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LETTER TO THE EDITOR

The social and economic disadvantage in pulmonary hypertension: A work (still) in progress

Dear Editor,

We read with great interest the article "*Social determinants of health in pulmonary arterial hypertension patients in the United States: Clinician perspective and health policy implications*" by Nadipelli et al.[1] The social and political events that transpired during the year 2020 brought into attention the significance of socioeconomic status and race/ethnic segregation as crucial factors affecting social equality. For instance, at the beginning of the coronavirus disease 2019 (COVID-19) pandemic, emphasis was placed on a simple yet effective strategy for disease mitigation ("flattening of the curve"): social isolation. Soon it became evident that for individuals to isolate effectively, it required a combination of factors not available to everyone, such as housing and food security, stable employment, and private transportation. Not everybody was able to isolate effectively, and disease rates of COVID-19 were significantly higher in minorities and populations of color, such as Hispanics and non-Hispanic Blacks.[2]

Understanding inequality in healthcare is complex due to multiple factors (as described elsewhere[3]), but an essential component is the interaction between race/ethnicity and socioeconomic factors. Racial segregation—a problem still highly prevalent in the United States—implies that certain minority groups have different social and environmental exposures than their White counterparts. As such, when describing the association between race/ethnicity and the outcomes of a given disease, socioeconomic metrics cannot (and should not) be omitted.

Social determinants of health (SDOH) disproportionately affect minority groups and are increasingly recognized as independent factors associated with poor outcomes in different cardiopulmonary disorders.[4] The significance of SDOH in pulmonary arterial hypertension (PAH) is emphasized by studies that link lower annual income and rurality with higher disease severity on presentation and lower survival rates.[5,6] In line with these observations, we recently reported that Hispanic patients with PAH had a disadvantageous socioeconomic profile associated with higher emergency visits and hospitalizations compared with non-Hispanic Whites.[7] Identifying the impact of SDOH on the level of care experienced by PAH patients can provide opportunities to identify vulnerable populations and optimize strategies to overcome health disparities.

Nadipelli et al.[1] describe an analysis of perspectives on the significance of SDOH among medical professionals caring for patients with PAH. The authors conducted semistructured interviews, which were then transcribed and coded for common themes using a qualitative methodology. High awareness of the concept of SDOH was found and the perspectives of the medical team on topics such as food and home insecurity, lack of transportation, unemployment, health illiteracy, and socioeconomic disadvantage were summarized. Overall, there seems to be consensus on the deleterious effects of a disadvantageous SDOH profile in PAH. The respondents gave several examples of how a complex disease such as PAH requires significant social support for optimal care.

Interestingly, the interviewees did not consider race or ethnicity as factors associated with SDOH. It should be kept in mind that, based on data provided by the respondents, an average of 12% (range 0%–40%) of patients under their care were of Hispanic ethnicity and the range of uninsured patients was 0%–30%. This observation is important, because the SDOH perspectives of providers that care for minorities and economically disadvantaged patients may be (and indeed is) different than those practicing at institutions with less disadvantaged populations.

Despite its limitations, the study of Nadipelli et al.[1] is important for several reasons. First, it provides insight into perceived SDOH and the barriers that need to be

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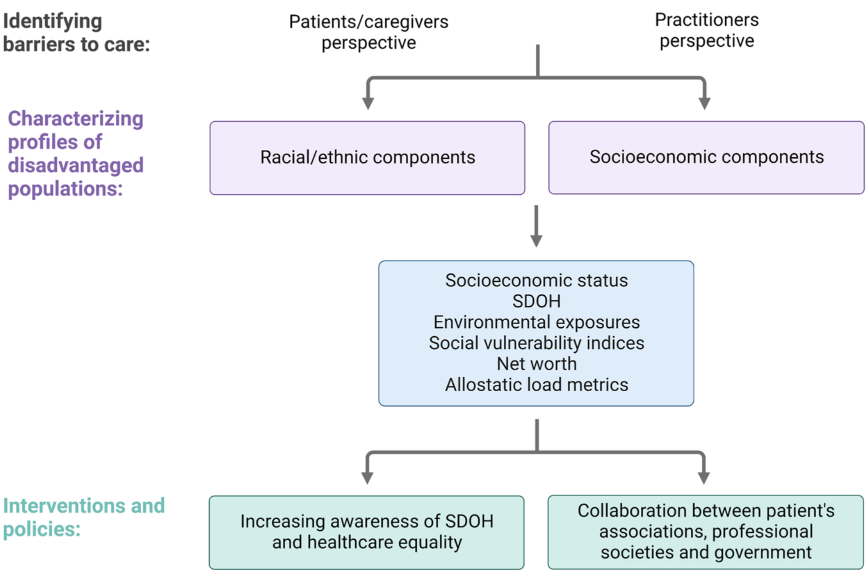

FIGURE 1 Health care inequality roadmap in PAH. PAH, pulmonary arterial hypertension; SDOH, social determinants of health. Created with BioRender.com.

overcome to achieve health equality (see Figure 1). Second, it highlights perceived biases on SDOH, such as ignoring the association between race/ethnicity and socioeconomic factors. Although data on the association between race/ethnicity and SDOH in PAH is still limited, the findings suggest that for non-Hispanic Blacks, lack of healthcare insurance is associated with lower survival.[8] Furthermore, in Hispanics, although a survival advantage was previously postulated (i.e., the "Hispanic paradox"),[9] we have recently shown that Hispanic patients have a more disadvantageous socioeconomic profile, and in the presence of this social disadvantage, any theoretical survival advantage disappears.[7,10]

Securing equal opportunities and access to care in PAH is an ambitious task and a work still in progress. The goal of healthcare equality and overcoming systemic barriers to care in PAH requires collaborations at different levels. It is essential to understand the perspectives of patients, caregivers, and providers, and to implement policies of optimal care in collaboration with authorities, patient associations, professional societies, and the government. The role of institutions such as the Pulmonary Vascular Research Institute (PVRI) is pivotal in this goal. PVRI has recently established a dedicated task force aiming to identify the needs and barriers to the care of patients with all forms of pulmonary hypertension globally. We congratulate the authors on their work, because understanding practitioners' perspective (and their biases) is an essential—and much-needed—step in that direction.

AUTHOR CONTRIBUTIONS

All authors reviewed and revised the manuscript. All authors contributed equally to the manuscript.

CONFLICT OF INTEREST STATEMENT

Roberto J. Bernardo serves on the medical advisory board for Janssen Pharmaceuticals. Vinicio de Jesus Perez has no conflict of interest to declare.

GUARANTOR STATEMENT

Roberto J. Bernardo is the guarantor of the content of the manuscript.

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