Overview of Chaps. 19 and 20

Part V of the volume “Heterogeneity in Asthma: Translational Profiling and Phenotyping” concludes with two chapters that provide insight into the larger contextual issues of how psychological and cultural forces impact the experience of asthma. Chapter 19 explores how studies of placebo responding and experimental induction of a mild asthmatic episode utilizing concurrent neuroimaging of the brain provide some clues as to how mind–brain interactions may impact the experience of asthma symptoms. Chapter 20 introduces the reader to current conceptualizations about culture and cultural analysis in the diagnosis and management of asthma.

Both these chapters complement the broad, multidisciplinary research that currently is employed in investigations that provide insight into asthma and can be considered part of the larger conceptualizing of systems biology.

Chapter 19: “Central Nervous System Influences in Asthma”

This chapter summarizes studies that attempt to understand how the brain influences asthma. They focus on a study that demonstrates significant physiological changes in lung function, using methacholine challenge, among individuals who show a placebo response compared to salmeterol. Research utilizing functional magnetic resonance imaging has demonstrated that neural circuitry when activated by exposure
to asthma-laden words can influence allergen-induced asthmatic symptoms as well as circulating cytokines. These studies emphasize the role of the brain in mediating psychological influences in asthma and provide mechanistic insight into the role of stress, placebo, and other factors that alter the predisposition to and the nature of asthma.

**Chapter 20: “Asthma, Culture, and Cultural Analysis: Continuing Challenges”**

Studies of asthma in different countries and in different populations have demonstrated that asthma is not only complex clinically and scientifically, it also is an exemplar of the need for researchers to incorporate insights from systemic and holistic understanding of the role of culture. They argue, “Cultural analysis can document and enhance understanding of how established health institutions and research programs work” and “how asthma can be understood as a cultural phenomenon and problem.” Because of stigma, the true prevalence of asthma is underestimated in various cultures and asthma goes untreated and the burden of the disease is underestimated. Cultural perspectives thus have the potential to integrate relevant, interlinked phenomena of biological, ecological, social, and economic factors that are relevant to a multidisciplinary understanding.