifestyle choices impact our health as well. Sleep for example, generates melatonin, which plays an important part of our immune system. Think of melatonin as putting your cancer cells to bed at night, as that is effectively what it does. This is one of the reasons that night-shift nurses have been shown to be at increased risk of breast cancer relative to their daytime counterparts.[16]

Lifestyle choices can make a hugely significant difference in our health. Let's take a look at the six pillars of Lifestyle Medicine individually.

Whole Plant-Based Way of Eating

What we eat has been shown to influence the behavior of 500 genes, though doubtless there are more.[17] Just hours after consuming 1 cup of broccoli sprouts, the enzyme that allows cancers to grow is suppressed in the bloodstream[18] to a greater amount than the chemotherapy commonly used in that situation,[19] and all without the accompanying toxic side effects.[20] Ground flaxseeds have been demonstrated to have a greater blood pressure-lowering effect than two of our leading classes of blood pressure medications, ACE inhibitors and calcium channel blockers.[21]

On average, plant foods contain sixty-four times more antioxidants than animal foods. For example, the ORAC of ground cloves is 277,300 mmol/100 g, and by comparison, chicken is 0.5-1.[22] Antioxidants in supplement form have repeatedly been shown not to work, however whole plants do.[23] Different plants have different communities of probiotic bacteria on them (which survive washing), and there is a difference between the communities found on conventional and organic plants.[24] In yet another example of whole food being safer than supplementation, one study of acute pancreatitis patients showed a doubling of mortality in patients given a probiotic supplement.[25]

What is becoming increasingly clear is that plant intake (and our lack thereof) is playing a larger role in our health outcomes than has been previously appreciated, and patients may have more power over their health than they ever imagined.

Regular Physical Activity

By 2030, over half of our population will be obese.[26] Over 2/3 of American adults fall into the overweight category.[27] Physical inactivity is the fifth leading cause of death in the USA.[28] Sitting has been called "the new smoking." While it is probably not the screen itself but rather the sedentary behavior associated with it, screen time has been found to be a risk factor for premature death.[29] In the opposite category, even a single workout has been demonstrated to boost mood.[30] In fact it is demonstrated to work as well as medications against depression.[31] Think raised desks are just a fad? They should probably be a tax-deductible health care expense, as simply standing at one's desk burns the caloric equivalent of running 10 marathons in a year.[32] Aerobic exercise has even been shown to reverse age-related shrinkage in the memory centers of the brain,[33] which is probably why one study demonstrated improvement on a memory test after 6 months of exercise.[34]

So get some physical activity into your routine today! Start small – if you set a goal on Day #1 of exercising one hour each day, every day, you will likely fail. Start with 15 minutes of say, walking, a few times a week, and increase from there as able. Or gardening. Or biking. You get the idea!

Restorative Sleep

Physical activity is just one of the many factors on which our health depends. Restorative sleep is another. Sleep is so important to our health that an abnormal amount (less the four hours or more than 10 hours) roughly doubles your risk of stroke. In light of (pun intended) skyrocketing use of blue-light-emitting devices, this is of particular concern.

While it is very common to do some form of screen time before bed, blue light has been shown to delay the normal night-time melatonin surge, shifting circadian rhythms up to 3 hours.[35] Perhaps this is one reason why nurses who work the night shift were shown to have double the rates of breast cancer as their daytime counterparts.[36] Melatonin is best thought of as putting your cancer cells to bed at night, as that is exactly what it does.[37] A potent intramitochondrial antioxidant, melatonin is so important to cancer risk that blind women – whose brains never perceive light and thus never shut off the melatonin supply – were found to have half the risk of breast cancer as their sighted counterparts.[38]

Ever-increasing are the intrusions on our sleep, yet at the same time we are coming to realize sleep's vital role in our health. If you have an issue with sleep there are many ways to improve it, and after a short visit with a lifestyle medicine physician, you may be on your way to better sleep, and better health.

Positive Social Connections

Loneliness is associated with a 26% increase in premature mortality, and is emerging as a public health threat.[39] A large study of 300,000 patients demonstrated greater social connection is associated with a 50% decreased risk of early death.[40] Another study showed that the accepted risk factors of loneliness, isolation and living alone constituted an equal or greater risk to health than commonly-accepted risk factor such as obesity.[41]

In his book "The Blue Zones," author Dan Buettner found that one of the commonalities of folks living to a productive 100+ years of age was that their societies did not isolate their elderly, and they often lived in multigenerational homes. Friendship has been shown to increase sense of belonging and purpose, boost happiness and reduce one's stress, improve feelings of self-confidence and self-worth, assist in coping with traumas, such as divorce, serious illness, job loss or the death of a loved one, and lastly to encourage one to change or avoid unhealthy lifestyle habits, such as excessive drinking or lack of exercise.[42]

Sadly, the social media so pervasive in our environment is not a substitute for actual in person social networks. These can be created outside of family and friends by a sports team, church, meetup group, etc. Indeed, the feeling of connectedness is itself connected with so many health outcomes that it is definitely worth finding your "tribe."

Stress Mitigation

Stress not only is difficult at the time, but chronic stress can lead to anxiety, depression, digestive problems, headaches, muscle tension and pain, heart disease, heart attacks, high blood pressure and stroke, sleep problems, weight gain, and memory and concentration impairment, just to name a few.[43] In the age that we live in, stressors abound, but thankfully so do solutions!

As Cyrus the Great did in the capital city of Persia some 2,500 years ago, planners have been incorporating lush, green areas into cities to increase the sense of "calm" amongst their citizenry. As recently as 2021, a meta-analysis (a study of studies) found that time spent out in nature had benefits to the cardiovascular system and immune systems, caused decreased symptoms of both depression and anxiety, as well as decreased stress levels overall.[44] Kaplan found that exposure to naturally-occurring stimuli (all 5 senses) had a direct effect on stimulating the parasympathetic nervous system, resulting in a state of relaxation.[45]

So whether it be grounding, rebounding, time in nature, pilates, reading a good book – whatever reduces your stress level, make sure to incorporate that in your healthcare routine, as it has an under-appreciated impact on your health!

Avoidance of Risky Substances

Alcohol is a Class 1 carcinogen,[46] meaning that we know it causes cancer. Alcohol does not increase energy, nor does it facilitate better decision-making. Alcoholic beverages often taste sweet as they are loaded with industrial sugar. The benefit from drinking red wine to obtain the resveratrol it contains, can better be obtained by consuming purple grapes. Lung cancer is our leading cancer killer, for both men and women. According to the American Lung association, smoking tobacco contributes to around 90% of all lung cancer deaths.[47] Men who smoke are 23 times more likely to develop lung cancer. Women are 13 times more likely to develop lung cancer, compared to never smokers.[48]

In summary, we have an amazing amount of control over our health status, however the current medical model is not set up to facilitate or promote these discussions. Physicians are not taught anything about lifestyle, and how it can be used to prevent much of what we encounter. Even if they were, they would not have the time to discuss specific lifestyle changes during the 10 or 15 minutes that the insurance model allows for each patient. Our current system of health "care" financially incentivizes ill health and poor outcomes. No one profits from lifestyle medicine or illness prevention, other than the patient.

About the Author

Dr. Noah E. Gudel is the physician owner of Alabama Lifestyle Medicine, based out of Birmingham, Alabama. She is double board-certified in Internal Medicine and Lifestyle Medicine and holds a B.S. in Community Health from Texas A&M University and a D.O. from the Arizona College of Osteopathic Medicine in Glendale, Arizona.

Upon completion of medical training, Dr. Gudel joined the United States Air Force, was deployed to Afghanistan three times, and earned her wings as a flight surgeon.

Seven years later, Dr. Gudel was diagnosed with cancer. While this put an end to her Air Force career, it also put her on a path to discover, first-hand, the profound impact that lifestyle changes can make on health and wellness.

By addressing the root causes of disease, which are so often lifestyle-related, Dr. Gudel has successfully treated many medical conditions, and helped patients dedicate less of their time and money toward “sick care” and more of it toward genuine health care.

To learn more about Dr. Gudel, please visit **https://allifestylemed.com**

Introduction References

1. Allen J, Anderson JR, Baum B et al. Reflections on development of health promotion in the past quarter century from founding members of the American Journal of Health Promotion Editorial Board. Am J Health Prompt. 2011;25(4):ei-eviii.

2. Lytsy P, Westerling R. Patient expectations on lipid-lowering drugs. Patient Educ Couns. 2007; 67(1-2):143-50.

3. Trewby PN, Reddy AV, Trewby CS, Ashton VJ, Brennan G, Inglis J. Are preventive drugs preventive enough? A study of patients' expectation of benefit from preventive drugs. Clin Med. 2002;2(6):527-33.

4. Trewby PN, Reddy AV, Trewby CS, Ashton VJ, Brennan G, Inglis J. Are preventive drugs preventive enough? A study of patients' expectation of benefit from preventive drugs. Clin Med. 2002;2(6):527-33.

5. Esselstyn CB Jr., Gendy D, Doyle J, et al. A way to reverse CAD? J Fam Pract. 2014;63(7):356-364b.

6. Bolland MJ, Barber PA, Doughty RN, et al. Vascular events in healthy older women receiving calcium supplementation: randomised controlled trial. BMJ. 2008;336(7638):262-266.

7. Reid IR, Bolland MJ. Calcium risk-benefit updated--new WHI analyses. Maturitas. 2014;77(1):1-3.

8. Reid IR, Bolland MJ. Risk factors: Calcium supplements and cardiovascular risk. Nat Rev Cardiol. 2012;9(9):497-498.

9. Lustig R. H. (2013). Fructose: it's "alcohol without the buzz". Advances in nutrition (Bethesda, Md.), 4(2), 226-235.

10. Petta, S., Marchesini, G., Caracausi, L., et al (2013). Industrial, not fruit fructose intake is associated with the severity of liver fibrosis in genotype 1 chronic hepatitis C patients. Journal of hepatology, 59(6), 1169-1176.

11. Ornish D, Scherwitz LW, Doody RS, et al. Effects of stress management training and dietary changes in treating ischemic heart disease. JAMA. 1983; 249(1):54-9.

12. Crane MG, Sample C. Regression of diabetic neuropathy with total vegetarian (vegan) diet. J Nutr Med. 1994;4(4):431-9.

13. Colditz GA, Willett WC, Hunter DJ et al. Family history, age, and risk of breast cancer. Prospective data from the Nurse's Health Study. JAMA. 1993;270;(3):338-43.

14. Ornish D, Magbanua MJ, Weidner G., et al. Changes in prostate gene expression in men undergoing an intensive nutrition and lifestyle intervention. Proc Natl Acad Sci USA. 2008; 105 (24):8369-74.

15. Roses AD, Saunders AM. APOE is a major susceptibility gene for Alzheimer disease. Curr Opin Biotechnol. 1994; 5(6):663-7.

16. He C, Anand ST, Ebell MH, et al. Circadian disrupting exposures and breast cancer risk: a meta-analysis. Int Arch Occup Environ Health. 2015 Jul:88(5):533-47.

Whole Plant-Based References

17. Ornish D, Magbanua MJ, Weidner G, et al. Changes in prostate gene expression in men undergoing an intensive nutrition and lifestyle intervention. Proc Natl Acad Sci USA. 2008;105(24):8639-74.

18. Myzak MC, Tong P, Dashwood WM, Dashwood RH, Ho E. Sulforaphane retards the growth of human PC-3 xenografts and inhibits HDAC activity in human subjects. Exp Biol Med. (May-wood). 2007;232(2):227-34.

19. Dashwood RH, Ho E. Dietary histone deacetylase inhibitors: from cells to mice to man. Semin Cancer Biol. 2007; 17(5):363-9.

20. Ornish D, Magbanua MJ, Weidner G, et al. Changes in prostate gene expression in men undergoing an intensive nutrition and lifestyle intervention. Proc Natl Acad Sci USA. 2008;105(24):8639-74.

21. Nimoya T, Perkovic V, Turnbull F, et al. Blood pressure lowering and major cardiovascular events in people with and without chronic kidney disease: meta-analysis of randomized controlled trials. BMJ. 2013;347:f5860.

22. Carlsen MH, Halvorsen BL, Holte K, et al. The total antioxidant content of more than 3100 foods, beverages, spices, herbs and supplements used worldwide. Nutr J. 2010;9:3. Published 2010 Jan 22.

23. Holtan SG, O'Connor HM, Fredericksen ZS, et al. Food-frequency questionnaire-based estimates of total antioxidant capacity and the risk of non-Hodgkin lymphoma. Int J Cancer. 2012; 131(5):1158-68.

24. Leff JW, Fierer N. Bacterial communities associated with the surfaces of fresh fruits and vegetables. PLoS One. 2013;8(3):e59310.

25. Besselink MG, van Santvoort HC, Buskens E, et al. Probiotic prophylaxis in predicted severe acute pancreatitis: a randomised, double-blind, placebo-controlled trial [published correction appears in Lancet.2008 Apr 12;371(9620):1246]. Lancet. 2008;371(9613):651-659

Regular Physical Activity References

26. Laskowski ER. The role of exercise in the treatment of obesity. PMR. 2012;4(11):840-4.

27. Centers for Disease Control and Prevention. Obesity and overweight. http:///www.cdc.gov/nchs/fastats/obesity-overweight.htm. April 29, 2005.

28. Murray CJ, Atkinson C, Balla K, et al. The state of US health, 1990-2010: burden of diseases, injuries, and risk factors. JAMA. 2013;310(6):591-608.

29. Stamatakis E, Hamer M, Dunstan DW. Screen-based entertainment time; all-cause mortality, and cardiovascular events: population-based study with ongoing mortality and hospital events follow up. J Am Coll Cardiol. 2011;57(3):292-9.

30. Yeung RR. The acute effects of exercise on mood state. J Psychosom Res. 1996;40(2):123-41.

31. Blumenthal JA, Babyak MA, Moore KA, et al. Effects of exercise training on older patients with major depression. Arch Intern Med. 1999; 159(19):2349-56.

32. Mosely M. Calorie burner: how much better is standing up than sitting? BBC News Magazine. October 26, 2013. http://www.bbc.com/news/magazine-24532996. October 16, 2013. Accessed May 9, 2023.

33. Erickson KI, Voss MW, Prakash RS, et al. Exercise training increases size of hippocampus and improves memory. Proc Natl Acad Sci USA. 2011;108(7):3017-22.

34. Baker LD, Frank LL, Foster-Schubert K, et al. Effects of aerobic exercise on mild cognitive impairment: a controlled trial. Arch Neurol. 2010;67(1):71-9.

Restorative Sleep References

35. https://www.health.harvard.edu/staying-healthy/blue-light-has-a-dark-side. Accessed May 9, 2023.

36. He C, Anand ST, Ebell MH, et al. Circadian disrupting exposures and breast cancer risk: a meta-analysis. Int Arc Occup Environ Health. 2015 Jul;88(5):533-47.

37. Blask DE, Dauchy RT, Sauer LA. Putting cancer to sleep at night: the neuroendocrine/circadian melatonin signal. Endocrine. 2005; 27(2):179-88.

38. Flynn-Evans EE, Stevens RG, Tabandeh H, Schernhammer ES, Lockley SW. Total visual blindness is protective against breast cancer. Cancer Causes Control. 2009;20(9):1753-1756.

Positive Social Connections References

39. Cacioppo JT, Cacioppo S. The growing problem of loneliness. Lancet. 2018 Feb 3;391(10119):426.

40. https://www.apa.org/news/press/releases/2017/08/lonely-die. August 5, 2017. Accessed May 9, 2023/

41. Ibid.

42. https://www.mayoclinic.org/healthy-lifestyle/adult-health/in-depth/friendships/art-20044860. Accessed May 9, 2023.

Stress Mitigation References

43. https://www.mayoclinic.org/healthy-lifestyle/stress-management/in-depth/stress/art-20046037. Accessed May 9, 2023.

44. Stier-Jarmer M, Throner V, Kirschneck M, et al. The Psychological and Physical Effects of Forests on Human Health: A Systematic Review of Systematic Reviews and Meta-Analyses. Int J Environ Res Public Health. 2021 Feb 11;18(4):1770.

45. Kaplan, R.; Kaplan, S. The Experience of Nature: A Psychological Perspective; Cambridge University Press: Cambridge, UK, 1989

Risky Substances References

46. Boffetta P, Hashibe M. Alcohol and cancer. Lancet Oncol. 2006;7(2):149-156.

47. American Lung Association. Lung Cancer Fact Sheet. https://www.lung.org/lung-health-diseases/lung-disease-lookup/lung-cancer/basics. Accessed April 18, 2023.

48. U.S. Department of Health and Human Services. The Health Consequences of Smoking: A Report of the Surgeon General. 2004.