Rejoinder: Socioeconomic gradients and hypertension in low- and middle-income countries: a straw man and no solutions

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The commentary by Razak and Subramanian echoes many of the concerns about the robustness of available data that we expressed in our article.1,2 However, we believe that some of our arguments have been misrepresented, particularly those about the use of socioeconomic status (SES) as a means to ‘understand the burden of disease in a population and set priorities for intervention’ (their words, not ours).

Furthermore, although the authors raise a number of criticisms of our work, strategies to generate the data required for definitive conclusions, or to overcome the methodological challenges identified both in our paper and in their commentary, are lacking.

We agree that there is a paucity of data regarding the prevalence of hypertension in low- and middle-income countries and the importance of understanding the burden of disease in such populations. However, we believe that the use of SES as a proxy for this burden is not an adequate substitute for more nuanced and comprehensive data. The authors’ call for the generation of data to fill this gap is well founded, but we contend that the manner in which this call is presented may be overly simplistic and insufficiently nuanced.

We also note that the authors’ suggestions for strategies to overcome methodological challenges in the use of SES data are not adequately elaborated or supported by evidence. The authors suggest that alternative measures of poverty may be more accurate indicators of SES, but they do not provide specific examples or data to support this claim.

In conclusion, we agree with the authors’ call for the generation of data to improve our understanding of the burden of disease in low- and middle-income countries. However, we believe that the use of SES as a proxy for this burden is not an adequate substitute for more comprehensive data. The authors’ suggestions for strategies to overcome methodological challenges in the use of SES data are also not adequately elaborated or supported by evidence. We look forward to seeing more detailed and nuanced approaches to understanding the burden of disease in these populations in future research.

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countries (LMICs) that are nationally representative, and that few data exist with robust measures of socioeconomic status. Furthermore, we also acknowledge that the studies that have been reported have disparate designs and varying levels of adjustment. There is a particular lack of data on relationships between SES and hypertension in rural regions — regions less, though increasingly, exposed to the influences of risk factors that accompany urbanization.

These rural regions comprise large populations, sometimes because of the large overall population of the country, sometimes because of the large proportion of the population who live in these regions [e.g. India (68%), China (47%) and Sri Lanka (85%)], and sometimes both. Furthermore, in some regions (e.g. Latin America or Africa) only few studies have been conducted and so the association between SES and hypertension in these regions is even less clear. Certainly, a critical message is that there is a need to address the paucity of data.

In contrast to the contention of the commentators, we do not argue that ‘SES gradients in disease are an adequate strategy to understand the burden or disease in a population’ or to ‘set priorities for intervention’. Nor do we argue for an ‘exclusive focus on SES’ in setting priorities. Instead, we agree that hypertension is a multidimensional problem that requires a multifaceted approach. In our current article, we argue that identification of differences in the relationship between SES and hypertension between regions may allow more specific targeting to those at greatest risk of hypertension. In another recent article, we argue that the relationship between adiposity and hypertension may also differ by setting, and so interventions could also be nuanced or tailored between these settings. For example, it would be inappropriate to simply target the wealthy, who already have greater access to health care than less wealthy individuals, in settings where disadvantaged groups suffer similar or greater prevalence of disease. In setting priorities one should ideally employ a careful and systematic approach to identify interventions, with clear consideration of equity.

Whereas Razak and Subramanian similarly identify significant gaps in the literature and significant problems in research designs, in our ‘key messages’ we attempt to address and provide some strategies to improve data collection and study robustness. We believe that there is a need for large multi-site collaborative studies, employing uniform methodology, to assess the association between SES and hypertension in rural settings of LMICs. The use of uniform methodology across countries and regions will help reduce the problem of bias associated with the use of disparate methodology, while allowing one to compare findings both with and without adjustment for potentially confounding variables. Perhaps more importantly, funding bodies, governments and employers should provide incentives for researchers to place their data into repositories, to enable analysis of data from different regions in a systematic fashion and thereby minimize bias. The preparation of data dictionaries with recommended ways of collecting variables would further reduce methodological biases between studies. If deposition of data into a repository was considered as highly as publication outputs for consideration of promotion, researchers may be encouraged to deposit their data and thereby ensure its optimal utilization.

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