

gaps on most of these counts and emphasise the need for policymakers to adhere to the spirit of the Belmont report in devising public health programmes and implementing them.

Within the non-health sector, the impact of polluting industries, transportation, construction, mining or pesticides and fertilisers on human and environmental health is increasingly coming to light. In Chapter 5 of this book, Adithya Pradyumna and Jayakumar Chelaton trace the health consequences of air spraying Endosulfan for cashew plantations in Kasaragod, Kerala. This chapter deems as an ethical violation the introduction of hazardous chemicals without consideration of its implications for the environment, people and future generations. The chapter highlights the need to introduce a health impact assessment at par with environmental and social impact assessment of development projects.

Surekha Garimella and Lakshmi Josyula share a self-reflexive and insightful paper of their research into health systems using qualitative research methodology in Chapter 6. The paper provides insights into State permissions, gatekeeping by officials, non-recognition of the consent of junior functionaries and low opinion of evidence produced by qualitative research. The oft understood relationship of the researcher and researched from the prism of a power hierarchy within ethical discourse is problematised by these authors.

Chapter 7 by Vijayaprasad Gopichandran and Varalakshmi Elango deals with the ethics of data generated through

surveillance, big data analytics and digital epidemiology. In contemporary times, there is much discussion around the Arogya Setu app and Aadhar linkage to health insurance and the ensuing risk of privacy and confidentiality breaches by the State. The authors suggest the need to institute an Ethics Review Committee to provide oversight for public health interventions and data protection mechanisms to secure the resultant digital data.

The ethical challenges intrinsic to the Assisted Reproductive Technologies industry, the location of women within the surrogacy markets, the trade in biological materials with poor regulation of each aspect are dealt with by Sarojini Nadimpally and Deepa Venkatachalam in Chapter 8. Chapters 9 and 10 cover the attempts at introducing a Public health ethics curriculum in a progressively-oriented medical college in Bangalore, and in the newly set up innovative Azim Premji University in Bangalore, respectively. Both these papers provide insights into the value and significance of such courses in building a cadre of ethically committed professionals.

To add to the strength of the book, the authors could have devoted space to discussion of the dominant philosophical positions (utilitarianism, liberalism, communitarianism and feminism) which have been alluded to on page 9 and their application to the themes explored in the book. This book is an important contribution to the emerging field of public health ethics in India with case studies, field experiences, research and reflections of public health researchers, teachers, trainers, practitioners and activists.

Consonances and dissonances: ancient Ayurveda and contemporary Ayurvedic clinical practice

JOSYULA K LAKSHMI

Sanjeev Rastogi, Editor, *Translational Ayurveda*, Springer Singapore, 2019, e-book ISBN 978-981-13-2062-0, 212 pages, Euros 96,29.

The book *Translational Ayurveda*, authored by academics in Ayurvedic practice and research, lays out the terrain of the current practice of Ayurveda, setting it in the administrative and policy landscape of India as well as some other parts of the world, and describing the consonances and dissonances between the principles delineated in the classical texts, and

contemporary teaching and practice. The book is divided into sections to (i) present the basic tenets of Ayurveda; (ii) describe the pharmaceutical formulations and modes of administration, and trace their history; (iii) elaborate the emphasis on protecting and promoting health, and preventing disease in Ayurveda; and (iv) detail clinical practice and research in particular disease conditions, viz cancer, diabetes mellitus, and skin ailments, and the role of sleep as a diagnostic and therapeutic marker. In addition to being a guide to the non-practitioner about the translation of classical Ayurveda to clinical and health-promoting practice in today's world, this book highlights the roles of funding, policy support, and administration in the development of the field.

Is Ayurveda practised as taught? Is it taught as it ought to be?

A question that the authors engage with is whether the core of Ayurveda's approach to health, the celebrated holistic

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conceptualisation of a person experiencing ill-health rather than a disease embodied in a “case”, is missing from the contemporary practice of Ayurveda. It could be eye-opening for contemporary practitioners of Ayurveda to take cognisance of the roots of their science and strive to practise Ayurveda faithfully in the modern context rather than to interpret Ayurveda in the paradigm of modern medicine, and align (practically forcefit) it into the dockets of modern medicine. Even the core terminology of Ayurveda, which may have no synonyms in English, is fitted into English terms that are vulnerable to misinterpretation. Over a few generations this gets fully assimilated and taught as such, increasing the distance between the traditional code and contemporary clinical practice. An additional complication arises when practitioners or readers have a non-Sanskrit primary language to take recourse to in understanding Sanskrit terms. The same word, from the same Sanskrit origin, adopted into various languages over the centuries, often has different shades of meaning in different languages, eg, the word *paityam* (from *pitta*) is interpreted as biliousness in colloquial Telugu, and as insanity in colloquial Tamil. Readers, particularly practitioners, using different languages to access and understand Sanskrit words may arrive at meanings far apart, and proceed to examine a patient and prescribe differently. There is a growing movement to protect “Sanskrit untranslatables” to obviate the incalculable damage done when classical terms are translated to English without adequate attention to their original contexts and associated meanings. Academics in Ayurveda should heed the imperative to engage in this endeavour and restore the terminology, and thereby understanding and practice, to its classical state.

Research and practice in Ayurveda: What is studied? What is unexplored?

This book makes the vital point that the model for Ayurvedic drug studies needs to be consonant with the Ayurvedic model of disease-production. Studying the drug out of the context of the mechanism of disease in the individual flies in the face of the tenets of Ayurveda. The authors draw attention to the prevalent practice of “reverse pharmacology” – of pursuing leads on drug materials from traditional systems of medicine and developing pharmaceuticals in allopathy – and point out how this overly narrow, reductionist application fails to tap into the wisdom of this traditional system of medicine, and stops at using (part of) the pharmaceutical agent that is just one component of the concerted approach to restoring health. This book illuminates the relevance of research in Ayurveda to fields beyond medicine (eg, Indology, linguistics, sociology), underscoring Ayurveda’s embeddedness in culture, beyond its identity as a body of medical knowledge. Further, it advocates whole systems research, as opposed to single agent or narrowly focussed clinical research, to truly understand Ayurveda and its potential for the promotion of population health. A very pragmatic point made by the authors is that while the mechanism of action of particular drug materials, behaviour regimen, or treatment modalities may not be easy

to explicate through the instruments of measurement, and metabolic and chemical processes understood in modern sciences, as long as a set of desired health outcomes is shown to consistently result from the application of a set of techniques and materials in accordance with the principles of Ayurveda, their application for the promotion and restoration of health should proceed, and not wait, while research continues to delve into the mechanism of action.

The authors highlight the critical gap between knowledge of material in the classical texts of Ayurveda and the skill required to make decisions about their use. This gap would hamper even persons trained in Ayurveda, let alone untrained persons who obtain and misuse access to particular medications in a bid to manage diseases, enhance sexual prowess, etc. The caution implied here applies to the irrational use of all systems of medicine, particularly under the unjustified comfort that many harbour about traditional, complementary, and alternative systems of medicine having no side-effects, and being universally benign.

This book sheds light on the many unexplored areas of potential intervention to prevent, diagnose, and manage various disease conditions, eg, diabetes mellitus, pointing out how contemporary research in diabetes in Ayurveda has hitherto been restricted to studying the hypoglycaemic effect of certain drug materials and components of medications. The particular significance of *rasayana* as detailed by the authors merits consideration for population health promotion now and in the future.

Lessons for practitioners of Ayurveda and other systems of medicine

This book raises some important questions that not only clearly apply to Ayurveda, as they are meant to, but also hold valuable insights for practitioners, teachers, and researchers in other systems of medicine, particularly holistic, traditional, complementary, and alternative systems. An implicit message in this book is the responsibility of every stakeholder in a medically pluralistic health system to demonstrate respect towards all the systems of medicine, and to cultivate a spirit of openness towards the various philosophies and practitioners thereof. The authors evince understanding of the power and politics at work in the interactions and collaboration of professionals from different systems of medicine, and proffer a readily practicable piece of advice in convening a multidisciplinary team – to begin with the mutual orientation of members.

The points made about economics and the use of holistic, inclusive systems of medicine that take a life-course approach to health are valuable, and should inform research and policymaking to promote the use of holistic systems of medicine for the enhancement of population health. The authors make insightful observations about the factors that determine the use of a system of medicine in society, as illustrated by this quote from the book:

...the effective educator knows that there is teaching to be done not only of the patient population but also of those determining funding and governance.

Recommendations for future editions

A glossary of the basic terms in Ayurveda that appear in this book, explained with reference to their original context, not translated, would have been useful, especially for those who read the chapters in a different order, or skip some chapters. A pronunciation guide for the transliterated Sanskrit words would also have been helpful. In line with this, the spelling of non-English words should have been consistent with the pronunciation, and internally consistent throughout the book. The profusion of grammatical and typographical errors in this book could mar the reading experience, and may come in the way of an accurate understanding of the authors' thoughts. Several spelling, or possibly word-choice, errors could prove

confusing. The book also has some lapses in consistency in that the same concepts, eg, *vata*, *pitta*, and *kapha*, are described using different terms in different chapters (clearly authored by different persons). Some statements that are out of place in a scientific document could have been removed before publication, eg *"food combo"*; *"It does not take rocket science to understand the importance of this experiment."*; *"India is one of the very few countries rich in traditional systems of medicine."*

This book is well-placed to sensitise practitioners, researchers, administrators, and academics in Ayurveda to the fidelity, and lacunae thereof, of the approaches and foci of contemporary practice to the tenets laid out in the classical texts and traditional practice. While the book explicitly engages with Ayurveda, its insights and lessons can be of value to practitioners of other systems of traditional medicine, as well as to scholars in diverse arenas related to the study and interpretation of traditional knowledge.