

LIFESTYLE MEDICINE – NEW CONCEPT, INNOVATIVE DISCIPLINE

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Abstract

A large percentage 63% of premature deaths and chronic diseases could be prevented by adhering to healthy dietary patterns, being physically active and avoid smoking. The concept of lifestyle medicine introduced 20 years ago by Rippe is defined as the integration of modern lifestyle practices into evidence-based medicine, in order to lower risk factors or to be support for chronic therapies. A new taxonomy is proposed in lifestyle medicine, with determinants, as drivers for chronic diseases, anthropogens and metaflammation, the metabolic inflammatory state. Other possible determinants are proposed for lack of scope in life, estrangement and lost identity. Despite all health messages, healthy behaviors are exceptions, not the rule. It will be important in the future to change how practitioners will support individuals in their efforts to live healthier. More psychological and social factors should be analyzed. Many doctors are not self-confident with prescribing healthy lifestyle or nutritional recommendations. Creating a new discipline should foster development of preventive recommendations. General practitioners will need specific academic trainings to learn how to promote recommendations for lifestyle changes for health, for prevention and for diseases management, starting by adopting themselves healthy lifestyles.

key words: anthropogens, metaflammation, meaninglessness, healthy lifestyle

Introduction, definitions.

It is well known already that 63% of chronic diseases and premature deaths could be prevented by adhering to healthy dietary patterns, being physically active and avoid smoking [1].

- Perceived thousands of years ago, the power of lifestyle medicine is now strongly supported by consistent science.
- Firstly communicated in 1989 in a presentation, then published in 1999 by Rippe, the topic of lifestyle medicine, a new and evolving discipline is focused

on decreasing incidence of chronic diseases associated with lifestyle or environmental determinants [2-6] like cardiological diseases, endocrine and metabolic disorders, kidney, gastrointestinal diseases, mental health, respiratory diseases, dermatological disorders and cancers with lifestyle component. Rippe stated for the first time 20 years ago that “lifestyle medicine involves the integration of lifestyle practices into the modern practice of medicine both to lower the risk factors for chronic disease and/or, if disease is

already present, serve as an adjunct in its therapy “. In his recently published book, *Lifestyle medicine*, 3rd edition, he concluded that this definition is still valid [7].

- Essential elements of all definitions that appeared latest years: scientific evidence-based support for lifestyle intervention, prevention and management of noncommunicable diseases and self-management of disease.
- Despite the whole evidence about behavior health promoters, general population remains still confused. Only a global coalition of experts could have the power to initiate populational measures and to do what individuals cannot.
- From lifestyle medicine structure, there are four points of difference from traditional clinical practice [8-10]:
 - The knowledge, named epidemiological base
 - The art, meaning the skills requested to practice it
 - The materials, tools to be built

- The actions, the procedures aligned.

Taxonomy

A new taxonomy is defined in lifestyle medicine: determinants, named also drivers for chronic diseases, being “key force behind disease causality“ [11] which are distinct from “cause“.

There are new drivers that could be included [8]: poor nutrition, physical inactivity and smoking, but also cultural, social and occupational and environmental factors, interacting in a system model. Another important concept defined in lifestyle medicine is “anthropogens “ [12].

“Anthropogens- man made environments, theirs by products and/ or lifestyle encouraged by those environments, some of which have biological effects which may be detrimental to human health “[12,13].

Different from “cause “, the new defined concept of determinants named “anthropogens “ is targeting chronic disease management. Lifestyle/ environmental determinants can be hierarchically classified, like in [Figure 1](#) [13].

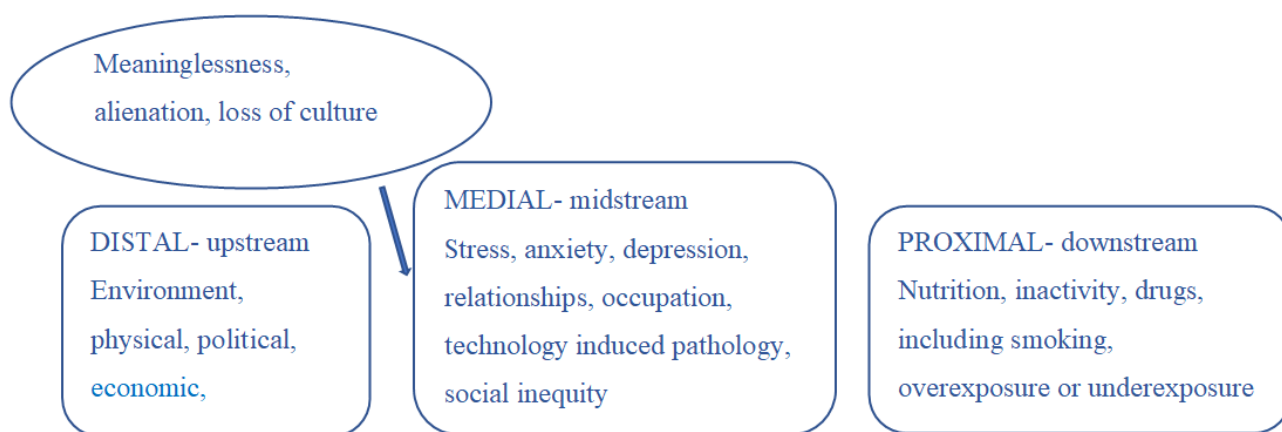


Figure 1. Hierarchically classification for lifestyle determinants- anthropogens

And, all these determinants will lead to risk factors enhancement, and finally to disease development, by metaflammation [13]. Metaflammation, a very suggestive term is

recognized as a link between determinants and noncommunicable diseases ([Figure 2](#)).

The list of anthropogens is just the beginning for development of lifestyle medicine discipline.



Figure 2. *Metaflammation**, the link between determinants and chronic diseases.

*Metaflammation= metabolic inflammatory state“ defined as low-grade, chronic inflammation orchestrated by metabolic cells in response to excess nutrients and energy.”[14]

New proposals

Other possible impacting determinants, recently proposed in literature to be added (Figure 2) could be:

Lack of a scope in life, being more and more emphasized “meaning of meaning”

Alienation, in direct link with depression

Loss of identity, loss of culture and traditions, evidenced especially at immigrants or discriminated populations.

Literature evidence support that lower risk of myocardial infarction, stroke, mortality and a better health are in association with persons who are driven by a purpose in life [15,16]. Meanwhile, these persons are facing better chronic pain [17]. Also, the same correlation can be made with depression [18].

Metaflammation, evidenced by inflammatory markers is correlated with purpose in life [19], lesser life satisfaction [20] and reduced quality of life [21]. Meaningless is linked to drug use, inactivity, stress, smoking, poor nutrition, with a high impact on physical outcomes. Evidences outlined by Roepke [22] are showing that meaning in life is favorizing the relation between other variables and physical health.

Metaflammation, has been proved to be genetically regulated by preserved transcriptional response to adversity [23].

Experiences such as: social isolation [24] or discrimination [25] will lead to alienation, a form of estrangement, reflected in

metaflammation, too. Loneliness [26] and stress [27] could be a part of the link correlating alienation, inflammation and chronic diseases outcomes for long term.

Growing evidence relates effects of adverse childhood experiences (ACE’s) on metaflammation, estrangement and finally noncommunicable diseases [28].

This close relation between ACE’s score and health outcomes is important, relation being dose dependent.

Scientific evidence reveals that COPD is 2.5 times higher for people with ACE score >4, 4 times for depression, 3 times for heart disease and 12 times for suicide [28].

Among children with high ACE’s score, metaflammatory responses are common, mainly by immune system alteration caused by early life trauma.

This growing evidence is favorable for including psychological factors in the previously considered list of anthropogens. All these determinants are interacting in a dynamic model, like in an iceberg, physical inactivity, poor nutrition, drug abuse, smoking, alcohol abuse are visible parts, but, hidden, behind the water are :environment, occupation, meaningless, alienation, loss of culture, technopatology and stress. All these hidden aspects of the iceberg are strongly reflected in individual health and should be prioritized in order to have a complete approach.

Metaflammation, the link through unhealthy behaviors and chronic diseases could be

considered more and more the marker of unhealthiness

Barriers to adopt healthy lifestyle

Even if, so many health-related messages are encouraging population to adopt healthy behaviors, they are still not yet the rule, only exceptions. Mortality correlated with unappropriated diets is high. A recent study associates 3 mil deaths worldwide with high Sodium (Na) intake, other 3 mil with suboptimal whole grains consumption and 2 mil with low fruits consumption [29]. Smoking alone being responsible worldwide for 6 mil deaths [30].

For the future, important will be, not to change what we recommend, but to change the way of supporting people living better, from health perspective.

Looking more and more at psychological and social factors, encouraging healthy lifestyles [31] will increase people motivation in changing behaviors.

Language, as an important powerful tool can motivate or can destroy people. By avoiding dichotomic thinking, stigmatization and promoting positive messages, patients will be more and more encouraged to adopt healthy lifestyles.

As has been described by Rippe [7], many doctors are not self-confident with prescribing healthy lifestyle or nutritional recommendations,

being not yet prepared in this field. A new discipline in their Academics fostered development of preventive recommendations.

What's next? Future for lifestyle medicine

As have been already demonstrated all recommendations are valid, correct and should be adopted at populational level. What has to be changed is the way of making recommendations. Only by creating a partnership between practitioners and patients, doctors becoming role models for their patients, empowering them to self-management of the disease will create the right motivational approach for changing behaviors. General practitioners will need specific academic trainings to learn how to promote recommendations for lifestyle changes for health, for prevention and for diseases management, starting by adopting themselves healthy lifestyles.

Final conclusions

Nothing could better suggest the importance of this topic, like Prof James Rippe mentioned:

“Lifestyle medicine is, in my view, the single greatest opportunity that we have to improve health outcomes and lower cost. This is both, the challenge and the enormous opportunity in front of all of us who are blessed as gatekeepers to the health of the patients in our country [7]”.

REFERENCES

1. Robert FK, Jeffrey IM. An Emerging New Discipline *US Endocrinology* 11(1): 36–40.2015
2. American College of Lifestyle Medicine. Accessed at: <https://lifestylemedicine.org>
3. Rippe JM. *Lifestyle medicine*. 2nd ed. London, England: CRC Press, 2013.
4. Mechanick JI, Kushner RF. Lifestyle Medicine. *In: A Manual for Clinical Practice*. New York, NY: Springer, 2016.
5. Egger G, Binns A, Rossner S, Sagner M. *Lifestyle Medicine: Lifestyle, the Environment and Preventive Medicine Health and Disease*. 3rd ed. London, England: Academic Press, 2017.
6. Sagner M, Katz D, Egger G et al. Lifestyle medicine potential for reversing a world of chronic disease epidemics: from cell to community. *Int J Clin Pract* 68(1): 1289-1292.2014

7. **Rippe JM.** *Lifestyle medicine* 3rd ed. London, England: CRC Press, 2019
8. **Egger G.** A pedagogy for lifestyle medicine. *Obes Res Clin Pract* 8(1): 28, 2014
9. **Egger G, Dixon J.** Beyond obesity and lifestyle: a review of 21st Century chronic disease determinants. *Biomed Res Int* 2014: 731685, 2014
10. **Katz D.** True Health Initiative. Lifestyle as Medicine. A paradigm-shifting expert interview with Dr. David Katz 2015. Accessed at: <http://www.truehealthinitiative.org/news/lifestyle-asmedicine/>
11. **Egger G, Swinburn B, Islam.** Economic growth and obesity: an interesting relationship with world-wide implications. *Econ Hum Biol* 10: 147-153, 2012
12. **Egger G, Colquhoun D, Dixon J.** "Anthropogens" in Lifestyle Medicine. *AJLM* 9: 232-240, 2014
13. **Egger G, Stevens J, Binns A, Morgan B.** Psychosocial Determinants of Chronic Disease: Implications for Lifestyle Medicine. *AJLM*, 2019
14. **Gregor MF, Hotamisligil GS.** Inflammatory mechanisms in obesity. *Annu Rev Immunol* 29: 415-45, 2011
15. **Kim ES, Sun JS, Park N, Kubzansky LD, Peterson C.** Purpose in life and reduced risk of myocardial infarction among older US adults with coronary heart disease: a two-year follow-up. *J Behav Med* 36: 124-133, 2013.
16. **Kim ES, Sun JS, Park N, Peterson C.** Purpose in life and reduced incidence of stroke in older adults: "The Health and Retirement Study." *J Psychosom Res* 74: 427-432, 2013.
17. **Dezutter J, Luyckx K, Washholt A.** Meaning in life in chronic pain patients over time: associations with pain experience and psychological well-being. *J Behav Med* 38: 384-396, 2015.
18. **Davis M, Ventura JL, Wieners M et al.** The psychosocial transition associated with spontaneous 46, XX primary ovarian insufficiency: illness uncertainty, stigma, goal flexibility, and purpose in life as factors in emotional health. *Fertil Steril* 93(7): 2321-2329, 2010.
19. **Kim ES, Strecher VJ, Ryff CD.** Purpose in life and use of preventive healthcare services. *Proc Natl Acad Sci U S A.* 111(46): 16331-16336, 2014
20. **Hamer M, Chida Y.** Life satisfaction and inflammatory biomarkers: the 2008 Scottish Health Survey. *Jap Psych Res* 53: 133-139, 2011.
21. **Nowakowski A.** Chronic inflammation and quality of life in older adults: a cross-sectional study using biomarkers to predict emotional and relational outcomes. *Health Qual Life Outcomes* 12: 141, 2014.
22. **Roepke AM, Jayawickreme E, Riffle OM.** Meaning and health: a systematic review. *Appl Res Qual Life* 9: 1055-1079, 2014.
23. **Kitayama S, Akutsu S, Uchida Y, Cole SW.** Work, meaning, and gene regulation: findings from a Japanese information technology firm. *Psychoneuroendocrinology* 72: 175-181, 2016.
24. **Lacey RE, Kumari M, Bartley M.** Social isolation in childhood and adult inflammation: Evidence from the National Child Development Study. *Psychoneuroendocrinology* 50: 85-94, 2014
25. **Beatty DL, Matthews KA, Bromberger JT, Brown C.** Everyday discrimination prospectively predicts inflammation across 7-years in racially diverse midlife women: study of women's health across the nation. *J Soc Issues* 70: 298-314, 2014.
26. **Hackett R, Hamer M, Endrighi R, Brydon L, Steptoe A.** Loneliness and stress related inflammatory and neuroendocrine responses in older men and women. *Psychoneuroendocrinology* 37: 1801-1809, 2012.
27. **Johnson TV, Abbasi A, Master VA.** Systematic review of the evidence of a relationship between chronic psychosocial stress and C-reactive protein. *Mol Diagn Ther* 17(3): 147-164, 2013.
28. **Genuis SJ.** What's out there making us sick. *J Environ Public Health* 2012: 605137, 2012.
29. **GBD 2017 Diet Collaborators** Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study. *The Lancet* 393(10184): 1958-72, 2019
30. **World Health Organization.** Accessed at: <https://www.who.int/emergencies/ten-threats-to-global-health-in-2019>
31. **Gray ID, Kross AR, Renfrew ME, Andrea RK, Melanie ER, Wood P.** Precision Medicine in Lifestyle Medicine: The Way of the Future? *AJLM*, 2019