



**Health Inequities in India: A Synthesis of Recent Evidence.** T. K. Sundari Ravindran and Rakhal Gaitonde (eds). Springer Nature Singapore Pte Ltd, Singapore. 2018. xxv + 239 pp. Price: 134.99€/US\$ 169.00.

This book synthesizes health inequities research in India since 2008. Its an important and timely contribution as the issues of inequity are moving up the policy agenda, at least in global policy discourse with an aspiration of ‘leaving no one behind’ in achieving the Sustainable Development Goals. In the two separate pieces forwarding this book, Sharmila Mhatre and Lesley Doyal reiterate the global relevance of such work considering India’s rapid economic growth and rising political significance. The book would be of much use and interest to students, researchers and advocates interested in health and public policy issues.

The nine chapters in the book provide a coherent and inter-linked narrative. One can also engage with individual chapters – with an exception of chapter 3 dealing with methods – as stand-alone pieces. In the first chapter, the authors clarify the worldview and concepts they use to look at the available literature in India. They interpret health inequities as systematic differences across groups in health outcomes (and processes) that are socially unfair. This is different from health inequalities that are generally understood as any differences in health outcomes. They argue using data that health inequities in India are rooted in social and economic inequities driven by neo-liberal and global economic order.

In the second chapter, Rakhal Gaitonde examines conceptual frameworks available for studying health inequities. He begins with a critique of the dominant ‘risk factor’ approach in public health research. Here, he refers to epidemiologic

inquiries associating differences in health outcomes with individual-level factors (such as income, age and social position). He highlights the three major limitations of such an approach. First is the need for studies to go beyond considering micro-level (individual or household) factors and include multi-level factors that contribute to inequities. Preponderance of studies focusing on micro-level factors tends to shape narratives that put the blame for ill health on individuals themselves. The second limitation is about the need to unravel pathways to inequity: mechanisms that link the determinants (factors associated with health inequities) with unequal health outcomes. Mere knowledge of determinants of inequity is not enough to inform policies and interventions that promote health equities. The third limitation comes from the static use of categories or labels (such as caste or geographic location) in grouping people while examining differences across these groups. Problems arise in treating such categories as static, as is the case of large health and demographic surveys. In reality, the meaning and experience of belonging to a specific category differ over time and across spaces. For example, among the ‘scheduled tribe’ category, being a forest-dwelling tribe in Karnataka is different from being a farming tribe in a tribal majority state in North East India. Similarly, vulnerabilities among a forest-dwelling tribe in Karnataka would change over time with changes in policies governing their access to forests, among other things. Furthermore, individuals carry more than just a single identity, some of which brings additional social disadvantage, e.g. being an elderly woman in a forest-dwelling tribe. This means that individuals belonging to the same category actually suffer different degrees of disadvantage.

The author then describes some of the research approaches and frameworks that hold promise to address these challenges. They include the political economy approach to health and the ecosocial theory of disease distribution, among others. These frameworks not only enable researchers to look for multi-level factors but also help theorize, to a varying degree, the pathways to inequity. He implicates the widespread use of big data (e.g. National Sample Surveys) in promoting a priori use of static categories. He instead suggests turning an investigative gaze on

these categories to better understand what it means to belong to a category in a given space and time. He poses an intersectionality lens as a useful approach to problematize the use of static categories, and look for how multiple identities intersect to produce complex forms of vulnerability.

These two chapters, the first one firmly situating the origins of health inequities in a broader economic order and the second one charting theoretical advances, make this book much more than a mere synthesis of available evidence. I wish the language used was simpler. The several quotes reproduced from seminal theoretical works lacking shared meaning for the terms make it difficult for a non-specialist reader.

The third chapter by Gaitonde describes the methods used for the synthesis, and a brief overview of the major findings. The available research base is limited: he ends up including 224 papers investigating health inequities published in an over 14-yr period for the review. Many papers focused on maternal and child health. Majority of papers studied the extent of inequities and their associations with certain factors with a few investigating the pathways to inequities and the least (just five papers) studying the interventions. Interestingly, over 40% of the lead authors were from institutions outside of India. Among those from India, majority belonged to autonomous institutions with negligible representation from university settings.

Overcoming their own dislike of static categories, the subsequent four chapters synthesize research on inequities around specific axes, namely by socio-economic position, among dalit and adivasi communities, by gender and among ‘other socially constructed vulnerabilities’ (mainly people living with HIV/AIDS and internal migrants). This is partly to keep the presentation simple, and is also a reflection of how health inequities research has been done so far in India. However, authors are certainly not making things simplistic as each of these chapters, to a varying degree, problematizes and deepens our understanding of these axes of marginalization. For example, in chapter 4, N. S. Prashanth deals with the unpacking of the much used ‘socio-economic’ (status and/or position) into social status and economic position, demonstrating the complexity in the context- and history-dependent interpretations

of these concepts. Priyadarshini Chidambaram in a chapter on gender-based inequities highlights how available research has largely dealt with sex as a biological identity and only marginally with gender as a social construct. She further clarifies the dynamic nature of gender construct, and differences between concepts of gender identity and gender expression. These chapters not only synthesize the available evidence, but also provide its critique. While they highlight stark inequities along these axes, as someone familiar with the field would envisage, they bring out nuanced understanding of intersectional nature of vulnerabilities that are experienced differentially within and over time in a given category of people.

Chapter 8 by Rakhal Gaitonde breaks the monotony set by earlier chapters by focusing on an institutional determinant: how health systems have impacted health inequities in India. On the whole, the available evidence implies that health systems have not specifically responded to those most marginalized in society. This chapter is relevant, as India has initiated ambitious reforms in the health sector to achieve universal health coverage: how do we address the inequity-causing mechanisms outlined by this chapter to transform health systems into enabling institutions?

The last chapter, authored collectively by editors and chapter contributors, summarizes the major findings and limitations of health inequities research in India. Reiterating their emphasis on the need for better theorization, they reproduce an epistemological framework to envisage pathways or mechanisms explaining health inequities. Adapting from the earlier works and interpretations, they highlight three types of mechanisms: (1) type-1 or situational mechanisms operating at the macro (broader societal and institutional) level and impacting the micro (household, individuals) level; (2) type-2 or action-formation mechanisms operating at the micro level across individuals and within communities and households and (3) type-3 or transformational mechanisms explaining how individual actions within communities (micro level) emancipate change in broader macro-level factors. The authors prefer this way of conceptualizing mechanisms underlying health inequities as it acknowledges the role of both the structure and the agency, as well as the

presence of multiple interacting mechanisms at different levels. They further clarify using micro- and macro-levels as mere placeholders for mechanisms operating at several hierarchical levels (from global to local), and not to refer to any two specific levels.

Interestingly, the authors claim (in the very title of this chapter) that promoting a body of coherent and appropriate health inequity research is not merely a function of promoting better knowledge and skills. It is rather a 'political project'. Given the potential of health inequities research to uncover pathways of inequity and to influence decisions with regard to public policies, researchers have a crucial role in the struggle to achieve a just society. Towards this end, they highlight the need to reform the ways we currently fund and govern health research. In this context, the only major concern I have regarding this book is that it is exceedingly costly, pointing to one of the very structural barriers that underlie the authors' plea for a political project. I would have also appreciated more examples from the global literature of how some of the advanced and more appropriate theoretical frameworks mentioned by the authors have been used to research health inequities. May be a chapter of its own would have balanced an overwhelmingly grim and somewhat predicted picture that emerges from the entire exercise.

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UPENDRA BHOJANI

*Institute of Public Health,  
3009, 2-A Main, 17th Cross,  
Banashankari 2nd Stage, K. R. Road,  
Bengaluru 560 070, India  
e-mail: upendra@iphindia.org*

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**Annual Review of Genetics, 2017.** Nancy M. Bonini, Michael Lichten and Gerturd Schüpbach (eds). Annual Reviews, 4139 El Camino Way, P.O. Box 10139, Palo Alto, California 94303-0139, USA. Vol. 51. xii + 527 pp. Price: US\$ 107.

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These are exciting and dangerous times for genetics. As we make major advances in understanding the genetic basis of

several complex brain disorders<sup>1,2</sup> and other diseases, the attempts to rationalize 'intelligence'<sup>3</sup> and 'educational attainment'<sup>4</sup> as inherent genetic traits, even possibly under natural selection<sup>5,6</sup>, bother us.

It is at this juncture that the current volume of *Annual Reviews of Genetics* has appeared. As always, the topics reviewed are a judicious mix of the tradition and the cutting edge. The opening article by Ralph Bock reviews the experimental systems developed to understand the endosymbiotic origin of mitochondria and chloroplasts from free-living bacteria, and the insights it has brought about organellar diversity and horizontal genome transfer. How the universal genetic code (UGC) originated and evolved is a pressing question in evolutionary biology. Koonin and Novozhilov in their illuminating review argue that the high fidelity of amino acid recognition by the proto-tRNAs preceded the expansion of amino acids. In their review of the genetics of social behaviour in insects, Weitekamp *et al.* criticize the limitations of the current experimental and theoretical approaches in this field. They suggest inclusion of more replicates and propose methodological paradigm shifts such as taking indirect genetic effects (IGEs) into account in experiments and analysis for a better understanding of eusociality. The evolution of nervous system has been and still is one of the most elusive enigmas in science. Varoqueaux and Fasshauer taking evidence from comparative genomics show that several simple animals such as poriferans, who are devoid of any nerve cells, share the same basic set of genes as animals with more complex nervous system, suggesting that simple neurosecretory cells may have given rise to neuronal networks and a complex nervous system.

A major goal of genetic and genomic research is to understand the genetic basis of diseases and endeavour for the amelioration of such ailments. Lim *et al.* review the different kinds of mosaicism observed in humans, with particular reference to mosaicism observed in skin, and how such mutations help in understanding biological pathways and possible treatments. We often imagine infections to be largely environmental and that the host genomic variation has little to do with it. Using evidence from genome-wide association studies and viral infection in humans, Kenney *et al.*