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Social Determinants of Health: If You Aren't Measuring Them, You Aren't Seeing the Big Picture

J Orthop Sports Phys Ther 2019;49(12):872-874. doi:10.2519/jospt.2019.0613

Clinicians often assume that interventions directly influence the recovery of patients with musculoskeletal impairments. In reality, other factors may influence recovery more than the direct treatment provided.[1,6,8] The most powerful factor may be upstream effects such as economic stability, education, health and health care, neighborhood and built environment, and social and community context—commonly termed the social determinant of health (SDH). Although a single empirical pathway linking the collective impacts of the SDH to musculoskeletal health outcomes has not been established, our view is that they exert tremendous effects on physical therapy outcomes in practice and research. In this Viewpoint, we discuss the SDH and argue that recognizing the impact of SDHs on health behavior is vital to seeing the whole picture related to musculoskeletal recovery.

The SDH: A Primer

It is tempting to believe that medical care is the largest factor affecting musculoskeletal recovery. However, models that include SDH variables place the role of medical care in health and recovery only at 20%.[7,9] Estimates of the effects of other domains on health and recovery paint a picture much different from what we believe happens in the clinic: social and economic circumstances account for 40%, environmental factors account for 10%, and behavioral patterns account for 30%. Social determinants of health directly contribute to well-being and health outcomes, but they also influence health behaviors and lifestyle choices of individuals by making it easier or harder, and more or less desirable, to choose healthier behaviors over less healthy behaviors.[3] The SDH and the health behaviors that follow are the modifiable contributors to inequities in health and musculoskeletal recovery (**FIGURE**).

Addressing SDHs at the Patient Level

Social determinants of health affect every patient: they influence prognosis and suggest additional avenues for intervention. A variety of assessment tools have been developed, but none has been vetted through all steps of development and validation. The Institute of Medicine 25-item checklist consists of 6 domains, the Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences includes 21 items, and the Health Leads Screening Toolkit involves an item bank that can be used to focus on areas of interest. These tools provide a starting point, with recommended core domains such as food insecurity, housing instability, utility needs, and financial resource strain. The Social Interventions Research and Evaluation Network has created a useful overview and comparison of freely available tools.[10]

Societal trends, such as more volatile employment rates and unpredictable gaps in job stability, make it hard to predict which patients are at increased risk of exposure to adverse SDH factors. We

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encourage clinicians to engage their entire practice population rather than target subgroups.[2] Assessing SDHs is different from other forms of screening, because it can reveal adverse exposures and conditions that often require resources beyond the scope of traditional clinical care. Screening for the SDH without appropriate referral is ineffective and potentially unethical.[5] It is essential to integrate SDH screening with referral to community-based resources. In this way, the clinician can provide advice, refer the individual to other services, and facilitate access to services in a sensitive, culturally acceptable, and caring way.

Addressing SDHs at the Community Level

Clinicians, faculty, residents, and students need not limit their activities to within the 4 walls of the clinic. They should also serve as advocates and resources in the community. Start by asking, "What do my patients' communities need to be healthier?" Data to answer this question can be found in local public health offices, population-level surveys, and hospital planning departments. Answers to this question can also be found by engaging directly with members of the community to identify SDH concerns that are most impactful and important to them. Explore partnerships with community groups, health departments, and local leaders to create multistakeholder, community-wide initiatives that can have significant impacts. Involvement in community health needs assessment and health planning is one way to develop a common language and shared understanding of the dimensions driving the health needs of a community. There is no cookbook for this work; the needs of each community differ and require specific approaches.

Addressing SDHs in Research

Researchers are tasked with developing internally valid methods and externally generalizable results, which are often at odds in clinical research. Specifically related to the impact of the SDH, generalizing results from comparative effectiveness and physical therapy outcomes research is difficult in small, homogeneous convenience samples. Although randomization in clinical trials makes it more likely that confounders in both groups are balanced, the effectiveness of treatments for musculoskeletal disorders can be moderated by SDH factors.

The characteristics of the sample can interact with the experimental or control intervention applied, which can moderate the overall treatment effect.[4] In observational studies, SDH factors may be unaccounted for in the design and analysis, thus impact the results in unknown and unmeasured ways. For this reason, the potential impact of SDHs on outcomes in experimental studies and on risk in observational studies is unknown unless measured.

Study designs should reflect the needs of individuals who are enrolled in the trials.

Economic stability. Economic resources allow for room to engage in healthy behaviors that promote recovery. Lower SE position may increase the chances of absence from work due to musculoskeletal injury. In addition, lower SE position may create barriers to seeking physical therapy care, including difficulty scheduling, time in treatment to achieve recovery, and lack of insurance coverage for visits, ultimately contributing to cycles of SE disadvantage.

Education. Individuals who are more educated tend to have increased financial, emotional, psychological, and social resources. These resources allow them to make better behavior-based lifestyle choices, which contribute to positive physical and psychological well-being. Conversely, poorer recovery from musculoskeletal conditions can interfere with the educational process, potentially creating cycles of disadvantage. In addition, lower levels of health literacy are associated with greater levels of opioid misuse and experience of pain in those with chronic pain.

Health care. A systematic bias against the treatment of people of color, which results in substandard care, exists. Health care infrastructure is often diverted to higher-income neighborhoods, which results in fewer clinicians in low-income neighborhoods. Moreover, these clinicians are more likely to be less educated and less qualified than those in higher-income neighborhoods. Access to care may also be a barrier, because seeing someone—anyone—can be expensive. More than half of all unpaid personal debts sent to collection agencies are for medical bills. Even for those with health insurance, over one third of Americans with difficulty paying medical bills had to choose between paying those bills and paying for food, heat, or housing. These barriers may limit access to needed health care services, which may increase the risk of poor health outcomes and increased health disparities.

Neighborhood and built environment. People in lower SE communities have limited access to quality housing stock and tend to live in neighborhoods designed without safe outdoor environments to promote and enable physical activity that contributes to greater levels of overall health. Poor urban planning and inadequate housing are consistently associated with increased social isolation and the physical and mental health problems that follow. Additionally, the availability of healthy food and an awareness of food choices related to general health and disease management assist in reducing the prevalence of noncommunicable diseases.

Social and community context. Especially in childhood, exposure to stressful social conditions (adverse childhood experiences) can affect brain development and may lead to many chronic diseases. It may even increase the number of painful medical conditions developed later in life. What may be the most pernicious consequence of these stressful experiences is that they increase risks for these same stressors in the next generation, leading to a cycle of intergenerational vulnerability. Further, connectedness to others, prevailing social norms, and a sense of belonging and identification within the community also exert strong influence over health and health behaviors. Accepting positive health messages and making healthy decisions are strongly associated with the acceptance of these behaviors by the people individuals consider their community. Thus, population-based strategies can be effective at exerting influence over individuals' choices related to health behaviors, including physical activity, diet, and smoking.

FIGURE. Key domains associated with the social determinants of health. Abbreviation: SE, socioeconomic.

For example, SDH factors such as access to care and transportation may influence follow-up and completeness of data collection from study participants. Engage different stakeholders, using strategies to increase participation of underserved and often disadvantaged communities and populations to ensure representative samples. Constructs of SDH, health behavior, and adherence to the intervention of interest should be measured and quantified across participants to account for their influence on research results.

Addressing SDHs in Policy

Policy makers paint with a large brush and, in doing so, exert influence at the macroscopic level. While this is an efficient way to quickly change downstream behavior, there can be unintended consequences for those who are most vulnerable. Social conditions affect communities' health and need to be considered when developing policy related to outcomes and expectations for concepts of health, health promotion, and prevention. Health in All Policies is one strategy that has been proposed to evaluate all public policies through a population health lens. However, the approach is challenging, and definitions of success are not universal. Because of the abstract nature and changing metric of concepts related to prevention and health promotion, policy makers need to engage constituency groups to ensure that legislation will result in what is intended.

The Compounding Effects of the SDH

The time has come to recognize that many factors other than direct interventions from clinicians play a role in musculoskeletal recovery. The SDHs quickly compound around an individual or community. Positive findings in one area create a likelihood of success in others. Negative findings in one area contribute to a likelihood of failure in others. The influence that SDHs exert on communities and patients filters down through health behaviors and individual choices that affect musculoskeletal recovery. Let us work together to expand our view of patients to include the big picture, recognizing that social and environmental contexts play a larger role in musculoskeletal recovery than we expect.

Key Points

- Musculoskeletal recovery is complicated and is rarely associated with only 1 factor.
- Social determinants of health may be major factors in musculoskeletal recovery.
- Social determinants of health involve 5 key domains: economic stability, education, health care access, neighborhood and environment, and social and community context.
- Integrating screening for SDHs and referral to community-based resources is one avenue for clinicians to address SDHs. ◉

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