Optimizing Health and Well-Being: The Interplay Between Lifestyle Medicine and Social Determinants of Health

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Social determinants of health (SDoH) and lifestyle are increasingly being recognized as critical factors in predicting health outcomes for populations as well as individuals. According to the World Health Organization (WHO), SDoH comprise the conditions into which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life, including economic policies and systems, development agendas, social norms, social policies, and political systems.[1] Healthy People 2020, an initiative implemented to identify, reduce, and eliminate inequities in healthcare, established 5 areas of SDoH: economic stability, neighborhood and built environment, health and healthcare, social and community context, and education.[2]

These SDoH are fundamental contributors to poor health, including chronic health conditions such as hypertension, heart disease, stroke, type 2 diabetes, obesity, osteoporosis, and multiple types of cancer, which are among the most common, costly, and preventable of all health conditions.[3] A survey commissioned by Kaiser Permanente found that 78% of those surveyed had at least 1 unmet social need.[4]

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The Centers for Disease Control and Prevention (CDC) identifies addressing SDoH as the primary approach to achieving health equity.[5]

The lifestyle of an individual is inextricably intertwined with SDoH. Research shows that 80% of chronic diseases and premature death could be prevented by not smoking, being physically active, and adhering to a healthful dietary pattern.[6] Cardiovascular disease, diabetes, stroke, dementia, and cancer are all influenced by lifestyle choices.[7] Not coincidentally, 80% or more of all healthcare spending in the United States is tied to the treatment of conditions rooted in unhealthy lifestyle choices.[3] SDoH interact synergistically and can create a situation that affects an individual's ability or willingness to follow a healthy lifestyle. Consequently, a pattern of hopelessness may be established when individuals feel that they have little or no control over improving their environments. Diet quality and physical activity, 2 major lifestyle factors that directly affect health, are frequently impacted by social forces that are a part of daily life and limit personal choices. One study found that low socioeconomic status was associated with a higher prevalence of smoking and that a low level of education was associated with lower levels of physical activity.[8]

Lack of access to healthcare is often cited as a major reason for health disparities, but another explanation might be that the United States overinvests in the costliest aspects of medical care while largely ignoring the other factors that influence a person's health.[9] Health is influenced by 5 factors—genetics, social circumstances, environmental exposures, behavioral patterns, and healthcare. While behavioral patterns account for about 40% of premature death, healthcare factors account for only 10%.[1,10]

Social barriers to lifestyle changes that are the result of a patient's environment should be identified and addressed

in order to improve health. It is important to acknowledge that social factors confer health benefits to certain populations while causing harm to others. For example, economic status: economic stability can confer health benefits, while economic instability can confer health risks.[11] In addition, the conditions in which people live explain in part why some groups of Americans are healthier than others. Large differences in life expectancy can be found in geographically proximate ZIP codes.[12]

Anthony Iton, MD, MPH, JD, senior vice president of the Los Angeles–based Healthy Communities of The California Endowment, explains the effect of the SDoH using a unique construct of the ABCs, suggesting that it's a matter of *A*gency, *B*elonging, and *C*hanging the odds. *Agency* is the ability to take on and successfully manage challenges. *Belonging* refers to the sense that patients are a part of a community that values them, and *Changing* the odds includes self-empowerment in schools, employment, and access to healthy foods. These ABCs of SDoH are cumulative and synergistic, for either good or bad.[13] A lack of agency, a poor sense of belonging, and an inability to change one's odds can have a profound negative influence on a person's outlook and hope for the future. This is a setup for chronic stress, which, over time, has been shown to be highly detrimental to health.[14-16]

As noted in a recent Viewpoint published in the *Journal of the American Medical Association*, "The power of these societal factors is enormous compared with the power of healthcare to counteract them."[17]

Unfortunately, these are not issues that are relegated to the past in American society. They are happening now and are getting worse. For example, according to the CDC, both type 1 and type 2 diabetes are steadily increasing among young people ages 10 to 19, with the steepest increases among non-Hispanic Blacks, Hispanics, and Asians/Pacific Islanders.[18]

ROLE OF LIFESTYLE MEDICINE

Lifestyle medicine is the use of evidence-based lifestyle therapeutic approaches as a primary modality for the prevention, treatment, and reversal of chronic disease.[19] It comprises 6 core tenets: 1) a whole-food, plant-predominant diet, 2) regular physical activity, 3) restorative sleep, 4) stress management, 5) avoidance of risky substances, and 6) positive social connections.[3] Because the most common chronic illnesses are largely related to unhealthy lifestyles, the use of a lifestyle medicine approach to care can be powerful because it addresses the root cause of the problem. These lifestyle medicine modalities, when used in the proper combination and in the appropriate therapeutic dosage based on individual patient need, have proven to be a powerful intervention.[20]

The role of lifestyle medicine is to be the essential foundation for the successful optimization of health and well-being. Such interventions are just as important to overall patient care as medications and surgery can be when appropriately applied.

FOOD AS MEDICINE

Dietary lifestyle is a critical tenet of lifestyle medicine and can be used as an example of how the 6 pillars interact with SDoH. It has been estimated that 1 of every 5 deaths globally is attributable to poor diet, even more than those attributed to tobacco use.[21] The American College of Lifestyle medicine (ACLM) has issued an official position statement on diet for the treatment and potential reversal of lifestyle-related chronic disease, that states, "For the treatment, reversal, and prevention of lifestyle-related chronic disease, the ACLM recommends an eating plan based predominantly on a variety of minimally processed vegetables, fruits, whole grains, legumes, nuts, and seeds."[22]

An individual's interactions with healthcare providers who are well educated on the tenets of lifestyle medicine offer important opportunities for counseling on evidence-based food and nutrition interventions. These dietary interventions can play a prominent role in the prevention, management, treatment, and, in some cases, reversal of disease.[21] However, several factors present barriers to improving patients' dietary patterns. A large body of evidence-based research demonstrates the efficacy of this type of diet[7]; however, social disadvantage is associated with lower fruit and vegetable consumption and higher consumption of red and processed meat (and highly processed foods).[23-25] Before nutrition education can be successful, SDoH must be addressed, including food insecurity.

Food insecurity is a pervasive public health issue in the United States that is associated with increased body weight and with multiple chronic diseases, including type 2 diabetes and poor cardiovascular health.[26] In 2018, 11% of households in the United States reported being food insecure,[27] an increase from 1999, and the problem is greater in non-Hispanic Black and Hispanic adults compared with non-Hispanic White adults. In addition to food insecurity, there is the issue of patients who live in "food deserts" and "food swamps." Food deserts, defined as residential areas with limited access to affordable and nutritious food, have been associated with obesity. Food swamps describe neighborhoods where fast food and junk food far outnumber healthy alternatives. One study found that food swamps were more significantly associated with obesity than food deserts. Low-

income and racial and ethnic minorities are more likely than Whites to live near unhealthy food outlets and have decreased mobility due to lack of accessible transportation.[28] However, it is not just a matter of making healthful foods more available. Research also suggests that some types of foods are implicated in addictive-like eating behaviors. Highly processed foods that are high in fat and sugar, which are common in food swamps, appear to be particularly associated with addictive-like eating behaviors and are more likely to lead to overeating, weight gain, and increased risk of poor health.[29] Physicians can help their patients by making them aware of the problem and helping them find ways to work through their addictive-like behaviors. Referrals to behavioral health and diet/nutrition professionals can be helpful.

ADDITIONAL INHERENT BARRIERS TO LIFESTYLE MEDICINE

Patient access to education about a healthy lifestyle may be limited owing to race, sex, gender identity, or sexual orientation. As a result, discrimination has been suggested as an addition to SDoH.[30] Social factors such as income, education, occupation, and social inequity on the basis of race and ethnic group can have a direct impact on the ability of individuals to effect change in their SDoH to establish and maintain a healthy lifestyle. Research suggests that even when presented with healthful choices, people tend to make choices on the basis of their social determinants, which provide the context for life choices, whether healthy or unhealthy. Race and gender identity, along with stressful life events, can hinder motivation as well as the ability to adopt a healthy lifestyle.[31] Physicians and other health professions can provide hope to their patients who are suffering under conditions of stress, as well as refer them to behavioral health professionals.

Low literacy is another factor that commonly affects health outcomes. It often goes hand in hand with low health literacy. Some of the greatest disparities in health literacy occur among racial and ethnic minority groups from different cultural backgrounds and those for whom English is not the first language. When patients receive written health communication materials that don't match their reading level, patient education is ineffective. Improvements in health practices that address low health literacy may help to reduce disparities in health. According to Healthy People 2020, limited health literacy may be difficult to recognize, and experts recommend that practices assume all patients and caregivers may have difficulty comprehending health information and should communicate in ways that anyone can understand.[32]

PATIENT CARE

One survey found that although physicians believe it is their responsibility to educate patients on the tenets of lifestyle medicine as part of routine patient care, many cite the lack of knowledge, time, available resources, and reimbursement.[33] For SDoH to make a significant difference in disease outcomes, medical education that incorporates the tenets of lifestyle medicine must improve. Many physicians may recommend that patients stop smoking or lose weight. However, our observation is that the majority of medical schools do not train students on how to assess and render a comprehensive lifestyle medicine prescription, which includes personalized and therapeutic dosing of sleep, physical activities, nutrition/diet, and stress management for patients. Although lifestyle medicine education is currently minimal, there are exceptions. Some medical education programs have been established that offer lifestyle medicine fellowships or residencies and lifestyle medicine tracks.[34]

SDoH can interfere with the practice of lifestyle medicine. Before recommending the steps that comprise a healthy lifestyle to patients, it is important to understand the possible limits that their unique SDoH impose and what they are realistically able to do and what is out of their reach economically, educationally, or socially. For example, eating a healthful diet, minimizing stress, maximizing sleep, and creating and maintaining positive social interactions may be difficult to attain or maintain if household income is inadequate or unstable or both.

Although health disparities are the result of a complex interaction of racial, economic, and education factors, the status of SDoH has been shown to be greatly affected by where an individual lives. In cities across the United States, the average life expectancies in certain communities are 20 to 30 years shorter than for those living just a few miles away. Where patients live often indicates economic status, availability of healthy foods, safety, and access to quality education and green space. Knowing where a patient lives may provide insight as to their limits on changing their SDoH. The lack of any of these important lifestyle factors creates stressors. Stress is now recognized as a universal premorbid factor associated with many risk factors for chronic diseases. Although acute stress in response to environmental demands is expected, chronic, excessive stress causes cumulative negative impacts on health, partly due to chronically elevated levels of cortisol.[35] A chronic state of stress caused by environmental stress and uncertainty can result in a feeling of hopelessness, which in itself is stressful and can result in hyperlipidemia, insulin resistance, hyperglycemia, hypertension, and abdominal adiposity.[35] A significant body of evidence indicates that chronic stressors can influence the development of cardiovas-

cular disease and trigger cardiovascular events independently of classical cardiovascular disease risk factors.[36]

Diabetes is an example of a condition in which SDoH significantly impact a patient's ability to apply the tenets of lifestyle medicine to manage their health.[37] Minority populations have been shown not only to suffer a greater burden of the disease but to exhibit poorer self-management and to experience more diabetes-related complications compared with non-Hispanic Whites. This results in poorer diabetes outcomes and higher rates of mortality for minority populations.[38,39] Research has demonstrated that lifestyle medicine can increase the chance of remission of type 2 diabetes in many patients. A randomized controlled trial in which overweight or obese subjects diagnosed with type 2 diabetes were provided with intensive lifestyle intervention demonstrated that intensive intervention was associated with a greater likelihood of partial remission of type 2 diabetes, without the need for insulin or hypoglycemic agents, when compared with typical diabetes support and education.[39]

LIFESTYLE MEDICINE, SDOH, AND COVID-19

The COVID-19 pandemic has highlighted existing health disparities and created opportunities for lifestyle medicine to address some of the root causes.[40] The pandemic has resulted in changes in families' home food environments and has increased food insecurity in several places across the country. One recent survey found that the percentage of families reporting very low food security has increased by 20% since the pandemic began.[41] The pandemic and increased food insecurity are also expected to increase the prevalence of childhood obesity in the United States.

In response, the ACLM has created the HEAL Initiative (Health Equity Achieved through Lifestyle medicine), with the purpose of harnessing the power of lifestyle medicine via communities to achieve health equity. Current metrics show that people infected with COVID-19 who also have chronic health conditions are at increased risk for severe illness compared with previously healthy individuals. In fact, aside from age, chronic disease is the greatest predictor of poor outcome of COVID.[42] Many of these chronic health conditions, such as type 2 diabetes, cardiovascular disease, hypertension, and obesity, could have been addressed before the pandemic though the tenets of lifestyle medicine. Of these, hypertension was found to be the leading metabolic risk factor in New York's 2020 COVID-19 epidemic.[43] When any of these chronic conditions are coupled with negative SDoH, the prognosis is dire. If applied preventively, the tenets of lifestyle medicine seem to be able to strengthen the immune system and reduce the health disparities associated with COVID-19. Moreover, another study that collected data on COVID-19 patients in New York City concluded that access to services in a comprehensive healthcare environment may attenuate, if not eliminate, racial/ethnic differences in COVID-19 mortality rates.[44,45]

DISCUSSION

Simultaneously focusing on SDoH and lifestyle medicine offers an overarching strategy for healthcare that addresses the root causes of the most prevalent and highest-cost illnesses in the United States.[2] Too often, health industry policies fail to appreciate the benefit of preemptively focusing on lifestyle factors as a proven way to prevent disease. Many medical students and physicians do not receive adequate training in the basics of lifestyle medicine—nutrition and physical activity or the SDoH. Lifestyle medicine as an intervention can happen only through education that supports positive behavior change, encouragement of patients' participation in their health, and treatment of underlying causes of disease, while considering the patient's environment. SDoH, such as low socioeconomic status, food insecurity, and low-quality or lack of education, often play determinative roles in attempts to reverse unhealthy lifestyle habits. Healthcare professionals must be skilled in assessing SDoH and take them into consideration when advising individual patients on the tenets of lifestyle medicine.

Physicians and other providers, particularly large healthcare systems, should work with payers to look for ways to collectively support private/local government partnerships. Working together has the potential to make a meaningful difference in improving the SDoH within disadvantaged communities.

Physicians and other healthcare providers should begin to incorporate the concept of SDoH into their practices if they are going to accurately identify and effectively address patients' obstacles to good health practices. Unless practitioners have information to the contrary, healthcare providers should assume that each patient has one or more social needs that they are dealing with. Once they have been identified, the healthcare provider should consider how patients' specific circumstances will impact their ability or inclination to follow health recommendations. Think about how best to place patients with community organizations whose mission it is to serve those in need. These organizations are often funded by foundations and are known by hospital discharge planners and social workers in the community. But perhaps most important is that trust is fostered by demonstrating sincere interest and caring. When patients trust their healthcare providers, it opens the door to unfiltered sharing of information that is essential to addressing their SDoH.

There is a need to redesign the focus on health and

healthcare at every level—intrapersonal, interpersonal, institutional, community, and systemic—to address the SDoH and improve health equity across all locations and population groups. ●

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